

Oliver C. Ruppel | Katharina Ruppel-Schlichting (Eds.)

Environmental Law and Policy in Namibia


Towards Making Africa the Tree of Life

4th Edition

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Foreword

It is a great pleasure to see that what has become a standard work in the field of environmental law and policy in Namibia is going into the next round with the fourth fully revised and expanded edition of *Environmental Law and Policy in Namibia – Towards Making Africa the Tree of Life*. The first, second and third editions of this publication attracted much attention among both lawyers and non-lawyers in Namibia, Africa and beyond, and with good reason. This is a sustainable effort indeed and I continue to commend the depth of the work and its positive impact.

A sustainable environment is essential to protect people from the short, medium and long term ravages of nature; man-made threats in nature; and the deterioration of the natural environment. Namibia faces a range of difficult environmental challenges including among others land degradation; water scarcity and pollution; deforestation; biodiversity loss; and climate change. Addressing these challenges requires, above all, unequivocal determination on the part of policy-makers. The law, as a subsequent step to policy and decision-making processes on the one hand and as a basis for enforcement and implementation on the other, is an important discipline in terms of environmental protection and is an essential tool to address environmental problems threatening our country, region and planet. Given the multi-disciplinary nature of environmental issues and the involvement of different Government institutions, policy makers and stakeholders, the afore-mentioned environmental challenges are covered by a variety of statutes and policies.

This book offers a multi-faceted insight into environmental law and policy in Namibia. It does this most successfully by taking stock of the existing legal framework and Namibia's commitment to environment-related issues at the local, national, regional, continental and international level. The mother of Namibian laws, our Constitution, is one of the few constitutions in the world to explicitly incorporate the protection of the environment. It is well reflected in this publication that we have achieved significant milestones in terms of environmental law and policy such as the ratification and implementation of several multilateral environmental agreements; the enactment of landmark pieces of national legislation such as the Environmental Management Act; as well as a broad environmental policy framework. Of course, the process is on-going and we must not rest on our laurels.

It is highly commendable that the editors and authors of this book have again eloquently managed to give an in-depth updated overview of sectoral and cross-sectoral legislation and policies relating to environmental concerns. The publication puts environmental law issues into the broader context of current and future societal needs and economic developments. The focus of the publication is on Namibia. It is, however,

Foreword

notable that the book also puts a strong emphasis on the multi-faceted African legal structure and its particularities, including the environmental legal frameworks of the African Union and the Southern African Development Community.

This publication will be a valuable source of information and guidance for lawyers, judges, students, policymakers and all those members of the public interested in environmental law and policy.

I wish to cordially thank Prof. Dr. Oliver C. Ruppel and Dr. Katharina Ruppel-Schlichting, the Hanns Seidel Foundation, the Deutsche Gesellschaft für Internationale Zusammenarbeit and all who have contributed to the fourth edition of the book and assisted in making it a reality. It has grown to be a landmark and an important work for Namibia, which will inevitably contribute to further green growth, sustainable development and environmentally sound management in the interest of our people. Let all of us make environmental protection our responsibility!



MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM
REPUBLIC OF NAMIBIA
21 JAN 2022
OFFICE OF THE MINISTER
PRIVATE BAG 12306 WINDHOEK

Pohamba Shifeta
Minister of Environment, Forestry and Tourism, MP
Windhoek, January 2022

Preface

This fourth edition of the publication *Environmental Law and Policy in Namibia – Towards Making Africa the Tree of Life* comes at a timely moment both nationally and internationally as the country is tackling diverse and numerous environmental and developmental challenges while the world has come together at the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow on 31 October – 13 November 2021 to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change. The previous three editions of this book were published in 2011, 2013 and 2016, respectively, and all three were a great success. We therefore have sustained our commitment to this work and funded this fourth revised and expanded edition.

The Namibian Government has taken the lead to recognise the impact of the population with its economic activities on the country's natural environment and has also taken the initiative to adopt and domesticate ethical and humane legislation and policies to inclusively undertake, manage and monitor environmental management.

Namibia has made progress in fostering cross-sectoral and dynamic solutions to address the far-reaching effects of climate change, desertification and the depletion of biological resources. As such, this book stands as a comprehensive and telling compilation of the Namibian Government's commitment to tackle environmental challenges as not only users but also stewards of its endowments of natural resources.

Having supported the protection of the natural environment as a part of its worldwide activities for some decades now, the Hanns Seidel Foundation is committed to continuing its efforts for sustainable development and conservation of the natural resources. This book further intersects with many aspects of our Foundation's mandate to support political, economic and social development, especially in the Global South where economic development and environmental sustainability are often competing objectives.

Against this backdrop, the work of the editors and contributors is highly commended for demonstrating the interlinkages of the different sectors engaged in environmental management as well as the dynamic sphere of policy development and implementation guiding such efforts.



Dr. Susanne Luther
Director of the Institute for International Cooperation (IIZ)
Hanns Seidel Foundation
Munich, January 2022

Acknowledgements

Over the course of writing a book, one accumulates more debts than can be acknowledged in a few lines. A multi-authored publication such as this is an enormous team effort. Therefore, our special thanks go to all the distinguished contributors – both in Namibia and beyond. Upon conducted stakeholder consultations and while considering recent developments and thematic priorities in the field of law and policy, this fourth edition of *Environmental Law and Policy in Namibia* includes – besides substantial updates and revisions – some new Chapters and Sections. In order not to go beyond the constraints with regard to the length of this publication, some reductions of text were again necessary, and we are satisfied to know that these remain preserved and available to the interested reader in previous editions.

We are very grateful to those who contributed financially to this publication, that is the Hanns Seidel Foundation (HSS). “In the service of democracy, peace and development” – this is the motto of the Germany-based Hanns Seidel Foundation; this publication reflects this maxim and the aims of the foundation and its noble mission. Our particular gratitude goes to Dr. Clemens von Doderer, Head of Country Office of the HSS in Namibia, for his active involvement in making the fourth edition of this book a reality and for his valuable contribution as co-author.

This publication is also a tribute to German-Namibian development cooperation which acknowledges Germany’s special historical responsibility and to further strengthen the partnership between the two countries. Most relevant for this book, the focus of German-Namibian development cooperation is on sustainable economic development, natural resource management, climate, energy, and transport. Germany has supported Namibia in many fields, including environmental matters through bilateral cooperation. As early as 1991, Germany and Namibia concluded a cultural agreement, which *inter alia* incorporated cooperation in the areas of research and higher education. Environmental law and policy have also been on this agenda.

We cordially thank the Minister for Environment, Forestry and Tourism, Hon. Pohamba Shifeta, for his continued support! Last but not least, we would like to thank the numerous readers who provided us with valuable feedback on the first three editions of this book – for their positive response, but also for constructive suggestions for improvements.

Environmental Law and Policy in Namibia – Towards Making Africa the Tree of Life is always work in progress. This means that the various chapters in this book are regularly updated, reflecting the latest state of affairs at the time of writing the chapter – not necessarily at the time of publication. While legislation and its implementation is progressive in nature, the individual contributors have attempted to capture the latest

Acknowledgements

developments and case law in their respective chapters. In case that such developments have been overtaken by time during the editorial process in the finalisation of the publication before its publication, the reader can expect the next comprehensive update in the fifth edition of this book, which is envisaged for 2024/25.

The Editors, Prof. Dr. Oliver C. Ruppel and Dr. Katharina Ruppel-Schlichting
Stellenbosch, January 2022

The Editors

Oliver C. Ruppel is a full Professor of Law at Stellenbosch University (SU), South Africa and the Director of the Development and Rule of Law Programme (DROP), likewise at SU. He also serves as the Director of the Research Center for Climate Law (Clim:Law) at the University of Graz, Austria. He is a distinguished Fellow at the Fraunhofer Centre for International Management and Knowledge Economy in Leipzig, Germany; and Extraordinary Professor at the University of Central Africa, Yaoundé, Cameroon, at Strathmore Law School, Nairobi, Kenya, at the China-Africa Institute for Business and Law, Xiangtan University, China, and at the European Law Faculty, Nova University, Ljubljana, Slovenia. Before transferring to Stellenbosch University in 2010, he lectured at the University of Namibia (UNAM), where he established one of the worldwide 14 Founding Chairs in the Academic Programme of the World Trade Organization (WTO), Switzerland. Prior to this he served as Director of the Human Rights and Documentation Centre (HRDC), a national institute established by statute under the Namibian Ministry of Justice and UNAM.

He is a Member of the Academy of Sciences, Cameroon; Member of the Sahel Consortium (USA); Member of the Advisory Committee, Platform on Disaster Displacement (PDD), Geneva, Switzerland; Member of the International Conservation Union (IUCN) World Commission for Environmental Law (WCEL); Member of the Wildlife Justice Commission, The Hague, Netherlands; AR5 coordinating lead-author of the United Nations Intergovernmental Panel on Climate Change (IPCC); and Founding Director, Climate Policy and Energy Security Programme for sub-Saharan Africa of the German Konrad Adenauer Foundation. He graduated in law after studies at the Universities of Lausanne, Switzerland and Munich, Germany and holds a Master of Laws degree (LLM) from Stellenbosch University, a Doctor of Laws degree (LLD) from Comenius University, Slovakia, a Master of Mediation degree (MM) from the University of Hagen, Germany and a postgraduate Diploma in International Human Rights Law from Åbo Akademi University, Finland.
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The Editors

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Manfred O. Hinz studied law and philosophy at the University of Mainz, Germany, where he graduated in law. He took his legal practitioner examination in 1964, the year in which he also obtained his PhD from the University of Mainz. After studying anthropology, sociology and African and Oriental languages at the same University, he became assistant lecturer, teaching anthropology and public law. In 1971, he was appointed full professor at the University of Bremen. In 1989, he went to Namibia where, after its Independence, he assisted the Ministry of Justice in its projects to restructure the traditional administration of justice and to make an inventory of customary law. He was later seconded to the office of the first Vice-Chancellor of the University of Namibia (UNAM) to help build the first institution for legal education on Namibian soil: UNAM’S Faculty of Law. He joined the Faculty upon its inception. He has served as Deputy Dean and Dean of the Faculty. Prof. Hinz held the United Nations Educational, Scientific and Cultural Organisation (UNESCO) Chair: Human Rights and Democracy in the Law Faculty’s Human Rights and Documentation Centre from 2000 to 2009. In 2009, Prof. Hinz retired from his full-time position at the University of Namibia. In 2010 he returned to Germany. Apart from holding the position of Professor at the University of Bremen, he is Adjunct Professor of Law and African Studies at the Jacobs University in Bremen since 2014. He has published widely in his areas of specialisation, particularly in the fields of legal and political anthropology, constitutional and international law.

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PART I:

BACKGROUND

Chapter 1: Namibia and its Legal Setup

Oliver C. Ruppel and Katharina Ruppel-Schlichting

1 Namibia in a Nutshell: Facts and Figures

The inhospitable Namib Desert constituted a barrier to European colonisation until the late 18th century when traders and missionaries first explored the area. In 1878, the United Kingdom annexed Walvis Bay on behalf of the Cape Colony, while the rest of south-western Africa would soon thereafter fall under German administration, henceforth to be known as German South West Africa. Resulting from the Herero and Nama wars of anti-colonial resistance of 1904-08, Germany consolidated its hold over the colony, and prime-grazing land passed to white control. German overlordship ended during World War I in the wake of South Africa's military occupation of the German colony. On 17 December 1920, South Africa took over the administration of South West Africa in terms of Article 22 of the 1919 Peace Treaty of Versailles (which incorporated the Covenant of the League of Nations) and a mandate agreement by the League Council. South Africa was mandated with the power of administration and legislation over the territory. Article 22 stated as follows:¹

To those colonies and territories which as a consequence of the late war have ceased to be under the sovereignty of the States which formerly governed them and which are inhabited by peoples not yet able to stand by themselves under the strenuous conditions of the modern world, there should be applied the principle that the well-being and development of such peoples form a sacred trust of civilisation and that securities for the performance of this trust should be embodied in this Covenant. The best method of giving practical effect to this principle is that the tutelage of such peoples should be entrusted to advanced nations who by reason of their resources, their experience or their geographical position can best undertake this responsibility, and who are willing to accept it, and that this tutelage should be exercised by them as Mandatories on behalf of the League. The character of the mandate must differ according to the stage of the development of the people, the geographical situation of the territory, its economic conditions, and other similar circumstances. (...) There are territories, such as South-West Africa (...), which, owing to the sparseness of their population (...) or their remoteness from the centres of civilisation, or their geographical contiguity to the territory of the Mandatory, and other circumstances, can be best administered under the laws of the Mandatory as integral portions of its territory, subject to the safeguards above mentioned in the interests of the indigenous population.

In 1946, the League of Nations was superseded by the newly formed United Nations. When the United Nations requested South Africa to place the territory under a trusteeship agreement it refused. In 1966 the South African mandate was officially revoked by the UN General Assembly.² Also in 1966 the South West African People's Organisation (SWAPO), under the leadership of Sam Nujoma, started to put pressure on the

1 Available at <http://net.lib.byu.edu/~rdh7/wwi/versa/versa1.html>, accessed 20 February 2021.

2 For further details see Zaire (2014:37ff.).

South African Government, and took up an armed struggle to liberate Namibia. Political and social unrest within Namibia increased markedly during the 1970s and was often met with repression at the hands of the colonial administration. In 1978, the UN Security Council passed Resolution 435 and authorised the creation of a Transition Assistance Group to monitor the country's transition to Independence.³

In April 1989, the UN began to supervise this transition process, part of which entailed supervising elections for a Constituent Assembly which was also charged with drafting a constitution for the country. After more than a century of domination by other countries and a long struggle on both diplomatic and military levels, Namibian Independence was achieved and officially declared on 21 March 1990, which is a national holiday today. Walvis Bay, which is Namibia's deep-water seaport, remained under South African control until 1994. Namibia has been a member of the Commonwealth of Nations since 1990.

Namibia borders on Angola in the north, Zambia and Zimbabwe in the north-east, Botswana in the east, South Africa in the south and the Atlantic Ocean to the west. The capital of Namibia is Windhoek, with a population estimated to be 446,000.⁴ The latest available census dated 2011 enumerated a population of 2,113,077.⁵ The population density lies at 2.6 inhabitants per km², which makes it one of the least densely populated countries in the world; about 43% of the population live in urban areas.⁶ The surface area of Namibia is 824,268 km², making the country the 31st largest in the world. Namibia is demarcated into 13 regions:

- In the North: Caprivi, Kavango, Kunene, Omusati, Ohangwena, Oshana and Oshikoto;
- in the central part of the country: Omaheke, Otjozondjupa, Erongo and Khomas; and
- in the South: Hardap and Karas.

Namibia's population consists of approximately 50% Ovambo, 9% Kavango, 7% Damara, 7% Herero, 6% White (including about 20,000 of German descent), 5% Nama, 4% Caprivians, 3% San, 2% Rehoboth Baster and less than 1% Tswana.⁷ 87.5% of the population is black, 6% white and 6.5% mixed. English is the only official language today (until 1990 also Afrikaans and German). 80% to 90% of the population is classified as Christian (with at least 50% Lutheran). 10% to 20% of the population hold indigenous beliefs.⁸

3 Amoo / Skeffers (2008:17ff.).

4 CIA, the World Fact book on Namibia, available at <https://www.cia.gov/the-world-factbook/countries/namibia/>, accessed 5 March 2021.

5 Cf. GRN (2012c:25).

6 GRN (2012c:8).

7 The CIA World Fact book on Namibia, available at <https://www.cia.gov/the-world-factbook/countries/namibia/>, accessed 21 February 2021.

8 Figures taken from the CIA World Fact book on Namibia, available at <https://www.cia.gov/the-world-factbook/countries/namibia/>, accessed 21 February 2021.

According to figures from the 2020 Human Development Report, Namibia is ranked 130th out of 189 in the Human Development Index.⁹ Life expectancy at birth (2018) is 63 years;¹⁰ and adult literacy of population aged 15 years and older (2018) is 91.5%;¹¹ Adolescent birth rate (births per 1,000 women aged 15-19) was 62 in 2018, compared to 85 in 2000;¹² the poverty headcount ratio at national poverty lines is at 17.4% of the population.¹³ According to the National Labour Force Survey 2018,¹⁴ the overall broad unemployment rate in Namibia is 33.4%. The HIV/AIDS rate was at 11.7% of the population aged 15 to 49 in 2018 and remains a major problem facing Namibia. As per the World Health Organization, Namibia is grouped among the thirty high Tuberculosis burdened countries in the world with an estimated total tuberculosis incidence rate of 486 per 100,000 population;¹⁵ although Namibia is on track to achieve the WHO's Global Technical Strategy for Malaria 2016 to 2030 target of a 40% reduction in malaria case incidence,¹⁶ malaria is still a major health burden in the country. Not only the aforementioned health related problems have been aggravated by the COVID-19 pandemic.

Although Namibia has large reserves of minerals (diamonds, uranium, zinc, copper, and gold) and despite the comparably high income per capita in the region, the wealth distribution is extremely unbalanced in Namibia. Latest available figures from the World Bank from 2015 reveal that the income share held by the highest 20% was 63.7%, while the income share held by the lowest 20% was estimated to be at 2.8%.¹⁷ Almost half the population depends on subsistence farming. Economically, Namibia remains overly dependent on South Africa, its most important partner in the Southern African Development Community (SADC). Namibia is classified as having an upper middle-income level with a GDP (current USD) of USD12.37 billion (2019).¹⁸ The

9 UNDP (2020: 353, 354).

10 https://databank.worldbank.org/views/reports/reportwidget.aspx?Report_Name=Country_Profile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=NAM, accessed 24 February 2021.

11 See <http://uis.unesco.org/en/country/na>, accessed 24 February 2021.

12 See https://databank.worldbank.org/views/reports/reportwidget.aspx?Report_Name=Country_Profile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=NAM, accessed 24 February 2021.

13 Ibid.

14 NSA (2018:59). Note that this figure is based on the broad unemployment definition which drops the requirement that the person actively looked for work. In contrast, the strict unemployment definition as used for example by the ILO unemployed population consists of all persons (15 years and above) who are either actively seeking for work or are available for work during the reference period.

15 WHO (2020a:33).

16 WHO (2020b:74).

17 See World Bank figures on World Development Indicators: Distribution of income or consumption available at <http://wdi.worldbank.org/table/1.3>, accessed 6 March 2021.

18 As per figures from the World Bank available at <http://data.worldbank.org/country/namibia>, accessed 6 March 2021.

local currency, the Namibia Dollar (NAD) is linked to the South African Rand. Both currencies are accepted in Namibia.

Estimates for 2019 by the World Bank relating to Namibia's economy reveal the following figures:¹⁹

GDP (current USD) (billions)	12.37	2019
GDP growth (annual %)	-1.1	2019
Inflation, GDP deflator (annual %)	1.5	2019
Agriculture, value added (% of GDP)	6.6	2019
Industry, value added (% of GDP)	26.6	2019
Services, etc., value added (% of GDP)	59.3	2019
Exports of goods and services (% of GDP)	35.8	2019
Imports of goods and services (% of GDP)	47.7	2019
Gross capital formation (% of GDP)	12.7	2019

2 The Legal Setup in Namibia

The following section provides an overview of Namibia's legal setup, necessary for a discussion of the more complex legal issues in the environmental domain.

The Constitution of the Republic of Namibia, which was drafted and adopted in 1990, is the fundamental and supreme law of the land.²⁰ It is hailed by some as being amongst the most liberal and democratic in the world. It enjoys hierarchical primacy amongst the sources of Namibian law by virtue of its Article 1(6). It is thematically organised into 21 Chapters which contain 148 Articles. Together, they organise the state and outline the rights and freedoms of people in Namibia.

By virtue of Proclamation 21 of 1919, Roman Dutch law as developed by South African courts was made the common law of the territory and was binding on the courts in Namibia until Independence in 1990. This position is affirmed by Article 66(1) of the Constitution, which provides that both the customary law and common law of Namibia in force at the date of Independence shall remain valid to the extent to which this is not in conflict with the Constitution or any other statutory law.

One of the key requirements of the rule of law is that the courts and the state's prosecution agencies are independent and free of political interference.²¹ Although this doctrine – the separation of powers – is well entrenched in the Namibian Constitution and recognised by the courts, the true measure of the Independence of the judiciary

19 Estimates for 2019 by the World Bank retrieved from <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>, accessed 6 March 2021.

20 Cf. Amoo (2008a, b, c). See also Hinz *et al.* (2002) and Bösl *et al.* (2010).

21 Cf. Horn / Bösl (2008a, b).

and the state prosecution services lies in the way these institutions relate to the Executive and other organs of state in practice.

Article 12 of the Constitution contains the provisions for a fair trial. The principle of the rule of law runs throughout the constitutional regime.²² In Namibia, the separation of legislative and executive powers from those of the independent judiciary is constitutionally guaranteed.²³ Various mechanisms are put in place to ensure that each branch of Government remains independent of the other through a system of checks and balances.²⁴ The Constitution explicitly states that Namibia is established as “a democratic and unitary state founded on the principles of democracy, the rule of law and justice for all.”²⁵

3 The Laws

Namibian law reflects the country’s history and is the product of different sources: Firstly, Roman law; secondly, the fusion of Roman law and Roman Dutch customary law – hence the term Roman Dutch law – which came in the wake of Dutch colonisation at the Cape of Good Hope; thirdly, from the early 19th century onwards English law asserted itself, leaving deep traces in Roman Dutch law, after British hegemony in southern Africa had been established; and fourthly, indigenous customary law from time immemorial.²⁶ With few exceptions, German legal influence has disappeared completely.

The Namibian legal system is an object of fascination for comparative lawyers, legal ethnologists and sociologists.²⁷ The concept of legal pluralism – a situation in which more than one type of law or legal tradition operates simultaneously – is commonplace in Namibia.²⁸ Some sources of law are authoritative while others merely have a persuasive authority. The courts are bound by authoritative sources whereas those of persuasive authority may serve to convince a court to apply or interpret a legal rule in a particular manner. The sources of law in which they are usually consulted are statute law or legislation; judgements of the courts; international law (Article 144 of the Constitution); common and customary law (Article 66 of the Constitution) and to some extent legal writing.

The doctrine of *stare decisis* applies in Namibia, making the judgements of the superior courts one of the most important sources of the law. Literally *stare decisis* means

22 Hinz (2003:273).

23 Ruppel (2008d).

24 Diescho (1994:70ff.).

25 Article 1(1) of the Namibian Constitution.

26 Hinz (2002a and 2017).

27 Ruppel (2009i).

28 Ruppel / Ruppel-Schlichting (2012b); Griffiths (1986:1-55).

“the decision stands”. Obviously, when a court arrives at a decision, the parties to the dispute adjudicated will be bound by that decision. But what is the effect of such particular decision on similar disputes arising in future? Is a court, when it has to settle another dispute of a similar or even the same nature bound by previous court decisions, or is it free to formulate its own principles and ignore a previous decision? Strict adherence to the doctrine of *stare decisis* would mean that courts are obliged to follow earlier decisions regardless of whether an earlier decision still makes sense. Therefore, and for greater fairness and legal certainty, Namibian courts are bound by their own decisions unless and until they are overruled by a superior court. It is, however, conceivable that circumstances arise that would render it possible for a court to override its own legal opinion.²⁹

4 The Court System

The Namibian court system retains Roman Dutch elements, inherited from South Africa along with elements of the African traditional (community) court system. The formal court system comprises the Supreme Court, the High Court, the Magistrates’ Courts and the Community Courts. The Supreme Court serves as the highest court of appeal and also exercises constitutional review of legislation. Prior to the attainment of nationhood in 1990 and the promulgation of the Constitution of the Republic of Namibia, which created an independent judiciary, the courts of Namibia were an extension of the judiciary system of South Africa.³⁰

4.1 The Supreme Court

The Supreme Court is primarily a court of appeal, and its appellate jurisdiction covers appeals emanating from the High Court, including appeals which involve interpretation, implementation and upholding of the Constitution and the fundamental rights and freedoms guaranteed there under.³¹ The Supreme Court is not bound by any judgement, ruling or order of any court that exercised jurisdiction in Namibia before or after Independence. The Constitution further vests in Parliament the power to make legislation providing for the appellate jurisdiction of the Supreme Court. The Supreme Court is vested with unlimited appellate jurisdiction over appeals against any judgement or order of the High Court; and any party to any such proceedings before the High Court,

29 Havenga *et al.* (2002:8ff.).

30 Amoo (2008a, b, c).

31 Amoo (2008b:72ff.).

if dissatisfied with any such judgement or order, has a right of appeal to the Supreme Court.³²

In the exercise of its appellate jurisdiction, the Supreme Court has the power to receive further evidence, either orally or by deposition before a person appointed by the court, or to remit the case for further hearing to the court of first instance or to the court whose judgement is the subject of the appeal, with such instructions relating to the taking of further evidence or any other matter as the Supreme Court may deem necessary. The Supreme Court is also empowered to confirm, amend or set aside the judgement or order that is the subject of the appeal, and to give any judgement or make any other order which the circumstances may require.³³ The Supreme Court has original jurisdiction over matters referred to it for decision by the Attorney-General under the Constitution, and with such other matters as may be authorised by Act of Parliament. Thus, the Supreme Court has original jurisdiction over constitutional matters, but this original jurisdiction is not exclusive to the Supreme Court because the High Court is also vested with original jurisdiction over constitutional matters. Unlike, for example, in the case of the judicial structure in South Africa, where there is a Constitutional Court, the Namibian Constitution does not create a separate Constitutional Court *per se*, but the Supreme Court can constitute itself as a Constitutional Court.³⁴ The Supreme Court may exercise this jurisdiction *ex mero motu* (of the court's own accord) should it come to the notice of the court or any judge of that court, that an irregularity has occurred in any proceedings, notwithstanding that such proceedings are not subject to an appeal or other proceedings before the Supreme Court. The seat of the court is in Windhoek. A decision of the Supreme Court is binding on all other courts of Namibia and all persons in Namibia unless it is reversed by the Supreme Court itself, or is contradicted by an Act of Parliament, lawfully enacted in conformity with the principles of legislative sovereignty.³⁵

4.2 The High Court

The High Court is a superior court of record and its jurisdiction is provided by both the Constitution and the High Court Act.³⁶ The Constitution vests the High Court with both original and appellate jurisdiction, and all proceedings in the High Court are to be carried in an open court.³⁷ The court may, however, exclude the press and/or the public from all or any part of the trial for reasons of morals and the public order or

32 Cf. Supreme Court Act No. 15 of 1990.

33 *Ibid.*

34 *Amoo* (2008a:3ff.).

35 *Ibid.*

36 No. 16 of 1990.

37 Section 13 of the High Court Act.

national security.³⁸ It is situated permanently in Windhoek, and since 2009 also at Oshakati. Other than this, the court goes on circuit to venues, including Gobabis, Grootfontein and Swakopmund.³⁹ The High Court derives its appellate jurisdiction to hear and adjudicate upon appeals from lower courts primarily from the Constitution.⁴⁰ During the appeal process, the court may receive further evidence, either orally or by deposition before a person appointed by the court, or remit the case to the court of first instance or the court whose judgement is the subject of the appeal, for further hearing, with such instructions relating to the taking of further evidence or any other matter as the High Court may deem it necessary. The court also has the power to confirm, amend, or set aside the judgement or order which is the subject of the appeal, and to give any judgement or make any order which the circumstances may require.⁴¹

4.3 The Lower Courts

The lower courts are responsible for administering justice. In terms of Article 78 of the Constitution, the lower courts form part of the judiciary, one of the three branches of the state. Lower courts are established in terms of Section 2(1) of the Magistrates' Courts Act.⁴² The bulk of the judiciary's work also takes place in the lower courts. There are 34 permanent courts and 32 periodical courts in Namibia.⁴³ Lower courts are divided into a Regional Division and five administrative districts, namely Windhoek, Oshakati, Otjiwarongo, Keetmanshoop and Rundu. Each district has a seat for a regional court that presides on all criminal matters except high treason but has no jurisdiction in civil matters.⁴⁴

38 Article 12(1)(a) of the Namibian Constitution; Amoo (2008b:76).

39 Section 4 of the High Court Act provides that the seat of the High Court is to be in Windhoek, but if the Judge-President deems it necessary or expedient in the interest of the administration of justice, he or she may authorise the holding of its sitting elsewhere in Namibia.

40 Article 80(2) of the Namibian Constitution.

41 Section 19 of the High Court Act.

42 No. 32 of 1944.

43 See address by Chief Justice of the Republic of Namibia Peter S. Shivute at the opening of the 2020 legal year, Supreme Court of Namibia, Windhoek 12 February 2020, available at <https://bit.ly/3kOxxfE>, accessed 6 March 2021.

44 Amoo (2008b:83).

4.4 The Magistrates' Courts

Magistrates' Courts in Namibia may be classified into regional, district and sub-district, division⁴⁵ and periodical courts.⁴⁶ Magistrates' Courts are courts of record⁴⁷ and their proceedings in both criminal cases and the trial of all defended civil actions are conducted in an open court.⁴⁸ The jurisdiction of the Magistrates' Courts in respect of causes of action is regulated by Section 29 of the Magistrates' Court Act, as amended.⁴⁹ The Magistrates' Courts have jurisdiction over liquid claims not exceeding N\$ 100,000 and illiquid claims not exceeding N\$ 25,000.⁵⁰ Magistrates' Courts are presided over by judicial officers, and advocates or attorneys of any division of the Supreme Court may appear in any proceeding in any court. All Magistrates' Courts have equal civil and criminal jurisdiction, except the regional Magistrates' Courts, which have only criminal jurisdiction.⁵¹ The territorial jurisdiction of a Magistrate's Court is the district, sub-district or area for which it is established; a court established for a district has no jurisdiction in a sub-district. Magistrates' Courts also have the jurisdiction to hear and determine any appeal against any order or decision of a Community Court.

4.5 The Community Courts

The Community Courts shall cater for all forms of proceedings exercised under customary law. Community courts are a formal creation of the Community Courts Act,⁵² which also provides detailed procedures and requirements for the establishment and recognition of Community Courts in particular traditional communities.⁵³ The Act was drafted to give legislative recognition to and formalise the jurisdiction of the traditional (African) courts that render essential judicial services to members of traditional communities who subject themselves to their jurisdiction and the application of customary

45 Section 2(f) and (2)(a)-(iv) of the Magistrates' Courts Act of 1944.

46 Section 26 of the Magistrates' Courts Act of 1944; periodical courts are meant to serve the remote areas of the country, and as the name suggests, they are only held at intervals, when the volume of work in the area requires a court sitting.

47 A court of record can be understood as "a court whose acts and judicial proceedings are written on parchment or in a book for a perpetual memorial which serves as the authentic and official evidence of the proceedings of the court". Cf. Amoo (2008b:83).

48 Section 5 of the Magistrates' Courts Act of 1944.

49 Magistrates' Courts Amendment Act No. 9 of 1997.

50 A liquid amount is fixed and certain and can – compared to an illiquid amount – be easily determined. *Maritime and General Insurance Co Ltd v Colenbrander* 1978 (2) SA 262 (D) at 264F.

51 Amoo (2008b:84ff.).

52 No. 10 of 2003.

53 For more details see Hinz (2008a).

law. This formal recognition also brings the proceedings of the erstwhile traditional courts within the mainstream of the judiciary in Namibia and subjects their proceedings to formal evaluation and review by the superior courts.⁵⁴

5 The Ombudsman

In order to protect and maintain the respect of the state for the rights of the individual citizen, to promote the rule of law, and to promote and advance democracy and good governance, the Office of the Ombudsman has been established. The relevant legal provisions with regard to the Ombudsman are to be found in Chapter 10 of the Namibian Constitution as well as in the Ombudsman Act.⁵⁵ The mandate of the Ombudsman relates to three widely defined categories:⁵⁶ human rights, administrative practices, and the environment. Complaints, which are related to the mandate of the Ombudsman, may be submitted by any person, free of charge and without specific formal requirements. To ensure that citizens have an avenue, open to report complaints free of red tape, and free of political interference, the Ombudsman is politically independent, impartial, fair, and acting confidential in terms of the investigation process.⁵⁷ Negotiation and compromise between the parties concerned are the main objective when handling complaints.⁵⁸

54 Amoo (2008b:90).

55 No. 7 of 1990.

56 For more details on the mandates of the Ombudsman see Ruppel / Ruppel-Schlichting (2010) and Chapter 27 in this book.

57 Tjitendero (1996:10). As to the characteristics of a classical Ombudsman in general see Gottehrer / Hostina (1998).

58 Article 91(e) of the Constitution and Section 5(1) of the Act.

Chapter 2: Introducing Environmental Law

Katharina Ruppel-Schlichting

1 Terminology

At the outset, it is important to explain the term environmental law, as there is more than one valid definition. This is obvious in the light of the fact that environmental law is a highly complex subject. The Oxford Advanced Learner's Dictionary broadly defines environment as "the conditions, circumstances, etc affecting a person's life".¹ This definition can serve as a good starting point for our analysis and definition of the term environment. Academics from various disciplines, including humanists, natural scientists and economists have made various attempts to shed light on this issue, and thus definitions vary. The etymological origin of the term environment is to be found in an ancient French word, *environner*, which means to encircle. This implicates the existence of a centre in which someone or something is situated observing the circumstances, objects, or conditions by which he, she or it is surrounded. Based on this etymological origin, it is reasonable – though not necessarily correct – for the term environment to often be used synonymously with other terms such as nature, ecology or habitat.

A commonly used definition is that environment is²

the complex of physical, chemical, and biotic factors (like climate, soil and living things) that act upon an organism or an ecological community and ultimately determine its form and survival [and] the aggregate of social and cultural conditions that influence the life of an individual or community.

Academics and decision-making bodies have dealt with the notion 'environment' in the process of drafting documents, academic papers, statutes or other legal texts, as well as judicial decisions. Most approaches describe the term very widely, whilst others are more specific, as shown by the examples below.

The Declaration of the United Nations Conference on the Human Environment, which was discussed and decided at the United Nations Conference on the Human Environment in Stockholm in 1972, is considered to be one of the basic legal foundations of international environmental protection. Part I proclaims that "the protection of the human environment is a major issue which affects the well-being of peoples and economic development throughout the world". While the declaration lacks a definition of the term itself, it is more precise in specifying what natural resources are:

1 Oxford Advanced Learner's Dictionary 5th edition 1995.

2 See <https://www.merriam-webster.com/dictionary/environment>, accessed 6 March 2021.

The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management as appropriate.

On the national level, the Namibian Environmental Management Act³ in Section 1 defines environment as

the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including –

- (a) the natural environment that is the land, water and air, all organic and inorganic material and all living organisms; and
- (b) the human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values.

The South African National Environmental Management Act⁴ defines environment as:

The surroundings within which humans exist and that are made up of:

- (i) the land, water and atmosphere of the earth;
- (ii) micro-organisms, plant and animal life;
- (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

In their rather broad dimensions, all the above approaches make it clear that it is difficult to establish more precisely the possible limits of the term environment. The encompassing nature of the term has also been emphasised by the International Court of Justice in its advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons*:⁵

The environment is not an abstraction, but represents the living space, the quality of life, and the very health of human beings, including generations unborn.

By way of summary: the term environment denotes the entire range of living and non-living factors that influence life on earth, and their interactions. Everything living, humans, animals, plants and micro-organisms are thus part of our environment, as well as non-living resources such as air, water, land, in addition to historical, cultural, social and aesthetic components; this includes the built environment.

The difficulty in definition is reflected in the scope of the term environmental law. In a very broad sense, environmental law can generally be described as the body of rules which contain elements to control the human impact on the environment. However, given that all human activities, as well as all natural events have a direct or indirect impact on the environment, environmental protection virtually forms part and should be integrated into all areas of law and policy. Thus, environmental law cannot

3 No. 7 of 2007.

4 No. 107 of 1998.

5 Advisory Opinion, ICJ Rep. 1996, 241f, para. 29.

be seen as a distinct domain of law but rather as an assortment of legal norms, contained in a number of conventional fields of law or an⁶

ensemble of norms, statutes, treaties and administrative regulations to ensure or to facilitate the rational management of natural resources and human intervention in the management of such resources for sustainable development.

In more detail, environmental law can thus be defined as the group of norms, rules, procedures and institutional arrangements found in civil and common law, statutes and implementing regulations, case law, treaties and soft law instruments, which deal with or relate to protection, management and utilisation of the environment and natural resources for sustainable development and/or intergenerational equity.⁷

Whatever the scope of environmental law is, it cannot be disputed that an interdisciplinary and holistic approach is needed in order to adequately address environmental threats and concerns from a legal perspective. Disciplines that are relevant for the area of environmental law include the natural, physical and social sciences, history, ethics, and economics.

2 Foundations of Environmental Protection

Although environmental law as a distinct discipline is considered to be a relatively new area of law, one must go far back in the world's history when tracing the foundations of environmental protection. As stated above, environmental law is of interdisciplinary nature, and as such, it is anchored in various fields and disciplines: religion, philosophy, ethics, science, economics, national and international law. All world religions contain rules and principles regarding the conservation of the environment.⁸ In the Judeo-Christian religious tradition, one basic conceptual foundation of environmental protection in terms of human guardianship for the earth and its resources can be found in the Old Testament:⁹

God blessed them, and God said to them, 'Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.'

Christian environmental commitment has been stressed by Pope Francis in June 2015, with his second encyclical called *Laudato si'*¹⁰ released an environmental compass, focusing among others on climate change as a common concern and lamenting pollution,

6 Okidi (1988:130).

7 See also Sands / Peel (2012:13) for a detailed discussion.

8 For a detailed description see Kiss / Shelton (2004:9ff.).

9 Gen.1:28.

10 See Encyclical Letter *Laudato Si'* of The Holy Father Francis on Care for Our Common Home available at http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_ enciclica-laudato-si.html, accessed 6 March 2021.

waste and the throwaway culture, a lack of clean water, loss of biodiversity, and an overall decline in human life and a breakdown of society.

Principles of environmental protection can also be found in the Islamic tradition:

The right to utilise and harness natural resources, which God has granted man, necessarily involves an obligation on man's part to conserve them both quantitatively and qualitatively. God has created all the sources of life for man and all resources of nature that he requires, so that he may realise objectives such as contemplation and worship, inhabitation and construction, sustainable utilisation, and enjoyment and appreciation of beauty. It follows that man has no right to cause the degradation of the environment and distort its intrinsic suitability for human life and settlement. Nor has he the right to exploit or use natural resources unwisely in such a way as to spoil the food bases and other sources of subsistence for living beings, or expose them to destruction and defilement.¹¹

The religious belief systems of indigenous peoples contain concepts of environmental protection to a wide extent as well, as natural resources are basic to their existence. Thus, the relationship with the land is a foundation for their beliefs, customs, tradition and culture.¹²

Semi-detached from religious concepts and traditions are the concepts of equity and justice, which are of rather philosophical or ethical nature. Three kinds of relationships can be listed in this context: Inter-generational equity, dealing with the relationships among existing persons; intra-generational equity, governing the relationships between present and future generations; and inter-species equity, covering the relationships between humans and other species. These concepts have been laid down in many environmental legal texts¹³ and form basic principles for environmental jurisprudence on international¹⁴ and national¹⁵ level.

Science, especially biology, chemistry and physics, has been and remains one of the most important foundations in the history and the development of environmental law, as it uses science to predict and regulate the consequences of human behaviour on natural phenomena. On the other hand, environmental law must be developed in a manner that is flexible enough to respond to scientific uncertainty, possible irreversibility and the dynamics of a constantly evolving environment.¹⁶

11 Al Glenid *et al.* (1994): Section one: A general introduction to Islam's attitude toward the universe, natural resources, and the relation between man and nature.

12 Hinz / Ruppel (2008b:6).

13 See for example Principle 1 of the Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration); Preamble to the Convention on Biological Diversity; Section 3(2) of the Environmental Management Act No. 7 of 2007.

14 E.g. *Maritime Delimitation in the Area between Greenland and Jan Mayden Denmark v Norway ICJ* 14 June 1993 separate opinion by Weeramantry available at <https://www.icj-cij.org/en/case/78/judgments>, accessed 6 March 2021.

15 E.g. *Oposa and others v Factoran and another* G.R.NO: 101083 Supreme Court of the Philippines. Summary available at <https://www.elaw.org/content/philippines-oposa-et-al-v-fulgenzio-s-factoran-jr-et-al-gr-no-101083>, accessed 6 March 2021. See also Gatmaytan (2003).

16 Kiss / Shelton (2004:14).

Last, but not least, environmental law also rests on the world's economic system and its challenge to environmental protection¹⁷ as economic growth – at least in its early stages – more often than not brings about environmental degradation.¹⁸ Measures for environmental protection are expensive and therefore increase the costs of goods and services; this in turn has an impact on the free trade in goods and services and might influence the issue of competitive advantage. This, the economic North-South divide,¹⁹ and the fact that natural resources are exhaustible, combine to the urgent need for effective mechanisms to ensure both, environmental protection and economic development. Environmental law is one of these mechanisms.

3 Functions of Environmental Law

During the past decades, environmental concerns have been high on the legal agenda, with good reason. Mankind is part of nature and life depends on the uninterrupted functioning of natural systems as this ensures the supply of energy and nutrients. Humans are directly dependent on ecosystems and natural resources. The dependence of people on ecosystems is often more apparent in rural communities where lives are directly affected by the availability of resources such as water, food, medicinal plants and firewood. Further, ecosystems provide cultural, aesthetic, spiritual and intellectual stimulation. Every form of life is unique and merits respect, regardless of its worth to man. Humans can, however, alter nature and exhaust natural resources by action or its consequences and must therefore fully recognise the urgency of maintaining the stability and quality of nature and of conserving natural resources. Thus, environmental concerns have become subject to multiple law-making processes.

But why is law needed to conserve our environment? Given that environmental degradation is largely caused by human intervention, the public authority responsible for preventing such negative effects will act by developing legal rules in order to have at hand binding norms. The obligatory character of environmental law and enforcement mechanisms are designed to prevent acts detrimental to the environment. Not only does environmental law establish rules and regulations, it also provides for other forms of intervention such as management tools, incentives and disincentives. However, binding rules are not the only element in environmental law; other, non-binding principles such as declarations or plans might just as well be appropriate to enhance environmental protection. Thus, environmental law is an essential remedy to pollution and

17 Ibid:15.

18 Hypothesis advanced by Simon Kuznet in his Environmental Kuznet's Curve. Kuznet (1955 and 1956). For a critical discussion see Yandle *et al.* (2002).

19 Beyerlin (2006).

to the depletion of the world's natural resources. International law is needed because most environmental challenges cross boundaries in their scope.²⁰

From a legal perspective, environmental protection can be achieved by international treaties and declarations, through national constitutions, and environmental policies determining the objectives and strategies which should be used in order to ensure the respect of environmental values, and further, through statutory legal instruments to reach the objectives fixed by the environmental policy. The main function of environmental law is thus to safeguard and protect non-renewable resources for future generations. Further to this, renewable resources have to be managed in such a way that continuous supply is ensured, and resource depletion is avoided, e.g. deforestation, which can also trigger climate change and desertification. Habitats upon which various species of animal life depend for survival have to be protected in order to retain the food chain. Also, the essential character of natural treasures has to be preserved for future generations.²¹

4 Historical Development of Environmental Law

Although much has been written, especially with regard to the historical development of international environmental law, the following paragraphs will complementarily provide a short overview on how international environmental law has developed.²² Writing, however, from a Namibian perspective, the African context and specific developments in sub-Saharan Africa, and Namibia in particular, will also be addressed.

International environmental law has only come into its own during the second half of the 20th century, although some international environmental legislative measures had already been taken earlier. The 1902 Paris Convention to Protect Birds Useful to Agriculture granted protection to certain birds by prohibiting their killing or destruction of their nests, eggs or breeding places, except for scientific research or repopulation purposes. The 1933 London Convention Relative to the Preservation of Fauna and Flora in their Natural State applied to Africa – then largely colonised. It did not, however, cover the metropolitan areas of the colonial powers.²³ The Convention provided for the creation of national parks, included measures regulating the export of hunting trophies, banned certain methods of hunting and provided for measures to be taken to protect animals and plants perceived to be useful to man or of special scientific interest. On the North American continent, the 1940 Washington Convention on Nature

20 Kiss / Shelton (2004:3).

21 Sands (2003:252ff.); Kidd (2011:24).

22 For an extensive overview of the history of international environmental law see, for example, Kiss / Shelton (2004:25ff.) and Sands / Peel (2018:21-51).

23 This convention was replaced by the 1968 African Convention on the Conservation of Nature and Natural Resources.

Protection and Wildlife Preservation in the Western Hemisphere provided for the establishment of national parks and reserves, the protection of wild plants and animals, and for cooperation between governments in the field of research.²⁴ Following these precursors of present-day environmental law concepts, the founding of the United Nations and its specialised agencies in 1945 marks a milestone in the development of international environmental law.

In the 1950s, states increasingly entered into water-related agreements. Such boundary water agreements, including provisions on the problem of water pollution and efforts to combat marine pollution, were addressed by the 1954 London Convention for the Prevention of the Pollution of the Sea by Oil.²⁵ In 1956, the first United Nations Conference on the Law of the Sea (UNCLOS I) was held at Geneva, Switzerland. Four treaties were concluded as a result in 1958: The Convention on the Territorial Sea and Contiguous Zone,²⁶ the Convention on the Continental Shelf,²⁷ the Convention on the High Seas,²⁸ and the Convention on Fishing and Conservation of Living Resources of the High Seas.²⁹ The four Conventions on the Law of the Sea aimed at achieving international cooperation to solve the problems related to the conservation of the living resources of the high seas. Among others, it prohibited ocean pollution by oil, pipelines and by radioactive waste; further, damage to the marine environment caused by drilling operations on the continental shelf was also addressed. The 1959 Antarctic Treaty outlawed all nuclear activity on the sixth continent and envisaged the adoption of measures to protect animals and plants.

The present ecological era is considered to have started at the end of the 1960s, when it became apparent that the world's resources were not limitless and something needed to be done to prohibit industrial and developing nations from destroying the world's water, air, biological and mineral resources. Public opinion increasingly demanded action to protect the quantity and quality of the environment.³⁰ New technologies, especially the development and deployment of nuclear technology led to further environmental legislation such as the 1963 Moscow Treaty Banning Nuclear Weapons in the Atmosphere, Outer Space and Underwater. It was adopted to obtain an agreement on general and complete disarmament under strict international control and in accordance with the objectives of the United Nations.

24 Legal instruments predating the establishment of the United Nations are the 1909 Agreement Respecting Boundary Waters between the United States and Canada or the 1921 Geneva Convention Concerning the Use of White Lead in Painting. Cf. Sands (2003:21-51) and Kiss / Shelton (2004:25f.).

25 Amended in 1962 and 1969 and replaced in 1972 by the International Convention for the Prevention of the Pollution of the Sea by Oil.

26 Entry into force: 10 September 1964.

27 Entry into force: 10 June 1964.

28 Entry into force: 30 September 1962.

29 Entry into force: 20 March 1966.

30 Kiss / Shelton (2004:27).

It is noteworthy, that even before the United Nations officially took up the protection of the environment with its Stockholm conference in 1972, it was at regional level, where environmental law history was written as early as 1968. On the European level, the Council of Europe adopted the first environmental texts.³¹ But more remarkably, the heads of states and governments of the Organisation of African Unity in 1968 signed a comprehensive document on environmental protection, namely the African Convention on the Conservation of Nature and Natural Resources. This was remarkable in that such a document was signed despite the common view in the region that environmental degradation was primarily a problem of industrial pollution in the northern hemisphere.

Within the United Nations, which strongly shaped the evolution of international environmental law, several conferences and the results thereof are of particular relevance. In 1972, the General Assembly convened a Conference on the Human Environment in Stockholm. This environmental conference was the first of its kind and it was attended by about 6,000 participants, delegations from 113 states, representatives of every major intergovernmental organisation, 700 observers sent by 400 NGOs and 1500 journalists.³² The two-week conference resulted in several documents, which remain basic foundations of today's international environmental law: The Declaration on the Human Environment³³ included 26 principles that greatly shaped future international environmental law. In its basic statements, the 1972 Stockholm Declaration on Human Environment recognises that the natural elements and man-made things are essential to human well-being and to the full enjoyment of human rights including the right to life. The protection of the environment is viewed as a major issue for economic development. It furthermore recognises that the natural growth of the world's population continuously poses problems for preserving the environment and that human ability to improve the environment is complemented by social progress and the evolution of production, science and technology. The Action Plan for Human Environment, also a result of the 1972 Stockholm conference, is made up of 109 resolutions for action with three major themes: a global environmental assessment programme;³⁴ various environmental management activities;³⁵ and supporting measures focused on information and public education, and on the education of environmental specialists. One further important outcome of the 1972 Stockholm Conference was the recommendation for a

31 The Declaration on Air Pollution Control; the European Water Charter; and the European Agreement on the Restricting of the Use of Certain Detergents in Washing and Cleaning Products. See Kiss / Shelton (2004:27).

32 See UN (1973:43).

33 Ibid:3.

34 Establishing "Earthwatch" a mechanism for evaluation and review, research and monitoring and information exchange.

35 Containing provisions concerning pollution (dumping of toxic and dangerous substances; elaboration of norms limiting noise; control of contaminations in food); protection of the marine environment; and protection of wildlife and natural spaces.

central organisation charged with environmental matters, today's United Nations Environment Programme (UNEP).

After the Stockholm Conference, a multitude of environmental conventions were adopted.³⁶ The 1971 Ramsar Convention on Conservation of Wetlands of International Importance, for example, was adopted to stem the progressive encroachment on and subsequent loss of wetlands, while recognising the fundamental ecological functions of wetlands, including their economic, cultural, scientific and recreational value. The 1972 UNESCO Convention on the Protection of the World Cultural and Natural Heritage, adopted in Paris, established a system to protect cultural and natural heritage of outstanding universal value. In 1972, the UN Conference on the Law of the Sea produced the Convention on the Law of the Sea (UNCLOS) adopted in 1982 after ten years of work. UNCLOS encompasses, *inter alia*, the issue of marine environmental protection. In 1973, the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) was adopted in Washington to protect certain endangered species from over-exploitation by means of a system of import-export permits. The 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals protects those species that migrate across national boundaries. The 1982 United Nations World Charter for Nature was not endorsed as a binding legal instrument, but it continues to have a strong influence on environmental law. This charter proclaims that mankind itself is part of nature, that civilisation is rooted in nature and that every form of life is unique and therefore merits respect, regardless of its worth to man. In its principles it sets forth that nature shall be respected; population levels of all wild forms, wild and domesticated shall be at least sufficient for their survival; special protection shall be afforded to the unique areas of the globe (land and sea); and that ecosystems, organisms and other natural resources shall be managed to achieve and maintain their optimum sustainable productivity and continuity.

Emerging new environmental challenges, such as long-range air pollution and the depletion of the ozone layer resulted in the adoption of the 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 Montreal Protocol, creating an international system to reduce emissions of ozone-depleting substances. The Chernobyl Disaster of 1986³⁷ led to the Vienna Convention on Early Notification of a Nuclear

36 For a collection of international environmental treaties see UNEP (2005a) and international environmental law databases such as the International Environmental Agreements Database Project by the University of Oregon, at <https://iea.uoregon.edu>, accessed 6 March 2021.

37 On 26 April 1986, the fourth reactor of the Chernobyl Nuclear Power Plant exploded. After the explosion, graphite fires broke out due to the high temperatures of the reactor. All permanent residents of Chernobyl and the zone of alienation were evacuated because radiation levels in the area had become unsafe. The nuclear meltdown produced a radioactive cloud that floated over neighbouring nations. Two hundred and thirty-seven people suffered from acute radiation sickness, of which thirty-one died within the first three months. An international assessment of the health effects of the Chernobyl accident is contained in a series of reports by the United Nations

Accident and the Vienna Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency of the same year.

In 1987, *Our Common Future*, also known as the Brundtland Report, was drafted by a special UN Commission.³⁸ This report stated that individual states, and the international community at large, had come to recognise sustainable development as the single most important paradigm to maintain and improve the quality of human life. The newly-coined term, sustainable development, meant that natural resources, renewable or non-renewable, and the environment must be used in such a manner that may equitably yield the greatest benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations. Sustainable development includes the maintenance and improvement of the capacity of the environment to produce renewable resources and the natural capacity for regeneration of such resources. This concept was taken up by the United Nations Conference on Environment and Development held in Rio in 1992. It was the next big conference after Stockholm 1972, and hosted 10,000 participants, 172 states, 1,400 NGOs and 9,000 journalists.³⁹ Two legally binding instruments resulted from the Rio Conference, namely the 1992 United Nations Framework Convention on Climate Change (UNFCCC) and the 1992 Convention on Biological Diversity (CBD). The UNFCCC was drafted prior to the Rio Conference, adopted in New York, and then opened for signature at the Rio Conference. It regulates levels of greenhouse gas concentration in the atmosphere, so as to avoid climate change on a level that would impede sustainable economic development or compromise initiatives in food production, while the CBD aims at conserving biological diversity, promoting the sustainable use of its components, and encouraging equitable sharing of the benefits arising out of the utilisation of genetic resources.

Other texts resulting from the Rio Conference were the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests; the Declaration on Environment and Development (referred to as the Rio Declaration) as well as Agenda 21.⁴⁰ The Rio Declaration, a soft law mechanism, reaffirms the Stockholm Declaration and provides 27 principles guiding environment and development, the core concepts being sustainable development and integrating development and environmental protection. Concepts contained in the Rio Declaration include inter-generational equity; prevention; environmental impact assessment; the polluter pays and precautionary principles; public rights such as participation and access to justice; and the special status of indigenous peoples.

Scientific Committee of the Effects of Atomic Radiation (UNSCEAR). The radioactive contamination of aquatic systems as well as the degradation of flora and fauna became major issues in the immediate aftermath of the accident.

38 World Commission on Environment and Development (1987).

39 UN (1993b:1).

40 See UN (1993a) for the Resolutions adopted by the Conference.

Agenda 21, which is a Programme of Action and, like the Rio Declaration, a soft law and thus a non-binding document, was drafted to serve as a guide for the implementation of the treaties agreed to at the summit and the principles of sustainable development. Agenda 21 also established the United Nations Commission on Sustainable Development (CSD) and the Global Environment Facility (GEF). Agenda 21 remains of particular importance for international environmental law and consists of 40 Chapters with 115 specific topics. Agenda 21 is sub-divided in four main parts: conservation and resource management (e.g. atmosphere, forest, water, waste, chemical substances); socio-economic dimensions (e.g. habitats, health, demography, consumption and production patterns); strengthening the role of NGOs and other social groups; and measures of implementation (funding, institutions). Sector-specific Chapters on the atmosphere (9); biodiversity and biotechnology (15); oceans (17); freshwater resources (18); toxic chemicals (19); and waste (20) form part of Agenda 21.

After the Rio Conference, virtually every multilateral agreement included environmental protection, be it of particularly environmental, economic, or human rights or humanitarian law nature.⁴¹ An emerging issue in international environmental law after the Rio Conference was a new weapons system which called for the 1993 Paris Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction. New technologies such as biotechnology and the handling of living modified organisms (LMOs) in the laboratory resulted in the adoption of the 2000 Cartagena Protocol on Biosafety to the CBD, drafted to ensure an adequate level of protection in the field of safe transfer, handling and use of LMOs that may have adverse effects on the conservation and sustainable use of biological diversity, taking into account risks to human health, and specifically focusing on transboundary movements.

Ten years after the Rio Conference, the next major UN Conference of environmental relevance was the Johannesburg World Summit on Sustainable Development held in 2002. Although this summit was considered to be less successful in environmental terms by environmentalists and environmental lawyers, it emphasised the interrelation between combating poverty and improving the environment. The Declaration on Sustainable Development, which emerged from the summit, focuses on development and poverty eradication and recognises three components of sustainable development: economic development, social development, and environmental protection.⁴² The Johannesburg Summit was followed by a further World Summit of the United Nations General Assembly in 2005, which reaffirmed the commitment to achieve the goal of sustainable development through implementation of Agenda 21 and the Johannesburg Plan of Implementation. The 2005 World Summit Outcome, adopted by the UN General Assembly, specifically envisages promoting a recycling economy to tackle climate

41 Kiss / Shelton (2004:33).

42 See UN (2002a).

change, to promote clean energy, to fight hunger, and to provide access to clean drinking water and basic sanitation.

During June 2012, the world's nations gathered in Rio de Janeiro, twenty years after the Rio Summit. The objectives of the United Nations Conference on Sustainable Development (UNCSD, also known as Rio+20) held in Rio de Janeiro, in June 2012, envisaged renewed political commitment for sustainable development, assess progress to date, identify remaining gaps in the implementation of the outcomes of the major summits on sustainable development, and address new and emerging challenges. The Conference particularly focused on the institutional framework for sustainable development and a green economy in the context of sustainable development and poverty eradication. The main outcome of the Conference was a 50-page document titled *The Future We Want*⁴³ which renews the commitment of the world's nations to sustainable development and poverty eradication. Furthermore, Rio+20 resulted in an agreement to develop a set of global sustainable development goals (SDGs) and to establish a high-level political forum on sustainable development.

In September 2015, the United Nations General Assembly adopted a document entitled transforming our World: the 2030 Agenda for Sustainable Development⁴⁴ consisting of a Preamble, a declaration, a set of 17 Sustainable Development Goals and a set of observations on implementation. The core components of the 2030 agenda as stipulated in the Preamble are similar to those of the Rio declaration: an overall framework given by peace and partnership within social development, environmental protection, and economic growth and development. The 2030 Agenda aims to eradicate poverty and achieve sustainable development by 2030 world-wide, ensuring that no one is left behind. To this end, 17 sustainable development goals have been formulated, of which many have a direct environmental focus or address the sustainability of natural resources: poverty, health, food and agriculture, water and sanitation, human settlements, energy, climate change, sustainable consumption and production, oceans, and terrestrial ecosystems.

The SDGs are expressly presented as integrated and indivisible, and no hierarchy must be derived from the order in which different issues are addressed. They recognise the importance of global, regional and subregional efforts but place the essential responsibility at the national level. They concern all countries not just developing countries which introduces an important difference with the Millennium Development Goals (MDGs). Development is thus to be understood as prosperity or development and growth. The SDGs emphasise the different positions of countries ensuring the need for differentiation.

Undoubtedly, the UN has played a vital role in the development of environmental law. However, it must also be emphasised, that environmental law has gradually

43 Text at <https://bit.ly/3sGnoG1>, accessed 14 February 2022.

44 Text at <https://bit.ly/3gHOK9g>, accessed 13 February 2022.

developed on the regional, sub-regional and of course on the national levels as well. Academic writings and legal research in the field of environmental law have gained pace and comparative environmental law is shifting into the focus of legal writing, thus contributing immensely to the development of national, regional and international environmental law.⁴⁵ Seen from a Namibian perspective, international environmental law within the African Union and the Southern African Development Community (SADC) is of particular importance. As early as 1968, the Organisation of African Unity (OAU), which later became the African Union (AU), signed a comprehensive document on environmental protection, namely the African Convention on the Conservation of Nature and Natural Resources to enhance environmental protection; foster the conservation and sustainable use of natural resources; and to harmonise and coordinate policies in these fields. The 1968 Convention was revised in 2003 to improve institutional structures to facilitate effective implementation and mechanisms to encourage compliance and enforcement; the 2003 revised Convention only came into force in 2016 after the deposit of the required 15th ratification instrument.⁴⁶ One further piece of AU legislation of environmental relevance is the African Nuclear Free Zone Treaty, which was adopted in 1995 and entered into force on 15 July 2009 to establish an African nuclear-weapon-free zone, thereby, *inter alia*, keeping Africa free of environmental pollution from radioactive waste.

Within the SADC legal framework, environmental concerns are of increasing importance and have a substantial place in the legal setting of the regional institution. The SADC was established in Windhoek in 1992 as the successor to the Southern African Development Coordination Conference (SADCC), which was founded in 1980. Sustainable utilisation of natural resources and effective protection of the environment have been laid down as basic objectives of SADC in its founding legal document, the SADC Treaty and member states agreed to cooperate in the area of natural resources and environment.⁴⁷ Several SADC Protocols have been signed and entered into force in the past decades, which aim to ensure implementation of the SADC Treaty. Many of these protocols contain provisions for environmental protection, either directly or indirectly. Environmentally relevant documents include: the Protocols on Energy,⁴⁸ Fisheries,⁴⁹ Forestry,⁵⁰ Health,⁵¹ Tourism,⁵² Trade,⁵³ Transport,

45 See Markus (2020).

46 As of January 2022, 44 of the 55 member states have signed the Convention, and 17 member states have deposited their instrument of ratification. Namibia has signed the Convention but not yet deposited a ratification document.

47 Article 5g SADC Treaty.

48 Signed in 1996, in force since 17 April 1998.

49 Signed in 2001, in force since 8 August 2003.

50 Signed in 2002, in force since 17 July 2009.

51 Signed in 1999, in force since 14 August 2004.

52 Signed in 1998, in force since 26 November 2002.

53 Signed in 1996, in force since 25 January 2000.

Communications and Meteorology,⁵⁴ Mining,⁵⁵ Wildlife Conservation and Law Enforcement,⁵⁶ Shared Watercourse Systems,⁵⁷ and the Revised Protocol on Shared Watercourses.⁵⁸

The evolution of international (and national) environmental law was not restricted to the drafting of legal treaties, agreements, or similar documents. Jurisprudence also played and continues to play a significant role in the process of developing environmental law standards and contributed to the protection of the environment. One early landmark decision in this regard was a case involving the United States and Canada in 1941, namely the Trail Smelter Arbitration (with involvement of the Governments of Canada and the United States).⁵⁹ The arbitration affirmed that no state has the right to use its territory or permit it to be used to cause serious damage by emissions to the territory of another state or to the property of persons found there.

Jurisprudence of the International Court of Justice (ICJ) also contributed to environmental protection. The Corfu Channel case⁶⁰ (*UK v Albania*), decided by the ICJ in 1949, did not specifically deal with environmental matters but addressed general principles of state responsibility also applicable to environmental matters. In 1996, the ICJ issued two advisory opinions relating to the use of nuclear weapons, one requested by the General Assembly of the United Nations,⁶¹ the other by the World Health Organisation.⁶² The latter dealt directly with environmental concerns as the question in the request was formulated as follows:

In view of the health and environmental effects, would the use of nuclear weapons by a State in war or other armed conflict be a breach of its obligations under international law including the WHO Constitution?

The court in its advisory opinion denied the request by the WHO because the legality of the use of nuclear weapons “does not relate to a question which arises within the scope of activities of that organisation”. The court held that although negative effects on human health and the environment may result from the use of nuclear weapons, the WHO needs to undertake measures irrespective of the legality of their use. The request

54 Signed in 1996, in force since 6 July 1998.

55 Signed in 1997, in force since 10 February 2000.

56 Signed in 1999, in force since 30 November 2003.

57 Signed in 1998, in force since 28 September 1998.

58 Signed in 2000, in force since 22 September 2003.

59 Trail Smelter Arbitration (1938/1941) 3 RIAA 1905 Arbitral Tribunal: US and Canada.

60 ICJ Corfu Channel (*United Kingdom of Great Britain and Northern Ireland v Albania*) judgment available at <http://www.icj-cij.org/>, accessed 17 March 2021.

61 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996. Available at <https://bit.ly/3HUt7hZ>, accessed 14 February 2022.

62 Ibid.

by the United Nations General Assembly was, however, accepted and with regard to environmental concerns the court recognised that⁶³

the environment is under daily threat and that the use of nuclear weapons could constitute a catastrophe for the environment. The Court also recognises that the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.

And further the court stated that⁶⁴

while the existing international law relating to the protection and safeguarding of the environment does not specifically prohibit the use of nuclear weapons, it indicates important environmental factors that are properly to be taken into account in the context of the implementation of the principles and rules of the law applicable in armed conflict.

One further case of particular importance decided by the ICJ was the case concerning the *Gabcikovo-Nagymaros Project*.⁶⁵ This case raised a multitude of environmentally related legal issues, such as the concept of sustainable development, the principle of continuing environmental impact assessment and the handling of *erga omnes* obligations in *inter partes* judicial procedure.

But not only the jurisdiction of the ICJ contributed to the development of environmental law and to the protection of the environment. Other international and national judicial bodies had to deal with environmental concerns as well. The Dispute Settlement Body of the WTO, for example, was frequently confronted to resolve issues regarding environmental protection.⁶⁶

Environmental protection was also a burning issue in the Ogoni case, a case which was heard in national courts of Nigeria⁶⁷ and the United States,⁶⁸ as well as by the

63 Ibid. For a discussion of the ICJ's advisory opinion and of the question whether or not the use of nuclear weapons during international armed conflict would violate existing norms of public international law relating to the protection and safeguarding the environment see Koppe (2008).

64 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996. Available at <https://www.icj-cij.org/en/case/95>, accessed 17 March 2021.

65 ICJ *Gabčíkovo-Nagymaros Project (Hungary v Slovakia)*, 25 September 1997. Judgement available at <https://www.icj-cij.org/en/case/92>, accessed 18 March 2021.

66 See for example the following cases: Panel Report, United States – Import Prohibition of Certain Shrimp and Shrimp Products, WT/DS58/R and Corr.1, adopted 6 November 1998, modified by Appellate Body Report, WT/DS58/AB/R, DSR 1998:VII, 2821; Panel Report, European Communities – Measures Affecting Asbestos and Asbestos-Containing Products, WT/DS135/R and Add.1, adopted 5 April 2001, modified by Appellate Body Report, WT/DS135/AB/R, DSR 2001:VIII, 3305; Panel Report, Brazil – Measures Affecting Imports of Retreaded Tyres, WT/DS332/R, adopted 17 December 2007, as modified by Appellate Body Report, WT/DS332/AB/R.

67 Judgment delivered by the Nigerian High Court on 14 November 2005.

68 *Kiobel v Royal Dutch Petroleum* United States Supreme Court No. 10–1491. Available at <https://www.law.cornell.edu/supremecourt/text/10-1491>, accessed 18 March 2021. See also Stewart / Wuerth (2013). For a comment on the Appeal Court decision see Ikari (2010).

African Commission on Human and Peoples' Rights⁶⁹ and which was also subject to a United Nations Special Rapporteur's Report on Nigeria,⁷⁰ which accused Nigeria and Shell of abusing human rights and failing to protect the environment in oil-producing regions and called for an investigation of Shell. Subject to judicial review in this case was the fact that, since Shell began drilling for oil in Ogoniland in the Niger Delta in 1958, the people of Ogoniland have had pipelines built across their farmlands and in front of their homes, have suffered constant oil leaks from these very pipelines, and have been forced to live with the constant flaring of gas fires. This environmental assault has drenched land with oil, killed masses of fish and other aquatic life, and introduced devastating acid rain to the land of the Ogoni, a people dependent upon farming and fishing. The poisoning of the land and water has had devastating economic and health consequences.

Summarising, it can be stated that the history of modern environmental law originated in the second half of the past century and is strongly influenced and developed by international and national political action and legislative measures, as well as by international and national jurisprudence.

69 Communication 155/96. The Social and Economic Rights Action Center and the Center for Economic and Social Rights / Nigeria. Available at https://www.achpr.org/public/Document/file/English/achpr30_155_96_eng.pdf, accessed 18 March 2021.

70 Released 15 April 1998. The report condemned Shell for using a "well-armed security force which is intermittently employed against protesters." The report was unusual both because of its frankness and its focus on Shell, instead of only on member countries.

Chapter 3: Namibia and its Environment

Katharina Ruppel-Schlichting

1 Introduction

Namibia's surface area is 824,268 km² with three major categories of land tenure: the so-called commercial farmland with freehold tenure (approximately 42% of the country situated predominantly in the south and centre of Namibia), communal areas which are situated mainly in contiguous blocks in the northern Namibia (approximately 35% of the country), and the state land including conservation areas (approximately 23% of the country).¹

Namibia has common borders with Angola, Zambia, Zimbabwe, Botswana and South Africa and a coastline of 1,572 km at the Atlantic Ocean to its west. The Ocean with its cold, nutrient rich Benguela Current has a significant influence on Namibia's climate, vegetation and marine life. Main geographical areas in Namibia include two of the largest and most important great deserts, namely the Kalahari Desert in the east, which is dominated by stabilised dunes and the Namib Desert in the west, which comprises a wide range of landscape types. The Central Plateau with its Great Escarpment lying in the inland of the Namib plains and rising up above them is the third great landscape unit in Namibia.²

Namibia is one of the driest countries in sub-Saharan Africa with a mean annual rainfall of approximately 270 mm with wide regional and seasonal variation. This is reflected in the country's rivers. Most of the rivers that rise in Namibia such as the Kuiseb are dry for most of the year, they are ephemeral and seasonal. The perennial rivers in Namibia are located on the northern and southern borders and gain their flow in Zambia and Angola and in South Africa respectively. Only three perennial rivers reach the sea, namely the Orange, the Zambezi and the Kunene rivers, while the Okavango and the Kwanda flow into the the Okavango Delta and the Linyanti Swamps in the North of Botswana. Major parts of Namibia are thus predominantly dependent upon ephemeral rivers and groundwater.³ According to figures from the United Nations⁴ and based on the definition on arable land by the Food and Agriculture Organization (FAO)⁵ only 2% of Namibia's land surface was arable in 2018.

1 NSA (2018).

2 See Goudie / Viles (2015:3ff.); see also Mendelsohn *et al.* (2009).

3 See Goudie / Viles (2015:12ff.) and Sweet / Burke (2006).

4 See <https://unstats.un.org/unsd/envstats/snapshots/>, accessed 19 March 2021.

5 According to which arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land

Against the backdrop of variation in climate and aridity in the country, it is explainable that the vegetation cover in Namibia is generally low. The main groups of soils in the country are unconsolidated sand (arenosols) and shallow and weakly developed soils on bedrock (lithosols, xerosols, regosols and yermosols).⁶ Owing to very low contents of clay in the soil, the water holding capacity is generally very low. Nonetheless, Namibia has a broad variety of vegetation types including deserts, savannahs (dwarf shrub savannah, various acacia-based tree and shrub savannah associations and the mopane savannah) and dry woodlands. Moreover, Namibia has an abundant dense and diverse mammalian fauna.

The *United Nations Statistics Division* in its *Environment Statistics Country Snapshot Namibia*⁷ provides data about the environment for comparative purposes. The country snapshot of Namibia, *inter alia*, reflects the following data:⁸

Land and Agriculture		
Total area (km ²)	823,290	2018
Agricultural land (km ²)	388,100	2018
Arable land (% of agric. land)	2.0	2018
Permanent crops (% of agric. land)	0.0	2018
Permanent pasture and meadows (% of agric. land)	98.0	2018
Change in agricultural land area since 1990 (%)	0.0	2018
Forest area (km ²)	67,809	2018
Change in forest since 1990 (%)	-23	2018
Population		
Population (1,000)	2,495	2019
Population growth rate from previous year (%)	2.0	2019
Air and climate		
Emissions of:		Year
CO ₂ (million tonnes)	4.0	2009
CO ₂ per capita (million tonnes)	1.8	2016
GHG (million tonnes CO ₂ eq.)	9.0	2000
GHG per capita (tonnes CO ₂ eq.)	5.0	2000
Ozone depleting CFCs (ODP tonnes)	0.0	2009

under market or kitchen gardens, and land temporarily fallow (land abandoned as a result of shifting cultivation is excluded).

6 Sweet / Burke (2006).

7 Available at <https://unstats.un.org/unsd/envstats/snapshots/>, accessed 19 March 2021.

8 Unless mentioned otherwise, data in this table is sourced from <https://unstats.un.org/unsd/envstats/snapshots/>, accessed 19 March 2021.

Biodiversity		Year
Proportion of terrestrial marine areas protected (%)	23	2018
Number of threatened species	120	2019
Fish catch (tonnes)	510,568	2018
Energy		Year
Total energy supply (petajoules)	82	2017
Energy supply per capita (gigajoules)	32	2017
Electric power consumption (kWh per capita) ⁹	1,586	2010
Energy use intensity (megajoules per USD constant 2011 PPP GDP)	62	2017
Renewable electricity production (%)	96	2017
Water and Sanitation		Year
Renewable internal freshwater resources, total (billion cubic meters) ¹⁰	6	2017
Annual freshwater withdrawals, total (billion cubic meters) ¹¹	0.3	2017
Annual freshwater withdrawals, total (% of internal resources)	5	2017
Proportion of population using an improved sanitation Facility ¹²	47	2017
Population with access to improved drinking water source (%) ¹³	90	2017

2 Major Environmental Concerns in Namibia

To quite some extent, Namibia faces environmental problems that are similar to those experienced in many parts of Africa; some of the most challenging issues will be pointed out broadly in the subsequent paragraphs in order to give an overview of the importance of taking legal and non-legal measures for environmental conservation.

9 https://databank.worldbank.org/views/reports/reportwidget.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=NAM, accessed 21 March 2021.

10 <https://data.worldbank.org/indicator/ER.H2O.INTR.K3?locations=NA>, accessed 21 March 2021.

11 <https://data.worldbank.org/indicator/ER.H2O.FWTL.K3?locations=NA&view=chart>, accessed 21 March 2021.

12 https://www.sdg6data.org/country-or-area/namibia#anchor_6.2.1a, accessed 21 March 2021.

13 Ibid.

2.1 Land Degradation and Soil Erosion

Land degradation in Namibia, like elsewhere in the world occurs in different forms and the effects and causes of land degradation are manifold.¹⁴ It is, *inter alia*, caused by climatic variations, especially the high variability of rainfall patterns, and human activities. According to the Namibia Household Income and Expenditure Survey 2015/2016,¹⁵ 22% of Namibian households in rural areas depend on subsistence farming as the main source of income as compared to only 1% of urban households. A total of 10.6% of the entire population thus reported subsistence farming as their main source of income. This figure has decreased from 38% in 1993/1994; 29% in 2003/2004; and 23% in 2009/2010. Still, many Namibians depend – directly or indirectly – more on farming than on any other economic activity.¹⁶ Despite the fact that the whole agriculture and forestry sector, which includes hunting, and fishing, as well as cultivation of crops and livestock production, only made up 6.6% of GDP in 2019,¹⁷ most of the land in Namibia is used for agricultural purposes¹⁸ and in 2019, 21.9% of total employment in Namibia was in the agricultural sector.¹⁹ Agriculture therefore plays a vital role for the livelihoods in the country.

Overstocking and overgrazing are considered to be the main causes for land degradation in Namibia. Especially in rural areas, poverty forces people into unsustainable environmental management practices such as overstocking and overgrazing in order to ensure food supply. More often than not, the densities of livestock exceed the carrying capacity of the land, which places strain on the environment. Further negative effects on land are caused by the unsustainable harvesting of forest resources, wild plants and game, and the clearing of land for farming or housing purposes.²⁰

Land degradation not only has negative economic consequences in that it reduces the country's resources; it also poses a serious threat to food security and rural livelihoods, which particularly affects the most vulnerable groups in Namibia's poor and densely populated areas. The most alarming effects of land degradation are deforestation, decreased availability of palatable grass species, soil erosion, bush encroachment and soil salinisation.²¹

14 Klintenberg / Seely (2004).

15 NSA (2016:13).

16 Iyambo, N, then Minister of Agriculture, Water and Forestry in his foreword to Mendelsohn (2006).

17 As per World Bank Indicator data available at <https://databank.worldbank.org/source/world-development-indicators>, accessed 25 March 2021.

18 Mendelsohn (2006:10).

19 World Bank Indicator data available at <https://databank.worldbank.org/source/world-development-indicators>, accessed 25 March 2021.

20 MET (2006:1ff.).

21 Klintenberg / Seely (2004:7).

2.2 Deforestation

Recent figures assessing global forest resources reveal that in the period from 2010 to 2020, Africa had the highest net loss of forest area.²² Respective figures pertaining to Namibia confirm this assessment. In 2000, more than eight million ha of Namibia was covered by forests. By 2020, the total forest area has decreased to only 6.6 million ha.²³ While in 1990, the forest area was at 10.6% of the total land area, it was at only 8.2 in 2018.²⁴

Major threats to forests in Namibia include the expansion of land for agriculture; the cutting of wood for fuel and for domestic use; clearing for infrastructure development; uncontrolled wildfires; selective logging through timber concessions and unlicensed curio carving; and habitat destruction by elephants.²⁵

Forest resources are of essential importance as woodlands stabilise fragile soils. Moreover, forest areas are the home of rich biological diversity. But forests also play a vital role from a socio-economic perspective and especially in the rural areas of Namibia, many are directly or indirectly dependent on the availability of forest resources for browsing, building material for homesteads, fuel wood for cooking, light and heating, and medicines among others.

However, the increase of the population unfortunately goes hand in hand with an increase in an unsustainable use of timber for fuel, housing, fencing, fire, and poses a severe strain on the environment as deforestation not only leads to the loss of resources used for human activities; it also results in desertification and severe degradation of land. "In Africa, the continuation of a high rate of deforestation largely reflects the combined impacts of high population growth and the need to sustain livelihoods with small-scale agriculture."²⁶

2.3 Water Scarcity

Water is a critical factor and water supply remains a serious problem throughout Namibia, as the country is considered to be one of the most arid countries in southern Africa. 22% of Namibia can be classified as desert, with a mean annual rainfall of less than 100 mm. About 33% of the country is classified as arid, with a mean annual rainfall of between 100 and 300 mm. 37% is classified as semi-arid, with a mean annual rainfall of between 301 and 500 mm, and 8% as sub-tropical, with a mean annual

22 FAO (2020a:125).

23 FAO (2020b:9).

24 See World Bank data at <https://data.worldbank.org/indicator/AG.LND.FRST.ZS?locations=NA>, accessed 27 March 2021.

25 Cf. FAO (2005).

26 FAO (2020a:125).

rainfall of between 501 and 700 mm.²⁷ These low rainfall rates, exacerbated by evaporation rates often higher than the precipitation, a high degree of rainfall variation, and variable rainfall distribution patterns are responsible for the fragility of Namibian water resources. It is estimated that of the water that Namibia receives as precipitation, 97% is lost through direct evaporation and evapotranspiration; only 2% ends up as surface runoff, 1% becomes available to recharge groundwater.²⁸

The primary sources of water supply in Namibia are perennial rivers, surface and groundwater storage on ephemeral rivers, and groundwater aquifers. Water is needed in terms of basic sustenance and for agriculture. Sustainable water management is, therefore, a major challenge. Major threats to water availability are population pressure, as well as industrial development and growth. The latter two are causing surface and ground water pollution, resulting in a decrease in water availability and quality, harmful to human and animal health. Environmental law can substantially contribute towards reducing these negative effects, e.g. by limiting the use of pesticides, or by preventing the discharge of waste water or other substances harmful to aquatic systems. Sound water management can for example be enforced by a permit system for the abstraction of water in order to avoid the over-abstraction of water.

Environmental law, an integrated water resource management that promotes the coordinated development and management of water, land and related natural resources, as well as increasing public awareness with regard to water problems is needed, in order to tackle the challenge of equitable access to sufficient water of acceptable quality.

2.4 Climate Change

As mentioned earlier, Namibia is considered to be one of the driest countries in southern Africa. The cold Benguela current along the west coast and Namibia's location traversing the subtropical high-pressure belt greatly influences the main features of the climate. The climate of Namibia is characterised by high variability. This in part, contributes to making Namibia vulnerable to the impact of climate change.

In Namibia's initial communication to the United Nations Framework Convention on Climate Change (UNFCCC) in 2002,²⁹ it is stated that trends in climate change predict that temperature will increase, specifically in central inland areas, rainfall will be variable and the rainy season is predicted to be shorter. Furthermore, an increase of

27 GRN (2020a:28); GRN (1997a:1); for Namibia's main climatic characteristics (rainfall, temperatures, fog, wind, etc.) see also Goudie / Viles (2015:37ff.) and data on Namibia from the Climate Knowledge Portal of the World Bank available at <https://climateknowledgeportal.worldbank.org/country/namibia>, accessed 28 March 2021.

28 GRN (2020a:28).

29 GRN (2002d).

potential evaporation at a rate about 5% per degree of warming and a sea level rise of up to 30cm was predicted. Namibia's second national communication to the UNFCCC dated 2011 reveals that:³⁰

The projected temperature increases will result in evaporation and evapotranspiration increases in the range of 5-15%, further reducing water resource availability and dam yields. It is predicted that, even without the additional stresses of climate change on the water resources, demand will have surpassed the installed abstraction capacity.

Namibia's Fourth Communication to the UNFCCC predicts with a high degree of certainty that Namibia can expect an increase in temperature at all localities, with the highest increase in the interior. From the baseline (1981 to 2018) at mid-century (2045 to 2069) and end-century (2070-2099) respectively, the north-eastern parts of the country are expected to experience the highest increases in average annual temperature for both time horizons. It is projected that the mean annual temperature will increase by 2°C and 4°C relative to the baseline under the worst-case scenario.³¹

Climate change in Namibia has an impact on access to water and sanitation, health, agriculture, fisheries and marine ecosystems, forestry, energy, and human settlements.³² A growing body of evidence has demonstrated that poor and other disenfranchised groups are the greatest victims of environmental degradation. In Namibia, the majority of the population live in rural areas, where poverty is a sad reality and remains one of the greatest challenges in the southern African region. The combined impact of climate change is expected to reduce livelihood opportunities even further, to reduce biodiversity and food security; the prevalence of drought and flooding will increase. Predicted impacts associated with temperature increases include a further rise in sea levels, changes in precipitation patterns, and the resultant threat to food security and sustainable development in general, with more people being caught up in the poverty trap. Limited adaptive management puts Namibia's population and its natural resources at risk. Thus, integrating adaption and mitigation strategies into the legal framework is essential. Additionally, access to information, public participation and the development of an educational approach is called for. Finally, interdisciplinary research into the effects of climate change needs to be consolidated.

2.5 Biodiversity Loss

Namibia has a wide variety of biodiversity. With two global biodiversity hotspots (the *Sperrgebiet* in the Succulent Karoo Biome and the Namib escarpment zone), five Ramsar sites of international importance with a surface area of 676,564 hectares (Orange River Mouth, Bwabwata-Okavango Ramsar Site, Walvis Bay, Etosha Pan, Sandwich

30 GRN (2011a:6).

31 GRN (2020a:138).

32 Karuaihe *et al.* (2007:34ff.).

Harbour),³³ large wildlife populations including world's largest populations of cheetah and free-roaming black rhino, some of the greatest populations of marine life found anywhere in the world in nutrition-rich waters along the coastline, and an exceptional level of plant diversity, of which many plants are endemic, Namibia's biodiversity is a real treasure.³⁴

However, the precious biodiversity is confronted with various threats and challenges, including population growth, unsustainable water uses, land degradation and desertification, pollution, climate change, uncontrolled mining and prospecting, poaching and hunting, and human-wildlife conflict. Despite the range of measures that have been put in place to protect Namibia's biodiversity, such as the establishment of conservancies, an elaborated system of environmental management and the development of respective law, policy and strategy, much still has to be done to avoid further (habitat) loss of biodiversity. A total of 132 species have been classified as threatened by the International Union for Conservation of Nature (IUCN);³⁵ the expansion of mining and prospecting, uncontrolled bushfires, illegal harvesting and trade in wildlife are only some of the aspects that lead to species loss, ecosystem simplification and habitat loss. Therefore, all efforts must be taken to enhance biodiversity conservation.

Considering that "Namibia's unique landscapes and biodiversity support a rapidly developing tourism sector, its contribution estimated for 2016 at N\$ 16.7 billion, equivalent to 10.5% of overall GDP and 101,000 jobs equivalent to 14.9% of total employment",³⁶ the conservation of biodiversity is high on the agenda of government and national and international organisations. Rightly so, as Namibia's biodiversity plays a vital role in the agricultural, fisheries and tourism sectors. The population depends on the natural resource base for their income, food, medicinal needs, and fuel and shelter, among others.

2.6 Waste and Pollution

Namibia in general and Windhoek in particular, are considered to be clean, if compared to many other parts and capital cities in Africa. Yet, growth in development and in population brings about an increase in pollution and waste. More people produce more waste, and economic development inevitably has negative effects on our environment: ground water and air pollution, more generally the toxic contamination of soils, etc.

33 See <https://rsis.ramsar.org>, accessed 30 March 2021.

34 See <https://www.cbd.int/countries/profile/?country=na#facts>, accessed 30 March 2021.

35 See the IUCN Red List Table 5 showing the number of threatened species in each major taxonomic group by country in Sub-Saharan Africa available at <https://bit.ly/3dGr2s5>, accessed 30 March 2021.

36 GRN (2020a:2).

Therefore, waste management and pollution control are essential in terms of environmental protection.

Since 1990, the industrial production has significantly increased in Namibia with an attendant real potential to pollute the environment: the food industry, meat processing and mining all are potential sources of pollution.³⁷ Carbon dioxide emissions are on the increase due to increasing motorisation, and the amount of household waste is rising too. Household waste accounts for a significant amount of waste produced in all the urban and rural areas of Namibia.³⁸ Waste mitigation and the management of waste will play a vital role in future, not only with regard to a clean and healthy environment in general but also with a view to efforts aiming to reduce CO₂ emissions.³⁹

37 MET (2006:70).

38 Ibid:87.

39 GRN (2020a:204).

Chapter 4: Environmental Law in Namibia – an Overview

Oliver C. Ruppel

1 Introduction

The objective of this chapter is to give a broad overview of the general foundations and sources of national environmental law.¹ It should be noted that the subsequent chapters will then provide a more in-depth legal analysis of specific topics.

The root causes for environmental degradation as experienced worldwide also apply to Namibia. Environmental degradation is closely related to human actions, economies and policies. The direct causes for environmental degradation include overexploitation, over-consumption, pollution and a wide range of activities that have a direct impact on the environment. The major threats to the Namibian environment include unsustainable harvesting of wild plants and wildlife, soil erosion and water pollution, climate change but also alien invasive organisms that threaten the survival of indigenous species.

The aim of environmental protection can be achieved by different means. Traditional legal methods include the establishment of protected areas, the regulation of harvesting and trade in certain species, the management of habitats and ecosystems, and the prohibition of alien and invasive species. Pollution control and the management of hazardous substances are other effective ways to contribute to the preservation of the environment.

The success of Namibia's efforts to sustainably use, control, manage and safeguard its natural resources depends to quite some extent on the different legal instruments that are available and on an interdisciplinary approach to develop a target-oriented environmental legislative framework as knowledge from other disciplines – biology, chemistry, medical science, ecology, sociology and economy is a *conditio sine qua non* for the creation of environmental institutions and sound legislation.

2 The Namibian Constitution

The Namibian Constitution,² or the Mother of All Laws, as Namibians have come to call this legal instrument, is indivisibly linked to the founding of the Namibian state.

1 For the sources of Namibian law in general see Amoo (2008a:53ff.).

2 It should be noted that according to Article 148 of the Namibian Constitution, “[T]his Constitution shall be called the Namibian Constitution.” Differing citations such as *the Namibian*

The adoption of the Constitution on 9 February 1990 came about after a three-decade-long struggle for Independence³ and many more decades of colonial and military rule.⁴ On 21 March 1990, Namibia became politically independent, with a basic legal framework drafted by the Constituent Assembly of Namibia. The liberation process was supported by the international community, particularly the United Nations Security Council Resolution 435 of 1978, setting out the governing code for the decolonisation process. Resolution 435 could be implemented due to a tripartite agreement between South Africa, Cuba and Angola under the supervision of the UN.⁵ In 1982, the United Nations General Assembly requested the United Nations Institute for Namibia, which was established in 1976 by the United Nations Council for Namibia, to prepare, in cooperation with the South West Africa People's Organisation (SWAPO), the Office of the United Nations Commissioner for Namibia and the United Nations Development Programme, a comprehensive document on all aspects of socio-economic reconstruction and development planning for an independent Namibia.⁶ The first democratic and internationally recognised elections took place in November 1989 and a Constituent Assembly consisting of individuals from various political parties drafted the fundamental legal framework for the Republic of Namibia. The Constitution, which came into force on Independence Day 21 March 1990, was thus a result of joint efforts of and debates between the political parties represented in the Constituent Assembly, South Africa, the United Nations and the South West Africa People's Organisation (SWAPO).⁷

The Namibian Constitution has been hailed as one of the most democratic and liberal constitutions in the world.⁸ It shows a strong commitment to the rule of law, democratic Government and respect for fundamental human rights and freedoms such as the protection of life, liberty, human dignity, equality, education, freedom from slavery, forced labour, and discrimination, to name only a few rights enshrined in the Constitution. Furthermore, the Constitution contains mechanisms with regard to checks and balances between the three branches of Government – the executive, legislative branches, and the judiciary. Principles of state policy, which guide the Government's legislative processes are provided in Chapter 11 of the Constitution. That the protection

Constitution Act, 1990, the Constitution of Namibia Act 1 of 1990 or the Constitution of the Republic of Namibia, 1990 (Act No. 1 of 1990) are strictly speaking incorrect, although these citations do occur in court processes, judgments, academic syllabi and academic publications.

3 On the struggle for liberation see Katjavivi (1988).

4 For a detailed analysis of the background and origin of the Namibian Constitution see Diescho (1994:8ff.) and Erasmus (2002).

5 Diescho (1994:17f.).

6 UNIN (1986).

7 Diescho (1994:8f.).

8 Schmidt-Jortzig (1991:71ff.); Schmidt-Jortzig (1994:309ff.); Van Wyk (1991:341ff.).

of the environment is not only a concern but a constitutional issue in Namibia will be outlined in the following paragraphs.⁹

According to Article 1(6) of the Constitution, the latter is the law above all laws. Therefore, all legislation ought to be consistent with the provisions of the Constitution. The Constitution lays the foundation for all policies and legislation in Namibia and contains three key environmental clauses relevant to the sustainable use of natural resources.

Article 100 of the Constitution vests all natural resources in the state, unless otherwise legally owned. Thus, unless legal ownership of natural resources in a specific locality is proven, such natural resources are owned by the state; the provision implies thus that natural resources can be legally owned as private property. Article 95(1) stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies that include “the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians...”. Through this particular Article, Namibia is obliged to protect its environment and to promote a sustainable use of its natural resources. Furthermore, Article 91(c) stipulates that one of the functions of the Ombudsman is

the duty to investigate complaints concerning the over utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.

Further to these environmental key provisions, Article 144 must again be pointed out as the constitutional link to international environmental law applicable in Namibia.¹⁰

3 Development Framework

3.1 Namibia’s Green Plan

Namibia’s Green Plan aims at securing – for present and future generations – a safe and healthy environment and a prosperous economy. It was compiled by the (then) Ministry of Wildlife, Conservation and Tourism in consultation with various governmental and non-governmental organisations and first presented at the Rio Conference in 1992.¹¹ With the Green Plan, Namibia created a national common vision around its environmental issues, priorities and future actions. The Green Plan outlines needed policy and legislation, and strategies and recommendations for key areas such as the

9 See also Ruppel / Ruppel-Schlichting (2017a).

10 Article 144 reads as follows: “Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia.”

11 Brown (1992).

sustainable management of wildlife, tourism and fisheries as well as environmental education for sustainable development and links environment to socio-economic development. Thus, the Green Plan has laid the basis for a number of processes to conserve and manage resources for development.¹² Some substantive outputs of Namibia's Green Plan have been the Environmental Management Act (EMA), which provides the legal foundation for environmental protection in the country through Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs); Integrated Regional Land Use Plans; Community-based Natural Resource Management (CBNRM) including Namibia's world-renowned communal conservancies, community forests and community-based management of water resources and fisheries; a thriving nature-based tourism sector supported by a progressive policy framework on tourism, and tourism and wildlife concessions on state land; water demand management initiatives including water recycling, desalination and the establishment of basin management committees and transboundary basin commissions; a variety of renewable energy and energy efficiency initiatives; cleaner production and waste management; and natural resource accounting. One further outcome of Namibia's Green Plan was the establishment of the Environmental Investment Fund (EIF) of Namibia.

The Green Plan recognises that "the health of individuals, society and the economy are inextricably linked to the health of the environment. A healthy environment provides the opportunity of realising the full developmental potential of a region and country."¹³ Accordingly, the objective is to manage its natural resources for present use without jeopardising the future accessibility of these resources. Namibia's Green Plan is divided into Chapters as follows:

- Life's three essentials – clean air, water and land;
- sustaining our renewable resources;
- our special spaces and species;
- Namibia's unique stewardship: The Namib Desert;
- the importance of wetlands management in arid regions;
- the threat of desertification;
- global environmental security; and
- environmentally responsible decision-making.

Namibia's Green Plan cautions that environmental policies must be based on the precautionary principle and that all major construction projects, especially in the water sector, should always be preceded by an Environmental Impact Assessment (EIA) in order to prevent or minimise the potential negative effects on the environment. Further to this, the plan makes provision for the protection of the country's genetic resources; also its rich biodiversity must be maintained.

12 GRN (2012g:27).

13 Brown (1992:1).

Namibia's Green Plan has identified a multitude of actions needed to achieve sustainable development. These actions include helping to ensure that Namibia has clean air, water and land; supporting the sustainable use of natural resources; protecting Namibia's special spaces and species; highlighting the importance of wetlands in arid regions; promoting global environmental security; and encouraging environmentally responsible decision-making at all levels of society. The plan furthermore acknowledges that environmental as well as social requirements such as poverty reduction, education, public participation and a high level of primary health care must be addressed in order to achieve the interrelated objectives of wise environmental management and sustainable development.¹⁴

Namibia's Green Plan, at a very early stage of Namibian nationhood, set out an ambitious national programme for achieving environmental protection in the country. The topics set out in the plan are still, or even more of concern in the country. Thus, Namibia's Green Plan remains a relevant basic document with regard to sustainable development and environmental protection in Namibia.

3.2 Vision 2030 and the National Development Plans

Namibia's Vision 2030 was launched in June 2004 by the Founding President, Dr. Sam Nujoma.¹⁵ The vision's rationale is to provide long-term policy scenarios on the future course of development in the country at different points in time up until the target year of 2030. Vision 2030 regards the sequential five-year National Development Plans (NDPs) as the main vehicles for achieving its long-term objectives. Chapter 5 of Vision 2030 states the following:¹⁶

The integrity of vital ecological processes, natural habitats and wild species throughout Namibia is maintained whilst significantly supporting national socio-economic development through sustainable low-impact, consumptive and non-consumptive uses, as well as providing diversity for rural and urban livelihoods.

Thus, one of the long-term aims of Vision 2030 is the availability of clean water and productive and healthy natural wetlands with rich biodiversity.¹⁷

The successive NDPs will contain the goals and intermediate targets (milestones) that will eventually lead to the realisation of Vision 2030. NDP2,¹⁸ which spanned the period 2001/2– 2005/6, sought sustainable and equitable improvement in the quality

14 Brown (1992:172ff.).

15 GRN (2004a).

16 Ibid:167.

17 For more detailed information on wetlands in Namibia, cf. Ruppel / Bethune (2007:14).

18 GRN (2002a).

of life of all of the country's inhabitants. The national development objectives were to¹⁹

- reduce poverty;
- create employment;
- promote economic empowerment;
- stimulate and sustain economic growth;
- reduce inequalities in income distribution and regional development;
- promote gender equality and equity;
- enhance environmental and ecological sustainability; and
- combat the further spread of HIV/AIDS.

NDP3 spans the five-year period 2007/8 to 2011/2.²⁰ The draft guidelines for the formulation of NDP3 were prepared in the latter part of 2006 and approved by Cabinet in December of that year.²¹ The predominant theme of NDP3 was the accelerated economic growth through intensified rural development,²² while the productive utilisation of natural resources and environmental conservation are key result areas. Principal environmental concerns included water, land, marine, natural resources, biodiversity and ecosystems, drought, and climate change. It was stated that waste management and pollution will grow significantly with increasing industrialisation. NDP3 recognised that with the country's scarce and fragile natural resource base, the risk of overexploitation is considerable and that sustained growth is highly dependent on the sound management of these resources. The guidelines for preparing NDP3 stipulated that the renewable resource capital needs to be maintained in quantity and quality. This is to be achieved by reinvesting benefits into natural resources by way of diversifying the economy away from resource-intensive primary sector activities and by increasing productivity per unit of natural resource input. Two NDP3 goals to ensure the protection of environmental concerns have been identified, namely the optimal and sustainable utilisation of renewable and non-renewable resources on the one hand and environmental sustainability on the other.

Namibia's Fourth National Development Plan²³ was released in July 2012 and spanned the period from 2012/2012 to 2016/2017. NDP4 differs essentially from its predecessors. NDP4 is more focused in that fewer goals and target values have been adopted. However, from an environmental perspective, NDP4 has sustained some losses. While the optimal and sustainable utilisation of renewable and non-renewable resources and environmental sustainability had been set forth as goals within NDP3, the three overarching goals of NDP4 are high and sustained economic growth,

19 Ruppel / Bethune (2007:14).

20 GRN (2007a).

21 Ibid.

22 Ibid.

23 GRN (2012a).

increased income equality, and employment creation. Four sectors, which will enjoy priority status are logistics, tourism, manufacturing, and agriculture.

Environment and climate change are, however, recognised under the category of values and principles,²⁴ which Namibia cherishes as a nation:

Our environment is clean, and we will continue to keep it so. We expect all elements of society, and businesses in particular, to support a precautionary approach to environmental challenges and alterations of the natural world contributing to climate change, undertake initiatives to promote greater environmental responsibility, and encourage the development and diffusion of environment-friendly technologies.

Furthermore, NDP4 recognises that

environmental management is both an enabler and driver of economic development. The issue of environmental management is firmly anchored in Namibian laws and policies whose roots are in the Namibian Constitution and has earned the country an excellent reputation internationally for prudent environmental management based on innovative and progressive legislative framework.

In order to achieve one of the desired outcomes of NDP4, namely, to become the most competitive economy in the SADC region according to the standards set by the World Economic Forum by the year 2017, the environmental strategy during NDP4 and beyond includes:

- The implementation and enforcement of the EMA of 2007, particularly the use of strategic environmental assessments to guide development decision-making, the development of an integrated (including spatial) planning;
- the implementation of the CBNRM programme;
- improving and implementation policy and legislative frameworks;
- increase public access to environmental information;
- strengthen inter-ministerial, non-governmental, donor coordination and harmonisation;
- adopt public-private-community-partnerships; and
- develop new initiatives such as a Natural Resources and Environmental Governance Programme.

The strategy identified to address Namibia's vulnerability to climate change is to make use of strategic environmental assessments to guide development decision-making.

Namibia's Fifth National Development Plan (NDP5)²⁵ was launched in 2017 and spans the period from 2017/18 to 2021/22. Environmental protection takes a prominent role within this latest development plan as environmental sustainability is one of the four pillars of NDP5, alongside economic progression, social transformation and good governance all of which aim to support relevant global and continental development

24 The other values and principles which are contained in NDP4 are: National sovereignty and human dignity; upholding the Constitution and good governance; partnership; capacity enhancement; comparative advantage; people-centred economic development; gender equality and the empowerment of women; sustainable development; and peace and security.

25 GRN (2017a).

frameworks, including Agenda 2030, the Sustainable Development Goals, the Paris Agreement, the African Union Agenda 2063 and SADC Regional Indicative Strategic Development Plan. Against the background that more than 30% of the workforce is employed in natural resources related sectors, that 70% of the population is dependant on natural resources for a living and that 44% of Namibia's landmass is under conservation, ensuring a sustainable environment and enhancing resilience have become a top priority within Namibia's developmental policy framework. The indicators identified to measure desired outcomes regarding conservation and the sustainable management of natural resources relate to the annual revenue generated from protected areas and community based natural resources management (CBNRM) programmes, the percentage of reduction in cases of poaching as well as to the reduction of the total area burned by veld fires.²⁶ Strategies identified to achieve the targets include achieving land degradation neutrality and increasing land productivity, improving the management of protected areas and implementing measures to combat poaching and illegal trade of natural resources, and sustaining environmental awareness campaigns. Indicators identified to measure desired outcomes regarding environmental management and climate change relate to the reduction of greenhouse gas emissions, the number of approved waste disposal sites, the percentage of adherence to environmental management plans and to the revenue generated from environmental levies for reinvestment in environmental protection.²⁷

4 Policy Framework

A policy is a deliberate plan of action to guide decisions and achieve rational outcomes. Policies differ from rules or law. While the law can compel or prohibit behaviours (e.g. a law requiring permits for specific actions) policy merely guides actions to achieve a desired outcome.

Environmental policy determines the objectives guiding, and the strategies to be used in order to strengthen the respect for environmental values, taking into account the existing social, cultural and economic situation. The foundation for the Namibian environmental policy framework is Article 95(1) of the Constitution. It stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies which include the "maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefits of all Namibians."

26 (GRN 2017:83).

27 *Ibid*:85.

Although many policies have at least an indirect impact on the environment, only those considered to be most relevant are listed in the table below. A brief introduction to some of the policies listed forms part of the subsequent paragraphs.

Table 1: Selected Environmental Policies in Namibia

Environment and Wildlife	Land
Namibia’s Environmental Assessment Policy	Land-use Planning: Towards Sustainable Development
Policy for Prospecting and Mining in Protected Areas and National Monuments	The National Land Use Planning Policy
National Policy on Human Wildlife Conflict Management	The National Land Policy
Water and Fisheries	The National Resettlement Policy
Water Supply and Sanitation Policy	The National Land Tenure Policy
The National Water Policy	The National CBNRM Policy
Namibia’s Draft Wetland Policy	Climate Change & Energy
Namibia’s Aquaculture Policy – towards responsible development of aquaculture	Namibia’s Climate Change Policy
Agriculture	National Energy Policy
The National Agricultural Policy	Tourism
The National Drought Policy and Strategy	The Tourism White Paper
The Regional Planning and Development Policy	The National Policy on Tourism
The National Seed Policy	The Community-Based Tourism Policy
Forestry	Biotechnology
Namibia Forestry Strategic Plan	Enabling the Safe Use of Biotechnology Policy
Development Forestry Policy	Education
	National Environmental Education and Education for Sustainable Development Policy

Source: Table compiled by the author.

4.1 Policies on Environment, Wildlife and Biotechnology

The Environmental Assessment Policy²⁸ approved by Cabinet in 1994, obliges Namibia to place a high priority on maintaining ecosystems and related ecological processes, and to uphold maximum biological diversity. The Policy recognises that environmental assessments are a key tool towards implementing integrated environmental management. The Policy has also gained legislative support by the EMA.

The 1999 **Policy for Prospecting and Mining in Protected Areas and National Monuments** was drafted to sensitise about the importance of conservation and

28 GRN (1995b).

tourism. The Policy envisages environmentally responsible mining and recognises the right of the State to issue prospecting and mining licences in protected areas. The Ministry of Mines and Energy is urged MME not to encourage the exploitation of low-value minerals and dimension stone in parks. The Policy emphasised the need for inter-sectoral collaboration where prospecting and mining is allowed in parks.

Recognising that with increased wildlife populations and expanded ranges into communal and freehold farming areas results in conflicts between people and wild animals, elephants and predators in particular, which cause livestock and crop losses and damage to water installations and sometimes also in the loss of human lives, the (then) Ministry of Environment and Tourism adopted the **National Policy on Human Wildlife Conflict Management** in 2009 to provide a framework for addressing human-wildlife conflict efficiently to protect biodiversity and to promote human development. To this end, the Policy has identified five major objectives, namely, to develop a future human-wildlife conflict management legislative framework; a standardised monitoring system for human-wildlife conflict management; innovative ways to reduce the level of human-wildlife conflict; to establish best practice mitigation measures for human-wildlife conflict management; and to provide clarity on the question of compensation in respect of damages caused by wildlife.

The **National Policy on Enabling the Safe Use of Biotechnology**²⁹ was prepared by the Namibian Biotechnology Alliance and the Ministry of Higher Education, Vocational Training, Science and Technology in October 1999. The Policy has two main objectives: The first is to guide the judicious use of modern biotechnology in Namibia for sustainable development in ways that do not in any way jeopardise human and environmental health, including Namibia's biodiversity and genetic resources. A second objective is to ensure the effective control of transboundary movements of genetically modified organisms or products thereof resulting from modern biotechnology, inter alia, through the exchange of information. The Policy recognises that, in addition to a competent lead authority, cooperation from several other ministries is essential to ensure regulation. Several institutions will be involved in conducting risk assessments, advising on permit issues, and ensuring effective control and law enforcement.

4.2 Policies on Land and Agriculture

The Land Use Planning Policy Document³⁰ drafted by the Ministry of Environment and Tourism in 1994 defines five physiographic landforms, namely communal state land, privately owned commercial farmland, proclaimed state land, urban areas, and

29 GRN (1999a).

30 GRN (1994b).

wetland systems, including their catchments. The Policy emphasises the sustainability of natural resources, biodiversity and essential ecological processes.

In 1998, the Ministry of Lands and Resettlement issued the **National Land Policy**,³¹ which is based on constitutional principles and on the national commitment to redress the social and economic injustices inherited from Namibia's colonial past. The Policy calls for the establishment and proclamation of urban areas and strives to promote decentralisation and community involvement. The Policy proposes financial and tax incentives for the protection and rehabilitation of natural environments, e.g. planting of indigenous trees and using alternative energy to reduce rates of deforestation and pollution. In accordance with Article 95(1) of the Constitution, it promotes environmentally sustainable land use, stating that failure to demonstrate environmental sustainability may be grounds for the denying or termination of a title. One of the aims of this Policy is to establish a Land Use and Environmental Board to promote environmental protection and contribute towards coordinated planning and management at national and regional levels. This Board is obliged to ensure that environmental protection is promoted in order to guarantee environmental, social and economic sustainability.

The **National Land Use Planning Policy**³² was drafted by the Ministry of Lands and Resettlement in 2002. It provides a framework for the implementation of regionally integrated land use plans.

The 1997 **National Resettlement Policy**³³ regulates that resettlement must be institutionally, socially, economically and environmentally sustainable, to enable the beneficiaries to become self-supporting.³⁴

The 2003 **National Land Tenure Policy**³⁵ covers all land tenure systems in urban, communal, commercial (freehold) and resettlement areas, and is intended to guide all land tenure rights in Namibia. The Policy promotes the sustainable utilisation of land and other resources. By regulating different land tenure rights, it provides secure tenure for informal urban settlers, farmworkers and occupiers (those who have been employed less than ten years on a single farm and do not have secure tenure elsewhere). Furthermore, it provides guidelines on compensation for occupiers of expropriated land. In line with the 1995 National Agricultural Policy,³⁶ the National Land Tenure Policy recognises the environmental limitations of the country. Some 22% of Namibia's land surface area is desert, receiving less than 100 mm of rainfall a year. Another 33% of the land is classified as arid, with an annual rainfall of between 100 to 300 mm. Some 37% of the land is semi-arid, meaning it receives between 300 and

31 GRN (1998b).

32 GRN (2002b).

33 GRN (2001c).

34 Woeller (2005:141).

35 GRN (2002c).

36 GRN (1995c).

500 mm rainfall a year, leaving only 8% classified as semi-humid and sub-tropical, i.e. with 500 to 700 mm annual rainfall.³⁷

The aims of the 1995 **National Agricultural Policy** are largely economic, focusing on increasing agricultural productivity. One of the Policy's objectives is to promote national and household food security, while recognising the limitations imposed by the country's climate and soils. The Policy seeks to promote sustainable utilisation of the land and other natural resources within the context of a vulnerable ecosystem. Potential problems such as deforestation, soil erosion, bush encroachment and overgrazing are also addressed.

The **Regional Planning and Development Policy** was drafted by the National Planning Commission in 1997.³⁸ The Policy acknowledges the trend of the increasing degradation of pastures, rangelands and woodland, with special attention to soil, water and forest management as development tools. The Policy promotes strategies such as soil conservation and controlled grazing cycles, which are important to agriculture.

Namibia's Drought Policy and Strategy was drafted in 1997 and is concerned with developing an efficient, even-handed and sustainable approach to drought management. In line with Namibia's National Agricultural Policy, the Drought Policy recognises that aridity and highly variable rainfall are normal phenomena. Farmers must also take into account the risks associated with variable input and output prices, exchange and interest rates, in addition to weather conditions. The Policy aims to shift responsibility for managing drought risk from Government to the farmer, with financial assistance and food security interventions only being considered in the event of an extreme or disaster drought. The objectives of the Policy are inter alia to ensure that household food security is not compromised by drought; to encourage and support farmers to adopt self-reliant approaches to the risk of drought; to minimise the degradation of the natural resource base during droughts; to preserve adequate reproductive capacity in livestock herds in affected areas during drought periods; and to ensure the continuous supply of potable water to communities, and particularly to their livestock, schools and clinics.

The **National Policy on Community Based Natural Resource Management of 2013**³⁹ aims to provide a framework that promotes the sustainable use of Namibia's natural resources and the promotion of integrated land and "natural resource planning and decision making that considers the most appropriate land uses based on land capability, optimum economic return, environmental and human needs."⁴⁰ The rationale is to develop and implement a framework that provides rural communities with the appropriate incentives and economic benefits to manage natural resources sustainably.

37 See World Bank (2007:100ff.).

38 GRN (1997c).

39 GRN (2013).

40 Ibid:2.

The Policy includes objectives such as the conservation of biodiversity based on traditional knowledge, the protection of intellectual property rights of communities with regard to the management, use and commercialisation of their natural resources, and moreover to provide appropriate and effective support to rural communities so that they can manage their natural resources in a sustainable manner.

4.3 Policies on Water

The following policy documents are the most relevant to water and wetland resources in Namibia:⁴¹

The 1993 **Water Supply and Sanitation Policy** deals with water supply and sanitation issues. It aims to improve sustainable food self-sufficiency and security and provides a foundation for the equitable and efficient development of water supply in Namibia.⁴² The Policy promotes the supply of water, as well as improved sanitation at an affordable cost to all Namibians. The objective here is to subject these developments to Environmental Impact Assessments to guarantee their sustainability. The Policy states that improved provision of sanitation can contribute to improved health, ensure a hygienic environment, protect water sources from pollution, promote water conservation, and stimulate economic development. The Policy laid the foundations for the establishment of a Directorate of Rural Water Supply, the community-based management of rural water supplies, and over 200 Water Point Committees countrywide. The Policy grants communities the right, with due regard for environmental needs, to plan, maintain and manage their own water supply and choose their own solutions and levels of service. Yet, the Policy makes it clear that this right is subject to the obligation that beneficiaries should contribute towards the cost of the water provision services. Furthermore, the Policy stresses the environmentally sustainable development and utilisation of water resources. The Water Point Committees are obliged to raise concerns about any developments or alterations that may pose a threat to the water supply and their water resources. They are also responsible for implementing specific management measures, such as the strict allocation of an ecological water reserve and water demand management measures. With these provisions, the Policy places a strong emphasis on community involvement, participation and responsibility.

In 2002, Cabinet approved the **National Water Policy White Paper**,⁴³ which formed the foundation of the Water Resources Management Act.⁴⁴ The Policy provides a framework for equitable, efficient and sustainable water resources management and

41 Heyns (2005:89-106, at 95f. and 105).

42 Ibid:95.

43 GRN (2000a).

44 No. 24 of 2004.

water services, and stresses sectoral coordination, integrated planning and management as well as resource management aimed at coping with ecological and associated environmental risks. It states that water is an essential resource to life and that an adequate supply of safe drinking water is a basic human need. The Policy makes it clear that water concerns extend beyond human needs for health and survival. Water is essential to maintain natural ecosystems, and the Policy recognises that, in a country as dry as Namibia, all social and economic activity depends on healthy aquatic ecosystems. The National Water Policy stresses that the management of water resources needs to harmonise human and environmental requirements, recognising the role of water in supporting the ecosystem. One of the strategies to ensure environmental and economic sustainability is that in-stream flows are adequate – both in terms of quality and quantity – to sustain the ecosystem.

The vision of the 2004 **Draft Wetland Policy**⁴⁵ is to manage national and shared wetlands wisely by protecting their vital ecological functions and life-support systems for the current and future benefit of people's welfare, livelihoods and socio-economic development.⁴⁶ The objectives of the Policy are to protect and conserve wetland diversity and ecosystem functioning to support basic human needs, to provide a framework for sustainable use of wetland resources, to promote the integration of wetland management into other sectoral policies, and to recognise and fulfil Namibia's international and regional commitments concerning shared wetlands and wetlands of international importance. The basic principles of the Policy are intended to provide a framework for the development of all water-related policies. In terms of ecosystem values and sustainability, the Policy follows the Ramsar Convention on Wetlands' definitions and guidelines regarding the wise use of wetlands.⁴⁷

Namibia's 2001 **Aquaculture Policy**⁴⁸ deals with the responsible and sustainable development of farming aquatic plants, fish, molluscs and crustaceans. It advocates responsible aquaculture developments. This Policy deals directly with the potential impact of alien and other invasive species and seeks to minimise their often destructive influence on aquatic ecosystems. Issues specifically mentioned include the release of introduced species and genetically modified organisms, the mixing of farmed and wild stock (genetic pollution), and the risk of disease transfer. The Policy aims to ensure the protection of the living resources of national and international waters.

45 GRN (2004c).

46 On wetlands in Namibia, cf. Ruppel / Bethune (2007).

47 The text of the Ramsar Convention is available at <http://www.ramsar.org>.

48 GRN (2001b).

4.4 Policy on Forests

Biodiversity conservation is central to the 2001 **Development Forestry Policy for Namibia**,⁴⁹ which aims to reconcile rural development with biodiversity conservation by empowering farmers and local communities to manage forest resources on a sustainable basis. The Policy identifies effective property rights; a supportive regulatory framework; good extension services; community forestry; and forest research, education and training as instruments essential to the successful implementation of sustainable forestry management in Namibia. The Policy also paves the way for the establishment of community forests and their custodianship by the people most dependent on such resources. In 2005, the Ministry of Agriculture, Water and Forestry's Directorate of Forestry introduced the Community Forestry Guidelines.⁵⁰ The main objective of these guidelines is to provide all stakeholders with a standard for establishing and managing community forests, by describing the legal procedures involved in setting up a community forest; describing the organisational arrangements and administrative procedures necessary for the sustainable management of community forests; and by specifying the respective roles of Government forestry officials, communities and other stakeholders involved.⁵¹

4.5 Policies on Tourism

The 1994 **Tourism White Paper**⁵² commits the Government to, *inter alia*, develop the tourism industry without threatening Namibia's biodiversity. It requires part of the income derived from tourism be reinvested in the conservation of natural resources, including those associated with wetlands. The Policy identifies ecotourism for foreign visitors as the primary product and assigns the Ministry of Environment and Tourism the lead role in coordinating inter-ministerial activities relevant to tourism and in cooperating with the private sector to create a national tourism identity.⁵³

In 1995, the (then) Ministry of Environment and Tourism developed the **Community-based Tourism Policy**⁵⁴ to recognise the fact that tourism could bring significant social and economic benefits to previously disadvantaged people, whilst also promoting biodiversity conservation. Under the terms of the Policy, the Ministry of Environment and Tourism is obliged to ensure that development of the community-based tourism sector is environmentally sustainable, and that no development takes place without

49 GRN (2001d).

50 GRN (2005a).

51 Ibid.

52 GRN (1994a).

53 Section 3.13 of the 1994 Tourism Policy.

54 GRN (1995a).

the participation of the people affected. This objective is geared to emphasise environmental sustainability, biodiversity conservation and community participation in tourism.

Finally, in 2008, the Ministry of Environment and Tourism issued the **National Policy on Tourism for Namibia**.⁵⁵ This Policy stresses that “government will encourage tourism that is environmentally, socially and economically sustainable”. While aiming to provide a framework for the mobilisation of tourism resources to realise economic growth, employment creation and reduced inequalities, the Tourism Policy acknowledges that sustainability is linked to the protection of the natural resource base and thus suggests adhering to the principle of sustainable tourism, which implies that “tourism activities should be planned in such a way that visitor satisfaction is achieved, the industry is profitable, the fragile environment is protected and natural resources are used sparingly for the benefit of current and future generations.”⁵⁶

4.6 Climate Change and Energy

In recognition of environmental constraints and vulnerability, the **National Policy on Climate Change for Namibia**⁵⁷ was launched in 2011. The Policy seeks to outline a coherent, transparent and inclusive framework on climate risk management in accordance with Namibia’s national development agenda, and the relevant legal framework. The general aim of the Policy is to contribute to the attainment of sustainable development in line with Namibia’s Vision 2030 through strengthening of national capacities to reduce climate change risk and build resilience for any climate change shocks. This is specified in the following objectives:

- To develop and implement appropriate adaptation strategies and actions that will lower the vulnerability of Namibians and various sectors to the impacts of climate change;
- to develop action and strategies for climate change mitigation;
- to integrate climate change effectively into policies, institutional and development frameworks in recognition of the cross-cutting nature of climate change;
- to enhance capacities and synergies at local, regional and national levels and at individual, institutional and systemic levels to ensure successful implementation of climate change response activities; and
- to provide secure and adequate funding resources for effective adaptation and mitigation investments on climate change and associated activities.

55 GRN (2008c).

56 Ibid:6.

57 GRN (2011b).

The Ministry of Mines and Energy issued the **National Energy Policy**⁵⁸ in 2017 aiming to ensure the security of all relevant energy supplies, to create cost-effective, affordable, reliable and equitable access to energy, to promote the efficient use of all forms of energy, and to incentivise the discovery, development and productive use of Namibia’s diverse energy resources. The Policy envisages that all energy-related activities ensure that the environment is protected, and resources are used in a sustainable manner. Policy issues and associated Policy statements refer to the electricity sector, the upstream oil and gas sector, the downstream liquid fuels sector, the downstream gas sector and the thermal energy sector.

4.7 Environmental Education

In 2019, the **National Environmental Education and Education for Sustainable Development Policy**⁵⁹ was launched by the Ministry of Environment, Forestry and Tourism with the mission to “reorient, integrate and upscale quality environmental education and education for sustainable development in environmental awareness, education and training systems, research and innovation systems, policies, programmes and action for sustainable development.”⁶⁰ The Policy *inter alia* intends to establish and implement education and training systems, improve synergies and partnerships, improve research and innovation outputs, and to mobilise increased funding and resource allocations in the field of environmental education and education for sustainable development.

5 Selected Strategies and Action Plans

5.1 National Biodiversity Strategy and Action Plan

Namibia has taken up the challenge of conserving species and ecosystems to limit the increasing rate of loss of biological diversity by drafting the National Biodiversity Strategy and Action Plan (NBSAP). The first NBSAP was implemented from 2001 to 2010 with the aim to protect ecosystems, biological diversity and ecological processes through conservation and sustainable use, thereby supporting the livelihoods, self-reliance and quality of life of Namibians.⁶¹ The Action Plan intends to provide overall strategic guidance for the implementation of Article 95(1) of the Constitution, and

58 GRN (2017b).

59 GRN (2019c).

60 Ibid:10.

61 Barnard *et al.* (2000).

detailed, practical activities through which sustainable development can be achieved. Further to this, the Action Plan attempts to provide a national strategic framework for natural resource management activities involving biological resource management, also including trade and economic incentives. It aims to prioritise activities and measures needed to implement this strategy effectively for the next decade.

The Action Plan also advocates the facilitation of sustainable natural resource management throughout Namibia as a fundamental theme for development planning; this it proposes to do through appropriate ecosystem management and land-use practices, and the selective, sustainable harvesting of species. Government is urged to develop monitoring and incentive systems for sustainable natural resource use. It is proposed that the users themselves become the monitoring agents, practising adoptive management, since they are the custodians of resources. Incentive systems should be aimed at making the sustainable management of natural resources profitable.⁶²

The second NBSAP⁶³ was published in 2014 to continue the work done under NBSAP 1 and spans the period from 2013 to 2022. In line with the strategic goals of the Convention on Biological Diversity Strategic Plan and the Aichi Targets, NBSAP 2 aims to address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society; to reduce direct pressures on biodiversity and promote the sustainable use of biological resources; to improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity; to enhance the benefits to all from biodiversity and ecosystem services; and to enhance the implementation of NBSAP2 through participatory planning, knowledge management and capacity building.⁶⁴

5.2 National Strategy on Wildlife Protection and Law Enforcement

Rising wildlife crime has prompted Government to take action in this regard. To this end, the Ministry of Environment Forestry and Tourism has issued the National Strategy on Wildlife Protection and Law Enforcement for the period from 2021 to 2025,⁶⁵ which recognises that “the illegal killing of wildlife in Namibia has implications for the environment, economy, social aspects as well as animal welfare”. The strategy reveals current crime statistics and trends that serve as a baseline for measuring impacts and outlines key requirements for protecting valuable and endangered species. While recognising that illegal trade in all natural resources, including timber, rare succulent plants, reptiles and birds needs to be addressed, the strategy strongly focuses on

62 Sub-strategic aim 2.2 of the First National Biodiversity Strategy and Action Plan.

63 GRN (2014h).

64 Ibid:v.

65 GRN (2020b).

the high-value species most targeted by criminals, namely elephant, rhinos and pangolin. The strategy emphasises that wildlife must be protected within and outside state-protected areas. Therefore, one of the overall strategic principles is to effectively enforce national legislation and the rule of law. One long-term goal is to stop poaching rather than to perpetually catch poachers. Furthermore, the strategy lists as strategic objectives, among others, to build capacity for conservation, wildlife protection and law enforcement; to enhance community-based resource management to improve wildlife protection; to raise awareness regarding wildlife protection and communicate matters related to wildlife crime; and to strengthen law enforcement amongst all agencies to effectively counter wildlife crime.

5.3 Namibia's Climate Change Strategy and Action Plan

Namibia's Climate Change Strategy and Action Plan 2013 to 2020 provides a background to climate change impacts predicted globally, regionally and nationally.⁶⁶ It highlights how vulnerable Namibia is in this regard and argues the need for climate change adaptation and mitigation. Guiding principles are proposed in the strategy to guide the planning, development, implementation and monitoring and evaluation of climate change response activities. The three main responses to climate change, namely adaptation, mitigation and tackling cross-cutting issues through adaptation and mitigation are highlighted from a Namibian perspective. Adaptation focuses on food security and a sustainable resource base, on sustainable water resources, on human health and well-being and infrastructure. Climate change mitigation is addressed through two themes, namely sustainable energy provision and low-carbon development and transport. Cross-cutting issues particularly refer to capacity building, training and institutional strengthening, research and information needs, public awareness, participation and access to information, disaster reduction and risk management, financial resource mobilisation and management, international cooperation and networking, technology development and transfer, and legislative development. The Action Plan outlines in detail specifically proposed activities to address each strategic aim through adaptation or mitigation.

5.4 Aquaculture Strategic Plan

Namibia's 2004 Aquaculture Strategic Plan⁶⁷ was developed to provide guidance on the regulatory framework, business climate, public acceptability, also on strategies to

66 GRN (2014b).

67 GRN (2004b).

ensure training, research, marketing and infrastructure development for aquaculture. The plan outlines targets for employment creation, investment, training and the value of production. Diverse needs call for sustainable economies in rural areas, both inland and coastal; improved viability of non-productive areas; poverty reduction; and pollution prevention supporting renewable natural resource-based food production. With regard to environmental considerations, the plan emphasises the importance of site selection prior to developing any aquaculture facility, and the permanent assessment of good water quality as the most important prerequisites for successful aquaculture.

5.5 Strategic Action Plan for the Implementation of Renewable Energy Policies

An important aspect of the meaningful and large-scale introduction of renewable energy technologies is to ensure sustainable development by promoting broad economic empowerment, socio-economic development and environmental protection. To this end, the 2006 Strategic Action Plan provides that the Renewable Energy and Energy Efficiency Institute should co-ordinate institutional cooperation on gender-based energy issues and promote regionally based broad economic empowerment. Environmental considerations should also form part of its responsibilities. The plan emphasises that increased population pressure results in increased pressure on natural resources as rural households often have no choice, but to rely heavily on wood for energy and shelter; this often happens at the expense of environmental sustainability. For this reason, it is proposed that the Renewable Energy and Energy Efficiency Institute assists in the establishment of environmental impact assessments that consider energy needs within a socio-economic framework. The institute intends to expand the scope of environmental impact assessments to consider the impact of, for instance, power stations' emissions to greenhouse gas development, respiratory diseases from household smoke, etc. within a national, sub-regional, regional and global perspective.

5.6 Forestry Strategic Plan

The Forestry Strategic Plan was issued by the Ministry of Environment and Tourism in 1996.⁶⁸ It is the major instrument for implementing the 2001 Development Forestry Policy. The plan aims to promote development of community level natural forest management, which includes the community management of riparian forests and woodlands.

68 GRN (1996).

6 Statutory Law

The development of Namibian environmental law is closely linked to the history of environmental law in South Africa due to Namibia's history. Article 140 of the Namibian Constitution provides that all law in force immediately before the date of Independence shall remain in force until repealed or amended by Act of Parliament. Thus, South African legislation plays a significant role even after Namibia's Independence. Some of the environmental laws valid in Namibia are inherited from the South African legal system. South Africa had enacted a variety of environmental legislation regarding the conservation of natural resources.⁶⁹ The Water Act,⁷⁰ the Soil Conservation Act,⁷¹ the Mountain Catchment Areas Act,⁷² the Hazardous Substances Ordinance⁷³ the Nature Conservation Ordinance,⁷⁴ and the Atmospheric Pollution Prevention Ordinance⁷⁵ are only some examples for South African legislation relevant for environmental conservation which passed on to Namibia, and which has been applicable way beyond Independence. However, Namibia, since Independence, has put a strong emphasis on integrating environmental concerns into the post-colonial legal framework. Many legislative steps have been taken, in order to comply with its obligations under international law and to ensure the conservation of natural resources by legislative means.

The Constitution provides the framework, and Independence created the opportunity to revise a wide range of national policies and laws. This, together with the emphasis placed on environmental concerns at the Rio Summit in 1992 and increased awareness triggered widespread legislative reform, particularly in terms of natural resource management.

A wide number of enactments are pertinent – directly or indirectly – to environmental issues. Environmental framework legislation of cross-sectoral nature such as the Environmental Management Act⁷⁶ or the Nature Conservation Ordinance⁷⁷ are rather broad in scope, while sectoral legislation such as the Forest Act⁷⁸ or the Water Management Act⁷⁹ cover specific environmental issues. The following list, which raises no claim to completeness, shows the rich body of environmental legislation in Namibia. The substantial number of enactments emphasises the relevance of environmental concerns in Namibia on the one hand, on the other, it reflects the fragmentation of

69 Kidd (2011:12f.).

70 No. 36 of 1998.

71 No. 76 of 1969.

72 No. 63 of 1970.

73 No. 14 of 1974.

74 No. 4 of 1975.

75 No. 11 of 1976.

76 No. 7 of 2007.

77 No. 4 of 1975.

78 No. 12 of 2001.

79 No. 11 of 2013.

environmental law, which is one of the major challenges of environmental law with a view to administration and enforcement. Only some of the listed statutory laws can be introduced briefly, many of these statutory laws will be discussed in detail in subsequent chapters.

Table 2: Selected Legislation Relevant for Environmental Conservation

<ul style="list-style-type: none">• Access to Biological and Genetic Resources and Associated Traditional Knowledge Act No. 2 of 2017• Agricultural (Commercial) Land Reform Act No. 6 of 1995• Agricultural Pests Act No. 3 of 1973• Aquaculture Act No. 18 of 2002• Animals Protection Act No. 71 of 1962• Atmospheric Pollution Prevention Ordinance No. 11 of 1976• Atomic Energy and Radiation Protection Act No. 5 of 2005• Biosafety Act No. 7 of 2006• Communal Land Reform Act No. 5 of 2002• Controlled Wildlife Products and Trade Act No. 9 of 2008• Diamond Act No. 13 of 1999• Electricity Act No. 4 of 2007• Environmental Management Act No. 7 of 2007• Environment Investment Fund of Namibia Act No. 13 of 2001• Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No. 36 of 1947• Forest Act No. 12 of 2001• Game Products Trust Fund Act No. 7 of 1997• Hazardous Substances Ordinance No. 14 of 1974	<ul style="list-style-type: none">• Inland Fisheries Resources Act No. 1 of 2003• Livestock Improvement Act No. 25 of 1977• Marine Resources Act No. 27 of 2000• Minerals (Prospecting and Mining) Act No. 3 of 1992• Mountain Catchment Areas Act No. 63 of 1970• Namibia Wildlife Resorts Company Act No. 3 of 1998• National Fishing Corporation of Namibia Act No. 28 of 1991• National Heritage Act No. 27 of 2004• Nature Conservation Ordinance No. 4 of 1975• Nature Conservation Amendment Act No. 3 of 2017• Petroleum (Exploitation and Production) Act No. 2 of 1991• Petroleum Products and Energy Act No. 13 of 1990• Plant Quarantine Act No. 7 of 2008• Prevention and Combating of Pollution of the Sea by Oil Act No. 6 of 1981• Public and Environmental Health Act No. 1 of 2015• Soil Conservation Act No. 76 of 1969• Water Act No. 54 of 1956• Water Resources Management Act No. 11 of 2013
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Source: Table compiled by the author.

6.1 Environmental Framework Legislation

As environmental framework legislation, the **Environmental Management Act No. 7 of 2007** (EMA) is an important tool in terms of environmental protection. On

6 February 2012, Government gazetted several notices related to the EMA.⁸⁰ It has *inter alia* been determined that with publication in the Gazette, the EMA becomes operational.⁸¹ The Act requires adherence to the principle of optimal sustainable yield in the exploitation of all natural resources. The Act gives effect to Article 95(1) of the Constitution by establishing general principles for the management of the environment and natural resources. It promotes the coordinated and integrated management of the environment and sets out responsibilities in this regard. Furthermore, it intends to give statutory effect to Namibia's Environmental Assessment Policy; it enables the Minister responsible for the environment to give effect to Namibia's obligations under international environmental conventions; and provides for associated matters. In order to promote the sustainable management of the environment and the use of natural resources, the EMA states its objective in Section 2 and has established a bundle of principles for decision-making on matters affecting the environment in Section 3. The EMA promotes inter-generational equity in the utilisation of all natural resources. Environmental impact assessments and consultations with communities and relevant regional and local authorities are provided for to monitor the development of projects that potentially have an impact on the environment.

According to the EMA, Namibia's cultural and natural heritage is required to be protected and respected for the benefit of present and future generations. The Act provides for a Sustainable Development Advisory Council to be established⁸² to advise the Minister on issues that promote cooperation and coordination between organs of state, non-governmental organisations, community-based organisations, the private sector and funding agencies, on environmental issues relating to sustainable development. An Environmental Commissioner advises government bodies on the preparation of environment plans, receives and records all applications for environmental clearance certificates, determines whether a particular listed activity requires an environmental assessment, reviews environmental assessment reports, issues environmental clearance certificates and conducts inspections to monitor compliance with the EMA.

The Act provides for administrative mechanisms such as the necessity of environmental clearance certificates and environmental assessments. The impact of activities on the environment has to be considered and interested or affected parties have to be given an opportunity to participate in environmental assessment when government institutions or private persons are intending or planning anything likely to have a

80 Government Gazette No. 4878 (2012), Government Notices 28-30.

81 Government Gazette No. 4878 (2012), Government Notice No. 28, Commencement of the Environmental Management Act, 2007.

82 In February 2012, the Government of Namibia gazetted the Regulation for the implementation of Environmental Management Act No. 7 of 2007. Subsequently, the Ministry of Environment and Tourism invited nominations for appropriate persons from the public, organisations, associations or institutions to sit on the Sustainable Development Advisory Council. The Sustainable Development Advisory Council has been inaugurated in January 2013. For further information see the <https://sdacnamibia.org>, accessed 20 April 2021.

significant effect on the environment. With regard to such activities, environmental assessments have to be conducted before any decisions are made. For specific activities or projects having an environmental impact, an environmental clearance certificate is required.

All activities which need an environmental clearance certificate must follow the Regulations for Environmental Impact Assessments,⁸³ which have been made according to Section 56 of the EMA.

The **Public and Environmental Health Act No. 1 of 2015** aims to promote public health and wellbeing; prevent injuries, diseases and disabilities; protect individuals and communities from public health risks; encourage community participation in order to create a healthy environment; and to provide for early detection of diseases and public health risks. To this end, the Act contains several provisions relevant for environmental protection. With a view to water and food safety, the Act in Part 7 formulates a duty of local authorities to provide and maintain as far as may be reasonably possible, a sufficient supply of potable water for drinking and domestic purposes. Furthermore, the Act addresses integrated waste management in Part 9 and stipulates among others that in order to prevent environmental pollution and public health risks, local authorities must ensure that all waste generated is collected, disposed of and recycled in accordance with the requirements of all laws governing the management of the different waste streams. Part 11 deals with public and environmental health planning and reporting and contains an option to request a public and environmental health plan from a local authority in respect of a specific issue or geographic area. The Act came into operation in 2020.⁸⁴

6.2 Nature Conservation, Wildlife and Traditional Knowledge

One of the major biodiversity related laws in Namibia is the legislation governing the conservation of wildlife, and protected areas, the **Nature Conservation Ordinance No. 4 of 1975**. The Ordinance was enacted to consolidate the laws relating to the conservation of nature to establish game parks and nature reserves and to control problem animals. Various amendments to the Ordinance have become effective since its commencement in 1975. With the introduction of communal conservancies for example, amendments to the ordinance and its regulations were made and came into effect in

83 Government Gazette No. 4878 (2012) Government Notice No. 30, Environmental Impact Assessment Regulations: Environmental Management Act, 2007.

84 Part 3 of the Act was brought into force temporarily by the State of Emergency - COVID-19 Regulations, Proclamation 9 of 2020 (GG 7159) issued pursuant to Article 26(5) of the Namibian Constitution, subsequent to the declaration of a state of emergency in the whole of Namibia, following the worldwide outbreak of the disease. In September 2020, the Act came into operation, see *Government Gazette* No. 7338, Government Notice No. 230.

1996. The amendments were made to take into account the establishment of conservancies and Wildlife Councils. In terms of the amendment, rural communities have to form a conservancy in order to be able to acquire the use-right over wildlife. Wildlife conservancies are gaining importance granting communities custodianship of their natural resources, particularly wildlife and fish.

The **Nature Conservation Amendment Act No. 3 of 2017** is the most recent amendment to the Nature Conservation Ordinance providing for an administrative, legal and procedural framework for tourism concessions in protected areas and other State land and for the control of import and export of live game or animal. The 2017 Act also increases the penalties for offences under the Ordinance.

The Ordinance, which is still one of the most comprehensive environment-related legal instruments in Namibia, is arranged as follows: Chapter I establishes the Nature Conservation Board. Chapter II deals with game parks and reserves, and in particular, its Section 13 is about the Etosha National Park. The Ordinance provides for a restriction of the right to enter game parks and nature reserves under specific conditions and prohibition of certain acts therein. One of the most important provisions with regard to the protection of game is Section 20, which prohibits hunting in game parks and nature reserves. With regard to plant protection, Section 24 prohibits the picking of indigenous plants in private nature reserves. Chapter III of the Ordinance on wild animals *inter alia* regulates hunting of specifically protected and protected game and of huntable game, game birds, exotic game and other wild animals. Provision is also made for the lease of hunting rights in Section 35. An own Chapter of the Ordinance is on problem animals, which are wild animals, declared as problem animals by the Executive Committee by respective notice in the Government Gazette. The provisions of Chapter V on the protection of fish in inland waters have been repealed by the Inland Fisheries Resources Act. Chapter VI aims at the protection of indigenous plants. The Minister of Environment and Tourism, who is responsible for the preservation of wild animals, exotic game, fish and plants may destroy, decrease or eliminate any species that is detrimental to any other species, undertake research and surveys on any species, take the measure for the control of aquatic vegetation and issue regulations with regard to the import, cultivation and control of any plant, indigenous or not detrimental to, any wild animal, fish or indigenous plant. Chapter VII of the Ordinance contains several general provisions of more procedural and administrative nature, and focuses on permits, licences, registrations, approvals, permissions, exemptions and criminal implications and consequences for those who trespass specific provisions of the Ordinance. The Schedules of the Ordinance amongst others, list specially protected game, protected game, huntable game, huntable game birds, and protected plants. The Ordinance is considered to be the most important environmental law in Namibia with

regard to case law.⁸⁵ Unfortunately, this legal instrument is not equipped with adequate enforcement mechanisms, and the penalties attached to the offences hardly have a deterring effect.

The **Controlled Wildlife Products and Trade Act No. 9 of 2008**, which came into force in 2012, provides for the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Among others, the Act establishes a technical committee that performs duties and has certain powers as per CITES; furthermore, the Act defines certain offences and penalties related to wildlife crimes. As per Section 9 of the Act, Regulations⁸⁶ came into force in 2011, which deal with a system of permits and procedures required for import, export, re-export or re-import of any species listed in the Appendices of CITES, including live specimens as well as parts and derivatives.

The first Access to Biological Resources and Associated Traditional Knowledge Bill was drafted in 1998 and has since then undergone several changes. **The Access to Biological and Genetic Resources and Associated Traditional Knowledge Act No. 2 of 2017** has been passed by Parliament but still has to come into force on a date set by the Minister. The objective of this piece of legislation is to regulate access to genetic resources and associated traditional knowledge and innovation, practices and technology associated with biological and genetic resources and traditional knowledge. Furthermore, the Act strives to protect the rights of local communities over biological resources and associated traditional knowledge. Moreover, the Act provides for a mechanism for fair and equitable benefit sharing. The Act applies to biological and genetic resources, the derivatives of biological or genetic resources, associated traditional knowledge, benefits arising from the use of biological and genetic resources, their derivatives and associated traditional knowledge, and the discovery or commercialisation phase of bioprospecting. The responsibility of ensuring fair and equitable sharing of the benefits arising from the utilisation of genetic resources and associated traditional knowledge vests in the State. Access to biological and genetic resources is subject to an access permit issued by the Ministry and to written prior informed consent of the concerned right holders. The Act also recognises general rights of local communities and provides for the protection of community intellectual property rights. Non-registration of any traditional knowledge does not render it unprotected as community intellectual property rights.

85 See for example *S v Ngombe* 1990 NR 165 (HC); *S v Machinga* 1990 NR 157 (HC); *Skeleton Coast Safaris v Namibia Tender Board & Others* 1993 NR 288 (HC); *S v Makwele* 1994 NR 53 (HC); *S v Koortzen* 1994 NR 356 (HC); *S v Kau & Others* 1995 NR 1 (SC); *S v Vorster* 1996 NR 177 (HC); *S v Seibeb & Another*; *S v Eixab* 1997 NR 254 (HC); *S v Maritz* 2004 NR 22 (HC); *S v Aukemebe* 2009 (1) NR 19 (HC); *Van Rensburg & Another v Government of the Republic of Namibia* 2009 (2) NR 431 (HC); *Uffindell t/a Aloe Hunting Safaris v Government of Namibia & Others* 2009 (2) NR 670 (HC).

86 See Government Gazette No. 4773 (2011) Government Notice 144.

6.3 Legislation on Water

The Water Act No. 54 of 1956 remains in force until the new Water Resources Management Act comes into force upon signature by the Minister. Although the new Water Resources Management Act No. 11 of 2013 has been passed by Parliament, signed by the President and published in terms of the Namibian Constitution,⁸⁷ it has not yet come into operation as the Minister has not yet determined a date for the Act to come into operation as required by Section 134 of the Act. Once in operation, the Act repeals both, the Water Resources Management Act No. 24 of 2004 (which had de facto never come into force) and the Water Act No. 54 of 1956 as a whole.

Thus, the Water Act of 1956 is generally referred to as the old Water Act and often in the past tense, although strictly speaking, it remains applicable until it is officially repealed. This Act gives the Minister the power to, amongst others, investigate water resources, plan water supply infrastructure, develop water schemes, control water pollution, protect, allocate and conserve water resources, inspect water works, levy water tariffs and advise on all matters related to the water environment in general. It basically makes the Department of Water Affairs responsible for the use, allocation, control, and conservation of Namibia's surface and groundwater resources. It makes provision for the protection of river catchments, drilling of boreholes and making of wells, it controls effluent discharge into rivers and weather modifications such as cloud seeding and outlines regulations that govern the optimal use of water resources. It clearly defines the interests of the state in protecting water resources.

The **Water Resources Management Act No. 24 of 2004** has been approved and published in the Government Gazette. However, it has not come into force as a date for commencement of the Act as prescribed by Section 138(1)(b) of the same Act has not yet been determined by the Minister. The 2004 Act was based on the National Water Policy and provided for the management, development, protection, conservation, and use of water resources; and it established the Water Advisory Council, the Water Regulatory Board and the Water Tribunal. The objective of this Act was defined to ensure that Namibia's water resources are managed, developed, protected, conserved and used in a sustainable manner for the benefit of every Namibian.

The **Water Resources Management Act No. 11 of 2013** was enacted to provide for the management, protection, development, use and conservation of water resources; for the regulation and monitoring of water services and for incidental matters. The aim of this Act includes to ensure that Namibia's water resources are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, specific fundamental principles including, among others, equitable access to safe and sufficient drinking water; the maintenance of the water resource quality for ecosystems; and the promotion of the sustainable development of water resources based

87 See Government Gazette No. 5367 (2013) Government Notice No. 332.

on an integrated water resources management plan which incorporates social, technical, economic, and environmental issues. The Act provides for the establishment of a Water Advisory Council to advise the Minister on issues such as water policy development and review; water resources management; and water abstraction and use. Furthermore, a Water Regulator is to be established under the Act, to determine the tariffs of fees and charges that may be levied by a water services provider or that are payable by licence holders for the abstraction of water or the discharge of effluent or the supply or re-use of effluent. The Water Regulator also performs other functions with regard to water service providers, which have to be licenced under the Act. Basin Management Committees are further institutions that may be established under the Act to further the Government's objective in achieving integrated management of water resources.

6.4 Legislation on Fisheries and Marine Resources

The **Marine Resources Act No. 27 of 2000** provides for the conservation of the marine ecosystem and the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis. For that purpose, it provides for the exercise of control over marine resources and for matters connected therewith. It replaces the Sea Fisheries Act 29 of 1992, which in turn replaced the Sea Fisheries Act 58 of 1973.

The **Aquaculture Act No. 18 of 2002** regulates and controls aquaculture activities and the sustainable development of aquaculture resources. It allows the Minister to formulate policies based on social, economic and environmental factors, as well as the best scientific information and advice from the advisory council to promote sustainable aquaculture and manage, protect and conserve aquatic ecosystems.

The **Inland Fisheries Resources Act No. 1 of 2003** deals with the conservation and utilisation of inland fisheries resources and allows for the updating and development of new policies for the conservation and sustainable utilisation of Namibia's inland fisheries. It encourages cooperation with neighbouring countries regarding the management and conservation of shared waterways. No fishing is allowed in parks nor by net within 100m from a bridge, culvert or spillway or in a manner obstructing more than half the width of any watercourse. Furthermore, it prohibits the use of destructive fishing methods such as the use of poisons, explosives and night lights and the introduction and/or transfer of non-indigenous fish species. Fines or imprisonment are prescribed for destructive fishing and the use of nets where they are banned.

The **Prevention and Combating of Pollution at Sea by Oil Act No. 6 of 1981** prohibits the discharge of oil from ships, tankers or off-shore installations and gives the state certain powers to prevent such pollution and to deal with the removal of oil spills. Whereas this Act is applicable to coastal waters, inland water pollution is covered by the Water Act.

6.5 Legislation on Land and Agricultural Production

The **Communal Land Reform Act No. 5 of 2002** provides for the allocation and administration of all communal land and makes provision for the prevention of land degradation and for mitigating the impact of mining, prospecting, road works and water provision on the natural environment. The Act gives certain rights to communal farmers and traditional authorities, and states that future regulations will address issues pertinent to the conservation and sustainable management of water and watercourses, of woods and to the combating and prevention of soil erosion, the protection of pastoral resources, such as the grazing of stock, and any other matter as the Minister may consider necessary or expedient.

The **Agricultural Pests Act No. 3 of 1973** has been repealed by the **Plant Quarantine Act No. 7 of 2008**. The Agricultural Pests Act dealt with the registration of nurseries, the control and eradication of plants, insects and diseases at nurseries, the control and eradication of exotic (vertebrate) animals (excluding farm animals) and plants infected by insects or plant diseases, control of plant, insect and plant disease imports, honey bees, honey and exotic animals, the eradication of plant diseases, insects and locusts as well as defining the powers of inspectors.

The **Plant Quarantine Act No. 7 of 2008** provides for the preventing, monitoring, controlling and eradication of plant pests. The Act deals with the movement of plants, plant products and other regulated articles within and into or out of Namibia and provides for the certification of the phytosanitary standards of plants and plant products exported from Namibia. The Act makes provision with respect to the prevention and control of pests affecting plants. To this end, quarantine control measures and places restrictions on the importation of plant and plant material are introduced. The Minister may appoint plant protection officers and may declare areas or pests for purposes of quarantine control. The Ministry, or such other authority as the Minister by Notice in the Gazette may designate, has the authority and responsibility to function as the official national plant protection organisation of Namibia for the purposes of the International Plant Protection Convention. In June 2012, the Ministry of Agriculture, Water and Forestry has made and gazetted regulations⁸⁸ relating to issuing of import permits, examination of imported plants, diseases or insects and lodging of appeals.

The **Soil Conservation Act No. 76 of 1969** makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources. The **Second Soil Conservation Amendment Act No. 38 of 1971** applies the Soil Conservation Act to Namibia and deals mainly with soil conservation, soil stabilisation and fire protection. This Act is being revised by the Ministry of Agriculture, Water and Forestry as part of the Conservation of Agricultural Resources Bill.

88 See Government Gazette No. 4975 (2012) Government Notice No. 158.

6.6 Legislation on Forestry

The **Forest Act No. 12 of 2001** consolidates the laws relating to the use and management of forests and forest produce; it provides for the control of forest fires and creates a Forestry Council. It replaces the **Preservation of Trees and Forests Ordinance No. 37 of 1952** and the **Forest Act No. 72 of 1968**. The 2001 Forest Act defines forest produce in very broad terms as anything that grows or is naturally found in a forest. The Act is formulated around the tenets of sustainable management of forests, and the purpose for which forest resources are managed and developed. This also includes the planting of trees where necessary, as well as soil conservation, the safekeeping of water resources and the maintenance of biological diversity.

6.7 Legislation on Energy and Mining

The **Minerals Prospecting and Mining Act No. 33 of 1992** makes it illegal for any person to prospect and mine without a licence, as such may have a negative impact on the environment. Section 122 stipulates that the Minister may, for the protection of the environment or the natural resources of Namibia or the prevention of pollution or damage, declare that certain explorative and mining processes may not be carried out or only with special permission.

The **Petroleum (Exploration and Production) Act No. 2 of 1991** was enacted to provide for the reconnaissance, exploration, production and disposal of, and the exercise of control over, petroleum. Production licences must be obtained to carry on reconnaissance operations and according to Section 71, rights-holders are held responsible for the pollution of the environment or other damages or losses caused.

The **Diamond Act No. 13 of 1999** contains several provisions aimed at protecting the environment. Section 55 is of specific importance as it prohibits the removal of sand, soil, clay, gravel, stone and rock from restricted areas unless specific permission is obtained. Section 56 prohibits the exportation of such items.

The **Electricity Act No. 4 of 2007** establishes a general system of licensing for all types of undertakings related to the generation, trading, transmission, supply, distribution, importation or export of electricity. Certain undertakings may be exempted from the requirement of obtaining a licence; this, however, applies only provided that the requirements of any other law, in particular laws relating to health, safety and environmental standards are duly complied with.⁸⁹ An application for an exemption can be granted, but conditions can be imposed, such as those relating to public health, public safety or the protection of the environment. As per Section 21 of the Electricity Act, environmental concerns are important criteria for consideration of an application for

89 Section 18(4)(b).

the issue, renewal, amendment or transfer of a licence and the applicant can be requested to submit an environmental impact assessment study indicating the potential damage to or pollution of the environment.

7 Roman-Dutch and Common Law

Roman-Dutch law is based on Roman law as it was applied by the courts of Holland and other provinces in the Netherlands; it was developed by writers such as Hugo de Groot and Simon van Leeuwen in the 17th and 18th centuries.⁹⁰ Roman-Dutch law came to the Cape of Good Hope, when the Dutch East India Company under its local governor Jan van Riebeeck established a refreshment post – today’s Cape Town in 1652. Roman-Dutch Law in South Africa was subject to further developments under the influence of particularly English law.⁹¹ With the effect of Proclamation 21 of 1919, the Roman-Dutch law developed by the South African courts became the common law of the territory, binding on the Namibian courts until Independence.⁹² This position was affirmed by Article 66(1) of the Namibian Constitution of 1990, which provides that

both the customary law and the common law of Namibia in force on the date of Independence shall remain valid to the extent to which such customary or common law does not conflict with this Constitution or any other statutory law.

Common law⁹³ refers to law and the corresponding legal system developed through court decisions and similar tribunals, rather than through statutory enactment. Common law is created and refined by judges: a decision in the case currently pending depends on decisions in previous cases and affects the law to be applied in future cases. When there is no authoritative statement of the law, judges have the authority and duty to make law by creating precedent. According to Article 66 of the Namibian Constitution, the common law in force on the date of Independence remains valid to the extent that the same is not in conflict with the Constitution or any other statutory law.

Several common law doctrines are relevant in terms of environmental protection.⁹⁴ For example, the common law rule of delict can be applied with regards to wrongful acts or omission; fault, either intended or through negligence; or harm to person or property (patrimonial loss).⁹⁵ The law of nuisance, including public and private nuisance is equally applied in cases with environmental impact and the neighbour legal principle of *sic utere tuo ut alienum non laedas* (use your property in a way which does

90 Du Plessis (1999b:40ff.).

91 Ibid.

92 See Amoo (2008a:60ff.).

93 For further details on the common law in Namibia see Amoo (2008a:62ff.).

94 Under Roman law, several provisions have been applied for the protection of natural resources. See Wacke (2002); Van den Bergh (1999:495ff.).

95 Kidd (2011:145).

not harm another) is considered to be one of the roots of environmental protection. The remedies available under the common law are self-help, an abatement order, action for damages and an interdict. The principal remedies for preventing or restraining an environmental nuisance or delictual conduct are an interdict and, where harm has already been caused, a claim for damages in terms of Aquilian action.⁹⁶

Especially from a common law perspective, environmental litigation is an important facet for the vital development of environmental law. Judicial intervention related to environment-related issues arises when persons resort to court action to seek redress for a grievance. Court action can be either of civil or of criminal nature. While civil action is typically resorted to by private parties, criminal action is generally the preserve of public authorities. Judicial decisions in environment-related decisions are scarce in Namibia, which is no surprise given the novelty of environmental law and Namibia's tender age.⁹⁷ However, being a plural legal system with substantive common law elements, Namibia can greatly benefit from the experience with environment related cases in other countries.⁹⁸

Overall, it can be concluded that the common law rules complement environmental statutory enactments; this is also true, when it comes to their application and interpretation. It is this gradual convergence of conventionally disparate legal families that leads towards a system that recognises the complementary roles of legislation and judicial precedents as sources of law. In this context, the role of judges in the development of the common law and – at the same time – the judicial interpretation of statutes should not be underestimated. However, where pollution is, for example, expressly prohibited by means of legislation, it is usually the state that has the responsibility “to take the necessary steps to put a stop to the action or to prosecute the offender”, whereas under common law the plaintiff needs to take up the matter and therefore has to carry the “burden of expense, time and other pressures”.⁹⁹

96 For further literature and South African case law references on the common law and other remedies in environmental law, cf. Paterson / Kotzé (2009).

97 Environment-related cases in Namibia are mostly of criminal nature and fall under the scope of the Nature Conservation Ordinance No. 4 of 1975. The cases include but are not limited to the following: *S v Ngombe* 1990 NR 165 (HC); *S v Machinga* 1990 NR 157 (HC); *Skeleton Coast Safaris v Namibia Tender Board and Others* 1993 NR 288 (HC); *S v Makwele* 1994 NR 53 (HC); *S v Koortzen* 1994 NR 356 (HC); *S v Kau and Others* 1995 NR 1 (SC); *S v Vorster* 1996 NR 177 (HC); *S v Seibeb and Another*; *S v Eixab* 1997 NR 254 (HC); *S v Maritz* 2004 NR 22 (HC); *S v Aukemeb* 2009 (1) NR 19 (HC); *Van Rensburg and Another v Government of the Republic of Namibia* 2009 (2) NR 431 (HC); *Uffindell t/a Aloe Hunting Safaris v Government of Namibia and Others* 2009 (2) NR 670 (HC).

98 For a collection of environmental decisions see UNEP (2001 and 2005a). This Compendium has not been updated since.

99 Kidd (2011:149).

8 Customary Law

Despite the legal influence of the ex-colonial powers, a large number of Namibians still live under indigenous customary law.¹⁰⁰ This makes the Namibian legal system an object of fascination to comparative lawyers as well as to legal ethnologists and sociologists. Legal pluralism prevails; hence two or more types of law or legal traditions operate simultaneously.¹⁰¹

Before the arrival of the colonists, the indigenous populations have lived for generations according to their own distinctive laws. Customary law was passed on orally from generation to generation. Article 66 of the Namibian Constitution lays the foundation for the constitutional recognition of customary law. It states that both the customary law and the common law of Namibia in force on the date of Independence shall remain valid to the extent that such customary or common law does not conflict with the Constitution or any other statutory law. Section 3 of the Traditional Authorities Act¹⁰² gives certain powers, duties and functions to traditional authorities and members thereof. It is the overall responsibility of traditional authorities to supervise and ensure the observance of the customary law of that community by its members. As to nature conservation it is one of the duties of a traditional authority to ensure that members of the traditional community use the natural resources at their disposal on a sustainable basis and in a manner that keeps the environment and maintains the ecosystem for the benefit of all Namibians.¹⁰³ Customary law plays an important role in the sustainable development of natural resources and the protection of biological diversity as it incorporates a broad knowledge of ecosystems relationships.¹⁰⁴ Still, while most of the customary rules have been transmitted orally from generation to generation, the process of ascertaining customary law in Namibia is ongoing.¹⁰⁵

9 Criminal Aspects of Environmental Law

Environmental crimes include violations of environmental laws attracting criminal sanctions. An environmental crime can be defined as an act or omission that damages or endangers the environment. Examples of environmental crimes are *inter alia* the illegal emission of hazardous substances into air, water or soil; illegal harvesting or hunting; dumping of waste and illegal trade in endangered species. Environmental crimes may be committed by enterprises in the widest sense or individuals.

100 Hinz (2002a); Sippel (2003:69ff.).

101 Griffiths (1986:1ff.).

102 No. 25 of 2000.

103 See Hinz (2003:8ff.).

104 Hinz / Ruppel (2008b:57f.).

105 For more details see the Chapter 23.

Enforcement efforts in terms of environmental duties are partially inadequate as compared with the magnitude of environmental and economic losses imposed by national and trans-national environmental crimes. Therefore, national and international enforcement programmes are necessary, and adequate resources need to be available to enable them to succeed. Penal law within environmental law aims to protect the environment by deterring detected violators from violating again or deterring other potential violators from violating by sending a message that they too may experience adverse consequences for non-compliance.¹⁰⁶ Many of the environment-related national enactments cited in this publication contain criminal clauses in terms of environmental crimes. Such makes the Nature Conservation Ordinance No. 4 of 1975 *inter alia* provision for illegal

- hunting, catching or capturing protected game;
- placing, releasing or angling any fish in inland waters; and
- picking, selling, donating, exporting and removing of protected plants.

The Communal Land Reform Act¹⁰⁷ may serve as one further example of legislation with the character of a criminal law for it contains criminal implications relating to illegal grazing and fencing. Despite the possibility of withdrawal of grazing rights, the respective penalties include fines or imprisonment or both.

Sanctions can range from fines for petty offences to imprisonment for serious offences. Despite these sanctions, it may be appropriate to impose specific penalties in addition to the principal punishment. In some cases, provisions are made for the forfeiture either of items used for an offence or for items resulting from an offence. Another appropriate measure might be the cancellation or at least suspension of permits or licences that have been granted. In some cases, it might even be prescribed that permits or licences might not be renewed in future due to committed offences. Another additional penalty may be the confiscation of property used for the offence and some provisions also contain regulation as to specific compensation or reimbursement of expenses incurred as a result of the offence. Yet, the overall aim of criminal sanctions is deterrence rather than retribution. Deterrence can, however, also be achieved by measures not including criminal sanctions. These are, to name but a few, administrative measures (directives and withdrawal of authorisation), civil measures (e.g. interdict), and economic or market-based instruments etc.¹⁰⁸

106 Some relevant Namibian cases include the following: *S v Maritz* 2004 NR 22 (HC); *S v Kau and Others* 1995 NR 1 (SC); *Van Rensburg and Another v the Government of the Republic of Namibia* 2009 (2) NR 431 (HC); *S v Maseka* 1991 NR 249 (HC); *S v Eiseb and Another* 1990 NR 142 (HC); *S v Nangombe* 1990 NR 165 (HC); *S v Makwele* 1994 NR 53 (HC).

107 No. 5 of 2002.

108 Cf. Kidd (2011:268).

PART II:

INTERNATIONAL AND

REGIONAL ENVIRONMENTAL LAW

Chapter 5: Introduction to International Environmental Law

Oliver C. Ruppel

1 Introduction

This Chapter deals with several aspects of international environmental law with a focus on how these relate to the situation in Namibia. It must be stated beforehand that, especially with regard to the sources of international law, much has been written by internationally renowned jurists.¹ However, in order to give an overview of this field of the law as comprehensively as possible, but within the limits of this publication, this Chapter summarises the most basic features of international environmental law and opens with a brief introduction on how international law becomes applicable in Namibia.

2 The Application of International Law in Namibia

International law has developed rapidly over the past few decades, especially since the dawn of the UN, when rules and norms regulating activities carried on outside the legal boundaries of nations were developed. Numerous international agreements – bilateral, regional or multilateral in nature – have been concluded and international customary rules, as evidence of a general practice accepted as law, have been established. But how do these sources of international law apply domestically? In this regard, two approaches can generally be followed.² The first, the monist approach, assumes that international laws are automatically incorporated into domestic law; the second, the dualist approach, follows the rule that international laws are not automatically incorporated into domestic law and therefore require an act of legal transformation into domestic law.

Article 144 of the Namibian Constitution incorporates international law explicitly as law of the land and it needs no legislative act to become so.³ International law is thus integrated into domestic law. National authorities and the judiciary, in particular can, therefore, apply international law directly on the national level, before cases are taken to regional or international judicial or quasi-judicial bodies.⁴ However, international law has to conform to the Constitution in order to apply domestically. Whenever

1 See for example Sands / Peel (2018); Kiss (2004); Dugard *et al.* (2018).

2 Cf. Dugard (2018:57).

3 Erasmus (1991:94).

4 Bangamwabo (2008:168).

a treaty provision or other rule of international law is inconsistent with the Namibian Constitution, the latter will prevail.⁵

Article 144 also mentions two sources of international law that apply in Namibia: general rules of public international law and international agreements binding upon Namibia. General rules of public international law include rules of customary international law, supported and accepted by a representatively large number of states. The notion of an ‘international agreement’ primarily refers to a ‘treaty’ in the traditional sense, i.e. international agreements concluded between states in written form and governed by international law,⁶ but it also includes conventions, protocols, covenants, charters, statutes, acts, declarations, concords, exchanges of notes, agreed minutes, memoranda of understanding, and agreements.⁷ Notably, not only agreements between states, but also those with the participation of other subjects of international law, e.g. international organisations, are covered by the term ‘international agreement’. In general, international agreements are binding upon states if the consent to be a party to a treaty is expressed by a signature followed by ratification; or by accession, where the state is not a signatory to a treaty; or by declaration of succession to a treaty concluded before such a state existed.

In Namibia, a treaty will be binding in terms of Article 144 if the relevant international and constitutional requirements have been met in terms of the law of treaties and the Namibian Constitution. International agreements, therefore, will become Namibian law when they come into force for Namibia.⁸ The conclusion of or accession to an international agreement is governed by Articles 32(3)(e), 40(i) and 63(2)(e) of the Namibian Constitution. The Executive is responsible for conducting Namibia’s international affairs, including entry into international agreements. The President, assisted by the Cabinet, is empowered to negotiate and sign international agreements, and to delegate such power. It is required by the Constitution that the National Assembly agrees to the ratification of or accession to an international agreement. However, the Constitution does not require the promulgation of an international agreement in order for it to become part of the law of the land.⁹

Further to Article 144, Article 96 of the Constitution promotes international cooperation, peace and security. It also exhorts respect for international law and treaty obligations as a principle of state policy.

5 Erasmus (1991:94).

6 Definition in Article 1 of the Vienna Convention on the Law of Treaties of 1969, which entered into force in 1980.

7 Cf. the definition of ‘treaty’ proposed by the International Law Commission; Article 2(a) of the Draft Articles on the Law of Treaties, available at http://legal.un.org/ilc/texts/instruments/english/commentaries/1_1_1966.pdf, accessed 25 April 2021.

8 Erasmus (1991:102).

9 Hinz / Ruppel (2008b:8).

3 Sources of International Environmental Law

The sources of international environmental law are part of the sources of international law in general. Thus, the international legal regime must be consulted in order to trace the sources of international environmental law. International law, like national law, knows different types of law, namely hard law and soft law.¹⁰ Hard law describes those provisions or agreements which are obligatory in nature and thus binding for those to whom these provisions are applicable. The opposite of this is the category of soft law, encompassing non-binding texts such as the Declarations resulting from the Rio and Stockholm Conferences. Soft law has an important influence in international law because acceptance and compliance often develops into international customary law. The major problem is to determine the point at which soft law becomes such law, i.e. hard law. This will be discussed below.

International environmental law comprises both hard law and soft law components. The sources of international law in general are listed in Article 38 of the Statute of the International Court of Justice (ICJ), the principal judicial organ of the United Nations:

1. The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:
 - a. international conventions, whether general or particular, establishing rules expressly recognised by the contesting states;
 - b. international custom, as evidence of a general practice accepted as law;
 - c. the general principles of law recognised by civilised nations;
 - d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary mean for the determination of rules of law (...).

Considering that Article 38 of the Statute of the ICJ was first drafted in 1920, these provisions no longer reflect all the sources of today's international law. New developments in respect of sources of law have to be considered in addition to those recognised in Article 38.¹¹ In the following paragraphs, however, only those four categories of sources of international law as outlined in Article 38 will be elaborated on, with a focus on their implications for environmental law-related concerns.

3.1 International Conventions: Multilateral Environmental Agreements (MEAs)

International conventions or treaties, as referred to in Article 38 of the ICJ, are defined by Article 2.1(a) of the 1969 Vienna Convention on the Law of Treaties as

10 Dugard *et al.* (2018:586).

11 The list of sources of international law can be supplemented by other sources of international law like duties *erga omnes* and *ius cogens*. *Estoppel* and acquiescence can be added to the list of sources of international law as well as unilateral legal acts. See Dugard (2018:28).

international agreements “concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation”.

International environmental treaties or Multilateral Environmental Agreements (MEAs) as they are commonly referred to, regulate the relationships between states pertaining to the environment. Generally, the first objective of any MEA is the protection and conservation of the environment. However, MEAs will also be beneficial in economic, political or administrative regard. MEAs can, among others, protect public health, improve governance, empower the public to get involved, increase solidarity, enhance international political respect, and improve technical and financial assistance and networking.¹²

As a general rule, MEAs are of a binding nature and are thus to be distinguished from other non-binding international instruments (soft law), which cannot be enforced, but rather serve a guiding role. The binding nature of MEAs derives from the *pacta sunt servanda* principle, which has been reaffirmed by Article 26 of the Vienna Convention on the Law of Treaties.

Although international law typically focuses on obligations among states, it has the potential to influence environmental law at the national level. In some cases, the parties to such agreements are international governmental or non-governmental organisations instead of, or in addition to, states.

3.1.1 How MEAs are Made

International treaties come into being in a multi-stage process.¹³ Usually, a draft is the first step and is drawn up by international organisations such as the United Nations, the African Union, or the Council of Europe. As a next step, this draft is negotiated by stakeholders including national delegations, government officials, scientists, and representatives of NGOs. The negotiation phase is closed by the adoption of an agreed text, which is subsequently signed by the representatives of the state who have been commissioned to this effect by their government. Certain treaties are signed after the closing session of the negotiations during a determined period. After the end of such period, non-contracting states can adhere or accede to the treaty. After the signature of a treaty follows the ratification, which takes place at the national level and according to domestic law. National law may then stipulate, that a treaty should be ratified by the head of the state after approval by parliament or accepted by the executive. How an MEA becomes applicable under national law depends on the constitutional provisions of the country in question. It follows either a monist or a dualist approach, as explained

12 UNEP (2006:44f.).

13 Cf. Sands / Peel (2018:106ff.); Dugard (2018:610ff.).

earlier in this chapter.¹⁴ The ratification process is in most cases concluded by the deposit of an instrument of ratification,¹⁵ approval or other communication to the secretariat of an international organisation and the treaty subsequently enters into force on a date determined by the treaty itself, in most cases after a certain number of instruments of ratification have been deposited or after a specific period of time has elapsed.

3.1.2 The General Scope of MEAs

International environmental law may be established on the global level, containing rules applicable for the entire, or at least almost the entire, international community.¹⁶ At regional level, international law creates a legal framework for a specific region, such as European environmental law (e.g. EC guidelines) or similarly within the African Union.¹⁷ A regional or continental scope may of course again be subdivided into smaller regional blocs, such as the legal framework of the Southern African Development Community (SADC), often referred to as the sub-regional level.¹⁸ Bilateral environmental agreements are international treaties usually concluded between two states with shared natural resources such as rivers, lakes or parks.

As has been outlined, the geographic coverage of international agreements is one reason for the broad scope of international environmental law. Another reason is the variety of different sectors covered by this field of the law, such as water, land, biological diversity, air and climate, to name but a few. Thus, the number of international agreements directly or indirectly pertinent to the environment is extraordinarily high¹⁹

14 For a more detailed discussion on the relationship between international and municipal law see Dugard (2018:57ff.). Namibia follows the monist approach by virtue of Article 144 of the Constitution as has been stated above.

15 Usually, a document issued by the respective state, which states that the treaty has been ratified.

16 MEAs with effectively whole world membership include the Convention of Biological Diversity (CBD) and its Protocol, the 2000 Cartagena Protocol on Biosafety; the 1971 Ramsar Convention on Wetlands of International Importance; or the 1973 Washington Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES).

17 The MEA most relevant for Africa is the African Convention on the Conservation of Nature and Natural Resources. For certain aspects of the implementation of AU law on national level see Dinokopila (2015:479ff.).

18 The SADC Protocols pertinent to environmental issues are such sub-regional environmental agreements.

19 As early as 2004, Kiss (2004:41) already speaks of more than one thousand. UNEP's 2005 Register of International Treaties and other agreements in the field of the environment has 272 environmental agreements, not including bilateral agreements or treaties, where the focus is on other issues, but which establish environmental obligations, such as the GATT/WTO or regional free trade agreements. As of April 2021, the International Environmental Agreements website (see <https://iea.uoregon.edu>, accessed 25 April 2021) lists over 1300 Multilateral Environmental Agreements, 2200 Bilateral Environmental Agreements, and 250 "Other" (non-multi, non-bi) Environmental Agreements.

and no other area of law has generated such a large body of conventions on a specific topic as international environmental law has in the past decades.

3.1.3 Typical Structure of MEAs

Many MEAs do have common characteristics, use the same legal techniques and often have a similar structure.²⁰ Like other international treaties, MEAs are typically arranged as follows: The Preamble, which can be helpful in interpreting the treaty, explains the motivations of the contracting parties but contains in itself no obligatory rules. The main part of an MEA includes substantive rules that define the obligations of the parties, measures of implementation, institutional provisions (e.g. to create treaty bodies such as the Conference of the Parties) and closing measures concerning the life of the treaty itself. Many MEAs have Annexes, which contain specific regulations concerning technical details such as lists of substances or activities, pollution standards, lists of protected species, etc.

3.1.4 Compliance and Enforcement of MEAs

Compliance with and enforcement of MEAs²¹ are, as in other fields of the law, essential for ensuring that MEAs are not simply pieces of paper. Compliance, meaning the fulfilment by the contracting parties of their obligations under MEAs, is ensured by different legal means. Compliance measures can be adopted by states or the secretariats and conferences of parties of specific MEAs, and MEAs themselves do often contain provisions on compliance or non-compliance for that matter.²² The competent body of an MEA²³ can, where authorised to do so, regularly review the overall implementation of obligations under the MEA and examine specific difficulties.

MEAs have to be implemented by parties to the agreement by enacting and promulgating relevant laws, regulations, policies, and other measures and initiatives to meet their obligations. International organisations have developed general guidelines on compliance and enforcement of MEAs.²⁴ Compliance with MEAs is *inter alia*

20 Cf. Kiss (2004:42).

21 For a detailed discussion on compliance and enforcement regarding MEAs see UNEP (2006).

22 See for example Article 34 of the Cartagena Protocol on Biosafety, or Article XII of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

23 Such as the Conference of Parties, with a secretariat, established under Articles 23-25 of the Convention on Biological Diversity.

24 In 2002, UNEP has adopted the Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements; other relevant guidelines include the 1999 Caribbean Guidelines for MEA Implementation; the 2002 Guiding Principles for Reform of Environmental

enhanced through national implementation plans, including monitoring and evaluation of environmental improvement; reporting and verification; establishment of compliance committees with appropriate expertise; and inclusion of compliance provisions and mechanisms within the MEA.²⁵

The effectiveness of MEAs has to be subject to review. In this regard, monitoring, involving the collection of data, reporting, requiring parties to make regular, timely reports on compliance, using an appropriate common format, or verification of data and technical information in order to assist in ascertaining whether a party is in compliance, may be adequate measures in terms of strengthening compliance. State parties may be obliged to undertake to submit reports on the measures they have adopted which give effect to the rights recognised in the MEAs and on the progress made. Article 26 of the Convention on Biological Diversity (CBD) is one example for review under a MEA. Parties are thereby required to report to the Conference of the Parties (COP) on measures taken to implement the convention and their effectiveness in achieving the objectives of the convention. One problem regarding national reports under international agreements, in general, has been the issue of non-submission by the respective deadlines, due to various reasons, including limited human, technical, and financial resources. Taking again the CBD as an example, it can be observed that as of 25 April 2021,²⁶ 182 out of 196 CBD parties had submitted the sixth national report that was due on 31 December 2018 (of which 100 parties had submitted as per the Clearing House Mechanism and 82 have submitted offline). Namibia has submitted all six national reports under the CBD.

Provisions for settlement of disputes complement the provisions aimed at compliance with an agreement. Several forms of dispute settlement mechanisms, including good offices, mediation, conciliation, fact-finding commissions, dispute resolution panels, arbitration and other possible judicial arrangements are available depending on the specific provisions contained in the applicable MEA. The primary judicial organ of the United Nations is one competent body to hear certain disputes on environmental issues. Other environmental judicial bodies include the Law of the Sea Tribunal, or the International Court of Environmental Arbitration and Conciliation.

While compliance generally applies to the international context, enforcement applies to the national context. Enforcement can be described as the range of procedures and actions employed by a state, its competent authorities and agencies to ensure that

Enforcement Authorities in Transition Economies of Eastern Europe, Caucasus and Central Asia (EECCA), developed by EECCA Member States and the Organisation for Economic Co-operation and Development (OECD); or the 2003 Guidelines for Strengthening Compliance with and Implementation of Multilateral Environmental Agreements (MEAs) in the ECE (UN Economic Commission for Europe) Region.

25 Cf. the 2002 UNEP Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements.

26 See <https://www.cbd.int/reports/>, accessed 25 April 2021.

organisations or persons, potentially failing to comply with environmental laws can be brought or returned into compliance and/or punished through civil, administrative or criminal action.²⁷ Enforcement is essential to secure the benefits of MEAs, protect the environment, public health and safety, deter violations, and encourage improved performance.²⁸ Enforcement encompasses a set of legal measures which can be applied. Such measures include the adoption of laws and regulations, monitoring outcomes, and various enabling activities and steps that a state may take within its national territory to ensure implementation of an MEA. Furthermore, good enforcement programmes reinforce the credibility of environmental protection efforts and the legal system that supports them and ensures fairness for those who willingly comply with environmental requirements.²⁹

Effective enforcement can *inter alia* be achieved by providing for responses in cases of contraventions of national environmental laws and regulations implementing multilateral environmental agreements (environmental law violations) or in cases of violations or breaches of national environmental laws and regulations that a state determines to be subject to criminal penalties under its national laws and regulations (environmental crimes).

3.2 Customary International Law

Customary international law encompasses norms and rules that countries follow as a matter of custom and they bind all states in the world.³⁰ It is, however, not clear-cut when exactly a principle becomes customary law and thus binding, a situation, which has led to, disputes among states.

Two criteria have, however, crystallised with regard to the requirements for a rule to become customary international law.³¹ The prerequisite for the first criterion, namely that of settled practice (*usus*), is a constant and uniform usage or widespread acceptance of a rule. The acceptance of an obligation to be bound (*opinio juris sive necessitatis*) is the second criterion.³²

Many customary international law rules relevant for the field of environmental law have been developed.³³ The principle that no state may use or permit to use its territory

27 UNEP (2006:294).

28 Ibid:289.

29 Ibid:33.

30 Sands (2003:143f.).

31 These criteria, which are being applied by national courts as well, have been developed by international jurisprudence *inter alia* in the following cases: *Asylum case* 1950 ICJ Reports 266; *North Sea Continental Shelf Case (West Germany v The Netherlands and Denmark)* 1969 ICJ Reports 3; *Nicaragua Case (Nicaragua v US)* 1986 ICJ Reports 14.

32 For a detailed discussion see Sands (2003:143ff.) or Dugard (2005:29ff.).

33 For further reference see Sands (2003: 147ff.) and Kiss (2004:49).

in such a manner as to cause injury to the territory of another state has for example become a principle of customary international law. This principle goes back to the Trail Smelter Arbitration in 1941³⁴ and was taken up by the Stockholm Declaration, repeated in the Rio Declaration and reaffirmed in the Nuclear Weapons Case.³⁵

The duty to warn other states promptly about emergencies of an environmental nature and environmental damages to which another state or states may be exposed is contained in the 1978 Principles Concerning Shared Resources, drafted by UNEP, and also contained in Article 192 of the 1982 UN Convention on the Law of the Sea. This duty was neglected by the Government of the Soviet Union in the case of the Chernobyl disaster in 1986. As a consequence, the 1986 Convention on Early Notification of a Nuclear Accident was adopted, which in Article 2 explicitly imposes a duty upon states to notify those states which are or may be physically affected of a nuclear accident.

3.3 General Concepts and Principles of International Environmental Law

A wide range of general principles guide law and policy on issues pertaining the environment, on the national and international level. Most of these principles go hand in hand with many overlaps and in their entirety, they provide for the fundamental framework with regard to environmental protection.

Selected General Concepts and Principles of International Environmental Law

- State sovereignty
- Cooperation
- Preservation and protection of the environment
- Precaution
- Prevention
- Polluter pays principle
- Information and assistance in environmental emergencies
- Information and consultation in cross-boundary relations
- Good governance
- The rights of individuals: information, participation and access to justice
- Access and benefit sharing regarding natural resources
- Sustainable development, integration and interdependence
- Inter-generational and intra-generational equity
- Responsibility for trans-boundary harm
- Transparency, public participation and access to information and remedies
- Common concern for humanity
- Rights of future generations
- Common heritage of mankind
- Common but differentiated responsibilities

34 *Trail Smelter Arbitration* (1938/1941) 3 RIAA 1905 Arbitral Tribunal: US and Canada.

35 Advisory Opinion, ICJ Rep. 1996, 226 ff. at para 64 ff.

Several concepts provide the foundation of international environmental law.³⁶ The protection of **rights of future generations** can be seen as one of the key drivers of environmental protection and international environmental law and many international conventions express an obligation to protect the environment for present and future generations.

The single most important among the concepts framing international environmental law, not only for developing countries, is probably the concept of **sustainable development**, which has been defined in the 1987 Report of the World Commission on Environment and Development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”³⁷ Sustainable development is thus composed of a variety of interrelated aspects, including economic and social development and environmental protection.³⁸ Closely related to the concept of sustainable development is the **concept of common concern of humanity**. To protect the common concern of humanity might impose obligation on states and can support or limit individual rights and freedoms. The common concern of humanity is materialised in the **concept of common heritage of mankind** with the underlying idea that the general concern of humanity should be safeguarded by special legal regimes applied to specific areas and sites such as the Antarctica or sites which can be considered forming essential parts of the cultural heritage of humanity.

One of the oldest principles of general international law is that of **state sovereignty**. This principle acknowledges that the state has exclusive jurisdiction on its territory, that the state is the only authority which can adopt obligatory legal rules for its territory, that the state has the executive power (administration, police), and that its tribunals are the only ones competent to judge litigation.³⁹ Especially with regard to environmental issues, the principle of state sovereignty faces several challenges, as, for example, pollution of the sea, rivers, lakes and the air and the migrating of species across territorial borders do not adhere to national territorial jurisdictions. It is therefore necessary that treaties and international customary law impose limitations on the sovereignty of states. In the so-called Sutherland Report,⁴⁰ sovereignty is described as one of the “most used and also misused concepts of international affairs and international law”. Acceptance of almost any treaty involves a transfer of a certain amount of decision-making authority away from states, and towards some international institution. Generally, this is exactly why sovereign nations agree to such treaties: They realise that the benefits of cooperative action that a treaty enhances are greater than the circumstances that exist otherwise.⁴¹ It is undeniable that discrete, territorially bound

36 See Sands / Peel (2018:197-251) for an in-depth discussion.

37 World Commission on Environment and Development (1987).

38 For a detailed analysis see Voigt (2009).

39 Sands / Peel (2018:201ff.).

40 Sutherland *et al.* (2005).

41 *Ibid.*

state units no longer have exclusive control over the process of governance pertaining to the societies that live in their respective territories. In this context, governance has come to be conceptualised in multilevel terms,⁴² as power has become widely dispersed among a range of institutions and actors.

The general international **obligation to cooperate** with others in order to resolve problems concerning the international community is essential to conserve the environment entirely and globally.⁴³ This general principle is contained in and elaborated on in many MEAs, for example in Article 5 of the Convention of Biological Diversity (CBD), which emphasises the importance of this principle. Cooperation is essential in order to rationally use shared resources; to eradicate poverty as a requirement for sustainable development; to strengthen capacity building by transfer of knowledge, information and technology; and also, in order to secure funding and financial assistance.

The general **principle of prevention** can be considered the single most important intention of environmental law. The prevention principle dictates that action must be taken at an early stage, and if possible, before damage occurs. Legal mechanisms to meet the requirements of the prevention principle include the assessment of environmental harm (environmental impact assessment), licensing or authorisation, the adoption of national and international standards, or the adoption of preventative strategies and policies.

Like the prevention principle, the **precaution principle** seeks to avoid environmental harm, but it is to be applied when the consequences of non-action can be particularly serious or irreversible. The precautionary approach aims to provide guidance in the development and application of environmental law where there is scientific uncertainty and has been formulated in Principle 15 of the Rio Declaration on Environment and Development as follows:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of a serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Another important principle with more economic background which has found its way into various MEAs and national environmental enactments is the **polluter pays principle** which seeks to impose the costs related to environmental harm on the person responsible for the pollution. The polluter pays principle is a means of allocating costs of pollution prevention and control measures to encourages the rational use of limited natural resources.

The principle of **common but differentiated responsibilities** as laid down in Principle 7 of the Rio Declaration is reflected in various environmental agreements, such as the United Nations Convention on Climate Change (Article 3(1)). The principle of

42 Cf. Winter (2006).

43 Sands / Peel (2018:213).

common but differentiated responsibilities is composed of the common responsibility of states for the protection of the environment and of the acknowledgement of difference in contributions of states to environmental degradation, and the different ability to address such degradation. The different responsibilities are translated into differential obligations for states.

At the international and national levels, there has been increased recognition of the special needs of indigenous communities for access to benefits of the natural resources on which they rely for their livelihood. Their participation in both decision-making and in management is of high importance for the protection of local ecosystems because of their traditional knowledge and environmental awareness. The **principle of access and benefit sharing of natural resources** has been taken up in Principle 22 of the Rio Declaration:

Indigenous people and their communities, and other local communities, have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognise and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

The principle is also reflected in Article 8(j) of the Convention on Biological Diversity, which imposes on states the obligation to respect, preserve and maintain knowledge, innovations and practices of indigenous people and local communities, to encourage the equitable sharing of the benefits arising from the utilisation of indigenous knowledge, innovations and practices.

Transparency and access to information are both required in order to guarantee effective public participation and sustainable development. Public participation in the context of sustainable development requires, among others, the opportunity to hold and express opinions, and to seek, receive and impart ideas. And it also requires a right of access to the reported, comprehensible and timely information held by governments and industrial concerns, on economic and social policies regarding the sustainable use of natural resources and the protection of the environment, without imposing undue financial burdens on applicants for information, and with adequate protection of privacy and business confidentiality. Conducting environmental impact assessments, with broad public participation in terms of access to information, and the right to make submissions on environmental and impact statements, is one legal mechanism to ensure public participation rights.

Rio Declaration Principle 10 refers to participation rights as follows:

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

3.4 Judicial Decisions and Teachings

International environmental law also incorporates the opinions of international courts and tribunals. While there are few such courts and tribunals and they have limited authority, their decisions carry much weight with legal commentators and are quite influential on the development of international environmental law. Such courts are the International Court of Justice (ICJ), the Law of the Sea Court, the World Trade Organisation's Dispute Settlement Body (DSB), as well as regional treaty tribunals.

Other sources of international law are texts by some of the best-qualified legal scholars. In the jurisprudence of international judicial bodies writings of jurists do also play a role. Examples of this are the Nuclear Test Case⁴⁴ and the Gabčíkovo-Nagymaros Project case,⁴⁵ which have without any doubt been influenced by academic and other writings.

4 Multilateral Environmental Agreements Relevant to Namibia

Namibia is a state party to a large number of MEAs.⁴⁶ This emphasises Namibia's strong environmental commitment. Every membership of a MEA brings about benefits as well as obligations for Namibia. Aside from the immediate benefits of advanced environmental protection, there are also long-term effects. For instance, environment-related public health problems with a bearing on development are dealt with proactively and internationally.⁴⁷ Many MEAs improve environmental governance and generally promote transparency, participatory decision-making, accountability, conflict resolution, and have an indirect positive influence in terms of democratisation processes in any given developing country context. In some cases, it is beneficial to become a party to a MEA in order to obtain financial assistance for addressing environmental problems, and, more importantly, MEAs may also facilitate technical assistance, for example through knowledge and technology transfer.

44 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996. Another example is the case on maritime delimitation in the area between Greenland and Jan Mayden *Denmark v Norway* ICJ 14 June 1993 with separate opinion by Weeramantry available at <https://www.icj-cij.org/en/case/78>, accessed 25 April 2021.

45 ICJ *Gabčíkovo-Nagymaros Project* (Hungary/Slovakia), 25 September 1997. Judgement available at <https://www.icj-cij.org/en/case/92>, accessed 25 April 2021.

46 The information for this Section is based on UNEP's Register of international treaties and other agreements in the field of the environment UNEP (2005a) and the International Environmental Agreements Database at <https://iea.uoregon.edu/country-members/Namibia>, accessed 25 April 2021.

47 UNEP (2006:44).

There are also obligations. A significant amount of human, technical and financial resources is needed to ensure implementation of MEAs. In order for a MEA to have an impact on the ground, legislation, administrative measures, and capacity building for implementation and enforcement at the local and national levels are essential.

The following table (without claiming to be exhaustive) lists selected major international treaties and related instruments in the environment field, to which Namibia is a party,⁴⁸ and gives an overview of Namibia's obligations under international environmental law.

Treaty / Agreement	Treaty/Agreement Particularities			Namibian Participation		
	Place of Adoption	Date of Adoption	Entry into Force	Type ⁴⁹	Date	Entry into Force
International Plant Protection Convention	Rome, Italy	06.12.1951	03.04.1952	Ac	23.02.2007	23.02.2007
International Convention for the Conservation of Atlantic Tunas	Rio de Janeiro, Brazil	14.05.1966	21.03.1969	R	10.11.1999	10.11.1999
International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties	Brussels, Belgium	29.11.1969	06.05.1975	Ac	12.03.2004	10.06.2004
Convention on Wetlands of International Importance Especially as Waterfowl Habitat	Ramsar, Iran	02.02.1971	21.12.1975	Ac	23.08.1995	23.12.1995
Convention Concerning the Protection of the World's Cultural and Natural Heritage	New York, USA	16.11.1972	17.12.1975	At	06.04.2000	06.04.2000
Convention on International Trade in Endangered Species of Wild Fauna and Flora	Washington D.C., USA	03.03.1973	01.07.1975	Ac	18.12.1990	18.03.1991
Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973	London, UK	17.02.1978	02.10.1983	S	18.03.2003	18.03.2002
Convention on the Physical Protection of Nuclear Material	Vienna, Austria	26.10.1979	08.02.1987	Ac	02.10.2002	01.11.2002

48 For a more comprehensive and detailed list of MEAs to which Namibia has taken membership actions see the International Environmental Agreements (IEA) Database Project at <https://iea.uoregon.edu/country-members/Namibia>, accessed 25 April 2021.

49 Ratification (R); Accession (Ac); Acceptance (At); Signature (S); Consent to be bound (P).

Treaty / Agreement	Treaty/Agreement Particularities			Namibian Participation		
	Place of Adoption	Date of Adoption	Entry into Force	Type ⁴⁹	Date	Entry into Force
Convention on the Conservation of Antarctic Marine Living Resources	Canberra, Australia	20.05.1980	07.04.1982	Ac	29.06.2000	29.06.2000
Convention for Cooperation in the Protection and Development of The Marine and Coastal Environment of the West and Central African Region	Abidjan, Côte d'Ivoire	23.03.1981	05.08.1984	Ac	27.09.2016	26.12.2016
United Nations Convention on the Law of the Sea	Montego Bay, Jamaica	10.12.1982	16.11.1994	R	10.12.1982	18.04.1983
Protocol to Amend the Convention on Wetlands of International Importance Especially as Waterfowl Habitat	Paris, France	03.12.1982	01.10.1986	Ac	23.08.1995	23.08.1995
Vienna Convention for the Protection of the Ozone Layer	Vienna, Austria	22.03.1985	22.09.1988	Ac	20.09.1993	20.09.1993
Montreal Protocol on Substances that Deplete the Ozone Layer	Montreal, Canada	16.09.1987	01.01.1989	Ac	20.09.1993	20.09.1993
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	Basel, Switzerland	22.03.1989	05.05.1992	Ac	15.05.1995	15.05.1995
[London] Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer	London, UK	29.06.1990	10.08.1992	R	06.11.1997	06.11.1997
United Nations Framework Convention on Climate Change	New York, USA	09.05.1992	21.03.1994	S/R	12.06.1992	16.05.1995
Convention on Biological Diversity	Rio de Janeiro, Brazil	05.06.1992	29.12.1993	S/R	12.06.1992	16.05.1997
Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage 1969	London, UK	27.11.1992	30.05.1996	Ac	18.12.2002	18.12.2003

Treaty / Agreement	Treaty/Agreement Particularities			Namibian Participation		
	Place of Adoption	Date of Adoption	Entry into Force	Type ⁴⁹	Date	Entry into Force
Protocol of 1992 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971	London, UK	27.11.1992	30.05.1996	Ac	18.12.2002	18.12.2003
[Copenhagen] Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer	Copenhagen, Denmark	25.11.1992	14.06.1994	At	28.07.2003	28.07.2003
Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction	Paris, France	13.01.1993	29.04.2997	S/R	13.01.1993	24.11.1995
Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas	Rome, Italy	29.11.1993	24.04.2003	Ac	07.08.1998	07.08.1998
United Nations Convention to Combat Desertification in those Countries Experiencing serious Drought and/or Desertification, Particularly in Africa	Paris, France	17.06.1994	26.12.1996	S/R	24.10.1994	16.05.1997
Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982	New York, USA	28.07.1994	28.07.1996	S/P	29.07.1994	28.07.1995
Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks	New York, USA	04.08.1995	11.12.2001	S/R	19.04.1996	08.04.1998
Comprehensive Nuclear-Test-Ban Treaty	New York, USA	10.09.1996	Not yet	S/R	24.09.1996	29.06.2001

Treaty / Agreement	Treaty/Agreement Particularities			Namibian Participation		
	Place of Adoption	Date of Adoption	Entry into Force	Type ⁴⁹	Date	Entry into Force
Kyoto Protocol to the United Nations Framework Convention on Climate Change	Kyoto, Japan	11.12.1997	16.02.2005	Ac	04.09.2003	04.09.2003
Convention on the Law of Non-Navigational Uses of International Watercourses	New York, USA	21.05.1997	Not yet	S/R	19.05.2000	29.08.2001
Cartagena Protocol on Biosafety to the Convention on Biological Diversity	Montreal, Canada	29.01.2000	11.09.2003	S/R	24.05.2000	10.02.2005
Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean	Windhoek, Namibia	20.04.2001	13.04.2003	S/R	20.04.2001	26.02.2002
Stockholm Convention on Persistent Organic Pollutants	Stockholm, Sweden	22.05.2001	17.05.2004	Ac	24.06.2005	24.06.2005
International Treaty on Plant Genetic Resources for Food and Agriculture	Rome, Italy	03.11.2001	29.06.2004	S/R	09.11.2001	07.10.2004
World Health Organisation Framework Convention on Tobacco Control	Geneva, Switzerland	21.05.2003	27.02.2005	S/R	29.01.2004	07.11.2005
African Convention on The Conservation of Nature and Natural Resources (Revised)	Maputo, Mozambique	11.07.2003	23.07.2016	S	09.12.2003	
Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity	Nagoya, Japan	29.10.2010	12.10.2014	Ac	15.05.2014	12.10.2014
Paris Agreement under the United Nations Framework Convention on Climate Change	Paris, France	12.12.2015	04.11.2016	R	22.04.2016	21.09.2016

The above table shows, that the list of MEAs to which Namibia is a party is long and it would go beyond the scope of this publication to discuss all the above-mentioned

agreements. However, some of the most important MEAs will be introduced briefly in the following section.

The 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar) was adopted to stem the progressive encroachment on and loss of wetlands now and in the future, recognising the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value. Parties to the Convention are required to designate at least one national wetland for inclusion in a 'List of Wetlands of International Importance' and to consider their international responsibilities for conservation, management and wise use of migratory stocks of wildfowl. Furthermore, parties establish wetland nature reserves, cooperate in the exchange of information and train experts for wetland management. Conferences on the conservation of wetlands and water-fowl are to be convened as the need arises.

The 1972 Convention Concerning the Protection of the World's Cultural and Natural Heritage intends to establish an effective system of collective protection of the cultural and natural heritage of outstanding universal value, organised on a permanent basis and in accordance with modern scientific methods. Each state party recognises that the duty of identification, protection, conservation and transmission to future generations of the cultural and natural heritage belongs primarily to state parties, which commit themselves to integrate the protection of their heritage into comprehensive planning programmes, to set up services for the protection of their heritage, to develop scientific and technical studies and to take necessary legal, scientific, administrative and financial steps to protect their heritage, and to assist each other in the protection of the cultural and natural heritage. The Convention establishes a World Heritage Committee, to which each party will submit an inventory of its national heritage and which will publish a 'World Heritage List' and a 'List of World Heritage in Danger'. A World Heritage Fund is established, financed by the parties and other interested bodies.

The 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aims to protect certain endangered species from over-exploitation by means of a system of import-export permits. The Convention includes animals and plants whether dead or alive, and any recognisable parts or derivatives thereof. Appendix I to the Convention covers endangered species, trade in which is to be tightly controlled; Appendix II covers species that may become endangered unless trade is regulated; Appendix III covers species that any party wishes to regulate and requires international cooperation to control trade therein; and Appendix IV contains model permits. Permits are required for species listed in appendices I and II stating that export/import will not be detrimental to the survival of the species. The CITES Secretariat is administered by UNEP and is located in Geneva, Switzerland.

The 1980 Convention on the Conservation of Antarctic Marine Living Resources intends to safeguard the environment and protect the integrity of the ecosystem of the seas surrounding Antarctica and to conserve Antarctic marine living

resources. A Commission for the Conservation of Antarctic Marine Living Resources is established to inter alia facilitate research into and comprehensive studies of Antarctic marine living resources and the Antarctic marine ecosystems; to compile data on the status of and changes in populations of Antarctic marine living resources, and on factors affecting the distribution, abundance and productivity of harvested species and dependent or related species or populations; to ensure the acquisition of catch and effort statistics on harvested populations; to identify conservation needs and analyse the effectiveness of conservation measures; to formulate, adopt and revise conservation measures on the basis of the best scientific evidence available; and to implement a system of observation and inspection.

The 1982 United Nations Convention on the Law of the Sea (UNCLOS) was adopted to set up a comprehensive new legal regime for the sea and oceans and, as far as environmental provisions are concerned, to establish material rules concerning environmental standards as well as enforcement provisions dealing with pollution of the marine environment.

The 1985 Vienna Convention for the Protection of the Ozone Layer aims to protect human health and the environment against adverse effects resulting from modifications of the ozone layer. Parties undertake to cooperate in research concerning substances and process that modify the ozone layer and the effects on human health and the environment of such modifications, and on alternative substances and technologies; and in systematic observation of the state of the ozone layer. Furthermore, parties commit themselves to cooperate in formulation and implementation of measures to control activities that cause adverse modifications of the ozone layer, and, particularly, the development of protocols for such purposes, and to exchange scientific, technical, socio-economic, commercial and legal information relevant to the Convention, and cooperate in the development and transfer of technology and knowledge. The Convention has two annexes setting forth important issues for scientific research on and systematic observation of the ozone layer and describing the kinds of information to be collected and shared under its terms.

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) was adopted to regulate levels of greenhouse gas concentration in the atmosphere, so as to avoid the occurrence of climate change on a level that would impede sustainable economic development, or compromise initiatives in food production. The parties are to protect the climate system for present and future generations. The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention. The parties should work in cooperation so as to obtain maximum benefit from initiatives in the control of the climate systems. National inventories on greenhouse gas emissions have to be prepared by the parties and programmes for the control of climate change have to be formulated and implemented. It is further provided to undertake cooperation in technology for the control of change in the climate system; incorporate suitable policies for the control of

climate change in national plans; and to undertake education and training policies that will enhance public awareness in relation to climate change. The developed country parties (and other parties listed in Annex I) commit themselves to take special measures to limit their anthropogenic emissions of greenhouse gases, and to enhance the capacity of their sinks and reservoirs for the stabilisation of such gases. The developed country parties (and other parties listed in Annex II) undertake to accord financial support to developing country parties, to enable the latter to comply with the terms of the Convention. The Convention establishes a Conference of Parties to be the supreme body of the Convention and to oversee the implementation.

The 1992 Convention on Biological Diversity (CBD) aims at conserving biological diversity, promoting the sustainable use of its components, and encouraging equitable sharing of the benefits arising out of the utilisation of genetic resources. Such equitable sharing includes appropriate access to genetic resources, as well as appropriate transfer of technology, taking into account existing rights over such resources and such technology. The CBD confirms the principle of national sovereignty over domestic natural resources, subject to respect for the rights of other states, but places a duty on parties to conserve biological diversity within their jurisdiction, as well as outside their jurisdiction in certain cases. The CBD provides for the cooperation between state parties, in preserving biological diversity in areas out of national jurisdiction and confers on state parties the responsibility for the formulation and implementation of strategies, plans or programmes for the conservation and sustainable use of biological diversity. Furthermore, state parties are required to monitor the elements of biological diversity, determining the nature of the urgency required in the protection of each category, and in sampling them, in terms of the risks to which they are exposed. One further obligation on states by the CBD is to provide for research, training, general education and the fostering of awareness, in relation to measures for the identification, conservation and sustainable use of biological diversity and for environmental impact assessment of projects that are likely to have significant adverse effects on biological diversity. Further important provisions of the CBD relate to access to genetic resources; access to transfer of technology, for application in the conservation and sustainable use of biological diversity; and on financial resources. The CBD establishes a Conference of Parties, with a Secretariat, to keep the implementation of the Convention under review.

The 1994 United Nations Convention to Combat Desertification in those Countries Experiencing serious Drought and/or Desertification, Particularly in Africa intends to combat desertification and mitigate the effects of drought in the countries affected through effective action at all levels supported by international cooperation and partnership arrangements in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in those areas. This Convention ensures participation of the public in relevant decision-making processes, facilitates national and local action, improves

international cooperation and coordination, emphasises developing cooperation among various levels of actors in a country for sustainable use of land and water resources, and takes into full consideration the special needs and circumstances of affected developing countries.

Chapter 6: Environmental Law and Policy in the African Union

Oliver C. Ruppel

1 Introduction

The historical foundations of the African Union (AU) originated in the Union of African States, an early confederation that was established in the 1960s. The Organisation of African Unity (OAU) was established on 25 May 1963. On 9 September 1999, the heads of state and governments of the OAU issued the Sirte Declaration,¹ calling for the establishment of an African Union. The Declaration was followed by summits in Lomé in 2000, when the Constitutive Act of the African Union was adopted, and in Lusaka in 2001, when the Plan for the Implementation of the African Union was adopted. During the same period, the initiative for the establishment of the New Partnership for Africa's Development (NEPAD) was also established. The African Union was launched in Durban on 9 July 2002 by the then South African President, Thabo Mbeki,² at the first session of the Assembly of the African Union. The Union's administrative centre is in Addis Ababa, Ethiopia and the working languages are Arabic, English, French, Portuguese, and Swahili. The African Union has 55 member states, representing all countries on the African continent.³ Geographically, the African Union covers an area of 29,757,900 km² and the United Nations Population Division estimated a population total of 1,340,598,000 for 2020.⁴ Given the African continent's bounty of natural resources, the protection and conservation of the environment must be an overarching aim within the AU. This is reflected in the African Union's legal framework.

2 Structure of the AU

The Assembly is the supreme policy and decision-making organ of the Union, and is composed of heads of state and government or their duly accredited representatives. The Assembly determines common policies. The Executive Council, composed of ministers or authorities designated by the governments of members states, is responsible to the Assembly and coordinates and makes decisions on common policies.

1 Named after Sirte, in Libya.

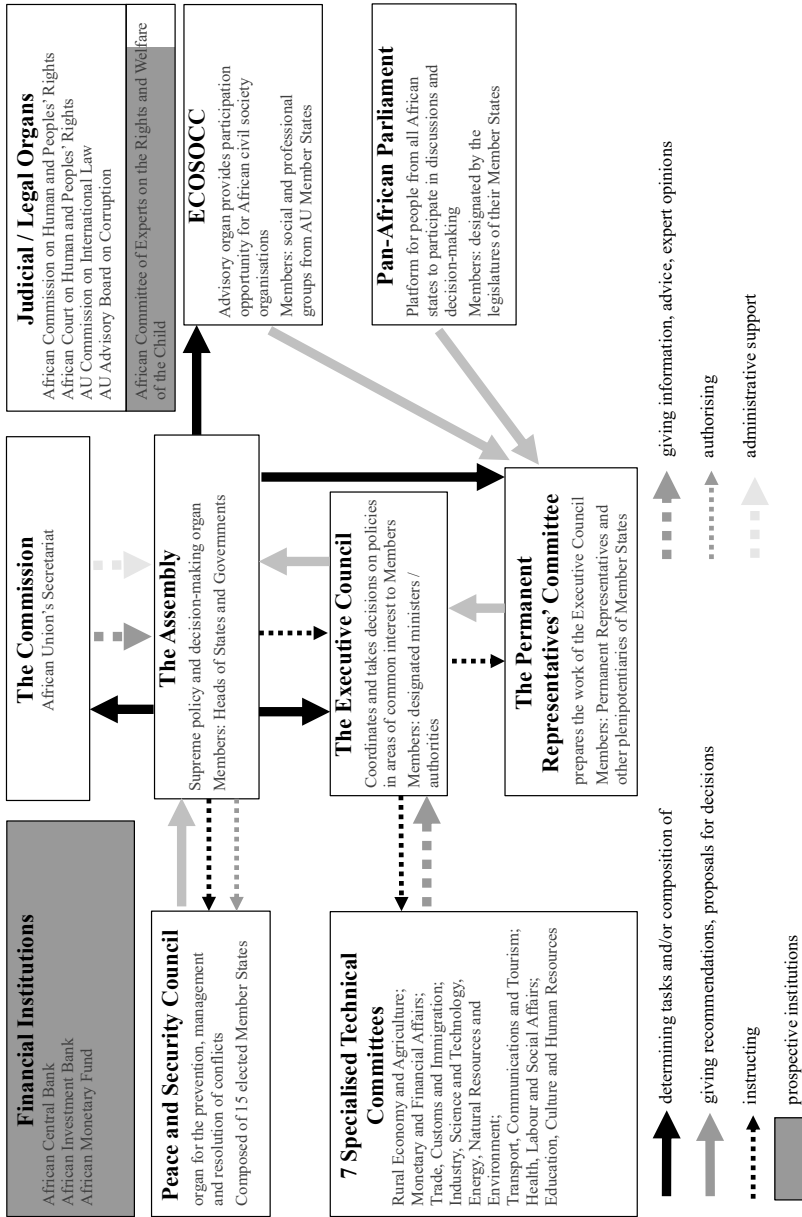
2 Thabo Mbeki was the African Union's first President.

3 See <https://au.int/en/memberstates>, accessed 28 April 2021.

4 See the World Population Prospects of the United Nations Population Division at <https://population.un.org/wpp/Download/Standard/Population/>, accessed 28 April 2021.

Together, a Chairperson, the Deputy Chairperson, eight Commissioners and staff members form the Commission. Each Commissioner is responsible for one portfolio (peace and security; political affairs; infrastructure and energy; social affairs; human resources, science and technology; trade and industry; rural economy and agriculture; and economic affairs). The Commission is comparable to a secretariat and plays a central role in the day-to-day management of the AU. The Commission *inter alia* represents the African Union and defends its interests; elaborates draft common positions of the African Union; prepares strategic plans and studies for the consideration of the Executive Council; elaborates, promotes, coordinates and harmonises the programmes and policies of the Union with those of the regional economic communities (RECs); and ensures the mainstreaming of gender in all programmes and activities of the African Union. The Executive Council is assisted by the Permanent Representatives Committee and the following Specialised Technical Committees, which assist the Executive Council in substantive matters: The Committee on Rural Economy and Agricultural Matters; the Committee on Monetary and Financial Affairs; the Committee on Trade, Customs and Immigration Matters; the Committee on Industry, Science and Technology, Energy, Natural Resources and Environment; the Committee on Transport, Communications and Tourism; the Committee on Health, Labour and Social Affairs; and the Committee on Education, Culture and Human Resources. The Pan-African Parliament implements policies, while the Economic, Social and Cultural Council is an advisory organ composed of different social and professional groups of the Member States. The Peace and Security Council makes decisions on prevention, management and resolution of conflicts. The financial institutions of the AU will consist of the African Central Bank, the African Monetary Fund, and the African Investment Bank. The African Court of Justice and Human Rights will ensure compliance with the law as outlined in the following sections.

Figure 1: Structure of the African Union



Source: Table compiled by the author and Cord Lüdemann based on Ouazghari (2007:5) and AU (2020).

3 Environmental Issues Within the AU's General Legal Framework

Environmental issues are anchored multifold within the AU's general legal framework. The Constitutive Act of the African Union, which was adopted in Lomé, Togo in 2000, provides in Article 13 that the Executive Council coordinates and takes decisions on policies in areas of common interest to the member states. This includes foreign trade; energy, industry and mineral resources; food, agricultural and animal resources; livestock production and forestry; water resources and irrigation; and the environment and its protection.

The African Economic Community, the African Union's economic institution was established in 1991 by the Abuja Treaty Establishing the African Economic Community. Namibia signed this treaty in 1991. It contains specific provisions regarding environmental protection and the control of hazardous wastes. The Treaty contains broad economic objectives, which touch on the environment, firstly by the general objective of promoting economic, social and cultural development and the integration of African economies in order to increase economic self-reliance and to promote an indigenous and self-sustained development; and secondly, through the specific objective of ensuring the harmonisation and coordination of environmental protection policies, among the States Parties. The Treaty makes provision for several specialised technical committees, including a Committee on Industry, Science and Technology, Natural Resources and Environment. Each of these committees has the mandate to prepare projects and programmes in its sphere of duty, and of ensuring supervision and implementation of these.

Chapter VIII contains provisions with regard to food and agriculture and provides for cooperation among member states in the development of rivers and lake basins, and the development and protection of marine and fisheries resources, and plant and animal protection. States Parties are required to ensure the development within their borders of certain basic industries that are identified as conducive to collective self-reliance and to modernisation, and to ensure proper application of science and technology to a number of sectors that, according to Article 51, include energy and the conservation of the environment. States have the obligation to coordinate and harmonise their policies and programmes in the field of energy and natural resources, and to promote new and renewable forms of energy and, in line with Article 58, to promote a healthy environment, and, to this end, to adopt national, regional and continental policies, strategies and programmes and establish appropriate industries for environmental development and protection. The Treaty requires member states to take appropriate measures to ban the importation and dumping of hazardous wastes in their territories, and to cooperate among themselves in the trans-boundary movement, management and processing of such wastes, where these emanate from a member state.

The African Charter for Human and Peoples' Rights has progressively taken up the issue of environmental protection by explicitly incorporating a human right to

environment, a third generation human right.⁵ Article 24 of the African Charter for Human and Peoples’ Rights reads, “[a]ll peoples shall have the right to a general satisfactory environment favourable to their development”.⁶

4 Specific Environmental Conventions

Table 1: Environmental Conventions under the AU legal Framework

Treaty / Agreement	Treaty / Agreement Particularities			Namibian Participation		
	Date of Adoption	Date Entry into Force	Date of Last Signature / Deposit	Date of Signature	Date of Ratification / Accession	Date Deposited
Phyto-Sanitary Convention for Africa	13.09.1967	06.10.1992	06.10.1992	-	-	-
African Convention on the Conservation of Nature and Natural Resources	15.09.1968	16.06.1969	24.01.2013	-	-	-
Bamako Convention on the Ban of the Import into Africa and the Control of Trans-boundary Movement and Management of Hazardous Wastes within Africa	01.01.1991	22.04.1998	31.05.2013	-	-	-
African Maritime Transport Charter	11.06.1994	-	27.01.2012	13.07.1999	-	-
The African Nuclear-Weapon-Free Zone Treaty (Pelindaba Treaty)	11.04.1996	15.07.2001	27.01.2014	11.04.1996	06.02.2012	01.03.2012
African Convention on the Conservation of Nature and Natural Resources (Revised Version)	01.07.2003	23.07.2016	28.03.2014	09.12.2003	-	-
African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa	23.10.2009	06.12.2012	17.03.2015	23.10.2009	-	-
Revised African Maritime Transport Charter	26.07.2010	-	31.01.2014	08.03.2013	-	-

Source: Table compiled by the author based on information from <https://treaties.au.int>, accessed 29 April 2021.

5 See Glazewski (2013:-5-2); Ruppel (2008a) and the Chapter on Human Rights and the Environment in this book.

6 For a detailed discussion on the right to environment under the African Charter on Human and Peoples’ Rights see also Kotzé / Du Plessis (2019) and Mekouar (2001).

4.1 The African Convention on Conservation of Nature and Natural Resources, 1968

The 1968 African Convention on the Conservation of Nature and Natural Resources (also referred to as the African Nature Convention or the Algiers Convention), and the forerunner to the 2003 Revised Algiers Convention, which is outlined in the next paragraph, is arguably the centrepiece of the AU's environmental texts.

This regional African Convention was originally adopted in Algiers in 1968 under the auspices of the Organisation of African Unity (OAU) and came into force in 1969. As such it was the successor to the 1900 Convention for the Preservation of Wild Animals, Birds and Fish in Africa, which was later superseded by the 1933 Convention Relative to the Preservation of Fauna and Flora in their Natural State (the London Convention). The need for a treaty to address nature conservation had already been expressed in the Arusha Manifesto of 1961.⁷ Hence, in 1963, the African Charter for the Protection and the Conservation of Nature was adopted, followed soon after by the Algiers Convention.

The objectives of the 1968 Convention encouraged individual and joint action for the conservation, utilisation and development of soil, water, flora and fauna for the present and future welfare of mankind, from an economic, nutritional, scientific, educational, cultural and aesthetic point of view. To this end, states undertake to adopt the measures necessary to ensure conservation, utilisation and development of soil, water, floral and faunal resources in accordance with scientific principles and with due regard to the best interests of the people (Article II); to take effective measures to conserve and improve the soil and to control erosion and land use (Article IV); and to establish policies to conserve, utilise and develop water resources, prevent pollution and control water use (Article V). Furthermore, the Convention imposes on states the obligation to protect flora and ensure its best utilisation, the management of forests and control of burning, land clearance and overgrazing (Article VI); and to conserve faunal resources and use them wisely, manage populations and habitats, control hunting, capture and fishing, and prohibit the use of poisons, explosives and automatic weapons in hunting (Article VII). States are required to tightly control traffic in trophies, to prevent trade in illegally killed and obtained trophies and to establish and maintain conservation areas (Article X). A list of protected species that enjoy full total protection, and a list of species that may be taken only with authorisation is part of the Convention.

7 IUCN (2006:4).

4.2 The Revised (Algiers) Convention on the Conservation of Nature and Natural Resources, 2003

The Algiers Convention was revised in 2003 (Maputo) to take into account recent developments on the African environment and natural resources scenes, while bringing the Convention to the level and standard of current multilateral environmental agreements.⁸ The revised Convention, which was adopted by the African Union in Mozambique in July 2003,⁹ was described as “the most modern and comprehensive of all agreements concerning natural resources”.¹⁰

As of April 2021, 44¹¹ of the 55 member states have signed the Convention, while only 17 member states¹² have deposited their instrument of ratification.¹³ The revised Convention has entered into force on 23 July 2016. Namibia, not being a signatory to the 1968 Convention, signed the revised Convention in December 2003, while no instrument of ratification has been deposited as of yet.

The revised Convention follows a comprehensive and general approach to environmental protection. It defines natural resources, addresses economic and social development goals, and stresses the necessity to work closely together towards the implementation of global and regional instruments supporting the goals of the Rio Declaration and Agenda 21.¹⁴

The Preamble sets the tone by providing that its “objectives would be better achieved by amending the 1968 Algiers Convention by expanding elements related to sustainable development”. In this vein, Article 4 on fundamental obligation, states:

The Parties shall adopt and implement all measures necessary to achieve the objectives of this Convention, in particular through preventive measures and the application of the precautionary principle, and with due regard to ethical and traditional values as well as scientific knowledge in interest of present and future generations.

The main objective of the Convention is to enhance environmental protection, to foster the conservation and sustainable use of natural resources, and to harmonise and

8 Decision of the Revised 1968 African Convention (Algiers Convention) on the Conservation of Nature and Natural Resources, Doc. EX/CL/50(III), Assembly/AU/Dec. 9(II).

9 At the second ordinary session of the African Union Assembly held in Maputo, Mozambique in July 2003.

10 Kiss / Shelton (2007:183).

11 The Convention has been signed by Angola, Benin, Burkina Faso, Burundi, Central African Republic, Chad, Cote d’Ivoire, Comoros, the DRC, Congo, Djibouti, Democratic Republic of Congo, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea-Bissau, Guinea, Kenya, Libya, Lesotho, Liberia, Madagascar, Mali, Malawi, Mauritania, Mozambique, Namibia, Nigeria, Niger, Rwanda, Sahrawi Arab Democratic Republic, São Tomé and Príncipe, Senegal, Sierra Leone, Somalia, South Africa, Sudan, South Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

12 i.e. Angola, Benin, Burkina, Faso, Burundi, Chad, Cote d’Ivoire, Comoros, Congo, Gambia, Ghana, Libya, Lesotho, Liberia, Mali, Niger, Rwanda and South Africa.

13 See <https://treaties.au.int>, accessed 28 April 2021.

14 IUCN (2006:5ff.).

coordinate policies in these fields with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programmes. In realising these objectives, the Parties should be guided by the principles of a right to a satisfactory environment and the right to development – the so-called third-generation human rights.¹⁵ Parties are required to adopt and implement all measures necessary to achieve the objectives of the Convention, in particular through preventive measures and the application of the precautionary principle, and with due regard to ethical and traditional value as well as scientific knowledge in the interest of present and future generations (Article IV).

The provisions of the Convention address the following areas:¹⁶ Land and soil (Article VI), water (Article VII), vegetation cover (Article VIII), species and genetic diversity (Article IX), protected species (Article X), trade in specimens and products thereof (Article XI), conservation areas (Article XII), process and activities affecting the environment and natural resources (Article XIII), sustainable development and natural resources (Article XIV), military and hostile activities (Article XV), procedural rights (Article XVI), traditional rights of local communities and indigenous knowledge (Article XVII), research (Article XVIII), development and transfer of technology (Article XIX), capacity building, education and training (Article XX), national authorities (Article XXI), cooperation (Article XXII), compliance (Article XXIII), liability (Article XXIV), and exceptions (Article XXV).

The Conference of the Parties and the Secretariat are established by Articles XXVI and XXVII respectively. Article XXXIV relates to the relationship with the 1968 Algiers Convention and provides that for Parties that are bound by the revised Convention, only this Convention is to apply. The relationship between parties to the original Convention and parties to this Convention is to be governed by the provisions of the original Convention (Article XXXIV).

It has to be noted that unlike its predecessor, the 2003 Convention excludes reservations, which reflects the necessity for the parties to apply common solutions to common problems. If the parties had the right to make reservations, differing obligations would jeopardise the attainment of the Convention's objectives.¹⁷

Disputes regarding the interpretation and application of the Convention are primarily subject to alternative dispute resolution otherwise the African Court of Justice has jurisdiction. Included as part of the 2003 Convention are three Annexes: on the Definition of Threatened Species, on Conservation Areas, and on Prohibited Means of Taking.

15 IUCN (2006:6).

16 For a discussion on each of these areas see IUCN (2006:8ff.).

17 IUCN (2006:7).

4.3 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa

The Convention was adopted in Bamako, Mali on 30 January 1991 and entered into force on 22 April 1998. As of April 2021, it had 35 signatories, of which 28 had ratified the Convention. As of April 2021, Namibia had not become a party to this Convention.

The Convention creates a framework of obligations to strictly regulate the transboundary movement of hazardous wastes to and within Africa. The Bamako Convention in Article 3 categorises hazardous wastes and enumerates general obligations of state parties in respect of the enforcement of a ban on hazardous waste import, and on the dumping of hazardous wastes at sea and internal waters in respect of waste generation, and the adoption of precautionary measures. States are furthermore required to establish monitoring and regulatory authorities to report and act on transboundary movement of hazardous wastes. A Secretariat to serve a Conference of the Parties is established. A list of categories of wastes which are hazardous waste and a list of hazardous characteristics are annexed to the Bamako Convention as well as annexes on disposal operations; information to be provided on notification; information to be provided on the movement document; and on arbitration.

4.4 The Maritime Transport Charters

Considering the importance of cooperation among African countries in the maritime transport sector and in order to find appropriate solutions to the problems impeding the development this sector, the Charter was adopted in 1994. Namibia has signed the Charter in 1999, which has not come into force as of yet. In 2010, the Revised African Maritime Transport Charter has been adopted. This Charter has so far been signed by 23 and ratified by 10 member states. Namibia has signed the Charter in 2013. Ratification by 15 states is required for the Charter to come into force. The revised African Maritime Transport Charter, in contrast to its predecessor, puts a strong emphasis on the protection of the marine environment. The Charter recognises the interdependence between economic development and a sustainable policy for the protection and preservation of the marine environment. One of the objectives of the Charter is to develop and promote mutual assistance and cooperation between states parties in the area of maritime safety, security and protection of the marine environment. Article 28 provides that parties are to seek intensify their efforts to ensure the protection and preservation of the marine environment and to promote measures aimed at preventing and combating pollution incidents arising from marine transport. Furthermore, parties “commit themselves to the creation of a sustainable compensation regime to cover

marine incidents of pollution of the sea that are not covered by existing international compensation regimes.”

4.5 The African Nuclear Free Zone Treaty (Treaty of Pelindaba)

The Treaty, to which Namibia became a signatory in April 1996, entered into force in August 2009. Namibia’s instrument of ratification has been deposited in March 2012. The Treaty establishes the African nuclear-weapon-free zone, thereby achieving, inter alia, the promotion of regional cooperation for the development and practical application of nuclear energy for peaceful purposes in the interest of sustainable social and economic development of the African continent and keeping Africa free of environmental pollution by radioactive wastes and other radioactive matter.

Each party has the obligation to renounce nuclear explosive devices, prohibit in its territory the stationing of any nuclear explosive device, and prohibit testing of nuclear explosive devices. Any capability for the manufacture of nuclear explosive devices has to be declared and parties undertake to dismantle and destroy any nuclear explosive device, destroy facilities for the manufacture of nuclear explosive devices or where possible to convert them to peaceful uses. Furthermore, the measures contained in the Bamako Convention on the Ban of the Import into Africa and Control of Trans-boundary Movement and Management of Hazardous Wastes within Africa have to be implemented according to Article 7 in so far as it is relevant to radioactive waste and not to take any action to assist or encourage the dumping of radioactive wastes and other radioactive matter anywhere within the African nuclear-weapon-free zone. The use of nuclear science and technology for economic and social development is to be promoted, including cooperation under the African Regional Cooperation Agreement for Research, Training and Development Related to Nuclear Science and Technology. Each party undertakes not to take, or assist, or encourage any action aimed at an armed attack by conventional or other means against nuclear installations in the African nuclear weapon-free zone. The Treaty of Pelindaba establishes the African Commission on Nuclear Energy for the purpose of ensuring compliance with their undertakings under the Treaty. Annual reports have to be submitted by the parties to the Commission and a Conference of the Parties is to be convened.

The Treaty has four Annexes, including a Map of the African-nuclear free zone; and Annexes on Safeguards of the International Atomic Energy Agency and on the African Commission on Nuclear Energy; and an Annex on the complaints procedure and settlement of disputes.

4.6 The Phyto-Sanitary Convention for Africa

The Phyto-Sanitary Convention for Africa was adopted in Kinshasa, DRC, on 13 September 1967. The Convention does not contain any provision relating to its entry into force. However, as of April 2021, 12 member states have deposited their instruments of ratification. The aim of this Convention is to control and eliminate plant diseases in Africa and prevent the introduction of new diseases. To this end, parties undertake to control import of plants and to take measures of quarantine, certification or inspection in respect of living organisms, plants, plant material, seeds, soil, compost and packing material. Namibia is not a party to this Convention.

4.7 The African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa

The African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (hereafter the Kampala Convention) was adopted on 23 October 2009 in Kampala. So far, the Kampala Convention has 40 signatories. 31 countries have so far ratified the Kampala Convention and it has entered into force on 6 December 2012. Namibia signed the Convention in 2009, however, ratification is still pending. The Convention is the first regional legal instrument in the world containing legal obligations for states with regard to the protection and assistance of internally displaced persons. It applies to displacement caused by a wide range of causes including conflict and human rights violations but also to natural or man-made disasters¹⁸ and has thus an environmental component. Member states commit themselves to establish early warning systems and adopt disaster preparedness and management measures to prevent displacement caused by natural disaster. The Convention provides standards for the protection of internally displaced people from arbitrary displacement, protection of internally displaced people while they are displaced and durable solutions to their displacement.

5 Agenda 2063

At the 50th anniversary of the African Union in 2013, Agenda 2063 was issued as a vision within a 50-year period from 2013 to 2063. Agenda 2063 is conceptualised as Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future. It is the continent's strategic framework that aims to deliver on its goal for inclusive growth and sustainable development. The genesis of Agenda 2063 was

18 See also Kälin / Haeni Dale (2008).

the realisation by African leaders that there was a need to reposition Africa to becoming a dominant player in the global arena and draft Africa's agenda to prioritise inclusive social and economic development, continental and regional integration, democratic governance and peace and security. Agenda 2063 thus formulates Africa's aspirations for the future and identifies key flagship programmes which can boost Africa's economic growth and development and lead to the rapid transformation of the continent.

With a view to environmental issues, aspiration 1 within Agenda 2063 is of particular relevance as it envisages a prosperous Africa based on inclusive growth and sustainable development. Here, Agenda 2063 explicitly mentions environmentally sustainable climate and resilient economies and communities as one of the goals. The objective is to put in place measures to sustainably manage the continent's rich biodiversity, forests, land and waters and using mainly adaptive measures to address climate change risks.

6 The African Union's Judicial, Human Rights and Legal Organs and Bodies and the Consideration of Environmental Rights

Environmental agreements under the umbrella of the AU each have their own provision on how disputes are to be settled. Alternative dispute resolution plays an important role in this regard as it is the favourable mechanism, as e.g. provided for in the African Convention for Nature Conservation. The judicial system in the AU has been subject to continuous development and several amendments in recent years.¹⁹

6.1 The African Court on Human and Peoples' Rights and the African Court of Justice to become the African Court of Justice and Human Rights

In 1998, the African Court on Human and Peoples' Rights (AfCHPR) has been established by the Protocol to the African Charter on Human and Peoples' Rights on the Establishment of an African Court on Human and Peoples' Rights, which came into force in 2004. The AfCHPR is situated in Arusha, United Republic of Tanzania and has received cases since June 2008.

In 2003, the African Court of Justice as ultimate organ of jurisdiction in the African Union was established by the Protocol of the Court of Justice of the African Union, which entered into force in February 2009. However, the Protocol on the Statute of the African Court of Justice and Human Rights adopted in 2008 during the African Union

19 For more details on the creation of judicial structures in the AU see Franceschi (2014:141ff.) and AU (2020).

Summit of Heads of State and Government in Sharm El Sheikh, Arab Republic of Egypt provides for the 1998 and the 2003 Protocols to be replaced and the African Court on Human and Peoples' Rights and the Court of Justice of the African Union to be merged into a single Court to become what is now known as the 'African Court of Justice and Human Rights'. However, the 2008 Protocol on the merger of the courts has so far only been ratified by eight²⁰ states and ratification by 15 states is required for the Protocol to come into force. Once operational, the merged court will have two sections, a General Affairs Section and a Human Rights Section, both composed of eight Judges. The court will have jurisdiction over all disputes and applications referred to it, which *inter alia* relate to the interpretation and application of the AU Constitutive Act or the interpretation, application or validity of Union Treaties, as well as human rights violations.

In June 2014, a Protocol on Amendments to the Protocol on the Statute of the African Court of Justice and Human Rights has been adopted to extend the jurisdiction of the African Court of Justice and Human Rights to cover individual criminal liability for serious crimes committed in violation of international law – making the African Court the first regional court with criminal jurisdiction over genocide, war crimes and crimes against humanity once the Protocol comes into operation upon ratification of 15 member states (the Protocol has not been ratified by any of the member states as of April 2021). At the same time, the Protocol gives immunity to sitting Heads of State and Government, and to other senior officials based on their function, before the African Court, which has been subject to criticism as no other international tribunal that provides individual criminal liability for serious crimes allows such immunity.²¹

6.2 The African Commission on Human and Peoples' Rights

The African Commission on Human and Peoples' Rights (hereafter African Commission) is a quasi-judicial body established by the 1981 African (Banjul) Charter on Human and Peoples' Rights (hereafter African Charter) and is responsible for monitoring compliance with the African Charter. The African Charter is a human rights treaty that already proclaims environmental rights in broadly qualitative terms. It protects the right of peoples both to the 'best attainable state of physical and mental health' (Article 16) and to a "general satisfactory environment favourable to their development" (Article 24). Article 24 of the African Charter establishes a binding human-rights-based approach to environmental protection, linking the right to environment to the right to

20 As of 29 April 2021, the Protocol has been ratified by Angola, Benin, Burkina Faso, Congo, Gambia, Libya, Liberia and Mali.

21 See HRW (2014); Du Plessis (2012).

development.²² Some cases that have been brought to the Commission have dealt with alleged violations of Article 24.

In the *Endorois* case,²³ the African Commission concluded that several Articles of the African Charter have been violated in the course of the dispossession of their land through the creation of the Lake Hannington Game Reserve in 1973, and a subsequent re-gazetting of the Lake Bogoria Game Reserve in 1978 by the Government of Kenya. Among the rights found to have been violated was the Endorois' right to culture (Article 17 (1) and (2)) and their right to free disposition of natural resources (Article 21) as they were unable to access the vital resources in the Lake Bogoria region since their eviction from the Game Reserve. Moreover, the African Commission held that their right to development (Article 22) had been violated, as the Respondent State's failed to adequately involve the Endorois in the development process.²⁴ The decision of the African Commission in the *Endorois* case,²⁵ was influenced by provisions of Convention No. 169 of the International Labour Organisation (ILO) on Indigenous and Tribal Peoples in Independent Countries.²⁶ The Convention *inter alia* provides criteria for describing the peoples it aims to protect; entails provisions regarding the principle of non-discrimination; calls for special measures to be adopted to safeguard the persons, institutions, property, labour, cultures and environment of indigenous and tribal peoples; recognises cultural and other specificities of indigenous and tribal peoples; and requires that on all issues that affect them, indigenous and tribal peoples are consulted and that these peoples are able to engage in free, prior and informed participation in policy and development processes.²⁷

In the *Ogoni* case, the African Commission held, *inter alia*, that Article 24 of the African Charter imposed an obligation on the state to take reasonable measures to "prevent pollution and ecological degradation, to promote conservation, and to secure

22 Van der Linde / Louw (2003).

23 *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council/Kenya* Communication 276/03 ACHPR available at <https://www.achpr.org/sessions/descions?id=193>, accessed 29 April 2021.

24 The recommendation of the Commission was to recognise rights of ownership and restitution of Endorois ancestral land; ensure that the Endorois community has unrestricted access to Lake Bogoria and surrounding sites for religious and cultural rites and for grazing their cattle; pay adequate compensation to the community for all the losses suffered; pay royalties to the Endorois from existing economic activities and ensure that they benefit from employment possibilities within the Reserve; grant registration to the Endorois Welfare Committee; engage in dialogue with the Complainants for the effective implementation of these aforementioned recommendations and to report on their implementation.

25 *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v Kenya* Communication 276/03 ACHPR available at <https://www.achpr.org/sessions/descions?id=193>, accessed 29 April 2021

26 The Convention came into force on 5 September 1991 and is available at <http://www.ilo.org/ilo-lex/cgi-lex/convde.pl?C169>, accessed 28 April 2021.

27 It should be noted that of the 23 states that have ratified ILO Convention No. 169, as of April 2021 only one, namely the Central African Republic, is from the African continent.

ecologically sustainable development and use of natural resources”.²⁸ The *Ogoni* case is considered to be a landmark decision with regard to the effective protection of economic, social and cultural rights in Africa, particularly the protection of the right of peoples to a satisfactory environment.

Another case decided by the African Commission on Article 24 was the *Cabinda* case,²⁹ in which the complainants argued that the unequal share of petroleum exploitation, the exploitation of the natural resources in the Cabinda region (formerly known as Portuguese Congo) by the Angolan government and the alleged economic and social marginalisation of the Cabinda people amounted to violations of Article 24 among others. The complainant claims that the people of Cabinda are not allowed to have any say in the grant of licences and concessions over their resources and that the people of Cabinda have been suffering disease and intense poverty since the Government of Angola took over Cabinda’s natural resources such as offshore oil, onshore mineral and oil resources. It was argued that the operations of oil companies took place in conditions that harm human health and the environment because the Respondent had failed to enforce compliance with environmental rules and that no compensation is paid in the event of damage to the environment. The Complainant therefore argued that the Respondent had violated the right of the people of Cabinda to a satisfactory environment as guaranteed in Article 24 of the African Charter.

The African Commission found no violation of Article 24 of the African Charter as apart from the fact that the complainant “did not adduce any evidence in support of the general allegation that the right to a satisfactory environment has been violated by the Respondent State, the Complainant has not disputed or challenged the claims of the Respondent State.”

The recognition of a right to a satisfactory environment by the African Charter and some progressive jurisprudence by the African Commission emphasise the importance of environmental protection from a human rights perspective and lead the way to a linkage between climate change and human rights, in a modern holistic approach to one of the most burning issues of today.³⁰

The impacts of climate change on human rights have been explicitly recognised by the African Commission. In its AU Resolution 153, the African Commission called on the Assembly of Heads of State and Government to take all necessary measures to ensure that the African Commission is included in the African Union’s negotiating

28 *The Social and Economic Rights Action Center (SERAC) & the Center for Economic and Social Rights (CESR) v Nigeria*.

29 *Front for the Liberation of the State of Cabinda v Republic of Angola* Communication 328/06 (2013) ACHPR (54th Ordinary Session), available at <https://www.achpr.org/sessions/desc-ions?id=247>, accessed 29 April 2021.

30 Ruppel / Ruppel-Schlichting (2017).

team on climate change.³¹ In the same communication it decided to carry out a study on the impact of climate change on human rights in Africa.

6.3 The AU Commission on International Law

The AU Commission on International Law (AUCIL) was founded in 2009 by the Assembly as per Article 5(2) of the AU Constitutive Act and acts independently as an advisory organ. The AUCIL usually meets twice a year and consist of eleven members experts in international law, who are nationals of different member states and who serve in their personal capacities. In Article 4, the Statute of the AUCIL sets forth the objectives of the AUCIL which include:

- a. to undertake activities relating to codification and progressive development of international law in the African continent with particular attention to the laws of the Union as embodied in the treaties of the Union, in the decisions of the policy organs of the Union and in African customary international law arising from the practice of Member States;
- b. to propose draft framework agreements, model regulations, formulations and analyses of emerging trends in States' practice to facilitate the codification and progressive development of international law;
- c. to assist in the revision of existing treaties, assist in the identification of areas in which new treaties are required and prepare drafts thereof;
- d. to conduct studies on legal matters of interest to the Union and its Member States;
- e. to encourage the teaching, study, publication and dissemination of literature on international law in particular the laws of the Union with a view to promoting acceptance of and respect for the principles of international law, the peaceful resolution of conflicts, respect for the Union and recourse to its Organs, when necessary.

To this end, the AUCIL identifies and develops legal instruments which have not yet been regulated by international law in the African continent and is active in the process of codification. Drafts for legal texts are prepared by the AUCIL and circulated to member states for their comments after having submitted the drafts together with a commentary to the Assembly through the Executive Council. The AUCIL considers comments and observations by the member states and may subsequently recommend that the Assembly, through the Executive Council takes no action, takes note of the report, adopts the report, or recommends the draft to member states with a view to the conclusion of a convention (Articles 5 and 6 of the AUCIL Statute).

One of the AUCIL's tasks is to encourage the teaching, study and dissemination of international law and African Union law. It does so by cooperating with universities, institutions and other educational and research centres as well as with bar associations and other associations of lawyers. Furthermore, the AUCIL holds an annual Forum on International Law and African Union Law as a discussion platform for matters relating

31 ACHPR/Res. 153 (XLV09).

to international law and the African Union law to raise awareness on the necessity of accelerating regional integration among others.³²

7 Selected Institutions and Initiatives Particularly Relevant for Environmental Protection

7.1 The African Ministerial Conference on the Environment (AMCEN)

The African Ministerial Conference on the Environment (AMCEN) has a strong regional and sub-regional focus. AMCEN thus builds on the potential that Regional Economic Communities (RECs) have to integrate adaptation measures into regional policies and socio-economic development.³³ AMCEN is a permanent forum where African ministers of the environment discuss matters of relevance to the environment of the continent. It was established in 1985 when African ministers met in Egypt and adopted the Cairo Programme for African cooperation. The Conference is convened every second year. In the 2010 Bamako Declaration on the Environment for Sustainable Development, at the thirteenth session of the African Ministerial Conference on the Environment, the Conference's contribution in providing political guidance and leadership on environmental management to Africa since its creation in 1985 in Cairo was appreciated. AMCEN was established to provide advocacy for environmental protection in Africa; to ensure that basic human needs are met adequately and in a sustainable manner; to ensure that social and economic development is realised at all levels; and to ensure that agricultural activities and practices meet the food security needs of the region. The adequate response to these challenges needs to be aligned with national and regional strategies for development, poverty alleviation, economic growth and the enhancement of human well-being, while increasing resilience to the physical impacts of climate change.

The most recent meeting of the African Ministerial Conference on the Environment was held in Durban in November 2019. Major outcomes of this conference include the decision on taking action for the sustainability of environmental and natural resources in Africa, the decision on climate change and the Durban Declaration on taking action for environmental sustainability and prosperity in Africa. Interestingly, the texts of the

32 Topics of recent annual Forums on International Law and African Union Law included: Constitutional democracy, rule of law and the fight against corruption (2019); Agenda 2063 Goals of Commodity Markets and new legal partnerships for exploitation and exploration of natural resources (2018); Legal and socio economic consequences of immigration, refugees and internally displaced persons in Africa (2017); The role of Africa in developing international law (2016); The challenges of ratification and implementation of treaties in Africa (2015); Codification of international law at the regional level in Africa (2014); Law of regional integration in Africa (2013).

33 Scholtz (2010).

outcomes reflect that within the AU, the most pressing issues around environmental concerns are being considered as high priority topics. The decision on taking action for the sustainability of environmental and natural resources in Africa for example touches on topics such as the blue economy; the concept of circular economy, aimed at comprehensively addressing plastic pollution; the conservation of biodiversity; the implementation of land degradation neutrality transformative projects and the promotion of action to combat desertification and drought. The outcomes, however, also reflect that it is time for action and that more emphasis needs to be put on taking necessary action to accelerate the implementation of past and future decisions of the Conference. The decisions emphasise that more cooperation and assistance is needed to put the decisions into practice. The sustainable flow of financial resources to support implementation measures is stressed by the decision makers. The decision on climate change urges “developed country Parties to continue fulfilling their commitments under the Framework Convention on Climate Change” and stresses that the Paris Agreement aims to enhance ambition, in both action and support, with clear linkage and balance between the actions envisaged to be taken by African countries and the level of support provided and developed country Parties are urged to provide climate finance.

7.2 Relevant Departments within the AU Commission

Several departments within the AU Commission, the African Union’s Secretariat, play an important role when it comes to issues related to environmental protection. The most relevant one is probably the Department of Rural Economy and Agriculture and the Department of Infrastructure and Energy.

One of the objectives for establishing the Department of Rural Economy and Agriculture was to promote sustainable development and sound environmental and natural resources management while ensuring food and nutrition security. Located within the Department of Rural Economy and Agriculture are the Division of Agriculture and Food Security and the Division of Environment, Climate Change, Water and Land Management and the Division of Rural Economy. The Department of Rural Economy and Agriculture has developed various important policy documents pertaining to environmental protection such as the 2020 Framework for Irrigation Development and Agricultural Water Management in Africa, the 2019 Sanitary and Phytosanitary (SPS) Policy Framework for Africa, the 2019 Continental Strategy for Geographical Indications in Africa 2018-2023, and the 2018 AU Wildlife Strategy.

The Department of Infrastructure and Energy is composed of three divisions, namely the Energy Division, the Information Society Division and the Transport and Tourism Division. The mission of the Department of Infrastructure and Energy “is to enhance regional and continental efforts for accelerating integrated infrastructure

development and the effective sustainable deployment of energy resources.”³⁴ Ensuring environmental sustainability is an essential component within the the Department’s framework of initiatives aimed at increasing energy access to the African people and improving livelihoods.

Other departments within the AU that can be involved with issues pertaining to environmental protection include the Departments of Political Affairs; Human Resources, Science and Technology; Trade and Industry; and Peace and Security.

7.3 The Peace and Security Council (PSC)

Article 3 of the AU Constitutive Act contains the objectives of the AU, including, among other things, the promotion of sustainable development, international cooperation, continental integration, and the promotion of scientific and technological research to advance development of the continent. In the Protocol relating to the Establishment of the Peace and Security Council (PSC) of the African Union, member states committed themselves to various guiding principles (Article 4), including early responses to contain crises situations, the recognition of the interdependence between socio-economic development and the security of peoples and states. Moreover, in Article 6 of the AU Constitutive Act, the functions of the PSC are outlined as, among others, the promotion of peace, security and stability in Africa; early warning and preventive diplomacy; peace-making; humanitarian action and disaster management. All of the aforementioned provisions provide a clear mandate for addressing environmental problems, especially when it comes to natural or man-made disasters.

7.4 The African Union Development Agency and the New Partnership for Africa’s Development (AUDA-NEPAD)

The New Partnership for Africa’s Development (NEPAD) was adopted in 2001 in Lusaka, Zambia by African Heads of State and the Government of the OAU in 2001 and was ratified by the AU in 2002. South Africa is a founding member-country of NEPAD. Its overall aim is to promote partnership and cooperation between Africa and the developed world and it envisages the economic and social revival of Africa. Its founding document states:³⁵

This New Partnership for Africa’s Development is a pledge by African leaders, based on a common vision and a firm and shared conviction, that they have a pressing duty to eradicate poverty and to place their countries, both individually and collectively, on a path of sustainable growth

34 AU (2020a:106).

35 NEPAD founding document available at <http://www.dirco.gov.za/au.nepad/nepad.pdf>, accessed 1 May 2021.

and development, and at the same time to participate actively in the world economy and body politic. The Programme is anchored on the determination of Africans to extricate themselves and the continent from the malaise of underdevelopment and exclusion in a globalising world.

NEPAD includes an environmental component, in that:³⁶

It has been recognised that a healthy and productive environment is a prerequisite for the New Partnership for Africa's Development, that the range of issues necessary to nurture this environmental base is vast and complex, and that a systematic combination of initiatives is necessary to develop a coherent environmental programme.

NEPAD recognises that the region's environmental base must be nurtured, while promoting the sustainable use of its natural resources. To this end, the environmental initiative targets eight sub-themes for priority intervention, namely combating desertification, wetland conservation, invasive alien species control, coastal management, global warming, cross-border conservation areas, environmental governance, and financing.

In 2003, NEPAD released the Action Plan of the Environment Initiative.³⁷ The Environment Action Plan for the first decade of the 21st Century is underpinned by the notion of sustainable development in that it takes account of economic growth, income distribution, poverty eradication, social equity and better governance. With the overall objective "to complement the relevant African processes, including the work programme of the revitalized AMCEN, with a view to improving environmental conditions in Africa in order to contribute to the achievement of economic growth and poverty eradication."³⁸

In order to integrate NEPAD into the AU framework, a decision was taken in 2018 to transform the NEPAD Planning and Coordination Agency into the African Union Development Agency-NEPAD (AUDA-NEPAD). The mission of AUDA-NEPAD has been defined as to³⁹

foster the development of the continent through effective and integrated planning, coordination, and implementation of Agenda 2063 with Member States, Regional Economic Communities and pan-African institutions by leveraging partnerships and technical cooperation.

One of the broad thematic areas through which AUDA-NEPAD implements its mandate to coordinate and execute priority regional and continental projects to promote regional integration towards the accelerated realisation of Agenda 2063 is the area of environmental sustainability. Interventions under this focus area have the main focus on five core performance areas: Climate change; sustainable natural resources and extractive industries management; disaster risks and recovery management; ecotourism; and environment and social impact assessment and governance. Recent interventions within the area of environmental sustainability are manifold and include biosafety

36 Preamble to Chapter 8 of the NEPAD documentation, titled *The Environmental Initiative*; see generally Van der Linde (2002).

37 NEPAD (2003).

38 NEPAD (2003:33).

39 AUDA-NEPAD (2020a).

regulatory mechanisms; the deployment of photovoltaic solar systems to increase access to water and sanitation and climate smart agriculture technologies; and sustainable energy projects. Furthermore, AUDA-NEPAD has integrated climate change mitigation, adaptation and risk management practices into several programmes that promote rural transformation and a risk management framework for climate and other hazards was established, which will contribute towards an enhanced collaboration with the Green Climate Fund.⁴⁰ Sustainable energy, climate resilience, as well as environment and natural resources management have been identified as one of AUDA-NEPAD's strategic priorities to deliver on its strategic objectives.⁴¹

40 Ibid:43.

41 AUDA-NEPAD (2020b:5).

Chapter 7: Environmental Law and Policy in the Southern African Development Community

Oliver C. Ruppel

1 Introduction

The Southern African Development Community (SADC)¹ was established in Windhoek in 1992 as the successor to the Southern African Development Coordination Conference (SADCC), which was founded in 1980. SADC currently counts 16 states among its members, namely Angola, Botswana, the Democratic Republic of Congo (DRC), Comoros, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, the Seychelles, South Africa, Tanzania, Zambia, and Zimbabwe.

SADC was established by signature of its constitutive legal instrument, the SADC Treaty. SADC envisages²

a common future, a future in a regional community that will ensure economic well-being, improvement of the standards of living and quality of life, freedom and social justice, and peace and security for the peoples of Southern Africa. This shared vision is anchored on the common values and principles and the historical and cultural affinities that exist between the peoples of Southern Africa.

To this end, SADC's objectives include the achievement of development and economic growth, the alleviation of poverty, the enhancement of the standard and quality of life, support of the socially disadvantaged through regional integration, the evolution of common political values, systems and institutions, the promotion and defence of peace and security, and achieving the sustainable utilisation of natural resources and effective protection of the environment.³

2 Institutional Structure of SADC

Several institutions build the foundations for SADC: The Summit of Heads of State or Government is the supreme policy-making institution of SADC. It consists of the Heads of State or Government of all member states and is responsible for the overall policy direction and control of the functions of SADC. All decisions reached by consensus are binding. The Council of Ministers consists of one Minister from each member state, preferably the Minister for economic planning or finance. The Council of

1 For more details on SADC see <http://www.sadc.int/>, accessed 13 May 2021.

2 For SADC's vision see <https://www.sadc.int/about-sadc/overview/sadc-vision/>, accessed 4 May 2021.

3 These are some of the SADC objectives laid down in Article 5 of the SADC Treaty.

Ministers oversees the functioning and development of SADC, as well as the proper implementation of SADC policies and approves the policies, strategies and work programmes of SADC. Commissions are convened for specific sectoral tasks or programmes to coordinate the integration of policies and programmes in designated sectoral areas. Commissions report to the Council. The Standing Committee of Officials consists of one permanent secretary or equivalent official from each member state, preferably from the ministry for economic planning or finance ministry. The Committee serves as a technical advisory committee to the Council. The Secretariat is the principal executive institution of SADC. The Secretariat is headed by the Executive Secretary, who is the diplomatic representative of SADC. The Secretariat is responsible for the strategic planning and management of the programmes of SADC. The Secretariat implements decisions of the Summit and of the Council, provides financial and general administration, promotes SADC, and coordinates the policies of member states.

3 Heterogeneity within SADC

Although the 16 member states differ from each other in many respects, efforts to enhance environmental conservation and to promote sustainable development can be seen as overall unifiers. The heterogeneity of SADC member states is not only reflected by surface area, population figures, size of the domestic markets, per capita incomes, the endowment with natural resources and the social and political situation, but also by the variety of legal systems applied in different member states.⁴

4 See Ruppel / Ruppel-Schlichting (2017b) and Ruppel-Schlichting / Ruppel (2011).

Table 1: Selected Indicators for SADC Countries

SADC Country	Surface Area (sq. km) ¹	Surface (% of total SADC) ¹	Population (Mio Persons) ²	GDP (Estimates for 2020 in Billion USD) ²	GDP per Capita (Estimates for 2020 in USD) ²	HDI (2020 Estimates) ³	HDI Rank ³
Angola	1,246,700	12.92	31.031	62.440	2,012.147	0.581	148
Botswana	566,730	5.87	2.346	15.910	6,780.720	0.735	100
Comoros	1,861	0.01	0.897	1.222	1,361.855	0.554	156
DRC	2,267,050	23.50	90.794	49.077	540.534	0.480	175
Eswatini	17,200	0.18	1.127	3.949	3,504.452	0.611	138
Lesotho	30,360	0.31	2.062	2.068	1,002.980	0.527	165
Madagascar	581,540	6.03	27.578	13.837	501.756	0.528	164
Malawi	94,280	0.98	20.873	8.488	406.650	0.483	174
Mauritius	2,030	0.02	1.267	11.396	8,993.480	0.804	66
Mozambique	786,380	8.15	31.993	14.385	449.630	0.456	181
Namibia	823,290	8.53	2.530	10.564	4,175.183	0.646	130
Seychelles	460	0.00	0.097	1.131	11,638.721	0.796	67
South Africa	1,214,470	12.59	59.622	302.114	5,067.152	0.709	114
Tanzania	885,800	9.18	58.001	63.244	1,090.385	0.529	163
Zambia	743,390	7.71	18.882	18.529	981.311	0.584	146
Zimbabwe	386,850	4.01	15.189	21.038	1,385.035	0.571	150
Total	9,646,530		280.201	662.664			

Source: Table compiled by the author based on:

- ¹ World Bank Development Indicators, at <https://databank.worldbank.org/source/world-development-indicators#>, accessed 30 April 2021;
- ² IMF World Economic Outlook Database at <https://www.imf.org/en/Publications/WEO/weo-database/2021/April>, accessed 30 April 2021; and
- ³ UNDP Human Development Reports at <http://hdr.undp.org/en/content/latest-human-development-index-ranking>, accessed 30 April 2021.

In the states of sub-Saharan Africa, the concept of legal pluralism is predominant. In view of such heterogeneity within SADC it is of increasing significance for SADC member states to harmonise the law by means of implementation and transformation of SADC Protocols aiming to reduce or eliminate the differences between national and SADC community law.

Table 2: Heterogeneity of Non-religious Legal Systems within SADC

Country	Legal System		
Angola	Civil Law		Customary Law
Botswana	Roman Dutch Law	Common Law	Customary Law
Comoros	Civil Law	Islamic Law	Customary Law
DR Congo	Civil Law		Customary Law
Eswatini	Roman Dutch Law	Common Law	Customary Law
Lesotho	Roman Dutch Law	Common Law	Customary Law
Madagascar	Civil Law		Customary Law
Malawi		Common Law	Customary Law
Mauritius	Civil Law	Common Law	
Mozambique	Civil Law		Customary Law
Namibia	Roman Dutch Law	Common Law	Customary Law
Seychelles	Civil Law	Common Law	
South Africa	Roman Dutch Law	Common Law	Customary Law
Tanzania		Common Law	Customary Law
Zambia		Common Law	Customary Law
Zimbabwe	Roman Dutch Law	Common Law	Customary Law

Source: Table compiled by the author.

4 Environmentally Relevant Legal Framework

Environmental concerns are, similar to the protection and promotion of human rights, not at the heart of the constitutive acts of regional economic communities (RECs) like SADC. However, environmental concerns have, at least to some extent, found their way into the legal framework of most RECs. In founding SADC, environmental protection was explicitly included. The Declaration and Treaty of SADC lays down in Article 5(g) as one of SADC’s objectives⁵ to “achieve sustainable utilisation of natural resources and effective protection of the environment”. In order to achieve this, member states are, amongst others,⁶ called to seek to harmonise their political and socio-

5 Other objectives of SADC are to: achieve development and economic growth and alleviate poverty; evolve common political values, systems and institutions; promote peace and security; achieve collective self-reliance, and the interdependence of Member States; maximise productive employment and utilisation of resources of the Region; and to consolidate the long standing historical, social and cultural affinities and links among the people of the region.

6 Other means to achieve the objectives of SADC include: Eliminating obstacles to the free movement of capital and labour, goods and services, and of the people of the region among Member

economic policies and plans towards this aim and in particular to push forward the institutional development of environmental protection. Considering the multitude of environmental issues in single SADC countries and within SADC as a region, it is of utmost importance to achieve the objective of Article 5(g) of the SADC Treaty to the best possible extent.

4.1 The SADC Treaty

In terms of SADC community law, the SADC Treaty is the highest source of law within SADC's legal framework. In its Preamble, the Treaty determines, inter alia, to ensure, through common action, the progress and well-being of the people of southern Africa, and recognises the need to involve the people of the SADC region centrally in the process of development and integration. As stated above, the sustainable utilisation of natural resources and the effective protection of the environment have been laid down in Article 5(g) of the SADC Treaty as one of SADC's objectives. Furthermore, food security, land and agriculture as well as natural resources and the environment have, among other issues, been identified as areas of cooperation by the SADC Treaty.⁷

4.2 The SADC Protocols

Besides the aforementioned provisions and objectives in the SADC Treaty, the SADC legal regime becomes responsive to environmental concerns in various other legal instruments as well. One category of such documents constitutes the SADC Protocols. The Protocols are instruments by means of which the SADC Treaty is implemented, and they have the same legal force as the Treaty itself. A Protocol comes into force after two thirds of SADC member states have ratified it. The Protocols which are of most relevance with regard to the environment are listed in the table and briefly explained below.

States; promoting the development, transfer and mastery of technology; improving economic management and performance through regional co-operation; securing international understanding, co-operation and support; and mobilising the inflow of public and private resources into the region.

7 Article 21.3 SADC Treaty.

Table 3: SADC Protocols

Protocol	Date of entry into force
Protocol on Energy	17/04/1998
Protocol on Environmental Management for Sustainable Development	–
Protocol on Fisheries	08/08/2003
Protocol on Forestry	17/07/2009
Protocol on Health	14/08/2004
Protocol on Mining	10/02/2000
Protocol on Shared Watercourse Systems	28/09/1998
Revised Protocol on Shared Watercourses	22/09/2003
Protocol on Tourism	26/11/2002
Protocol on Trade	25/01/2000
Protocol on Transport, Communications and Meteorology	06/07/1998
Protocol on Wildlife Conservation and Law Enforcement	30/11/2003

Source: Table compiled by the author.

4.2.1 The Protocol on Energy

Energy is a defining issue and closely linked with key contemporary global challenges in the SADC region – social development and poverty alleviation, environmental degradation, climate change, food security etc. Energy efficiency plays an important role in sustainable growth and development. Better energy efficiency can produce substantial benefits both for global economic growth and poverty reduction as well as for mitigating climate change. In the household sector, improved energy efficiency can directly reduce household expenditures on energy services, and therefore directly help to reduce poverty. Conducive policies are central to the development of sustainable energy generation and markets. Laws governing sustainable energy development and supply cut across many sectors such as, mining, forestry, agriculture, environment, water, industry, electricity, and petroleum, and hence require coordination – a complex challenge that is not easily overcome.⁸ The energy sector and the provision of electricity for southern Africa's population and industries comprise a complex issue without including the influence of climate change to the equation. If SADC intends reducing its GHG and carbon emissions a transition to sustainable energy is inevitable. This requires redefining its competitive advantage from attracting energy intensive sectors on the basis of non-renewable energy (e.g. coal) to building a new advantage around climate friendly technology and energy. What remains a challenge, and that needs to be researched more extensively, is, how emerging regional and national legislation can harmonise and coordinate the work around the issues of sustainable energy. Cross-

⁸ For various aspects related to energy security and renewable energies in sub-Saharan Africa see Ruppel / Althusmann (2015), Ruppel / Ruppel-Schlichting (2015).

sectoral coordination and responsibilities need to be streamlined in order to assure decision making to promote energy security in the region through more effective energy trade mechanisms in future. In the same context policymakers and Government officials need to be capacitated to translate international policy to national and local levels, and vice versa. Further research emphasis needs to be placed on linking national, regional and international policymaking, especially in relation to all emerging climate change related issues, such as the Green Climate Fund.

The Protocol on Energy strives to outline means of cooperation in the development of energy to ensure security and reliability of energy supply and the minimisation of costs. It is emphasised in the Protocol that development and use of energy must be environmentally sound.⁹ To achieve this objective, the Protocol *inter alia* provides for cooperation in the development and utilisation of energy in the sub-sectors of wood fuel, petroleum and natural gas, electricity, coal, new and renewable energy sources, and energy efficiency and conservation. The Protocol formulates the intention to promote increased production of new and renewable sources of energy in an economically and socially acceptable manner, including biogas, windmills, mini-hydro plants, passive solar design of buildings, photo-voltaic, solar thermal and solar stoves and water heaters. The development of national energy efficiency and conservation plans is encouraged. Article 4 establishes an Energy Commission, consisting of the Committee of Ministers, the Committee of Senior Officials, the Technical Unit, and sub-committees. The Commission is responsible for the implementation of the Protocol. Annex 1 to the Protocol contains guidelines for cooperation in the Energy Commission.

Under the Protocol, the Regional Electricity Regulators Association of Southern Africa (RERA) was established in July 2002. RERA is a formal association of electricity regulators in pursuit of the broader initiative of the New Partnership for Africa's development (NEPAD) and the African Energy Commission (AFREC).¹⁰ RERA strives to facilitate harmonisation of regulatory policies, legislation, standards and practices and to be a platform for effective cooperation among energy regulators within the SADC region. The objectives of RERA fall into three broad categories, namely: Capacity building and information sharing; facilitation of electricity supply industry policy, legislation and regulations, and regional regulatory cooperation. Each SADC country can have one electricity supply industry regulator as a member of RERA.

On the basis of the Treaty and the Protocol on Energy, the SADC Energy Corporation Policy and Strategy (1996), the Energy Action Plan (1997), the Energy Sector Activity Plan (2000), the Regional Infrastructure Development Master Plan: Energy Sector Plan (2012), the SADC Industrialization Strategy and Roadmap (2015), and the Regional Energy Access Strategy and Action Plan have been drafted. Furthermore, the Renewable Energy and Efficiency Strategy and Action Plan (REEESAP) spanning the

9 Article 2.8.

10 For further information see <https://rerasadc.com>, accessed 13 May 2021.

period from 2016 to 2030 was adopted in 2017. It provides a framework for member states to develop their own renewable energy and energy efficiency strategies and action plans, leading to greater uptake of renewable energy resources as well as mobilisation of financial resources. The REEESAP intends to contribute to energy supply security, stimulate economic growth and improve access to modern energy services. Furthermore, the action plan seeks to ensure that the regional energy strategy is aligned with global trends towards clean and alternative energy sources. Alternative fuels and environmental protection are important aspects and goals of REEESAP. SADC has set a target to achieve that 32% of the electricity demand should be covered by renewable energies by 2020 and 39% by 2030.¹¹

In July 2015, the Energy Ministers of the SADC approved the establishment of the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE). In line with this action plan, the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) was established in Namibia in 2016. SACREEE monitors the implementation of REEESAP and contributes towards increased access to modern energy services and improved energy security within SADC by promoting market-based uptake of renewable energy and energy efficient technologies and energy services.¹² One of the objectives of REEESAP is to achieve low carbon development paths and climate resilient energy systems in the region.

4.2.2 The Protocol on Environmental Management for Sustainable Development

The Protocol on Environmental Management for Sustainable Development has been signed in 2014 at the occasion of the 34th SADC Summit, held in Victoria Falls, Zimbabwe. In terms of environmental conservation on the regional level, it is a legal document of utmost importance. For the Protocol to come into force, ratification by two-thirds of the member states is required. So far, only Namibia and Eswatini have ratified the Protocol.¹³ The importance of accelerated ratification has been addressed by the SADC Executive Secretary at the occasion of the 2020 World Environment Day as member states were called “to expedite the ratification of the SADC Protocol on Environmental Management for Sustainable Development which will allow SADC Member States to achieve sustainable use and management of the environment”.¹⁴

The Protocol is composed of a Preamble and six parts. Part 1 sets out definitions, scope, principles and objectives of the Protocol; Part 2 deals with the management of the environment and transboundary considerations; Part 3 contains provisions relevant

11 SADC (2018:30).

12 Ibid.

13 SADC (2019a).

14 See <https://bit.ly/3vVXjD7>, accessed 8 May 2021.

for the implementation of the Protocol, while Part 4 relates to cross-sectoral issues. Institutional provisions are outlined in Part 5, while the last Part 6 concludes with final provisions such as entry into force.

The Protocol recognises the sovereign right of member states to use their natural resources to meet their developmental needs sustainably and a responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment and natural resources of other states. Main objectives of the Protocol are to enhance environmental protection to contribute to human health, well-being and poverty alleviation; to promote equitable and sustainable utilisation of natural and cultural resources for the benefit of present and future generations; to promote the shared management of trans-boundary natural resources; and to promote an effective management and response to the impacts of climate change. Thematic areas of the Protocol include air quality, waste and pollution, chemicals management, biodiversity and natural heritage, cultural heritage, sustainable land management, marine and inland water resources and climate change. Cross-sectoral issues comprise human resources development, trade and investment, science and technology, gender equality, information management, and exchange and reporting.

Institutions responsible for the implementation as established by the Protocol are the Committee of Ministers Responsible for the Environment, a Committee of Senior Officials Responsible for the Environment, and the Technical Committee on Environmental Management. The Protocol has conceptualised dispute settlement as a three-step process starting with efforts to resolve disputes amicably among member states; if such process is unsuccessful, disputes are referred to the Committee of Ministers Responsible for the Environment for amicable settlement and, as a last resort, a dispute may be brought to the SADC Tribunal.¹⁵

Once in force, the Protocol will contribute towards environmental protection, sustainable development and regional integration of SADC as it will facilitate the harmonisation of policies, strategies and legal frameworks through the management of shared and transboundary natural resources, including the monitoring and reporting on environmental trends, and the co-ordination of environmental management plans. The Protocol will provide a basis for coordinated environmental management, co-operation on environmental crime, for developing and implementing co-ordinated environmental disaster management responses and, most importantly, for joint implementation of environment impact assessment in order to harmonise EIA processes for cross-border infrastructure development.

15 See the section on the SADC Tribunal below. At this stage, the SADC Tribunal is not operational.

4.2.3 The Protocol on Fisheries

Considering that fisheries are essential for the social and economic well-being and livelihood of the people in the region, with regard to food security and the alleviation of poverty, the Protocol on Fisheries provides for cooperation and integrative actions in order to optimise the sustainable use of the living aquatic resources within SADC. Thus, the objective of the Protocol is to promote the responsible and sustainable use of living aquatic resources and aquatic ecosystems, in order to enhance food security and human health, safeguard the livelihood of fishing communities, generate economic opportunities for citizens, and alleviate poverty. The Protocol recognises the UN Convention on the Law of the Sea (UNCLOS) and takes into account the FAO Code of Conduct for Responsible Fisheries. Its objective is to promote the responsible and sustainable use of the living aquatic resources and aquatic ecosystems and interestingly defines a fish as any aquatic plant or animal and resources as all aquatic ecosystems. The Preamble emphasises the necessity for joint co-operative and integrative action at regional level, awareness and support of national initiatives to implement international conventions on sustainable use and recognises the unique trans-boundary character of the aquatic resources and ecosystems and the need to cooperate in their management.¹⁶

Legal measures provided for in the Protocol to achieve this objective include the protection of resources against over-exploitation, the transfer of skills and technologies to other member states to enhance effective regional co-operation, and the exchange of information on the state of shared resources, levels of fishing, measures taken to monitor and control exploitation of shared resources, plans for new or expanded exploitation, and relevant research activities and results. The Protocol envisages to integrate systems to monitor resources, joint fish stock assessment programmes, agreed scientific methodologies, and preparation of best scientific advice on sustainable levels of exploitation. Of specific importance with regard to environmental protection relating to fisheries is the requirement to balance the needs of industrial enterprises, artisanal fishers, subsistence fishers, recreational fishers, and aquaculture practitioners, in a politically, environmentally and economically sustainable manner (Article 12) and the provision providing for the protection of aquatic ecosystems, including their biodiversity and unique habitats (Article 14).

The harmonisation of legislation has been taken up by Article 8, asking for cooperation with regard to establishing region-wide penalties for illegal fishing by SADC and non-SADC flagged vessels in the waters of member states. Annexed to the Protocol are a list of international fora, conventions and agreements with which member states are to establish common positions and undertake co-ordinated and complementary actions, as well as a list of international bodies particularly relevant to the Protocol in

16 Ruppel / Bethune (2007).

Annex 2. Appendices 3 and 4 list international declarations on integrated coastal zone management and agreements on international rivers, respectively.

4.2.4 The Protocol on Forestry

Forests are dealt with in the Protocol on Forestry; as per figures estimated by the Food and Agricultural Organization¹⁷ and summarised in the table below, forests in the SADC cover an area of 392 million hectares of the SADC region corresponding to about 40% of the land area.

Table 4: Forest Area in SADC Countries

Country	Forest area (1,000 ha)				Net annual change					
	1990	2000	2010	2020	1990-2000		2000-2010		2010-2020	
					1,000 ha/yr	%	1,000 ha/yr	%	1,000 ha/yr	%
Angola	79,263	77,709	72,158	66,607	-155.4	-0.20	-555.1	-0.74	-555.1	-0.80
Botswana	18,804	17,621	16,438	15,255	-118.3	-0.65	-118.3	-0.69	-118.3	-0.74
Comoros	46	42	37	33	-0.4	-0.99	-0.4	-1.10	-0.4	-1.24
DRC	150,629	143,899	137,169	126,155	-673.0	-0.46	-673.0	-0.48	-1101.4	-0.83
Eswatini	461	473	485	498	1.2	0.26	1.2	0.25	1.2	0.25
Lesotho	35	35	35	35	0.0	0.00	0.0	0.00	0.0	0.00
Madagascar	13,693	13,031	12,562	12,430	-66.3	-0.49	-46.9	-0.37	-13.2	-0.11
Malawi	3,502	3,082	2,662	2,242	-42.0	-1.27	-42.0	-1.45	-42.0	-1.70
Mauritius	41	42	38	39	0.1	0.21	-0.4	-0.88	n.s.	0.10
Mozambique	43,378	41,188	38,972	36,744	-219.0	-0.52	-221.6	-0.55	-222.8	-0.59
Namibia	8,769	8,059	7,349	6,639	-71.0	-0.84	-71.0	-0.92	-71.0	-1.01
Seychelles	34	34	34	34	0.0	0.00	0.0	0.00	0.0	0.00
South Africa	18,142	17,778	17,414	17,050	-36.4	-0.20	-36.4	-0.21	-36.4	-0.21
Tanzania	57,390	53,670	49,950	45,745	-372.0	-0.67	-372.0	-0.72	-420.5	-0.88
Zambia	47,412	47,054	46,696	44,814	-35.8	-0.08	-35.8	-0.08	-188.2	-0.41
Zimbabwe	18,827	18,366	17,905	17,445	-46.1	-0.25	-46.1	-0.25	-46.1	-0.26

Source: Table compiled by the author based of figures from FAO (2020a).

The basic regional policy for sustainable management of forests in the SADC region is the Protocol on Forestry. It is a set of rules or principles agreed upon by the SADC member states on how to integrate and cooperate among themselves in order to commonly conserve and manage the SADC forests and woodlands for the benefit of the

17 FAO (2020a:136).

SADC people. The Protocol recognises the trans-boundary nature of these forests, the importance of transboundary management strategies, the vital role of forests in protecting water catchments particularly of shared water courses and understands that potential harm to these forests is not limited by national boundaries. One of the objectives of the protocol is the effective protection of the environment and the ways listed to achieve the objectives include “harmonising approaches to sustainable forest management, forest policy, legislation and enforcement...”.¹⁸ The guiding principles include the obligation of member states to “facilitate, promote and continually improve policy and legal frameworks that promote sustainable forest management”.¹⁹

Forests are home to a rich biodiversity, and millions of people live within the forests and woodlands, which directly support their livelihoods. Forest products from which the population can benefit include charcoal, honey, bush meat, and construction materials amongst many others. Thus, the transboundary conservation and management of forests are essential contributions to the protection and conservation of the environment and its biodiversity, and ultimately, to poverty alleviation. Regional approaches for policy harmonisation and transboundary forest conservation and sustainable use concepts are important mechanisms to attain regional integration. Recognising the essential role which forests play with regard to maintaining the earth’s climate, controlling floods and erosion, and as sources of food, wood and other forest products, the Protocol’s primary objective is to promote the development, conservation, sustainable management and utilisation of all types of forests and forest products in order to alleviate poverty and generate economic opportunities. To this end, the Protocol *inter alia* addresses issues of common concern including deforestation, genetic erosion, climate change, forest fires, pests, diseases, invasive alien species, and law enforcement.

Furthermore, states are called upon to facilitate the gathering and monitoring of information, and the sharing and dissemination of information, expertise and technology concerning forests; and to harmonise approaches to sustainable forest management, forest policy, legislation and enforcement, and issues of international concern. Trade and investment are to be promoted based on the sustainable management and utilisation of forests and the rights of communities are to be strengthened by facilitating their participation in forest policy development, planning, and management. The Protocol emphasises that traditional forest-related knowledge must be protected and requires mechanisms to ensure the equitable sharing of benefits from forest resources. SADC is currently in the process of drafting a SADC Regional Forestry Strategy and implementation plan.

18 Article 3(1)(f) of the Protocol.

19 Article 4(4) of the Protocol.

4.2.5 The Protocol on Health

The Protocol on Health was primarily adopted in order to enhance cooperation in addressing the health problems and challenges facing member states through effective regional collaboration and mutual support. As a clean environment can provide best for the health of the region's population, member states undertake to collaborate, cooperate and assist each other in a cross-sectoral approach in addressing regional environmental health issues and other concerns, including toxic waste, waste management, port health services, pollution of air, land and water, and the degradation of natural resources (Article 23).

Health largely depends on a minimum protection from diseases and unhealthy lifestyles. Many people in southern Africa are particularly vulnerable with regard to health threats as these threats are usually greater for poor people in rural areas, particularly children, women and indigenous groups due to malnutrition, insufficient access to health services, lack of clean water and other basic necessities.²⁰

4.2.6 The Protocol on Mining

The SADC region is extremely rich in natural resources, including minerals, which can contribute to accelerating economic and social development and growth. The Protocol on Mining *inter alia* strives to harmonise national and regional policies and strategies related to the development and exploitation of mineral resources through developing human and technological capacity, including collaboration between the mining industry and training institutions.

SADC states must ensure a balance between mineral development and environmental protection, including conducting environmental impact assessments (especially in shared systems and cross border projects), and sharing information on environmental protection and rehabilitation (Article 8). According to the 'fixed stock paradigm' mining is unsustainable because it is an unavoidable fact that resources will eventually be exhausted.²¹ According to the 'opportunity cost paradigm' mining can be sustainable because the costs caused by resource depletion will be counter-acted by new technology and future developments.²² With regards to the latter argument, foreign investment certainly plays a key part in the development of SADC's mining sector and effective mining policies and legal frameworks must ensure the best possible outcomes in terms of sustainability of the mining sector in the region.²³

20 UNEP (2016:9).

21 Tilton (2009:7).

22 Ibid.

23 Frick (2002:2).

4.2.7 The Revised Protocol on Shared Watercourses

The Revised Protocol on Shared Watercourses of the Southern African Development Community repeals and replaces the 1995 Protocol on Shared Watercourse Systems. This Protocol recognises international consensus on a number of concepts and principles related to water resource development and management in an environmentally sound manner. The policy acknowledges the Helsinki Rules, the UN Convention on the Law of the Non-Navigational Uses of International Watercourses and Agenda 21 concepts and facilitates the establishment of shared water agreements.²⁴ The scarcity of water restricts economic development and social upliftment in the SADC region.²⁵ Successfully managing water resources in southern Africa will contribute to reaching SADC's vision of sustainable development in the region.²⁶

The people of southern Africa call for a desirable future in which the region's environment is conserved among all the competing uses of water, recognising the constraints inherent in natural ecosystems so that the environment can be sustainably improved, used and managed in the spirit of social and environmental justice.

The Protocol aims to foster closer cooperation for judicious, sustainable and coordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation. In order to achieve the objective, this Protocol, by virtue of Article 2, seeks to promote and facilitate the establishment of shared watercourse agreements and shared watercourse institutions for the management of shared watercourses; advance the sustainable, equitable and reasonable utilisation of the shared watercourses; promote a coordinated and integrated environmentally sound development and management of shared watercourses; promote the harmonisation and monitoring of legislation and policies for planning, development, conservation, protection of shared watercourses, and allocation of the resources thereof; and promote research and technology development, information exchange, capacity building, and the application of appropriate technologies in shared watercourses management.

Recognising the principle of the unity and coherence of each shared watercourse, SADC states undertake to harmonise the water uses in the shared watercourses and to ensure that all necessary interventions are consistent with the sustainable development of all watercourse states and observe the objectives of regional integration and harmonisation of their socio-economic policies and plans. The utilisation of shared watercourses (including agricultural, domestic, industrial, navigational and environmental uses) within the SADC region is open to each watercourse state, in respect of the watercourses within its territory and without prejudice to its sovereign rights, in accordance with the principles contained in the Protocol.

24 See Ruppel / Bethune (2007).

25 SADC (undated).

26 Ibid.

Member states are obliged to respect the existing rules of customary or general international law relating to the utilisation and management of the resources of shared watercourses. According to Article 3.4 of the Protocol, member states commit themselves to maintain a proper balance between resource development for a higher standard of living for their people and conservation and enhancement of the environment to promote sustainable development.

Watercourse states in their respective territories undertake to utilise a shared watercourse in an equitable and reasonable manner taking into account the interests of the watercourse states concerned, consistent with adequate protection of the watercourse for the benefit of current and future generations, and they participate in the use, development and protection of a shared watercourse in an equitable and reasonable manner. Such participation includes both the right to utilise the watercourse and the duty to cooperate in the protection and development thereof, as provided in this Protocol. Furthermore, the Protocol states that member states have to take all appropriate measures to prevent the causing of significant harm to other watercourse states. Where significant harm is caused to another watercourse state, the state whose use causes such harm is to take all appropriate measures to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation. Disputes between member states regarding the interpretation or application of the provisions of the Protocol which are not settled amicably, are to be referred to the SADC Tribunal under the SADC Treaty.

The Protocol established several SADC water sector organs (Committee of Water Ministers, Committee of Water Senior Officials, Water Sector Coordinating Unit, and Water Resources Technical Committee and sub-committees) and shared watercourse institutions.

Various bilateral and multilateral water commissions within the SADC region have been established, which include the following:

- The Permanent Joint Technical Commission (PTJC) is an agreement between the governments of the People's Republic of Angola and the Republic of Namibia to endorse and affirm the old agreements between the colonial powers, Portugal and South Africa, in order to re-establish the Permanent Joint Technical Commission (PJTC) and the Joint Operating Authority on the Cunene River.
- The Joint Permanent Water Commission (JPWC) is an agreement between the governments of the Republic of Botswana and the Republic of Namibia on the establishment of a Joint Permanent Water Commission (JPWC). The agreement relates to water matters of common interest. The Commission concentrated its Policy and Legislative Review of Wetland Use and Management in Namibia activities mostly on the Kwando – Linyanti – Chobe River System, a tributary of the Zambezi River that forms the border between Botswana and Namibia in the eastern part of the Caprivi Region in Namibia, and included work on the Okavango River. The Commission became inactive due

to the Kasikili/Sedudu Island border dispute between Namibia and Botswana and the fact that the Permanent Okavango River Basin Water Commission (OKACOM), established in September 1994, took over the responsibility of advising the respective governments on issues and developments related to the Okavango River. The negotiations leading to the establishment of the Zambezi River Commission (ZAMCOM) further reduced the need for the JPWC to meet because the Kwando – Linyanti – Chobe River System is a tributary of the Zambezi River and can thus be included under the ZAMCOM.

- The Permanent Water Commission (PWC) is an agreement between the governments of the Republic of Namibia and the Republic of South Africa on the establishment of a Permanent Water Commission (PWC) on water matters of mutual interest, concentrating at present on the lower Orange River. This Commission is active and responsible for the development of the lower Orange River where it forms the common border between South Africa and Namibia.
- The Vioolsdrift and Noordoewer Joint Irrigation Scheme is an agreement between the governments of the Republic of South Africa and the Republic of Namibia on the Vioolsdrift and Noordoewer Joint Irrigation Scheme (on the lower Orange River). The agreement provides for the establishment of a Joint Irrigation Authority (JIA) responsible for the management of the joint irrigation scheme on both sides of the lower Orange River at Noordoewer in Namibia and Vioolsdrift in South Africa.
- The Permanent Okavango River Basin Water Commission (OKACOM) is an agreement between the governments of the Republic of Angola, the Republic of Botswana and the Republic of Namibia, on the establishment of a Permanent Okavango River Basin Water Commission (OKACOM). This Commission is active and the objective is to act as technical adviser to the parties on matters relating to the conservation, development and utilisation of water resources of common interest and to perform such other functions pertaining to the development and utilisation of such resources as the parties may agree to assign to the Commission. The vision of the Commission is to develop an integrated management plan for the Okavango Basin.
- The Orange-Senqu River Commission (ORASECOM) is an agreement between the governments of the Republic of Botswana, the Kingdom of Lesotho, the Republic of Namibia and the Republic of South Africa on the establishment of the Orange-Senqu River Commission (ORASECOM). This Commission is active and responsible for advising the governments on developments related to the Orange River Basin.
- The Zambezi River Commission (ZAMCOM) is an agreement between the governments of the Republic of Angola, the Republic of Botswana, the

Republic of Malawi, the Republic of Mozambique, the Republic of Namibia, the United Republic of Tanzania, and the Republic of Zimbabwe on the establishment of the Zambezi River Commission (ZAMCOM).

- The hosting agreement of the Secretariat for the Incomati and Maputo River Basins (Eswatini, Mozambique, and South Africa) have been signed and the Cuvélai Secretariat (Namibia and Angola) has been established.
- A Tri-Basin Cooperation Agreement of the Buzi, Pungwe, and Save (BU-PUSA) has been signed between Mozambique and Zimbabwe in 2019.

SADC's efforts in the water sector are implemented through the SADC Regional Strategic Action Plan (RSAP) for Integrated Water Resources Development and Management, currently in its fourth phase (RSAP IV).²⁷ Activities and outputs include the adoption of Shared River Basin Management Strategies/Plans, awareness-raising and communication on Integrated Water Resources Management and Development (IWRMD), as well as coordinated Guidelines for Implementation of the Protocol on Shared Watercourses.

4.2.8 The Protocol on Tourism

Considering that the tourism sector is one of the largest and fastest growing sectors in the region, the SADC Protocol on Tourism was primarily adopted to increase regional tourism trade and to utilise the wide range of natural, cultural and historical sites in the region as a means to achieve sustainable social and economic development. In order to achieve these objectives, the Protocol requires member states to better use resources through collective efforts and co-operation in an environmentally sustainable manner. Environmentally and socially sustainable tourism development based on sound management practices is to be promoted. The Protocol puts an emphasis on preserving the natural, cultural and historical resources of the region (Article 11).

Several instruments have been developed in the tourism sector such as guidelines for best practice, including: SADC Guidelines on the Establishment of Transfrontier Conservation Areas and for Tourism Concessions, and Guidelines for Community Engagement and Development of Cross-Border Tourism Products. Furthermore, the SADC Tourism Programme 2020 to 2030 has been published in 2019 "as a roadmap to guide and coordinate the development of a sustainable tourism industry in the region and to facilitate the removal of barriers to tourism development and growth."²⁸

27 SADC (2016).

28 SADC (2019b:2).

4.2.9 The Protocol on Trade

The primary objective of the Protocol on Trade is to liberalise intra-regional trade in goods and services to ensure efficient production within SADC, reflecting the dynamic comparative advantages of its members states, contributing towards the domestic, cross-border and foreign investment climate, and enhancing the development, diversification and industrialisation of the region. Environmental conservation is integrated in that the Protocol provides for general exceptions from the Protocol's principles in order to ensure the conservation of exhaustible natural resources and the environment (Article 9(h)). Furthermore, member states undertake to make compatible their respective standards-related measures, so as to facilitate trade in goods and services within SADC, without reducing the level of protection of human, animal or plant life or health, or of the environment (Article 17).

Regional trade can be a powerful source of economic growth. But trade does not automatically mean economic growth, let alone poverty reduction or sustainable development. The ability to benefit from regional trade and foreign investment is dependent on a number of factors, particularly the quality of the policies and institutions on the ground. Thus, trade should be considered a means to an end, but not as the end in itself. An effective SADC trade regime must first and foremost be friendly to the environment, address poverty reduction and promote sustainable development.

4.2.10 The SADC Protocol on Wildlife Conservation and Law Enforcement

The Protocol on Wildlife Conservation and Law Enforcement of SADC aims to establish within the framework of the respective national laws of each member state common approaches to the conservation and sustainable use of wildlife resources and to assist with the effective enforcement of laws governing those resources. The Protocol applies to the conservation and sustainable use of wildlife, excluding forestry and fishery resources. Each member state has to ensure the conservation and sustainable use of wildlife resources under its jurisdiction, and that activities within its jurisdiction or control do not cause damage to the wildlife resources of other states or in areas beyond the limits of national jurisdiction.

In line with Article 4 of the Protocol, appropriate policy, administrative and legal measures have to be taken to ensure the conservation and sustainable use of wildlife and to effectively enforce national legislation pertaining to wildlife. Cooperation among member states is envisaged to manage shared wildlife resources as well as any trans-frontier effects of activities within their jurisdiction or control. To achieve its overall objectives, the Protocol is to promote the sustainable use of wildlife, harmonise legal instruments governing wildlife use and conservation, enforce wildlife laws within, between and among member states, facilitate the exchange of information

concerning wildlife management, utilisation and the enforcement of wildlife laws, assist in the building of national and regional capacity for wildlife management, conservation and enforcement of wildlife laws, promote the conservation of shared wildlife resources through the establishment of trans-frontier conservation areas, and facilitate community-based natural resource management practices for management of wildlife resources.

The Protocol establishes the Wildlife Sector Technical Coordinating Unit; the Committee of Ministers responsible for Food, Agriculture and Natural Resources; the Committee of Senior Officials; and the Technical Committee. The Wildlife Conservation Fund is established by Article 11.

As per the Protocol and the SADC Programme for Transfrontier Conservation Areas,²⁹ several Transfrontier Conservation Areas (TFCAs) have been established³⁰ and defined as components of a large ecological region that includes the boundaries of two or more countries encompassing one or more protected areas as well as multiple resource use areas. The aim of establishing TFCAs is to collaboratively manage shared natural and cultural resources across national boundaries for improved biodiversity conservation and socio-economic development.

4.2.11 The SADC Protocol on Transport, Communications and Meteorology

Member states acknowledge that they are members of the World Meteorological Organisation (WMO) and, through their national meteorological services, constitute an integral part of the regional and global system or network of the WMO's programmes and structures, in particular the World Weather Watch programme (Article 12.1). Within the regional and international cooperative system of the WMO, members are encouraged to provide adequate legal frameworks and appropriate financial support to the national meteorological services to establish an integrated network of observation, data processing and communications systems; and enhance the provision of meteorological services for general and specialised applications in the region and

29 SADC (2019c).

30 The following TFCAs have been established, see SADC (2019c:4): /Ai/Ais - Richtersveld (Namibia/South Africa); Chimanimani (Mozambique/Zimbabwe); Great Limpopo (Mozambique/South Africa/Zimbabwe); Great Mapungubwe (Botswana/South Africa/Zimbabwe); Iona-Skeleton Coast (Angola/Namibia); Kagera (Rwanda/Tanzania/Uganda); Kavango Zambezi (Angola/Botswana/Namibia/Zambia/ Zimbabwe); Kgalagadi (Botswana/South Africa); Liuwa Plains-Mussuma (Angola/Zambia); Lower Zambezi-Mana Pools (Zambia/Zimbabwe); Lumombo (Mozambique/South Africa/Swaziland); Malawi-Zambia (Malawi/Zambia); Maloti-Drakensberg (Lesotho/South Africa); Mayombe Forest (Angola/Congo/DRC); Mnazi Bay-Quirimbas (Tanzania/Mozambique); Niassa-Selous (Mozambique/Tanzania); Western Indian Ocean (Comoros/France/Madagascar/Mauritius/Mozambique/Seychelles/Tanzania); ZIMOZA (Mozambique/Zambia/Zimbabwe).

internationally (Article 12.2). Such co-operation framework obliges member states to inter alia strengthen their weather and climate monitoring systems, improve public and specialised weather services, promote sustainable development with the emphasis on climate change and protection of the environment, and strengthen meteorology research capacity in the region. The Protocol emphasises that sustainable development is to be promoted with an emphasis on climate change and protection of the environment. These aims are to be achieved by means of strengthening the capabilities of national meteorological centres in climate applications and advice; enhancing existing environmental monitoring activities; optimising the use of regional structures; and fostering an awareness of the contributions which can be made by national meteorological centres to planning sustainable development in agriculture, forestry and related areas (Article 12.7).

4.3 SADC Vision 2050 and the Regional Indicative Strategic Development Plan (RISDP)

Apart from the Treaty and protocols, SADC also provides other instruments at different levels. These are not binding and do not require ratification by SADC member states.

4.3.1 SADC Vision 2050

Following a comprehensive consultative process, SADC's Vision 2050 was released in 2020 as a fundamental document aiming to foster regional cooperation and integration.³¹ Founded on peace, security, and good governance, three pillars have been identified for Vision 2050: Industrial development and market integration; infrastructure development in support of regional integration; and social and human capital development. Besides gender, youth, and disaster risk management, the environment and climate change are singled out as cross cutting issues and thus play a prominent role for Vision 2050. SADC member states commit themselves to realise strengthened climate change adaptation and mitigation as well as the sustainable utilisation and conservation of natural resources and an effective management of the environment.

31 SADC (2020a).

4.3.2 The Regional Indicative Strategic Development Plan (RISDP)

In 2001, the Heads of State and Government met at an Extraordinary Summit in Windhoek and approved the restructuring of SADC institutions by means of a Regional Indicative Strategic Development Plan (RISDP) which was approved by the SADC Summit in 2003. The RISDP reaffirms the commitment of SADC member states to good political, economic and corporate governance entrenched in a culture of democracy, full participation by civil society, transparency and respect for the rule of law. With regard to monitoring the implementation of the RISDP, the Summit exercises oversight through progress reports from the SADC Secretariat.

The focal point of the RISDP is thus to provide strategic direction with respect to SADC programmes and activities, and to align the strategic objectives and priorities of SADC with the policies and strategies for achieving its long-term goals. The RISDP is indicative in nature, merely outlining the necessary conditions that should be realised towards achieving those goals. The purpose of the RISDP is to deepen regional integration in SADC. The RISDP has identified gaps and challenges in the current policies and strategies, and used them to reorient those policies and strategies. In light of the identified gaps and challenges, Chapter 4 focuses on a number of priority intervention areas of both cross-sectoral and sectoral nature that are critical for the achievement of SADC's objectives, in particular in promoting deeper regional integration, integrating SADC into the world economy, promoting equitable and balanced development, eradicating poverty and promoting gender equality, protecting the environment and strengthening sustainable development.

In order to attain these goals, SADC embarked to harmonise policies, legal and regulatory frameworks for the free movement of factors of production and to implement policies to attain macroeconomic stability and build policy credibility. Although it has to be emphasised that the RISDP it is not a binding instrument, at every Summit in recent years member states reaffirmed their commitment to regional integration as per the RISDP, which has identified environment and development as cross-sectoral priority intervention areas, as environment and sustainable development present opportunities for the region to advance its programme of action in environment and natural resources management and forge harmonisation of and compliance with environmental policies, standards and guidelines by pursuing the strategic objectives outlined in the RISDP.³² With regard to environment and sustainable development, the RISDP has elaborated the following areas of focus:³³

- Creating the requisite harmonised policy environment, as well as legal and regulatory frameworks to promote regional cooperation on all issues relating

32 Cf. SADC (2003:66ff.).

33 Ibid.

to environment and natural resource management including trans-boundary ecosystems;

- Promote environmental mainstreaming in order to ensure the responsiveness of all SADC policies, strategies and programmes for sustainable development;
- Regular assessment, monitoring and reporting on environmental conditions and trends in the SADC region;
- Capacity building, information sharing and awareness creation on problems and perspectives in environmental management; and
- Ensuring a coordinated regional position in the negotiations and implementation of Multilateral Environmental Agreements (MEAs), and other agreements.

An internal desk assessment of the RISDP in 2011 which was approved by SADC Council in 2011 was followed by an independent mid-term review carried out and approved by Council in 2012 and 2013. In 2014 and 2015, a task force comprising the SADC Secretariat, all member states and key stakeholders developed and finalised the Draft Revised RISDP 2015-2020 and its Implementation Framework and Indicative Costs. In 2015, the SADC Summit approved the Revised Regional Indicative Strategy of Development Plan (RRISDP) and Implementation Framework of 2015-2020. The Revised RISDP comprised seven chapters with four priority areas (of which only the first priority area has been revised substantially as compared to the initial RISDP):

- Industrial development and market integration (with a focus on sustainable industrial development, productive competitiveness and supply side capacity; the free movement of goods and services; financial market integration and monetary cooperation; intra-regional investment and foreign direct investment; and stability oriented macroeconomic convergence);
- infrastructure in support of regional integration (covering the focus areas of water; energy; transport; tourism; information and communication technology; and meteorology);
- peace and security cooperation;
- special programmes of regional dimension (besides programmes already included in the initial RISDP on human resource development; health, HIV and AIDS and other communicable diseases; food security and transboundary natural resources; statistics; and
- gender equality; science, technology and innovation and research and development, special programmes in the revised RISDP also cover the topics of employment and labour; the environment; and a focus on the private sector).

In 2020, SADC's Regional Indicative Strategic Development Plan (RISDP) 2020 – 2030³⁴ was launched. In line with SADC's vision 2050, the environment and climate change have been identified as cross cutting issues around the strategic priorities industrial development and market integration, infrastructure development in support of regional integration and social and human capital development. RISDP 2020 – 2030 includes as strategic objectives strengthened climate change adaptation and mitigation with enhanced sector-based approaches towards developing climate change resilience and a reduced carbon footprint in the region as outcomes. Furthermore, the strategic objective of sustainable utilisation and conservation of natural resources and effective management of the environment envisages as outcome an improved management of the environment and the sustainable utilisation of natural resources. A third strategic objective related to environment and climate change is improved disaster risk management in support of regional resilience. Key interventions within these strategic objectives include among many others the operationalisation of SADC Climate Change Strategy and Action Plan and other regional and international instruments, the promotion of the use of climate-smart techniques and technological advancements, the implementation of the SADC Regional Green Economy Strategy, the monitoring of compliance with prioritised multilateral environment agreements, and the promotion of the ratification and domestication of the SADC Protocol on Environmental Management.

4.4 Selected Environmental Strategies and Declarations

4.4.1 The SADC Declaration on Agriculture and Food Security

With the 2004 Declaration on Agriculture and Food Security, Heads of State and Government gave substantial means to some specific objectives laid down in Article 5 of the SADC Treaty, namely the promotion of sustainable and equitable economic growth and socio-economic development to ensure poverty alleviation, with the ultimate objective of its eradication and the achievement of sustainable utilisation of natural resources and effective protection of the environment. With this Declaration, SADC member states committed themselves to promote agriculture as a pillar of strength in national and regional development strategies and programmes, in order to attain their short-, medium-, and long-term objectives on agriculture and food security.

The Declaration covers a broad range of human-rights-relevant issues including the sustainable use and management of natural resources and human health. This is because increasing temperatures and declining precipitation in the region resulting from climate change are likely to reduce yields for primary crops in the next decades, changes which will have a substantial impact on food security in SADC, although the

34 SADC (2020b).

extent and nature is still uncertain.³⁵ Periods of drought and flooding will have an impact on food availability, food access, and on nutrient access.³⁶ It is predicted that the impacts of climate change, such as sea-level rise, droughts, heat waves, floods and rainfall variation, could push millions of people into malnutrition and increase the number of people facing water scarcity.³⁷

4.4.2 The SADC Charter of Fundamental and Social Rights

The 2003 Charter of Fundamental and Social Rights in SADC, although not legally binding, is an important human rights document that specifies the objectives laid down in Article 5 of the SADC Treaty for the employment and labour sector. The Charter enshrines the right to a safe and healthy environment, among others. To mobilise the policy value, and indeed the legal force, of a right to a safe and healthy environment in the SADC regime requires the introduction of likely human rights impacts and outcomes. For instance, are the specific rights potentially affected by climate change – the rights to food, water, shelter, and health or rights associated with gender, children and indigenous peoples – addressed in context? The right to a safe and healthy environment become highly relevant to the design and implementation of approaches to adverse environmental effects in policy and legal terms. This dimension includes arguments based on human rights obligations of SADC members under a variety of international law instruments. These range from the integration of human rights into country strategies in terms of priority entitlements or more procedural rights that are relevant to the design and implementation of national policies (e.g. right to information, participation, or access to decision-making). Recognition of the link between the abuse of the human rights of various vulnerable communities and related damage to their environment is expressed in the concept environmental justice.³⁸ Internationally, the experience of courts that have been asked to decide on cases with regard to environmental rights shows that the judiciary is crucial when it comes to interpreting existing law and policy in a way that takes into account environmental concerns. In the 2009, South African case of *Lindiwe Mazibuko and Others v City of Johannesburg and Others*, O’Reagan J held that³⁹

[t]he purpose of litigation concerning the positive obligations imposed by social and economic rights should be to hold the democratic arms of Government to account through litigation. In so doing, litigation of this sort fosters a form of participative democracy that holds Government accountable and requires it to account between elections [for] specific aspects of Government

35 Boko *et al.* (2007); Niang / Ruppel (2014:1202).

36 Ziervogel *et al.* (2006b); Niang / Ruppel (2014:1221).

37 Niang / Ruppel (2014:1217).

38 Ruppel (2010h:323).

39 *Lindiwe Mazibuko and Others v City of Johannesburg and Others* Case CCT 39/09 [2009] ZACC 28.

policy. When challenged as to its policies relating to social and economic rights, the Government agency must explain why the policy is reasonable.

The aforementioned reasoning does not only apply to the domestic level and should thus in future also be considered on the regional level. This shall become even clearer in the passage below dealing with SADC law enforcement and relevant case law.

4.4.3 SADC Climate Change Strategy and Action Plan

The SADC Climate Change Strategy and Action Plan (2015-2020) has been drafted to “provide a regional framework for collective action and enhanced cooperation in addressing climate change issues in order to improve local livelihoods, achieve sustainable economic growth and contribute fairly towards preserving a global good”.⁴⁰ Its objectives include the reduction of vulnerability and the managing of risks related to climate change and climate induced extreme events through the effective implementation of adaptation programmes; the promotion of the reduction of greenhouse gas emissions at below business as usual levels taking into consideration the respective capabilities of member states; and the enhancement of the region’s ability and capacity to mobilise resources, access technology and build capacity to facilitate adaptation and mitigation actions.

4.4.4 SADC Regional Biodiversity Strategy

The SADC Regional Biodiversity Strategy was signed in 2008 to provide guidelines that build the region’s capacity to implement provisions of the Convention on Biological Diversity and to provide a framework for obtaining regional consensus on key biodiversity issues. Its vision is to conserve biodiversity within SADC and “to sustain the region’s economic and social development in harmony with the spiritual and cultural values of its people. Its goal is to promote equitable and regulated access to, sharing of benefits from, and responsibilities for protecting biodiversity in the SADC region.”⁴¹

40 SADC (2015:12).

41 SADC (2008).

4.4.5 SADC Law Enforcement and Anti-Poaching Strategy

The SADC Law Enforcement and Anti-Poaching Strategy (LEAP) was adopted in 2017.⁴² The objective of this Strategy is to reduce the level of poaching and illegal trade in wildlife fauna and flora and enhance law enforcement capacity in the SADC Region. The focus of the Strategy is on enhancing legislation and judicial processes, the reduction of wildlife crime and illegal trade and the improvement of field protection among others. A Regional Wildlife Crime Prevention and Coordination Unit (WCPCU) has been established as per the Strategy and the SADC Trade in Wildlife Information eXchange (TWIX) System has been launched.

4.5 The SADC Judicial Body

Given that, in the legal sense, only provisions of a binding nature can be enforced, the SADC Treaty and its protocols are pivotal to enforcing environmental provisions within SADC. The binding nature of such legal provisions is intrinsically linked to enforcement and dispute settlement mechanisms, which is why judicial bodies are created. Under the legal umbrella of SADC, such a judicial body was conceived in the form of the SADC Tribunal.

4.5.1 The SADC Tribunal: The Beginnings

The SADC Tribunal was established in 1992 by Article 9 of the SADC Treaty as the judicial institution within SADC. The inauguration of the Tribunal and the swearing in of its members took place in November 2005 in Windhoek, Namibia. The Council designated the seat of the Tribunal to be in Windhoek. The judicial body began hearing cases in 2007. No case dealing specifically with environmental issues has been received.

Originally, the Tribunal was established to have the mandate to adjudicate disputes between states and between natural and legal persons in SADC and to have jurisdiction over all matters provided for in any other agreements that member states may conclude among themselves or within the community and that confer jurisdiction on the Tribunal.⁴³ In this context, the SADC Tribunal also had jurisdiction over any dispute arising from the interpretation or application of environmentally relevant Protocols. The Tribunal was primarily set up to resolve disputes arising from closer economic and

42 See <https://bit.ly/34Diphm>, accessed 14 February 2022.

43 Article 15(2) of the Protocol on the Tribunal and Rules of Procedure thereof.

political union.⁴⁴ However, the Tribunal in the 25 cases it heard between its operationalisation in 2007 and 2010, has demonstrated⁴⁵ that it could also be called upon to consider the human rights implications of economic policies and programmes.

4.5.2 The *Campbell* Case

The following case with reflects the promising beginnings of the SADC Tribunal before it had been cut its wings. It is to be seen as decisive trigger in the saga around the SADC Tribunal and it is as such of utmost importance for judicial developments within the SADC.⁴⁶

In 2005, the Constitution of Zimbabwe was amended. The Constitutional Amendment (No. 17) Act 2005 allowed the Government to seize or expropriate farmland without compensation, and it bars courts from adjudicating on legal challenges filed by dispossessed and aggrieved farmers. The practical implications of the Amendment Act resulted in farm seizures, where the majority of the approximately 4,000 white farmers were forcibly ejected from their properties with no compensation being paid for the land. On 11 October 2007, Mike Campbell (Pvt) Ltd, a Zimbabwean-registered company, and others instituted a case with the SADC Tribunal to challenge violations by the expropriation of agricultural land in Zimbabwe by that country's Government. Mike Campbell had purchased the farm in question on the open market in 1980, after Zimbabwe's Independence.

The Zimbabwean Constitutional Amendment (No. 17) Act 2005 allowed the government to seize or expropriate farmland without compensation, and it bars courts from adjudicating over legal challenges filed by dispossessed and aggrieved farmers. The practical implications of the Amendment Act resulted in farm seizures, where the majority of the approximately 4,000 white farmers were forcibly ejected from their properties with no compensation being paid for the land. The only compensation the government paid was for developments on the land such as dams, farm buildings and other improvements.

Section 16B of the Zimbabwean Constitution deprives affected landowners of their right to seek remedy within domestic courts.⁴⁷ In fact, when the applicants in this case approached the SADC Tribunal seeking an interim order in terms of Article 28 of the

44 Viljoen (2007:503).

45 *Mike Campbell and Another (PVT) Limited v The Republic of Zimbabwe* SADC (T) 2/2007 (cited hereafter as the *Campbell* case).

46 For more information on the SADC Tribunal and the *Campbell* Case see for example De Wet (2020), Phooko / Nyathi (2019), Ruppel (2012a, 2011a, 2009a, b, c, k), Ruppel / Bangamwabo (2008) and Ruppel / Ruppel-Schlichting (2017b).

47 Section 16B(3) of the Zimbabwean Constitution reads as follows: "(...) [A] person having any right or interest in the land (expropriated land) shall not apply to court to challenge the acquisition of the land by the state, and no court shall entertain such challenge (...)".

Protocol as read with Rule 61(2) and (5) of its Rules of Procedure, the respondent state argued that the application had not been properly placed before the Tribunal in that the applicants had not exhausted local remedies in terms of Article 15(2) of the Protocol.⁴⁸ When the matter was filed with the Tribunal in 2007, the Supreme Court of Zimbabwe, sitting as a Constitutional Court, was still dealing with the constitutional challenge of Section 16B of the Zimbabwean Constitution brought by the same applicants.⁴⁹ The relief being sought from the highest court in Zimbabwe was similar to that which the applicants sought from the SADC Tribunal. However, the Tribunal held as follows:⁵⁰

Referring to the issue of failure to exhaust local remedies by applicants, we are of the view that the issue is not of relevance to the present application but that it may only be raised in the main case. It may not be raised in the present case in which applicants are seeking an interim measure of protection pending the final determination of the matter.

It was put forward by Campbell that the constitutional amendments behind the farm seizures were contrary to SADC statutes, and that the Supreme Court of Zimbabwe had failed to rule on an application by Campbell and other white Zimbabwean commercial farmers to have the race-based acquisition declared unlawful.⁵¹ On 13 December 2007, the SADC Tribunal ruled that Campbell should remain on his farm until the dispute in the main case had been resolved by the Tribunal.⁵² The main hearing before the SADC Tribunal originally scheduled for 28 May 2008 was postponed until 16 July 2008. In the meantime, Campbell and members of his family were brutally beaten up on their farm in Zimbabwe and allegedly forced to sign a paper declaring that they would withdraw the case from the SADC Tribunal.⁵³ On 18 July 2008, applicants and other interveners in the *Campbell case* made an urgent application to the Tribunal seeking a declaration to the effect that the respondent state was in breach and contempt of the Tribunal's orders.

After hearing the urgent application, the Tribunal found that Zimbabwe was indeed in contempt of its orders. Consequently, and in terms of Article 32(5) of the Protocol, the Tribunal decided to report the matter to the SADC Summit for the latter to take appropriate action. On 28 November 2008 the SADC Tribunal in its final decision ruled in favour of Mike Campbell and 78 other white commercial farmers. In its decision the Tribunal held that the Republic of Zimbabwe was in breach of its obligations

48 *Mike Campbell (Pvt) Ltd and others v the Republic of Zimbabwe*, SADC (T) Case No. 2/2007. Interim order dated 13 December 2007.

49 *Mike Campbell (Pvt) Ltd. and Another v Minister of National Security Responsible for Land, Land Reform and Resettlement 2008* ZWSC 1 (124/06) (22 January 2008).

50 *Mike Campbell (Pvt) Ltd and others v the Republic of Zimbabwe*, SADC (T) Case No. 2/2007. Interim order dated 13 December 2007.

51 Grebe (2008aa).

52 Cf. Campbell Interim order (13 December 2007). This interim relief was also applied for by and granted to other applicants/interveners on 28 March 2008; cf. cases SADC (T) 03/08, 04/08 and 06/08.

53 Grebe (2008b).

under Articles 4(c) and 6(2) of the SADC Treaty and that the applicants had been denied access to the courts in Zimbabwe; the applicants had been discriminated against on the ground of race;⁵⁴ and fair compensation had to be paid to the applicants for their lands compulsorily acquired by the Republic of Zimbabwe. The Tribunal further directed the Republic of Zimbabwe to take all necessary measures to protect the possession, occupation and ownership of the lands of those applicants who had not yet been evicted from their lands, and to pay fair compensation to those who had already been evicted.

The ruling was considered to be a landmark decision to influence the legal landscape in the SADC region.⁵⁵ Despite the rule that the Tribunal's decisions are final and binding,⁵⁶ at the beginning of 2009 the Zimbabwean government announced that it would not accept the Tribunal's judgement in the Campbell case.⁵⁷ Subsequently, the farm of Mike Campbell was invaded.⁵⁸

On 7 May 2009, an urgent application was filed with the Tribunal, seeking, in substance, a declaration to the effect that the respondent was in breach and contempt of the Tribunal's decision of 28 November 2008 in the *Campbell* matter. In its decision on 5 June 2009,⁵⁹ the Tribunal noted "that the respondent has not taken part in the proceedings since, as learned Counsel for the respondent has put it, he lacks instructions from the respondent". The Tribunal further held that "the applicants have adduced enough material to demonstrate that the existence of a failure on the part of the respondent and its agents to comply with the decision of the Tribunal has been established".

54 The issue of racial discrimination was decided by a majority judgement (4 to 1). Judge O.B. Tshosa, in his dissenting opinion, concluded that 'Amendment 17 does not discriminate against the applicants on the basis of race and therefore does not violate the respondent obligation under Article 6(2) of the Treaty'. He argues that 'the target of Amendment 17 is agricultural land and not people of a particular racial group and that – although few in number – not only white Zimbabweans have been affected by the amendment'. Cf. *Mike Campbell (Pvt) Ltd and Others v The Republic of Zimbabwe* SADC (T) Case No. 2/2007.

55 Ruppel (2009j).

56 SADC Treaty, Article 16(5).

57 On 28 February 2009, Zimbabwe's President Robert Mugabe said that "[t]here is no going back on the land reforms", and that "[s]ome formers went to the SADC tribunal in Namibia but that's nonsense, absolute nonsense, no one will follow that ... We have courts here in this country that can determine the rights of people. Our land issues are not subject to the SADC tribunal". See *The Namibian* (2009a).

58 On 25 February 2009, Michael Campbell and his wife had to leave the farm in fear of their safety after a group of two vehicles led by Peter Chamada, nephew of Cabinet Minister Nathan Shamuyarira, claiming to be from the Lands Office, came to the farm and said that they did not care about the law or the police, and that they had come to take over the land. Cf. *The Namibian* (2009b).

59 *Campbell v The Republic of Zimbabwe* SADC (T) Case No. 03/2009 1 (5 June 2009).

Late President Robert Mugabe, in the course of his 2009 birthday celebrations, then qualified the Tribunal's decision as 'nonsense' and 'of no consequence'.⁶⁰ Zimbabwe has not been censured by the Summit over its controversial land reform programme. Despite the Tribunal's rulings in the Campbell case, seizures of white-owned farms have continued. The Campbell farm has been robbed on numerous occasions and in August / September 2009, the homesteads of Mike Campbell and his son-in-law Ben Freeth, respectively, were destroyed by fire.⁶¹

4.5.3 Suspension of the SADC Tribunal and Subsequent Developments

Surprisingly, the SADC Heads of State and Government suspended the Tribunal during 2010. In all probability, this was linked to the continued non-compliance by Zimbabwe with the Tribunal's judgments. It was decided that "a review of the role, functions and terms of reference of the SADC Tribunal should be undertaken and concluded within six months".⁶²

In August 2010, the SADC committee of justice ministers and attorney generals was tasked to examine the role and functions of the Windhoek-based Tribunal and also the implications of a member state ignoring its rulings. The Tribunal was at this stage temporarily suspended as Summit also instructed that the SADC Tribunal may not hear new cases until the role, functions and terms of reference of the Tribunal have been reviewed.⁶³ A consultancy firm was then appointed to review the operations of the SADC Tribunal. The study *inter alia* addressed the role and functioning of the Tribunal, its jurisdiction, the interface with national laws in SADC, the mandate of the existing appeals chamber of the Tribunal, the recognition and enforcement of the Tribunal's decisions, the qualifications and the process of nomination and appointment the SADC Tribunal Judges, the legal status of the SADC Tribunal Protocol and the overall role and functioning of the Tribunal, focusing in particular on practical aspects of its effectiveness.

What is important to note is that this independent review had been commissioned, extensive consultations conducted and, the recommendations discussed by stakeholders before being amended and unanimously approved by SADC Senior Law Officials at their meeting held in April 2011 in Swakopmund, Namibia. Shortly thereafter,

60 And on 26 January 2010, the Zimbabwean High Court ruled that the Tribunal's decision could not be enforced at national level as this would be in contradiction to the Constitution of Zimbabwe. See *Gramara (Pvt) Ltd and Colin Bailie Cloete v The Government of the Republic of Zimbabwe*, High Court of Zimbabwe decision dated 26 January 2014.

61 Raath (2009).

62 See SADC Communiqué of the 30th Jubilee Summit of SADC Heads of State and Government, 17 August 2010; <https://bit.ly/3w4KXsf>, accessed 14 May 2021.

63 Ndlovu (2011).

however, SADC Ministers of Justice and Attorney Generals again started to question the review.

At an Extraordinary Summit of Heads of State and Government in May 2011, the following was decided:⁶⁴

- The Summit reiterated the moratorium on receiving any new cases or hearings of any cases by the Tribunal until the SADC Protocol on the Tribunal has been reviewed and approved;
- the Summit decided not to reappoint members of the Tribunal whose term of office expired on August 31, 2010;
- the Summit decided not to replace members of the Tribunal whose term of office will expire on October 31, 2011; and
- the Summit mandated the Ministers of Justice/Attorneys General to initiate the process aimed at amending the relevant SADC legal instruments and submit a progress report at the Summit in August 2011 and the final report to the Summit in August 2012.

These decisions have been subject to critical debate.⁶⁵ With its decisions, the SADC Summit decided against its original duty to support its Tribunal in the judgment it had provided in the Campbell case. It decided not to take appropriate action against Zimbabwe's non-compliance but rather defer consideration of the matter by questioning the legitimacy of its own legal framework. At the 32nd Session of the Summit of the Heads of State and Government in 2012, it was *inter alia* concluded as follows:

24. Summit considered the Report of the Committee of Ministers of Justice/Attorneys General and the observations by the Council of Ministers and resolved that a new Protocol on the Tribunal should be negotiated and that its mandate should be confined to interpretation of the SADC Treaty and Protocols relating to disputes between Member States.

De facto, the aforementioned decision meant a drastic limitation of the competence (if not paralysis) of the SADC Tribunal as it was initially provided with the competence to deal with proceedings initiated by private parties against either the community or member states. Without the competence to deal with proceedings initiated by private parties the new SADC Tribunal will only operate with its wings cut and most likely become unemployed, due to the fact that basically all proceedings before the old SADC Tribunal had so far been initiated by natural or legal persons. Instead of strengthening the mandate of the new SADC Tribunal it has been weakened at the cost of national sovereignty thinking. The fear of loss of state autonomy, the lack of vision

64 Communiqué of the Extraordinary Summit Heads of State and Government of the Southern Africa Development Community Windhoek, Republic of Namibia, 20 May 2011. At <http://www.swradioafrica.com/Documents/SADCsummit240511.pdf>, accessed 14 May 2021.

65 For a critical view on these decisions see for example Pillay (2011) as well as the letter to the Executive Secretary of SADC by former president and members of the SADC Tribunal dated 13 June 2011 available at <http://www.az.com.na/fileadmin/pdf/2011/az/SADC-Letter-06-24-11.pdf>, accessed 10 May 2012.

and the unwillingness to compromise are obstacles that prompted SADC to decide against strengthening SADC citizens' rights in the regional community.

Since then, the Tribunal in its original form remained suspended. In August 2014, the SADC Council of Ministers have considered and approved a draft new Protocol on the SADC Tribunal and recommended it to Summit for further consideration, approval and signature.⁶⁶ Not only with regard to the variety of binding SADC Protocols with an environmental impact, the revival of the Tribunal would have been an important step towards the development of environmental jurisprudence at the African sub-regional level. However, the draft Protocol for the Tribunal limits its competence, as it was initially provided with the competence to deal with proceedings initiated by private parties against either the community or member states.

4.5.4 The SADC Administrative Tribunal (SADCAT)

At its 35th Summit held in Gaborone, Botswana in August 2015, the SADC Heads of State and Government approved a resolution on the establishment of the Southern African Development Community Administrative Tribunal (SADCAT), which at present is the only operational judicial body within the SADC.⁶⁷ The SADCAT's tasks are limited to resolving labour disputes between the SADC Secretariat and SADC employees. Following the creation of SADCAT, seven SADCAT judges have been appointed by the SADC Council of Ministers in March 2017. The SADCAT is based in Gaborone, Botswana and has heard five cases from 2018 to 2020.

4.5.5 Revival of the SADC Tribunal?

The decision of SADC Heads of States to suspend the SADC Tribunal has subsequently been questioned in national courts.⁶⁸ The Constitutional Court of South Africa ruled that the decision by former President Jacob Zuma to sign on behalf of South Africa the decision to suspend the tribunal was unconstitutional, irrational and unlawful.⁶⁹ According the court, this amounted to denial of justice and human rights

66 See Outcome of the SADC Council of Ministers Meeting held on 14-15 August 2014 at Victoria Falls, Zimbabwe. At http://www.sadc.int/files/2314/0821/8588/Outcome_of_the_Council_of_Ministers_meeting_of_August_14_and_15_2014L.pdf, accessed 14 May 2021.

67 See Communiqué of the 35th Summit of SADC Heads of State and Government held in Gaborone, Botswana 17-18 August 2015. At <https://bit.ly/3rNKM5n>, accessed 14 February 2022.

68 For a critical discussion of the controversial role of litigation in the struggle to revive individual access to the SADC Tribunal See De Wet (2020). See also Phooko / Nyathi (2019).

69 *Law Society of South Africa and Others v President of the Republic of South Africa and Others* (CCT67/18) [2018] ZACC 51; 2019 (3) BCLR 329 (CC); 2019 (3) SA 30 (CC) (11 December 2018).

protection and it was ordered that the President must withdraw South Africa's signature. At the SADC Summit in Dar es Salaam in 2019, South African President Cyril Ramaphosa withdrew South Africa's signature from the 2012 decision. The High Court in Tanzania in a similar case ruled that undermining the operational capacity of the Tribunal was contrary to the principle of the rule of law, which is essential for the protection of human rights, democracy and good governance and thus a violation of the right to a fair hearing before an independent tribunal as entrenched in the SADC Treaty.⁷⁰ Whether the tribunal will be reinstated - and if so, under what conditions and with what mandate - remains to be seen. SADC's vision includes a common future that will ensure economic and social well-being for all the people of Southern Africa.⁷¹ The objectives of the SADC Treaty in particular include "promotion and equitable economic growth and socio-economic development that will ensure poverty alleviation with the ultimate objective of its eradication".⁷² Although a basic legal framework is in place, these objectives stand largely unfulfilled at present. Unsustainable development in SADC is a reality due to "economic and sectoral policies which are too narrowly conceived and focused and which neglect the negative consequences on the people and the environment."⁷³ Other obstacles in SADC include "duplication and fragmentation of authority" and "institutional failure (...) caused by policies that are not backed up by legislation and therefore cannot be legally enforced".⁷⁴

The SADC legal framework provides for a broad bandwidth of provisions with high relevance for environmental protection and it cannot be overemphasised that the rule of law, good governance and the protection of the environment play an essential role in economic development which again contributes to growth, productivity and employment creation, all being essential for sustainable reductions in poverty. However, a major part of any successful legal strategy towards sustainable development includes enforcement. The rule of law means nothing without effective access to justice, without compliance with and enforcement of judgments made by legitimate courts.

70 *Tanganyika Law Society v Ministry of Foreign Affairs and International Cooperation of the United Republic of Tanzania and others* (2019) 23 of 2014 (High Court).

71 Cf. <https://www.sadc.int/about-sadc/overview/sadc-vision/>, accessed 14 May 2021.

72 Article 5 Amended Declaration and Treaty of SADC 1992.

73 Susswein (2003:297).

74 *Ibid.*:303.

PART III:
ENVIRONMENTAL MANAGEMENT,
WASTE AND POLLUTION

Chapter 8: Environmental Management in Namibia

Katharina Ruppel-Schlichting

1 Introduction

Environmental management is concerned with taking charge and controlling the biological and physical elements of our surroundings including land, air, water, plants and animals. Environmental management has been defined as¹

a multi-layered process associated with the interactions of state and non-state environmental managers with the environment and with each other. Environmental managers are those whose livelihoods are primarily dependent on the application of skill in the active and self-conscious direct or indirect, manipulation of the environment with the aim of enhancing predictability in a context of social and environmental uncertainty.

Undertaking environmental management can bring about higher standards of safety and security (e.g. by addressing global warming as a cause for environmental disasters) and benefits to the lifestyle of people (e.g. by protecting the quality of water resources in order to preserve fish stocks as a source of food). The reduction of costs by improving environmental performances (optimising process efficiency minimises the use of raw materials and energy and the amount of waste production) and the minimisation of environmental risks are considered to be further advantages of environmental management.

In the absence of environmental management, people will be more vulnerable to natural disasters and development is unlikely to be sustainable.² One main objective of environmental management is thus to work towards ecologically sustainable development.

Several principles guide all environmental management processes. Generally, the principles which are captured in major international environmental agreements, such as the Stockholm Declaration and the Rio Declaration also govern processes of environmental management. Of particular relevance for environmental management are the following principles:³

- The principle of responsibility for environmental harm entails firstly the duty to prevent environmental damage and secondly, to compensate for any environmental damage caused.⁴

1 Wilson / Bryant (1997:7).

2 Barrow (2005:19).

3 See Principle 16 of the Rio Declaration.

4 See Principles 21 and 22 of the Stockholm Declaration and Principles 2 and 13 of the Rio Declaration. International judicial bodies have recognised this principle, for example in the Case on

- Intergenerational equity is another principle important for environmental management. It aims to ensure that the needs of the present generation are met without compromising the ability of future generations to meet their own needs.⁵
- The precautionary principle provides that if an action has a suspected risk of causing harm, in the absence of scientific consensus that the action is not harmful, the burden of proof that it is not harmful falls on those taking the action. Lack of full certainty about social or environmental threats should thus not be used as a reason for approving any planned action.⁶
- The polluter pays principle states that the cost of avoiding or compensating for social impacts should be borne by the person having caused the environmental harm.

Environmental principles that are generally accepted are to avoid or minimise waste and pollution; to minimise the use of natural resources, non-renewable resources in particular; and to protect biodiversity.

Governments, industry and institutions make use of a number of environmental management tools to address environmental problems, including but not limited to the following:⁷

- Public participation ensures that the public is involved in decision-making by having access to relevant information and by being granted the opportunity to provide input. Stakeholders must have the opportunity to influence decisions that have an environmental component.
- Monitoring compliance ensures compliance with relevant environmental legislation, regulations and other requirements is the cornerstone of making any environmental management processes effective.
- Environmental impact assessment serves as a tool to identify the environmental, social and economic impacts of a project prior to decision-making.
- Strategic environmental assessment is an environmental management tool that usually covers a wider range of activities (it might be applied to an entire sector) or a wider (geographical) area and often over a longer time span than the environmental impact assessment of projects.
- Social impact assessment is applied to analyse, monitor and manage the social consequences (e.g. consequences on human life, livelihoods and human settlements) of development.

the *Legality of the Threat or Use of Nuclear Weapons* decided by the International Court of Justice.

5 See Principle 2 of the Stockholm Declaration and Principle 3 of the Rio Declaration.

6 See Principle 15 of the Rio Declaration.

7 See Thompson (2005) and Nhamo / Inyang (2011) for more details.

- Environmental management system consists of a number of interrelated processes and practices such as review, analysis, evaluation and monitoring that function together to achieve the objective of effective environmental management.
- Environmental auditing is a systematic assessment of Government, institutional and corporate management systems, practices and policies as they affect the environment.
- Environmental labelling is used to provide information about the environmental impact of a product. Environmental labelling schemes award an environmental label to those products that are judged to be less harmful to the environment than others within the same product group.
- Environmental policies signal a commitment to environmental management and can prepare the way for further environmental management activities. Environmental policies set out the aims and intentions with respect to the environment.
- Environmental reporting is the communication of environmental management initiatives to improve environmental performance to the outside world, e.g. by way of publishing an environmental report.

In Namibia, the legal foundation for environmental management is the Environmental Management Act No. 7 of 2007 (EMA). In 2012, the Environmental Impact Assessment Regulations (The EIA Regulations) have been made and gazetted by the Ministry of Environment and Tourism (MET).⁸ The general features of environmental management as sketched above are mirrored in the EMA, as will be outlined in the following sections.

2 The Environmental Management Act No. 7 of 2007

This important piece of Namibian environmental legislation has been enacted to promote the sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment. The Act provides for the establishment of a Sustainable Development Advisory Council and the appointment of the Environmental Commissioner and environmental officers. Furthermore, the EMA provides for a process of assessment and control of activities which may have significant effects on the environment.

The EMA was gazetted in 2007⁹ and came into force in 2012.¹⁰ It governs all processes related to environmental management and lays down the institutional structures

8 See Government Notice No. 30, Government Gazette No. 4848 (2012).

9 See Government Notice No. 232, Government Gazette No. 3966 (2017).

10 See Government Notice No. 28, Government Gazette No. 4878 (2012).

and legal mechanisms to further the national environmental interest and to ensure that environmental considerations are taken into account in public and private activities and decision-making. The scope of application of the EMA is wide ranging as it functions as framework legislation, covering all sectors of environmental law. The objective of the Act is laid down in its Section 2:

The object of this Act is to prevent and mitigate, on the basis of the principles set out in section 3, the significant effects of activities on the environment by -

- (a) ensuring that the significant effects of activities on the environment are considered in time and carefully;
- (b) ensuring that there are opportunities for timeous participation of interested and affected parties throughout the assessment process; and
- (c) ensuring that the findings of an assessment are taken into account before any decision is made in respect of activities.

2.1 Environmental Management Principles in the EMA

The principles of environmental management have to be applied by Government institutions and private persons including companies, institutions and organisations, when doing or planning things, which may have a significant effect on the environment. These building the cornerstone of the EMA are well elaborated in Section 3(2) and reflect the general principles of environmental law as already developed on international level, and contained in various international environmental texts such as the Stockholm or the Rio Convention:

- (a) Renewable resources must be used on a sustainable basis for the benefit of present and future generations;
- (b) community involvement in natural resources management and the sharing of benefits arising from the use of the resources, must be promoted and facilitated;
- (c) the participation of all interested and affected parties must be promoted and decisions must take into account the interest, needs and values of interested and affected parties;
- (d) equitable access to environmental resources must be promoted and the functional integrity of ecological systems must be taken into account to ensure the sustainability of the systems and to prevent harmful effects;
- (e) assessments must be undertaken for activities which may have a significant effects on the environment or the use of natural resources;
- (f) sustainable development must be promoted in all aspects relating to the environment;
- (g) Namibia's cultural and natural heritage including, its biological diversity, must be protected and respected for the benefit of present and future generations;
- (h) the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term must be adopted to reduce the generation of waste and polluting substances at source;
- (i) the reduction, re-use and recycling of waste must be promoted;

- (j) a person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage;
- (k) where there is sufficient evidence which establishes that there are threats of serious or irreversible damage to the environment, lack of full scientific certainty may not be used as a reason for postponing cost-effective measures to prevent environmental degradation; and
- (l) damage to the environment must be prevented and activities which cause such damage must be reduced, limited or controlled.

The above principles provide a high potential for decision-makers and for courts to develop a foundation for good environmental governance in Namibia.

2.2 Ministerial Competencies

The EMA assigns general functions to Minister of Environment (Forestry) and Tourism in Section 4. The functions are to

- (a) determine policies for the management, protection and use of the environment;
- (b) prepare and publish policies, strategies, objectives and standards for the management and protection of the environment;
- (c) co-ordinate environmental management at national level; and
- (d) monitor and ensure compliance with this Act.

Giving effect to international agreements by way of legislation or regulations is a further competence of the Minister laid down in Section 48. Regulations pertaining to the contents of the EMA are made by the Minister according to Section 56. Most importantly, the Ministry of Environment (Forestry) and Tourism under Section 56 of the EMA has drafted the EIA Regulations.¹¹ Furthermore, the Minister has certain powers with regard to waste as provided in Section 5. The Minister is the instance of appeal for decisions of the Environmental Commissioner in the exercise of any power in terms of the EMA.

11 See Government Gazette no. 4878 (2012), Notice No. 30.

2.3 Institutions / Officials under the EMA

The EMA provides for the following institutions / officials:

- The Sustainable Development Advisory Council (Sections 6 to 15);
- the Environmental Commissioner (Sections 16 and 17);
- Environmental Officers (Section 18).

The EMA provides for a Sustainable Development Advisory Council to be established to advise the Minister on issues that promote cooperation and coordination between organs of state, non-governmental organisations, community-based organisations, the private sector and funding agencies, on environmental issues relating to sustainable development. The Sustainable Development Advisory Council consists of members drawn from both Government and the private sector and the first Council has been inaugurated in January 2013.¹² The Council advises the Minister on the development of a policy and strategy for the management, protection and use of the environment, and on the conservation of biological diversity, access to genetic resources in Namibia, and the use of components of the environment, in a way and at a rate that does not lead to the long-term decline of the environment. According to Section 15, the Sustainable Development Advisory Council must prepare an annual report on its activities to be tabled in the National Assembly by the Minister.

The EMA establishes further institutions responsible for the different concepts under the Act. These include the Environmental Commissioner and the Environmental Officers. By appointing the Environmental Commissioner in February 2012 as required by Section 16 of the EMA, the full operationalisation of the EMA has been underlined.¹³ The functions and duties of the Environmental Commissioner include advising Government bodies on the preparation of environment plans, receiving and recording all applications for environmental clearance certificates, determining whether a particular listed activity requires an environmental assessment, reviewing environmental assessment reports, issuing environmental clearance certificates and conducting inspections to monitor compliance with the EMA.

Environmental Officers in the public service assist enforcing the EMA. To this end, Environmental Officers are endowed with certain powers, including the powers to search, seize and issue compliance orders in cases of violations of the EMA.

12 In February 2012, the Government of Namibia gazetted the Regulation for the implementation of Environmental Management Act No. 7 of 2007. Subsequently, the Ministry of Environment and Tourism invited nominations for appropriate persons from the public, organisations, associations or institutions to sit on the Sustainable Development Advisory Council. For more information see <https://sdacnamibia.org>, accessed 21 January 2022.

13 In February 2012, Cabinet appointed Teofilus Nghitila as Namibia's first Environmental Commissioner. In March 2020, the MET has appointed Timoteus Mufeti as the new Environmental Commissioner.

2.4 Environmental Plans under the EMA

One mechanism aiming at the realisation of the objectives of the Act is the provision for environmental plans, provided for in Sections 23 to 26 of the EMA, to ensure better co-ordination amongst Government agencies. Organs of state (including Government offices, Ministries or agencies at national, regional or local level) which exercise functions that may affect the environment are supposed to make environmental plans in order to minimise the duplication of procedures and functions and to promote consistency in the exercise of functions that may affect the environment. The organs of State that are supposed to draft such management plans are to be listed by the Ministry of Environment and Tourism in the Government Gazette according to Section 24. Environmental plans are submitted to the Environmental Commissioner who examines whether the environmental plan follows the principles of environmental management, satisfies the objects of environmental plans and takes into account existing environmental plans. Compliance with an environmental plan is monitored by the Environmental Commissioner.

2.5 Environmental Assessment under the EMA

The Act provides for administrative mechanisms such as the necessity of environmental clearance certificates and environmental assessments.¹⁴ The EMA's Sections 27 to 48, together with Namibia's Environmental Assessment Policy and the Environmental Impact Assessment Regulations form the basis of all environmental assessments in Namibia. Furthermore, Procedures and Guidelines for Environmental Impact Assessment and Environmental Management Plans have been drafted in 2008.¹⁵

The impact of activities on the environment has to be considered and interested or affected parties have to be given an opportunity to participate in environmental assessment when Government institutions or private persons are intending or planning anything likely to have a significant effect on the environment. With regard to such activities, environmental assessments have to be conducted before any decisions are made. For specific activities or projects having an environmental impact, an environmental clearance certificate is required.

To obtain an environmental clearance certificate, a person who wants to carry out an activity listed in Section 27 of the EMA must follow a multi-stage process in line

14 For a detailed outline of environmental assessment legislation in SADC see Walmsley / Tshipala (2010).

15 GRN (2008e).

with Sections 32 to 37 of the EMA¹⁶ and with the regulations for the implementation of the EMA as gazetted in February 2012 which have listed certain activities that may not be undertaken without an environmental clearance certificate.¹⁷ Environmental clearance certificates are required for specific activities in the following sectors:

- Energy generation, transmission and storage activities: The generation, transmission and supply of electricity; refining of gas, oil and petroleum products; and nuclear reaction, including production, enrichments, processing, reprocessing, storage or disposal of nuclear fuels, radioactive products and waste.
- Waste management, treatment, handling and disposal activities: The construction of facilities for waste sites, treatment of waste and disposal of waste; activities entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance, 1976; and the import, processing, use and recycling, temporary storage, transit or export of waste.
- Mining and quarrying activities: The construction of facilities for any process or activities which requires a licence in terms of the Minerals Prospecting and Mining Act, 1992; other forms of mining or extraction of any natural resources whether regulated by law or not; resource extraction, manipulation, conservation and related activities; the extraction or processing of gas from natural and non-natural resources, including gas from landfill sites; and the extraction of peat.
- Forestry activities: Clearance of forest areas, deforestation, afforestation, timber harvesting or any other activity requiring authorisation in terms of the Forest Act, 2001.
- Land use and development activities: Rezoning of land from residential use to industrial or commercial use; from light industrial use to heavy industrial use; from agricultural use to industrial use; and from use for nature conservation or zoned open space to any other land use; the establishment of land resettlement schemes; and the construction of veterinary protected area or game proof and international boundary fences.
- Tourism development activities: the construction of resorts, lodges, hotels or other tourism and hospitality facilities.
- Agriculture and aquaculture activities: The construction of facilities for aquaculture production in terms of the Aquaculture Act, 2002; the declaration of an area as an aquaculture development zone; the genetic modification of

16 See GRN (2008d:32ff.). For further details see also the Regulations for Environmental Impact Assessment (EIA) and the Procedures and Guidelines for Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) drafted by the Ministry of Environment and Tourism in 2008.

17 Government Gazette No. 4878 (2012) Government Notice No. 29, List of activities that may not be undertaken without Environmental Clearance Certificate: Environmental Management Act, 2007.

any organism; the import, processing and transit of genetically modified organisms; pest control; the release of genetically modified organisms into the environment where an environmental assessment is required; the release of any organism outside its natural area of distribution that is to be used for biological pest control; and the introduction of alien species into local ecosystems.

- Water resource developments: The abstraction of ground or surface water for industrial or commercial purposes as well as the abstraction of groundwater at a volume exceeding the threshold authorised; water abstraction from a river that forms an international boundary; the construction of canals and channels including the diversion of the normal flow of water in a riverbed and water transfer schemes between water catchments and impoundments; the construction of dams, reservoirs, levees and weirs; the construction of wastewater treatment plants and related pipeline systems; irrigation schemes for agriculture excluding domestic irrigation; the construction and other activities in water courses within flood lines or within a catchment area; the reclamation of land from below or above the high-water mark of the sea or associated inland waters; the alteration of natural wetland systems; and the release of brine back into the ocean by desalination plants.
- Hazardous substance treatment, handling and storage: The manufacturing, storage, handling or processing of a hazardous substance as outlined in the Hazardous Substances Ordinance, 1974; any process or activity which requires a permit, licence or other form of authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste; the bulk transportation of dangerous goods using pipeline, funiculars or conveyors; the storage and handling of a dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location; the construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.
- Infrastructure: The construction of oil, water, gas and petrochemical and other bulk supply pipelines; public roads; railways and harbours; airports and airfields; any structure below the high water mark of the sea; cableways; communication networks including towers, telecommunication and marine telecommunication lines and cables; motor vehicle and motorcycle racing and test tracks; the outdoor racing sites of motor powered vehicles; masts of any material or type and of any height, including those used for telecommunication broadcasting and radio transmission; the route determination of roads and design of associated physical infrastructure where it is a public road, the road

reserve is wider than 30 meters; or the road caters for more than one lane of traffic in both directions.

- Other activities: The construction of military demonstration and testing sites, as well as of cemeteries, camping, leisure, and recreation sites.

No listed activity may be undertaken without an environmental clearance certificate. All activities which need an environmental clearance certificate must follow the Regulations for Environmental Impact Assessments, which have been made according to Section 56 of the EMA. These require *inter alia* that the proponent of an activity designates an environmental assessment practitioner (EAP) to manage the assessment process and ensures that the environmental assessment procedures, specified in the EMA, the regulations and guidelines, are followed. The application for an environmental clearance certificate must be submitted to either the Environmental Commissioner, or to any other organ of State, if so required by Section 30(1) of the EMA.

Depending on whether the proposed project has a significant impact or not, the Environmental Commissioner decides whether an environmental assessment is required. If it is decided that an environmental assessment is not required, the Environmental Commissioner decides further, whether an environmental clearance certificate is granted. This decision can be subject to appeal to the Minister. If it is decided that an environmental assessment is required, the Environmental Commissioner decides on the scope and procedure for the assessment and informs the proponent on the requirements and time frame for the assessment. Environmental assessments are conducted to¹⁸

- ensure that activities which may have a significant effect on the environment follow the principles of environmental management planning and development process;
- analyse the possible environmental impacts of activities, and look at ways to decrease negative impact and increase positive ones;
- make sure that the environmental effects of activities are given adequate consideration before the activities are carried out; and to
- provide an opportunity for public participation in considering the environmental impact of a project.

The assessment has to be carried out in line with these requirements and an assessment report has to be submitted to the Environmental Commissioner.

Generally speaking, all activities which require an environmental authorisation, follow a process made up of several stages including screening, scoping and assessment followed by a decision and monitoring.¹⁹ In a first step, the proponent designates an environmental assessment practitioner and applies for an environmental clearance certificate. During the screening phase, which must follow the provisions of Section 27

18 GRN (2008d:29).

19 Husselmann (2016).

the need for an EIA is determined as well as the level of assessment required. After submitting the application to the competent authority, the proponent must conduct a public consultation process; open and maintain a register of all interested and affected parties; consider all objections and representations received from interested and affected parties following the public consultation process; prepare a scoping report; and give all registered interested and affected parties an opportunity to comment on the scoping report. In a subsequent step, the proponent must submit the scoping report to the relevant competent authority. The scoping report must be compiled as per Regulation 8 of the EMA Regulations and must among other things contain the curriculum vitae of the EAP who prepared the report; a description of the proposed activity and the location and site on which the activity is to be undertaken; a description of the environment that may be affected by the proposed activity; an identification of laws and guidelines that have been considered in the preparation of the scoping report; details of the public consultation process conducted in connection with the application; identified alternatives to the proposed activity that are feasible and reasonable; a description and assessment of the significance of any significant effects, that may occur as a result of the undertaking of the activity or identified alternatives; terms of reference for the detailed assessment according to Regulation 9 of the EMA Regulations; and a draft management plan according to Regulation 8(j) of the EMA Regulations.

The screening phase concludes with a classification of the project according to its environmental sensitivity and a confirmation as to whether an EIA is required (Section 33 EMA). This decision is subject to a consultative process according to Section 44 EMA and several aspects must be taken into account in the process of decision making such as the nature and extend of the proposed activity, whether the proposed activity has a significant effect of on the environment and also the comments received in terms of the consultative process. If it is decided that an EIA is not required, the Environmental Commissioner either issues an environmental clearance certificate or refuses the application and provides reasons for the refusal. If it is decided that an EIA is required, the Environmental Commissioner determines the scope of the assessment and the procedures and methods for conducting the assessment. In the screening phase the project is thus classified according to its likely environmental sensitivity to determine whether or not an EIA is required and what the level of assessment should be. This forms the basis for the scoping phase, where key issues to be studied are identified, and terms of reference for an EIA are elaborated. Within the scoping phase, environmental issues and concerns that require investigation are identified and feasible alternatives that require assessment need to be determined through consultation with the authorities, interested and affected parties and specialists. The information gathered as a result from this is in a next step used to determine the scope of the EIA.

If the Environmental Commissioner decides that the proposed activity requires an assessment, the Environmental Commissioner determines the scope, procedures and methods for assessment in terms of Section 35 of the EMA. An assessment report will

have to be prepared subsequently, containing all information that is necessary for the Environmental Commissioner to consider and to make a decision on the application following Regulation 15(2) of the EMA Regulations. Public participation is ensured in that it is required, that persons who may be affected by the activity applied for must be notified and given a chance to inspect the assessment report and make submissions on it (see Regulation 21 of the EMA Regulations on the details for the public consultation process).

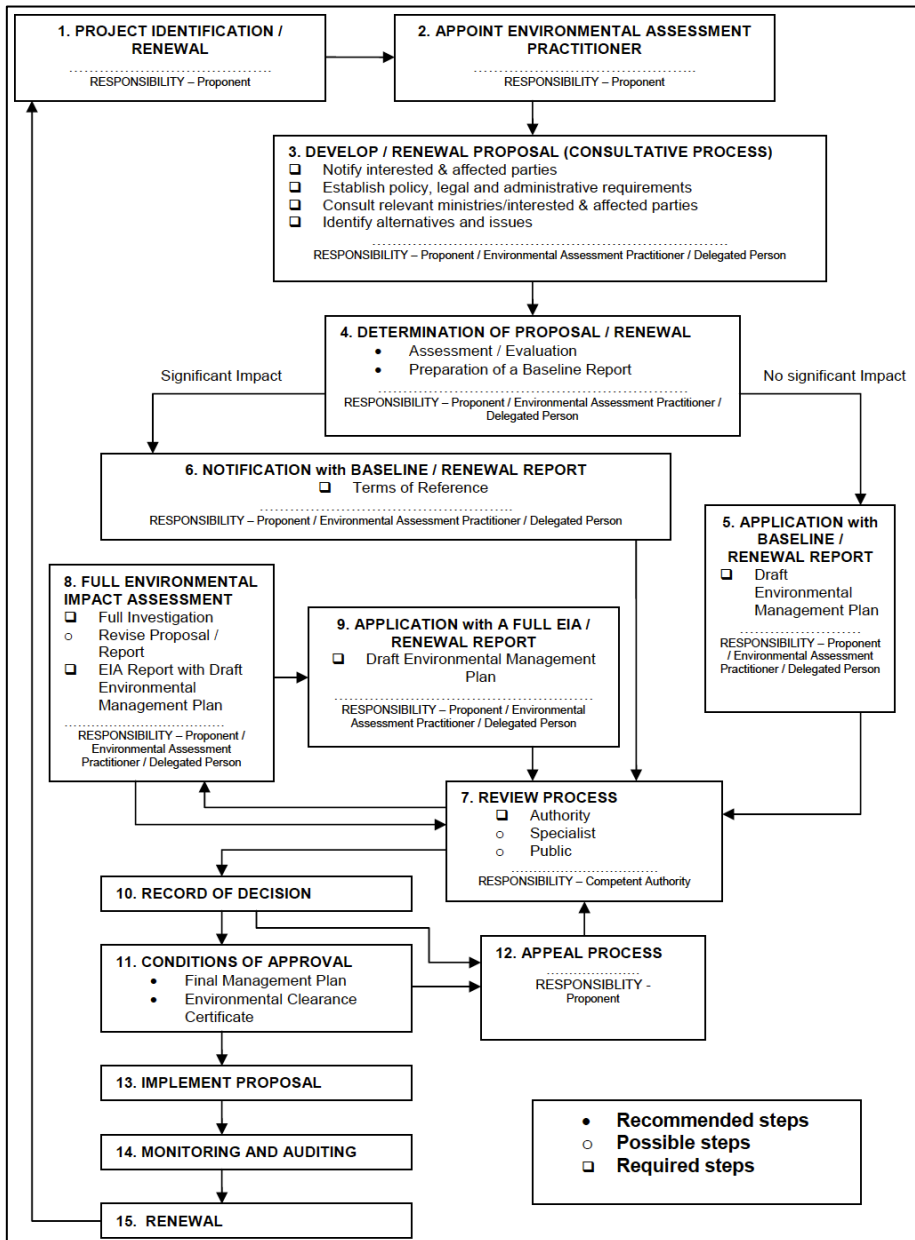
Upon review of the assessment report, the Environmental Commissioner decides whether an environmental clearance certificate is granted. The Commissioner's decision may be subject to appeal to the Minister of Environment and Tourism according to Section 50 of the EMA.

An environmental clearance certificate usually remains effective for a period not exceeding three years. However, an environmental clearance certificate can be suspended or canceled if the holder of the certificate has contravened any condition of the certificate, has contravened the EMA, or is convicted of an offence in terms of the EMA (Section 42 of the EMA).

An environmental clearance certificate may be amended either upon request by the proponent (Section 39(1)(a) of the EMA and Regulation 19(1) of the EMA Regulations) or at the Environmental Commissioner's initiative under Section 39(1)(b) and Regulation 19(2) of the EMA Regulations.

An environmental clearance certificate may not be transferred unless permitted by the Environmental Commissioner as per Section 41 of the EMA. An application for the transfer of an environmental clearance certificate can be submitted and must follow the provisions of Section 41(2) EMA in connection with and Regulation 20 of the EMA Regulations.

Figure 1: Stages and Procedures of Environmental Assessment



Source: MET (2008b:7).

2.6 Enforcement and Appeal under the EMA

Environmental officers are appointed to carry out the provisions of the EMA. They are the main persons responsible for enforcement of the EMA. Environmental officers not only have specific powers such as the powers of entry and inspection, they can also issue compliance orders to any person who has violated the EMA or a condition of an environmental clearance certificate (Sections 19 and 20). Decisions of the Environmental Commissioner are subject to appeal to the Minister According to Sections 50 and Section 25 of the Regulations. Decisions of the Minister are subject to appeal to the High Court according to Section 51.

2.7 Selected Practical Implications of the EMA and EMA Regulations

The EMA together with the EMA Regulations has become a vital tool for environmental management in Namibia in recent years. In the financial year 2017/18,²⁰ a total of 490 environmental clearance certificates has been issued, this number increased to 564 in the 2019/20.²¹ The majority of clearance certificates have been issued for developments in the mining and exploration and in the infrastructure sectors, followed by the management of hazardous wastes. Other important sectors included agriculture and irrigation, tourism, rezoning and waste. In order to ensure monitoring and compliance, several sites have been inspected across the country by the Ministry of Environment (Forestry) and Tourism, 82 in 2017/18²² and 113 in 2019/2020, including including waste disposal sites, mines, sand-mining operations, clinics and hospitals, timber harvesting operations, lodges, and schools and hostels.²³

Several developments have been in the focus of environmental management in recent years. One major topic has for example been an investigation into the operations of a Tsumeb Smelter after complaints were made by residents and workers about air quality, skin rashes and water quality due to the Smelter operations. This resulted in a major project to monitor the environment in the area, to upgrade the technologies applied at the Smelter and improvements to the health and safety operations of the company.²⁴

A number of awareness meetings on the issue of illegal sand mining have been held with Traditional Authorities in communal areas. As a result of these meetings, new

20 GRN (2018a:35).

21 GRN (2020c:52).

22 GRN (2018a:36).

23 GRN (2020c:54).

24 GRN (2018a:36). Health impact assessment for the environmental impact assessment of the Dundee Precious Metals Tsumeb Smelter expansion is available at <https://bit.ly/3rNqvNp>, accessed 14 February 2022.

procedures seeking to improve compliance and allowing for Traditional Authorities and Regional Councils to be the proponent in cases of sand mining were developed and are being applied for sand mining in communal areas.²⁵

In the focus of current environmental debates involving various important questions around environmental conservation and environmental management is a Canadian-based company, that has leased more than 34,000 square kilometres of land across Namibia and Botswana and is searching for oil in Namibia's Okavango region, where the company suspects one of the largest oil fields in the world. Although oil, alongside the diamonds for which Namibia is famous could bring wealth to the country, inhabitants and environmentalists worldwide fear that large-scale oil production could not only have an adverse impact on people's water supplies in the water-scarce region, but also cause massive environmental damage to the area's sensitive ecosystems, particularly the contamination and pollution of the Okavango Delta. The environmental assessment process for this development²⁶ is ongoing and will most likely continue to be subject to critical debate.²⁷

The implementation of the EMA has also been subject to first high profile court cases.²⁸ An important judgement delivered on 11 May 2018 by the High Court²⁹ related to an application for environmental clearance for marine phosphate mining. In 2016, the appellant, Namibian Marine Phosphate (Proprietary) Limited, was granted an environmental clearance certificate to develop a marine phosphate project off the coast of Namibia by the Environmental Commissioner. The decision to grant the environmental clearance certificate and the alleged secrecy under which the clearance certificate was issued resulted in lively debates amongst the Namibian public and became – after the period within which appeals can be submitted against the issuance of the environmental clearance certificate had been extended by the Minister of Mines and Energy based on Section 50 of the EMA and Regulation 25(7) of the EMA Regulations – subject to an appeal as per Section 50 of the EMA to the Minister by a community activist and trustee of the Economic Social Justice Trust, the second respondent in the case at hand. Upon appeal, the Minister set aside the decision of the Environmental Commissioner to award an environmental clearance certificate to the appellant. The granting of the certificate was set aside primarily on the ground that the Commissioner

25 GRN (2018a:36).

26 The Environmental Impact Assessment Report to support the application for an environmental clearance certificate is available at <http://the-eis.com/elibrary/search/23969>, accessed 21 May 2021.

27 McKenzie / Formanek (2021); Barbee / Neme (2021).

28 E.g. *Auas Valley Residents Association v Minister of Environment and Tourism* (HC-MD-CIV-APP-ALT-2019/00002) [2020] NAHCMD 139 (7 May 2020); *Namibia Marine Phosphate (Proprietary) Limited v Minister of Environment and Tourism* (CA 119/2016) [2018] NAHCMD 122 (11 May 2018).

29 *Namibia Marine Phosphate (Proprietary) Limited v Minister of Environment and Tourism* (CA 119/2016) [2018] NAHCMD 122 (11 May 2018).

did not adequately consult the public and interested persons. The Minister's decision was appealed by Namibian Marine Phosphate (Pty) Ltd.

The questions addressed by the Court related among others to the legality of the extension of the time period to lodge an appeal against the granting of an environmental clearance certificate, *locus standi* of the second respondent to institute an appeal before the Minister, and Articles 12 and 18 of the Constitution. On the issue of *locus standi*, the Court held that the "ordinary common-law principle is that a litigant must have a direct and substantial legal interest in the outcome of the proceedings" and that³⁰

in the context of the Act (the context being that in respect of an application for environmental clearance certificate the Commissioner is required to consult the public and hold public meetings, how else than who a member of the public who is aggrieved by the Commissioner's decision obtain redress if they are excluded by the strict rules of standing), Mr Gaweseb [the second respondent] has a legal grievance and is, in the context of s 50, an aggrieved person and is entitled to approach courts to determine his rights. I conclude, therefore, that Mr Gaweseb did have standing to launch the s 50 appeal.

The Court furthermore ruled that the appellant's complaint that the Minister acted unfairly (thus violating Articles 12 and 18 of the Constitution) when he arrived at his decision to set aside the Commissioner's decision to grant the appellant an environmental clearance certificate is a question of law rather than a question of fact. In a subsequent step, the Court opined that the Minister in the process of setting aside the decision of the Environmental Commissioner failed to listen fairly to both, the appellant and the second respondent, which, in view of the Court, is fatal to the procedural fairness of the hearing and must lead to the conclusion that the decision of the Minister to set aside the environmental clearance certificate granted by the Commissioner must be declared to be no decision at all as the principles of natural justice had been violated.

2.8 Proposed Amendments to the EMA

It has been announced by the MEFT that the EMA is currently being reviewed and several amendments of the EMA have been proposed.³¹ One of the major shortcomings of the EMA is that it does not explicitly regulate or refer to Strategic Environmental Assessments (SEAs), although such assessments are being performed in practice. It has been proposed to repeal Part IV of the current EMA with a new Part on SEAs. SEAs are conducted as an extension of the EIA's principles, procedures and methods to higher levels of decision-making. SEA is a tool able to evaluate a set of policies with broader lenses and within a more systematic and comprehensive process of evaluating the environmental impacts of a policy plan or programme and its alternatives. SEA is the process by which environmental considerations are fully integrated into the

30 Ibid: at [29].

31 SDAC (2018:12).

preparation of plans and programmes prior to their final adoption.³² The objectives of the SEA process are to provide for a high level of protection of the environment and to promote sustainable development by contributing to the integration of environmental considerations into the preparation and adoption of specified plans and programmes.

A further important aspect that is being considered for an amendment of the EMA are provisions relating to Environmental Assessment Practitioners as mentioned in the EMA Regulations. Of particular concern is the fact that Environmental Assessment Practitioners are currently not regulated and that there is a lack of quality control in the sector. There is no current mention of EAPs in the Act. Moreover, the focus on compliance with Environmental Management Plans and monitoring and enforcement has been described as being insufficient, just like the provisions to ensure the rehabilitation and restoration of sites.

3 Concluding Remarks

Namibia has a relatively young history of environmental management under the new legal framework with the EMA, which is in operation since 2012. The body of cases giving practical meaning to the Act by decision-makers and courts has grown in recent years and environmental assessments in various forms have become important mechanisms in terms of environmental management in Namibia. The EMA together with the EMA Regulations provide a solid legal framework for environmental management in Namibia and implementation of the Act increasingly gains pace.

32 Sabeva (2015).

Chapter 9: Pollution Control and Waste Management

Katharina Ruppel-Schlichting

1 Introduction

Despite the fact that Namibia is a large country with a sparse population where the amount of solid waste generated is relatively low, major environmental challenges in Namibia, just as in Southern Africa in general are related to pollution control and waste management. Pollution can be defined as “the presence in or introduction into the environment of a substance which has harmful or poisonous effects.”¹ A similar though more detailed definition of pollution is for example provided by the Solid Waste Management Policy of the City of Windhoek, which defines pollution as²

any change in the environment caused by –

- (a) any waste, substance or matter; or
- (b) noise, odour, dust or heat, emitted from or caused by any activity, including the storage or treatment of any waste, substance or matter, building and construction, and the provision of any service, whether engaged in by any person or an organ of state if that change has an adverse effect on public health or well-being or on the composition, resilience and productivity of a natural or managed ecosystem (both short term and long term), or on material useful to people, or will have such an adverse effect in the future.

The term waste is closely related to pollution but not identical. The characteristic of a failure to use for its proper purpose is inherent to the term waste, which has thus been defined as³

any substance or matter whether solid, liquid or any combination thereof, irrespective of whether it or any constituents thereof may have value or other use, and includes –

- (a) any undesirable, rejected, abandoned or superfluous matter, material, residue of any process or activity, product, by-product;
- (b) any matter which is deemed useless and unwanted;
- (c) any matter which has been discarded, abandoned, accumulated or stored for the purposes of discarding, abandoning, processing, recovery, reuse, recycling or extracting a usable product from such matter; or
- (d) products that may contain or generate a gaseous component which may originate from residential, gardening, business, commercial, trade, industrial, educational, agricultural, medical, building and demolition activities, and any other activities, and further includes industrial waste, hazardous waste and health care risk waste.

While pollution does not necessarily need to be caused by waste it can also be caused by other pollutants. Waste – if handled correctly – does not necessarily cause pollution.

1 See Oxford Dictionary for Advanced Learners.

2 See CoW (2009) in the introductory definitions section.

3 Ibid.

As from a legal and statutory point of view, many provisions that apply to pollution also apply to waste, whereas in many cases specific statutes deal with waste.

Pollution control and waste management are essential in environmental protection as pollution and waste are a threat to human health, plant and animal life and ecological systems. Ensuring proper waste management is crucial to a broad spectrum of human rights such as the rights to life, health, food, water and sanitation and to a clean and satisfactory environment to name but a few. Preventing and managing pollution must thus be considered as a priority issue, especially in the light of the rising quality of life, high rates of resource consumption patterns and industrialisation.

A 2018 World Bank Report on waste⁴ provides the following alarming figures: The world generates 0.74 kg of waste per capita per day, with waste generation rates fluctuating widely from 0.11 to 4.54 kg per capita per day depending on income levels and urbanisation rates. An estimated 2.01 billion tonnes of municipal solid waste were generated in 2016, and this number is expected to grow. For the Sub-Saharan Africa region consisting of 48 countries and home to 1.03 billion people in 2016, the report anticipates that with more than half of the world's population growth to occur in the said region by 2050, waste generation will nearly triple by 2050. In 2016, the Sub-Saharan Africa region generated 174 million tonnes of waste at a rate of 0.46 kilogram per capita per day. As per the report, Namibia has a waste generation rate of 0.55 kilogram per capita per day with one of the highest waste collection rates in the region.⁵

The aforementioned facts call for an efficient legal framework in order to limit pollution and waste to an absolute minimum. Ecosystems can only be protected and utilised optimally where an efficient legal framework is supported by an effective administrative system. Against this background integrated pollution control acknowledges that the environment functions as a whole which requires a holistic approach which integrates legal, institutional and scientific instruments.

Pollution control and waste management are regulated by both national and international law. A wide variety of legal norms are applicable in this field of significant importance for environmental conservation. The following sections will provide a broad overview of those sets of law and policy that govern pollution control and waste management in Namibia.

2 International Law

A broad range of Multilateral Environmental Agreements (MEAs) are pertinent to pollution control and waste. Because pollution knows no boundaries, a rich body of international law conventions deals – directly or indirectly – with transboundary pollution.

4 Kaza *et al.* (2018:17); for figures on previous years see Hoornweg / Bhada-Tata (2012:x).

5 Kaza *et al.* (2018:78).

Among the prominent relevant conventions to which Namibia is a party are the Stockholm Convention on Persistent Organic Pollutants (2001), the United Nations Framework Convention on Climate Change (1992) and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989).

With regard to transboundary pollution the legal and policy framework of the Southern African Development Community (SADC), to which Namibia is a party, also contains some relevant provisions. The SADC Protocol on Shared Watercourse Systems for example provides that permits must be acquired before discharging any and all types of wastes into shared waters, provided that the intended discharge will not have a detrimental effect on the watercourse system; member states must furthermore take all measures necessary to prevent the introduction of alien aquatic species into a shared watercourse system which may have detrimental effects on the ecosystem; and agreements should be reached on water control and utilisation in shared watercourse systems including the regulation of the flow and drainage.⁶ In the Revised Protocol on Shared Watercourses, the prevention, reduction and control of pollution has been expanded to include lists of substances, which may not be introduced into the waters of a shared watercourse, and calls for the joint setting of water quality objectives. The SADC Protocol on Health contains a provision on environmental health, which seeks for cooperation among member states in addressing regional environmental health issues and other concerns, including toxic waste, waste management, port health services, pollution of air, land and water, and the degradation of natural resources.⁷

But not only MEAs, also judgements of international judicial bodies shape the body of international environmental law related to pollution and waste. One example includes one of the most prominent international environmental law cases, namely the *Trail Smelter Arbitration (US v Canada)* which deals with trans-boundary pollution.⁸ Another relevant dictum refers to the WTO's Dispute Settlement Body dealing with imports of re-treaded tyres (*EC v Brazil*).⁹

6 See Article 2 of the SADC Protocol on Shared Watercourse Systems.

7 Article 23 of the Protocol on Health.

8 *Trail Smelter Arbitration (1938/1941)* 3 RIAA 1905 Arbitral Tribunal: US and Canada. The smelter in Trail, British Columbia, operated by the Consolidated Mining and Smelting Company (COMINCO) and had processed lead and zinc since 1896. Smoke from the smelter caused damage to forests and crops in the surrounding area and also across the Canada-US border in Washington. The smoke from the smelter distressed residents, resulting in complaints to COMINCO and demands for compensation. The dispute between the smelter operators and affected landowners could not be resolved, resulting in the case being sent to an arbitration tribunal. Negotiation and resulting litigation and arbitration was settled in 1941.

9 WT/DS332 Panel and Appellate Body Report adopted on 17 December 2007. See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds332_e.htm, accessed 30 January 2014. In 2005, the EC requested consultations with Brazil regarding its imposition of measures that adversely affected exports of re-treaded tyres from the EC to the Brazilian market. The EC challenged the ban as a violation of WTO rules, whereas Brazil claimed that the imports of re-treaded tyres led to a faster accumulation of waste tyres and defended the measure as necessary to protect health and the environment.

3 National Law and Policy

The following sections shall provide an overview of the most relevant legislation dealing with pollution control and waste management. As a starting point it can be stated that Namibia's legal framework dealing with the aforementioned substantive matters is still fragmented, and sectoral rather than integrated. Although many steps have been taken in recent years to enhance environmental protection by means of pollution control and waste management, legal enforcement and implementation in this field is yet to be improved with respective laws and regulations waiting for amendments and/or coming into force.

At this stage, the Environmental Management Act (EMA) together with the Environmental Assessment Policy and the Environmental Impact Assessment Regulations, other relevant sectoral legislation as well as the National Solid Waste Strategy and respective provisions issued by local and regional authorities form the basis of Namibia's approach to pollution control and waste management as will be outlined in the following.

3.1 Pollution under the Constitution

The Namibian Constitution does not provide for an environmental clause directly relevant to pollution. However, the provisions generally relevant for environmental protection, namely Article 91(c), which assigns to the Ombudsman the duty to investigate complaints concerning the over-utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia; and Article 95(1), which commits the state to actively promote and maintain the welfare of the people by adopting policies aimed at the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis. In particular, Article 95(1) requires Government to provide measures against dumping or recycling of foreign nuclear and toxic waste on Namibian territory.

3.2 Common Law Aspects of Pollution

Common law provides a broad range of principles related to pollution control and waste management. The branches of criminal law, the law of delict and the law of nuisance all highly relevant in the context of pollution and waste.

An actionable delict can be given in cases of pollution provided that¹⁰

- there has been an act or omission;
- the act or omission has been wrongful;
- fault, in the form of either intention or negligence is present;
- harm to person or property has been suffered in the form of quantifiable monetary damages (patrimonial loss); and
- there is causation in that the act or omission of the defendant has caused the harm.

The law of nuisance with its three distinct types of nuisance, namely public nuisance, private nuisance and statutory nuisance may be applied in the context of pollution and typically result in an interdict (to refrain from establishing a threatening nuisance or from continuing an existing nuisance) or in an action for damages.¹¹ In many cases national statutory law such as the Environmental Management Act (EMA) or specific waste legislation does, however, offer more specific provisions to address environmental concerns than the body of common law principles.

3.3 Framework Legislation: The Environmental Management Act No. 7 of 2007 (EMA)

Pollution control and waste management within the EMA (which is in force since 6 February 2012) are predominantly anchored within its Section 3 on the principles of environmental management, which guide the implementation of EMA and any other law relating to environmental protection, serve as the general framework for environmental plans and as guidelines for any organ of state when making any decision in terms of the EMA or any other law relating to the protection of the environment. In fact, all of the principles stipulated in Section 3(2) apply to pollution and waste, at least to some extent. However, of particular relevance are the principles (h) to (j) of Section 3(2), which provide as follows:

- (h) the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term must be adopted to reduce the generation of waste and polluting substances at source;
- (i) the reduction, re-use and recycling of waste must be promoted;
- (j) a person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage.

10 For more details see Glazewski (2014:20-7 to 20-24).

11 Ibid.

Section 5 EMA empowers the Minister of Environment (Forestry) and Tourism to declare a site to be a waste disposal site and provides that waste or dispose may not be discarded or caused to be discarded except at a disposal site. Contraventions are an offence and fines not exceeding N\$ 500,000 or imprisonment for a period not exceeding 25 years or both may be imposed.

According to Section 27(1) of the EMA, the Minister of Environment (Forestry) and Tourism may list activities, which may not be undertaken without an environmental clearance certificate. Article 27(2) exemplarily lists various fields in which an environmental clearance certificate may be required. The most relevant ones with regard to waste and pollution are the areas of (b) water use and disposal; and (i) waste and sewage disposal and chemical treatment. A list of activities, which may not be undertaken without an environmental clearance certificate has been drafted by the (then) Ministry of Environment and Tourism and published by respective notice in the Government Gazette.¹² Specific activities beneficial with regard to pollution control and waste management that may not be undertaken without environmental clearance certificate have been listed relate to activities in the following sectors:

- Energy generation, transmission and storage activities;
- waste management, treatment, handling and disposal activities;
- mining and quarrying activities;
- forestry activities;
- land use and development activities;
- tourism development activities;
- agriculture and aquaculture activities;
- water resource developments;
- hazardous substance treatment, handling and storage;
- infrastructure; and
- other activities, including the construction of military demonstration and testing sites as well as cemeteries, camping, leisure and recreation sites.

As to waste management, treatment, handling and disposal activities, the list of activities requiring an environmental clearance certificate stipulates the following:

- The construction of facilities for waste sites, treatment of waste and disposal of waste;
- any activity entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance of 1976; and
- the import, processing, use and recycling, temporary storage, transit or export of waste.

The Ministry of Environment, Forestry and Tourism as per Article 56 of the EMA has the competence to make regulations relating various issues of environmental concern,

12 See Government Gazette No. 4878 (2012), Notice No. 29.

including the requirements for listing or delisting of activities in terms of Section 27; what constitutes an activity for purposes of listing or delisting in terms of Section 27; and to the disposal of certain types of waste. Most importantly, the Ministry of Environment, Forestry and Tourism under Section 56 of the EMA has drafted regulations regarding Environmental Impact Assessment.¹³

3.4 Sectoral Legislation

As stated above, the legal framework relating to pollution control and waste management is varied and patchy. This is not only problematic in terms of the variety of laws which sometime reflect overlaps and regulatory gaps. Another major concern is the multitude of administering bodies involved. Where some of the laws and policies are administered by the Ministry of Environment, Forestry and Tourism, others mandate action from the Ministry of Health and Social Services; the Ministry of Agriculture, Water and Rural Development; the Ministry of Works, Transport and Communication; the Ministry of Mines and Energy, the Ministry of Trade and Industry, the Ministry of Fisheries and Marine Resources and the Ministry of Regional and Local Government and Housing. In other cases, local authorities are responsible for enforcing certain laws. The collection and disposal of waste is the responsibility of local and regional authorities.

3.4.1 The Public and Environmental Health Act No. 1 of 2015

In 2014, the Minister of Health and Social Services introduced the Public and Environmental Health Bill¹⁴ in order to promote public health and wellbeing; prevent injuries, diseases and disabilities; protect individuals and communities from public health risks; encourage community participation in order to create a healthy environment; and to provide for early detection of diseases and public health risks. In 2015, the Public and Environmental Health Act No. 1 of 2015 has been passed by Parliament and came into force in 2020.¹⁵

13 See Government Gazette No. 4878 (2012), Notice No. 30.

14 See Government Gazette No. 7338 Government Notice No. 230. The Act is available at https://laws.parliament.na/cms_documents/public-and-environmental-health--686af27f65.pdf, accessed 21 May 2021.

15 The Act will come into force on a date set by the Minister in the Government Gazette. However, Part 3 of the Act was brought into force temporarily by the State of Emergency COVID-19 Regulations, Proclamation 9 of 2020 (GG 7159) issued pursuant to Article 26(5) of the Namibian Constitution, subsequent to the declaration of a State of Emergency in the whole of Namibia, following a worldwide outbreak of the disease known as Coronavirus Disease 2019 (COVID-19), in Proclamation No. 7 of 2020 (GG 7148).

The Act contains several provisions relevant for environmental protection. With a view to water and food safety, the Act formulates a duty of local authorities to provide and maintain as far as may be reasonably possible, a sufficient supply of potable water for drinking and domestic purposes.¹⁶ Part 9 of the Act addresses integrated waste management and stipulates among others that in order to prevent environmental pollution and public health risks, local authorities must ensure that all waste generated is collected, disposed of and recycled in accordance with the requirements of all laws governing the management of the different waste streams.¹⁷ Health nuisances are addressed in Part 10 of the Act, in which specific health nuisances are identified, including among others polluted sources of water supply, the accumulation or deposit of refuse, which is injurious or dangerous to health and other conditions which are offensive, injurious or dangerous to health. According to Section 68, the Minister may require the preparation of public and environmental health plans. A long list of the fields in which the Minister may make regulations, including waste management, is contained in Section 77 of the Act.¹⁸

3.4.2 The Soil Conservation Act No. 76 of 1969

The Soil Conservation Act dates back to 1969 and was made applicable in Namibia with effect from 1 April 1971 by Act 38 of 1971. This Act is another important legal document with regard to pollution as it covers the prevention and combating of soil erosion, the conservation, improvement and manner of use of the soil and vegetation, and the protection of water sources.¹⁹ As per the Act, the Minister has the power to declare directions applicable with reference to land conservation and may order construction of soil conservation works. Soil Conservation Committees may be established under this Act to advise the Minister, owner or occupier of land on all matters relating to soil conservation.

16 Sections 51.

17 Sections 51 to 55.

18 As outlined, the Act has not yet been brought into force, except of Part 3 as a temporary measure in connection with the COVID-19 pandemic. Thus, the only Regulations issued under the Act so far are related to COVID-19. It is expected, that once the Act comes into force, more regulations also relevant for waste and pollution will be drafted by the Ministry.

19 Section 2.

3.4.3 The Hazardous Substances Ordinance No. 14 of 1974

This ordinance provides for the control of toxic substances and thus also relevant for pollution control. It covers the control of hazardous substances, as well as their manufacture, sale, use, disposal, dumping, import and export.

3.4.4 The Atmospheric Pollution Prevention Ordinance No. 11 of 1976

The Atmospheric Pollution Ordinance of 1976 pertinent to the prevention of air pollution with particular focus on public health contains detailed provisions on air pollution. The Ordinance deals with administrative appointments and their functions; the control of noxious or offensive gases; atmospheric pollution by smoke; dust control; motor vehicle emissions; and general provisions. As per the Ordinance, control areas can be established in order to control noxious or offensive gases or atmospheric pollution by smoke. So far, the Ordinance has been of minor practical relevance.

3.4.5 The Atomic Energy and Radiation Protection Act No. 5 of 2005

The Atomic Energy and Radiation Protection Act provides for protection of the environment of current and future generations against harmful effects of radiation. The Act regulates the control of the production, processing, handling, use, holding, storage, transport and disposal of radiation sources and radioactive materials, and radiation sources and nuclear materials. An Atomic Energy Board is established under the Act as well as a National Radiation Protection Authority. According to Section 43 of the Act, the Minister may make for the purpose of protection against environmental pollution, or of people against exposure to radiation, and for the purpose of ensuring the safety and security of radiation sources make regulations prescribing the requirements with which radiation sources and any facilities or equipment used in connection therewith must comply.

3.4.6 The Minerals Prospecting and Mining Act No. 33 of 1992

This Act makes provisions for various types of licences relating to mining operations such as exclusive and non-exclusive prospecting licences, mining claims, mineral licences, reconnaissance licences, mineral deposit retention licences, and mining licences.²⁰

20 For more details see the Chapter 18.

The Act contains some relevant provisions for pollution control related to mining activities in the country. The Act not only provides that a holder of a licence claim must take all reasonable steps necessary to prevent or minimise any pollution of the environment,²¹ it also requires that the holder of a mineral licence must prepare an environmental impact assessment indicating the extent of any pollution of the environment before any mining activities can be carried out as well as an estimate of any pollution likely to be caused by the respective mining activity.²² The application for a mining licence must *inter alia* contain particulars “of the manner in which it is intended to prevent pollution, to deal with any waste, to safe guard the mineral resources, to reclaim and rehabilitate land disturbed by way of the prospecting operations and mining operations and to minimize the effect of such operations on land adjoining the mining area.”²³ Under specific circumstances, the Minister has the power to reserve land from mining operations. Should the Minister for instance consider it necessary in terms of the protection of the environment or natural resources, he or she may declare that a mining activity may only be carried on with the special permission of the Minister.²⁴ The Act furthermore provides that mineral licence holders are liable for any damage to land, water, plant or animal life caused by spilling or pollution and must take all such steps as may be necessary to remedy such spilling, pollution, loss or damage at his or her own costs.²⁵

3.4.7 Water Related Legislation

For obvious reasons, pollution control also plays a major role in Namibia’s legislation related to water. Considering that Namibia is an arid country, which is dependent on limited groundwater and surface water, pollution control of this scarce natural resource must be of primary concern. Pollution of surface and groundwater by mismanagement of solid waste or other mechanisms has widespread and long-term impacts which must be avoided. Major sources of water pollution include human and animal faecal material arising from inadequate sewage works or deposited directly on land or in water; poorly managed or situated landfill sites; and pollution by agricultural and health pesticides. Selection and monitoring of waste disposal sites is another crucial factor. Waste disposal sites should not be situated next to flowing waters or Oshanas, so to avoid leak pollutants into the water or overflow during rains.

National water related legislation addresses water pollution through various channels. First of all, the EMA, the Environmental Assessment Policy and related

21 Section 41(1)(e).

22 Section 50(f)(i).

23 Section 91(f)(iii).

24 Section 122(2)(b).

25 Section 130.

regulations contain various provisions relevant for the protection of water resources from pollution. Water resource developments that may not be undertaken without environmental clearance certificate include the abstraction of ground or surface water for industrial or commercial purposes; any water abstraction from a river that forms an international boundary; construction of canals and channels including the diversion of the normal flow of water in a riverbed and water transfer schemes between water catchments and impoundments; the construction of dams, reservoirs, levees and weirs; the construction of industrial and domestic wastewater treatment plants and related pipeline systems; or irrigation schemes for agriculture excluding domestic irrigation.

The latest achievement in specific national water legislation was the promulgation of the Water Resources Management Act No. 11 of 2013. The Act has been passed by Parliament, signed by the President and published in terms of the Namibian Constitution.²⁶ The Act repeals both, the Water Resources Management Act No. 24 of 2004 and the Water Act No. 54 of 1956 as a whole. However, the 2013 Water Resources Management Act has not yet come into operation, as the Minister has not yet determined a date for the Act to come into operation as required by Section 134 of the Act. As the Water Resources Management Act of 2004 has never come into operation ever since its promulgation, the only applicable law at this stage is the rather out-dated Water Act of 1956.

The Water Act of 1956 contains specific provisions with regard to the prevention of water pollution in Section 22. As a general rule, the person who has control over land on which any thing was or is done which involved or involves a substance capable of causing water pollution, must take steps to prevent any public or private water on or under that land, including rain water, or the sea from being polluted. Steps to prevent water pollution may also be taken by the Minister.²⁷ Emergency action may be taken in cases of pollution incidents by the Director-General of Water Affairs and Forestry.²⁸ Water pollution is an offence as per Section 23 of the Water Act. Moreover, the Minister may make regulations with regard to the prevention of water pollution, the Minister may for example draft regulations relating to the prevention of wastage or pollution of public water and private water, including underground water, of pollution of sea water, and of damage to the environment caused by water.²⁹

One of the fundamental underlying principles of the 2013 Water Resources Management Act is the “prevention of water pollution and implementation of the principle that a person disposing of effluent or waste has a duty of care to prevent pollution”. A further principle governing the Act is that “a polluter is liable to pay all costs to clean up any intentional or accidental spill of pollutants”.³⁰ To this end, the Act devotes an

26 See Government Notice No. 332 of 2013, Government Gazette No. 5367.

27 Section 22A.

28 Section 22B.

29 Section 26.

30 Section 3(k) and (l).

entire part to water pollution control.³¹ Part 13 of the Act contains general provisions relating to water pollution and related liability and prohibits the discharge of wastewater, effluent or waste without licence and sets forth specific requirements for such licence.³²

Besides the part on water pollution control, also other provisions are particularly relevant in terms of the protection of water resources: Water protection areas may be determined according to Sections 85 to 87 in order to³³

protect and enhance any water resource, riverine habitat, watershed, ecosystem or other environmental resource that is at risk of significant changes to resource quality, depletion, contamination, extinction or disturbance from any source, including aquatic or terrestrial weeds.

Provisions are made for water related emergency or pollution threats in Sections 88 and 89. The Minister may furthermore require water services providers and bulk water users to develop and adopt water services plans, including water conservation and water demand management strategies.

The Prevention and Combating of Pollution of the Sea by Oil Act No. 6 of 1981 amended by the Prevention and Combating of Pollution of the Sea by Oil Amendment Act No. 24 of 1991 provides for the prevention and combating of pollution of the sea by oil and determines liability in certain respects for loss or damage caused by the discharge of oil from ships, tankers or offshore installations. The general message of this Act is that the discharge of oil from a ship, tanker or offshore installation is prohibited. As a general rule the Act provides that the owner of any ship, tanker or offshore installation is liable for any loss or damage caused elsewhere than on such ship, tanker or offshore installation, in the area of Namibia by pollution resulting from the discharge of oil from such ship, tanker or offshore installation. According to Section 4 of the Act, the Minister is empowered to take steps to prevent pollution of the sea where oil is being or is likely to be discharged.

3.4.8 The Pollution Control and Waste Management Bill

A Pollution Control and Waste Management Bill has been prepared in 1999³⁴ with the aim to ensure a more effective instrument drawing together the waste management and pollution control functions from all ministries involved. However, this draft piece of legislation has been in preparation for more than twenty years. Apparently, the Ministry of Environment and Tourism was in the processes of reviewing and harmonising both, the EMA as well as the Pollution Control and Waste Management Bill with a

31 Part 13.

32 Section 70.

33 Section 85.

34 The Bill is available at <https://bit.ly/3bUWe6M>, accessed 25 May 2021.

particular focus on potentially conflicting provisions within both legal instruments.³⁵ It is not clear at this stage, whether the Bill will ever be signed into law. With current activities to amend the EMA being underway,³⁶ it is likely that more detailed provisions related to the management of hazardous waste will be integrated into the amended EMA and that with the coming into force of the Public and Environmental Health Act in 2020, the Pollution Control and Waste Management Bill might become obsolete.

3.5 National Solid Waste Management Strategy (2018-2028)

Following a baseline assessment and a stakeholder consultation process in 2017, the National Solid Waste Management Strategy (2018-2028) was finalised with the vision “to become the leading country in Africa in terms of standards of solid waste management by 2028”.³⁷ In very general terms, the strategy aims to improve the management of waste and hazardous substances in Namibia. The baseline assessment identified various priorities, which have in the following been addressed in the Strategy. These priorities include waste disposal, which, under the current solid waste management is one of the major environmental problems in the country. It has been captured among others, that Namibia, at the time of the baseline assessment, only had two hazardous waste disposal sites (Windhoek and Walvis Bay); illegal dumping and litter, especially in areas where no formal waste collection system is in place; there is a lack of awareness with regard to solid waste; and, most importantly in the context of this chapter, it has been stated that “the legal framework for solid waste management is weak, and an approach for the step-by-step tightening of standards is needed. In particular, minimum standards for waste disposal need to be adopted and implemented.” Based on these priorities, the following objectives have been formulated for the Strategy:³⁸

- To strengthen the institutional, organisational and legal framework for solid waste management, including capacity development;
- to install a widespread culture of waste minimisation and to expand recycling systems;
- to implement formalised solid waste collection and management systems in all populated areas, including under the administration of Regional Councils;
- to enforce improvements in municipal waste disposal standards; and
- to plan and implement feasible options for hazardous waste management; (includes healthcare waste management).

35 See Ngatjijheue (2015a).

36 See Shigwedha (2019).

37 GRN (2018b).

38 Ibid:9.

The Strategy is subdivided into four phases. In phase one and two, the framework and the core components are to be implemented, while major infrastructure is to be developed in phase three (2020 to 2023). The final phase (2023) is reserved for revision to re-assess priorities and update the Strategy. In the legal context, within the first objective (strengthening the institutional, organisational and legal framework for solid waste management, including capacity development) it has been set forth that that Waste Management Regulations are to be adopted by the Ministry early in the first phase (2017 to 2019). The regulations will include definitions and waste classifications; set the framework for implementation of the Strategy; include standards for waste disposal, including environmental monitoring at waste disposal sites; clarify roles of stakeholders such as municipalities and regional councils; clarify licensing requirements; clarify enforcement mechanisms and responsibilities, particularly at local level and particularly the responsibilities at regional councils; and serve as a framework for the implementation of commitments under international conventions. Moreover, it is planned that Hazardous Waste Management Regulations define types of hazardous waste; define the types of waste generators that must comply and set standards that must be taken for waste separation, storage, transport, treatment, disposal. It should be noted, that to date, such Regulations have not been gazetted, the consultative process was, however, finalised.³⁹ The issue of producer responsibility will only be addressed at a later stage. Strengthening enforcement will also form part of the development of the Waste Management Regulations, which will include “clarification of the enforcement mechanisms, including increasing penalties (if needed) and ensuring the roles of local enforcement officers include control of illegal dumping and littering. The regulations will ensure that the mechanisms for issuing penalties are clear, quick and fair.”⁴⁰

From an institutional perspective, it should be noted, that the Strategy provides for establishing a Solid Waste Management Unit within the Ministry of Environment, Forestry and Tourism to manage the effective implementation of the Strategy so that sustainable improvements in solid waste management will be achieved; and to furthermore “act as a focal point for ministries, institutions and particularly local authorities in relation to information on solid waste management and sharing of good practices.”⁴¹ Another important body established as per the Strategy is the National Solid Waste Management Advisory Panel, which is composed of representatives from several national ministries and other key stakeholders, which serves to provide advice to the Solid Waste Management Unit, discuss key challenges, develop action plans for solutions at national level, ensure co-operation in Strategy implementation, and to identify and assess potential funding mechanisms for solid waste management.

39 GRN (2020c:63).

40 GRN (2018b:16).

41 Ibid:21.

The coordination of the Solid Waste Management Advisory Panel with quarterly meetings to guide the implementation of the Strategy, inspections and engagements with Local Authorities as well as the gazetting of waste disposal sites considered to be compliant in terms of the Environmental Management Act of 2007,⁴² and the introduction of environmental levies, including a plastic bag levy were among the key activities implemented by the MEFT during the 2019/20 financial year.⁴³

3.6 Waste Management at Municipal Level: The Example of the City of Windhoek

The collection and disposal of waste is the responsibility of local and regional authorities. As stipulated by Section 94 of the Local Authorities Act No. 23 of 1992, a local authority council may, after consultation with the Minister responsible for Regional and Local Government and Housing make regulations by notice in the Gazette in relation to various areas relevant to pollution control and waste management, including the supply, distribution and use of water in its local authority area (including the protection from pollution of water);⁴⁴ the regulation, protection and use of a system of sewerage and drainage;⁴⁵ and “the provision, regulation and control for the removal or disposal of night soil, refuse, slop water, garden and stable litter and otherwise offensive or unhealthy matter”.⁴⁶ Local authorities do thus play an important role in waste management and pollution control. In the bigger cities, this mandate has resulted in an improvement of the waste situation in the country. However, within rural communities, the handling of waste remains a major concern.

In this section, waste management at the municipal level is discussed on the basis of an example, namely that of the City of Windhoek.⁴⁷ Despite the fact, that Windhoek

42 The first 11 waste disposal sites in terms of the Environmental Management Act are Kupferberg, Windhoek; Walvis Bay; Epukiro; Oshakati; Rundu; Oranjemund; Ruacana; Tsandi; Eheke Settlement; Okahao; and Ondangwa. A further seven Waste Disposal Sites were considered by the MEFT to also be eligible to be gazetted in terms of the Environmental Management Act. These were submitted to the Ministry of Justice for gazetting and include Keetmanshoop Landfill, Okombahe Dumpsite, Otjimbingwe Dumpsite, Swakopmund Landfill, Uis Dumpsite, Ongwediva Dumpsite and Oshakati Dumpsite.

43 GRN (2020c:54).

44 Section 94(1)(a) of the Act. Such Regulations have for example been made by the City of Windhoek General Notice No. 16 by the Windhoek Municipality on Waste Management Regulations: Local Authorities Act, 1992 Government Gazette No. 4650 (2011) and the Town Council of Oranjemund, see General Notice No. 269 by the Oranjemund Town Council, Waste Management Regulations: Local Authorities Act, 1992 Government Gazette No. 5767 (2915); or the Ondangwa Town Council, see Waste Management Regulations: Local Authorities Act, 1992 General Notice No. 169 Government Gazette 5726 (2015).

45 Section 94(1)(b) of the Act.

46 Section 94(1)(c) of the Act.

47 For an analysis of the solid waste management system in Swakopmund see Kadhila (2019).

has been considered one of the cleanest cities in Africa,⁴⁸ environmental management in Windhoek is challenged by urbanisation as people from rural areas are increasingly populating Namibia's capital in search of jobs and a higher standard of living. Population pressure is, no doubt, one of the factors that contribute to waste production and pollution. The City of Windhoek is committed to the principles of sound environmental management and in the promotion of improved quality of life for all residents of Windhoek by rendering environmental practices aiming to ensure a healthy, clean and secure environment for all residents, while at the same time creating an environment for socio-economic and sustainable development.⁴⁹

Two documents form the foundation for waste management in the City of Windhoek, namely the Solid Waste Management Policy⁵⁰ launched in October 2010 and the Waste Management Regulations gazetted in 2011.⁵¹ The formulation process of the Solid Waste Management Policy started as early as 2005 with the objective to streamline waste management operations and guarantee an integrated approach towards all waste management activities within the city.

Underlying principle of the Solid Waste Management Policy is the waste management hierarchy, according to which waste prevention and minimisation are the primary focus, followed by reducing, reusing and recycling of waste and disposal only as a last resort. Further principles governing the Solid Waste Management Policy include the principles of sustainable development;⁵² sustainable consumption and cleaner production;⁵³ the polluter pays principle;⁵⁴ the duty of care principle;⁵⁵ and the best practical environmental option principle stating that any waste management activities must provide the most benefit for the least damage to the environment at an acceptable cost

48 See Tjirera (2020) for a discussion on cleanliness in Windhoek's colonial history.

49 See Hasheela (2009).

50 CoW (2010).

51 See General Notice No. 16 by the Windhoek Municipality on Waste Management Regulations: Local Authorities Act, 1992 Government Gazette No. 4650 (2011).

52 Defined as development that meets the needs of the current generation without compromising the ability of future generation to meet their needs.

53 Sustainable consumption is described as a concept based on the continuous improvement of processes; housekeeping, raw material input and products to increase efficiency, whilst reducing the potential impact to the environment and human health, while cleaner production encompasses two key features, namely that to purchase and use only what is required to satisfy human need favouring a good quality of life through decent but not decadent standards of living; and to looking at the "cradle to grave" cycle of a product in terms of performance when purchasing in order to make more "waste-wise" choices.

54 Which transfers the burden of the cost for integrated and therefore environmentally and socially responsible waste management to the polluter in terms of costs associated with the rehabilitation of the natural environment and human health caused by the pollution.

55 The duty of care principle requires every generator of waste to be responsible for the fate of their waste as soon as it has been generated.

both in the long and short term. The vision of the Solid Waste Management Policy thus states:⁵⁶

The vision of the SWM Policy encompasses the concepts of integrating all required waste management activities based on the minimisation of pollution and waste across various sectors, as well as the management of waste activities in accordance with the Principles of the Integrated Waste Management Hierarchy. Through the SWM Policy, the City of Windhoek aims to maintain control over all waste management activities within its area of jurisdiction, including industrial, business, institutional and household levels.

Specific objectives that have been laid down in the policy relating to legislative framework, political will and cooperative governance; waste minimisation, cleaner production and sustainable Consumption; optimisation of resources; integrated waste management planning; integrated waste information system; health care risk waste management strategy and plan; priority waste; capacity building through education and awareness raising; community participation in waste management activities; research and development; and best practice guidelines and standards.

The Solid Waste Management Regulations are the regulatory framework to enforce, promote and support the principles within the Solid Waste Management Policy. The regulations contain a detailed set of provisions dealing among others with the storage, collection, transportation, treatment and disposal of various kinds of wastes, including garden, bulky and household hazardous waste; builder's waste; industrial, business waste and recyclable waste; hazardous waste; and health care risk waste. Further provisions relate to disposal sites and the selling and recycling of waste, which must be performed in compliance with occupational health and safety law; environmental law; health law; labour law; and other relevant law. Chapter 5 of the regulations spells out certain prohibitions in terms of accumulating waste, littering, dumping, abandoned articles and certain prohibited advertising. According to provisions contained in Chapter 6 of the regulations, certain types of waste may only be collected by a waste contractor in possession of a valid licence, issued by the Council. The regulations stipulate that any person who contravenes or fails to comply with any provisions of the regulations commits an offence. Enforcement has been dealt with in Chapter 7 of the regulations. Waste inspectors are appointed by the Council to administer, implement and enforce any provisions of the regulations and any other waste management related regulations promulgated by the Council.

Solid waste generated in Windhoek is managed by the City of Windhoek's Solid Waste Management Division (SWM). One general and hazardous waste landfill site and satellite landfill sites are operated in Windhoek. While general and hazardous waste is disposed at the Kupferberg landfill site, the disposal of garden refuse and building rubble is possible at the satellite landfill sites (in Havana, Khomasdal, Pionierspark, Ludwigsdorf, Otjomuise, Eros, Okuryangava, Brakwater and Kleine Kuppe).

56 See Vision of the Solid Waste Management Policy, CoW(2010).

At the Kupferberg landfill site, the waste is dumped and subsequently compacted with a trash compactor and covered with sand or soil to prevent flies, rodent, dogs and people from searching through the waste after it has been dumped. To prevent leakage of water that might form from the decomposing waste and to keep contaminants from leaking and polluting into underlying groundwater, the base of the landfill site consists of liners.

A recycling initiative has been launched by the City of Windhoek in cooperation with a private enterprise called Rent-A-Drum in 2010.⁵⁷ The project encourages residents to separate their recyclables and has introduced the Clear Bag System (CBS) with which residents are required to separate paper, bottles, cans and plastics from the rest of their household waste for recycling. The collected recyclable waste is sorted, baled and transported to available markets. Most of the recyclables are sold to South Africa or exported overseas; only a small market for recyclable plastics exists in Namibia.⁵⁸

4 Concluding Remarks

Waste management is increasingly shifting into the public focus and is becoming an area of concern, interest and activity throughout the country. The regulatory framework developed by the City of Windhoek with its waste management hierarchy and integrated waste management approach is a commendable starting point for a cleaner environment on local level, provided that implementation and enforcement are effective. However, it is also being lamented that waste is becoming a serious concern in many towns, settlements, villages and in rural areas, especially in the northern parts of the country. Poorly managed waste not only affects the beauty of the country, thus negatively impacting the tourism industry. It is also becoming a serious threat for the environment with a negative effect on people's health.⁵⁹ This is also reflected in more studies on waste management in Namibia. A study on waste management in the three northern towns of Oshakati, Ongwediva and Ondangwa concludes that the general waste management practice in these towns⁶⁰

57 Rent-A-Drum is a privately owned Namibian company active in waste management in Namibia, which offers service to Namibian corporations, mines and smaller companies, including the citizens of Windhoek. Rent-A-Drum has branches in Oshakati, Walvis Bay, Swakopmund (where an new waste sorting plant has just recently begun operations), the Husab Mine, and Windhoek.

58 See Croset (2014:23); Rent-A-Drum recycles an average total of 1,800 tons per month. 22 different commodities are sorted before baling and dispatching the different commodities to different recycling plants in South Africa, see <http://www.rent-a-drum.com.na/about>, accessed 28 May 2021.

59 See Heinrich (2015).

60 Mughal (2014:11).

is not in the line with international solid waste management standards neither with the national laws of waste management. Waste is being treated as waste and people are not always aware of the benefits related to the proper waste management. There is limited understanding of the harm that waste can cause to the environment, diseases caused to people and to animals and also the potential benefits, such as income that can be generated from recycled goods and the reuse or selling of the used products.

Another study analysing waste management in Swakopmund concludes that:⁶¹

There is insufficient enforcement of an ISWM [integrated solid waste management] approach at municipal level. Accordingly, the 4Rs [reduce, reuse, recycle and recover] are not applied efficiently and effectively, despite having some reduce, reuse and recycling activities in the private sector... Environmental impacts associated with inappropriate MSW [municipal solid waste] disposal remain a challenge, despite efforts from the Municipality and various stakeholders involved in MSWM [municipal solid waste management].

Pollution control and waste management are serious environmental challenges for Namibia that need to be addressed by a sound and harmonised legal and policy framework, awareness raising through education and information, active involvement of the public and private sector, and, last but not least, by sufficient financial and human resources to ensure effective implementation and enforcement.

On a more positive note, waste does not only provide challenges, but more and more opportunities, especially when investigating the nexus between waste and energy. We live in an innovative age and recycling doesn't just have to be urban (plastics etc). Agricultural examples elsewhere *inter alia* relate to self-sustainable biogas plants. In order to make this work, however, further consolidated law and policy may be needed.

In 2004, it has been stated that⁶²

in Namibia today, poor waste management practices pose the most serious and challenging environmental problems associates with infrastructure development and urban land-use planning. Waste products are increasing all the time due to the increasing population, particularly in urban areas, coupled with an increased standard of living and industrialisation. This places enormous strain on existing waste management activities such as collection, transportation, storage, and disposal. It is necessary, therefore, to develop more effective waste management programmes and sage waste disposal practices. Small municipalities, town councils and village councils in Namibia lack effective waste management practices covering collection, transportation and disposal programmes, mainly due to a lack of sufficient resources. There is an increasing acknowledgement by the public and authorities of the importance of adequate and effective waste collection and disposal.

Since then, much has been achieved to improve environmental protection in the field of waste and pollution. The EMA, together with the National Solid Waste Management Strategy plays an important role in this regard. However, necessary amendments of the EMA are still underway, Waste Management Regulations as envisaged in the National Solid Waste Management Strategy have not yet been gazetted, while the Public and Environmental Health Act No. 1 of 2015 has come into operation in 2020. It remains to be seen, whether a coherent legal system of enforceable provisions, with

61 Kadhila (2019:123).

62 See MET (2006:85).

corresponding responsibilities not only for national and local and regional authorities but also for private producers will emerge from the pending efforts targeting to enhance pollution control and waste management and to strengthen the institutional, organisational and legal framework for solid waste management.

PART IV:

BIODIVERSITY AND WILDLIFE

Chapter 10: Legal Protection of Biodiversity in Namibia

Manfred O. Hinz and Oliver C. Ruppel

1 Introduction

This Chapter intends to give a synoptic overview of biodiversity conservation under environmental law in Namibia.¹ The aim of this overview about the legal protection of biodiversity in Namibia is to describe in broad terms the legal framework in which efforts to protect biodiversity have to be understood. Prior to introducing specific international agreements applicable in Namibia connected to the protection of biodiversity, some general remarks on biodiversity and the legal protection thereof are provided. Then, relevant provisions in the Constitution of Namibia are highlighted before turning to statutory law and policy pertinent to the protection of biodiversity. Chapter 23 in this publication deals extensively with customary law and the environment and focuses on biodiversity amongst others, customary law aspects of biodiversity protection will thus not form part of this Chapter.

2 Biodiversity in Perspective

In the 1980s, when the concept of biological diversity (now more commonly biodiversity) was in its infancy, biological diversity comprised an estimate of roughly 1.5 million described species living on earth. Today's estimates range widely, largely because most living species are micro-organisms and tiny invertebrates. Estimates range from 5 to 30 million species. Roughly 1.75 million species have been formally described and given official names. The number of unclassified species is much higher.² The coinage of the term biological diversity can be attributed to Lovejoy,³ Norse and McManus⁴ and Wilson.⁵ Lovejoy was probably the first person to use the term in 1980.⁶ Biological diversity can be defined as the variability among living organisms from all sources, including terrestrial, marine and freshwater ecosystems, which includes diversity within species, between species, and habitats or ecosystems.⁷

1 This Chapter is substantially based on the publications by Hinz / Ruppel (2008b); (2010); Hinz *et al.* (2012) and Hinz (2013c).

2 Heywood (1995).

3 Lovejoy (1980).

4 Norse / McManus (1980:32).

5 Wilson (1985:400).

6 Lovejoy (1980).

7 Article 2 of the 1992 Convention on Biological Diversity.

Biodiversity has also been defined as the totality of genes, species, and ecosystems of a region. This describes most circumstances and presents a unified view of the traditional three levels at which biodiversity has been identified: Genetic diversity, referring to the diversity of genes within a species. There is a genetic variability among the populations and the individuals of the same species. Species diversity means the diversity among species in an ecosystem; and ecosystem diversity describes diversity at a higher level of organisation, the ecosystem. Ecosystem diversity refers to all the various habitats, biological communities and biological processes as well as the variations and interconnections and interrelations between and or among various ecosystems.

As the fundamental building blocks for development, biological resources provide the basis for local food sufficiency, and a backbone for many countries' economies.⁸ At the same time, biological diversity is a global asset, and is expected to benefit people in all parts of the world.⁹ For millennia, people have relied on ecosystems to meet their basic needs such as food, water and other natural resources. Apart from these, there are a multitude of further benefits of biodiversity. For instance, a significant proportion of drugs are derived, directly or indirectly, from biological sources. As early as the mid-19th century, the Scottish adventurer and missionary David Livingstone brought plants from the African continent, hoping they would serve as a basis for medicinal drugs.¹⁰ Over the last decade, the interest in drugs of plant origins and their use in various diseases has increased in many industrialised countries since plants used in traditional medicine are more likely to yield pharmacologically-active compounds.¹¹ Indeed, in most cases, it is impossible to synthesise plant-based medicinal drugs in a laboratory setting. Higher biodiversity also controls the spread of certain diseases as viruses will need to adapt to infect different species. Moreover, a wide range of industrial materials are derived directly from biological resources. These include building materials, fibres, dyes, resins, gums, adhesives, rubber and oil. Many people also derive value from biodiversity through leisure activities. And finally, many cultural groups view themselves as an integral part of the natural world and show respect for other living organisms.

Biological diversity has to be safeguarded and conserved. The term conservation is defined as the management of human use of the biosphere, so that it may produce the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of the future generations. Thus, conservation embraces the preservation, maintenance, sustainable utilisation, restoration, and enhancement of the natural environment. While ecosystems may be used by present generations for

8 Ruppel (2009h and j).

9 McNeely *et al.* (1990).

10 Blaikie (2004).

11 Paing *et al.* (2006:1).

their benefit, they should only be used in a way not depriving future generations of their right to use such ecosystems in the same manner for their survival. The maintenance of biological diversity at all levels is fundamentally the maintenance of viable populations of species or identifiable populations.¹²

Efforts to maintain the diversity of biological resources are urgently required at local, national, and international level. Southern Africa and Namibia, as part of this region, is no exception. Van Wyk and Gericke introduced their publication, titled *People's Plants*, by stating the following:¹³

Southern Africa is exceptionally rich in plant diversity with some 30,000 species of flowering plants, accounting for almost 10% of the world's higher plants. The region also has great cultural diversity, with many people still using a wide variety of plants in their daily lives for food, water, shelter, fuel, medicine and the other necessities of life.

In the last few decades, the Southern African region has seen great changes in access to modern health care and education, shifts from rural to urban areas, changes from subsistence farming to cash-crop production, greater flows of migrant labour, and unprecedented environmental degradation. These changes in the socio-cultural and environmental landscape have severely eroded the indigenous knowledge base.

Namibia's biodiversity includes innumerable species of wild plants and animals. Indeed, as little as about 20% of Namibia's wildlife species have been captured scientifically to date. The number of described species in Namibia varies depending on the consulted sources.¹⁴ For its Red List, The IUCN counts 3,157 described species for Namibia, of which 257 are endemic.¹⁵ The 2021 IUCN Red list¹⁶ reveals that the number of species known to be threatened within those species that have been assessed to date counts a total of 131 (critically endangered, endangered and vulnerable categories only) species in Namibia (15 mammals, 34 birds, 5 reptiles, 43 fishes, 2 Molluscs, 31 plants and 2 other inverts). 13 animal species are listed as critically endangered (including among others the black rhino), 32 as endangered, and 55 as vulnerable.

12 Groombridge (1992:xvi). The book by Wulfmeyer (2006) is an interesting record on how this global task has been incorporated into Namibia's education system.

13 Van Wyk / Gericke (2000:7).

14 See the Namibia Biodiversity Database at <http://www.biodiversity.org.na/index.php>, accessed 30 May 2021.

15 GRN (2014e:3).

16 IUCN Red List version 2021-1: Table 5; http://www.iucnredlist.org/about/summary-statistics#Tables_5_6, accessed 28 May 2021.

Table 1: Threatened Species in Namibia as per the IUCN Red List

	Animals						Plants
	Mammals	Birds	Fishes	Reptiles	Molluscs	Other Inverts	
critically endangered	1	4	7	0	0	1	3
endangered	4	17	11	0	0	0	4
vulnerable	10	12	25	5	2	1	24
Total threatened species	131						

Source: Table compiled by the authors based on IUCN Red List version 2021-1: <https://www.iucnredlist.org>, accessed 28 May 2021.

Five major threats have been identified as threats to biodiversity:¹⁷

- **Habitat loss, alteration, and fragmentation:** mainly through conversion of land for agricultural, aquaculture, industrial or urban use; damming and other changes to river systems for irrigation, hydropower or flow regulation; and damaging fishing activities.
- **Over-exploitation of wild species populations:** harvesting of animals and plants for food, materials or medicine at a rate above the reproductive capacity of the population.
- **Pollution:** mainly from excessive pesticide use in agriculture and aquaculture; urban and industrial effluents; mining waste; and excessive fertiliser use in agriculture.
- **Climate change:** due to rising levels of greenhouse gases in the atmosphere, caused mainly by the burning of fossil fuels, forest clearing and industrial processes.
- **Invasive species:** introduced deliberately or inadvertently to one part of the world from another; they then become competitors, predators or parasites of native species.

For most of human history, the natural world has been protected from the most disruptive human influences by relatively humble technology; cultural-ecological factors, such as taboos preventing overexploitation; inter-tribal peace, maintained by keeping wide areas of wilderness ‘buffer zones’¹⁸ between groups; land ownership by ancestors or lineages rather than individuals; relatively sparse human populations; and many other factors.¹⁹ All but a handful of countries have national parks and national legislation promoting conservation. Most governments have joined international conservation conventions and built environmental considerations into the national education system. Non-governmental organisations (NGOs) are active in promoting public

17 IBBES (2018:153); and WWF (2020:13).

18 Tamasang (2018).

19 McNeely *et al.* (1990:18).

awareness of conservation issues, including those dealing with biological diversity. Still, devastation continues.

Naturalists, including interested amateurs and trained biologists, and other non-governmental activists have led the conservation movement. While their contributions have been fundamental, they are unable to fully address the basic problems of conservation because the problems are not only biological, but rather political, economic, social, and even ethical. Pressures influence the decisions, affecting the natural environment and incentives that go far beyond the relatively straightforward technical considerations of what might in theory be best for biological resources. Conservation action, therefore, needs to be based on the best available scientific information and be implemented by development practitioners, engineers, sociologists, anthropologists, agronomists, economists, lawyers and politicians. Local resource users are often the ones who make local-level decisions, and their decisions are, above all, affected by enlightened self-interest. Those seeking to conserve biodiversity need to be able to identify the legitimate self-interest of rural people, and design ways of ensuring that the interest of conservation and community coincides.

Biodiversity protection has been given high importance under environmental law in Namibia. But how can legal science contribute to the conservation of biodiversity in Namibia? The aim of environmental protection in general and biodiversity maintenance in particular can be achieved by different means.²⁰ Traditional legal methods, *inter alia*, include establishing protected areas, to regulate harvesting and trade in certain species, to manage habitats and ecosystems, or to prohibiting the introduction of new, alien or invasive species. Pollution control and the management of hazardous substances are other effective mechanisms to contribute to the preservation of biological diversity. Other innovative regulatory techniques or policies to preserve biological diversity include the access to genetic resources, biotechnology as well as access to and transfer of technology. All aforementioned methods are to a certain extent governed by legal mechanisms and the success of Namibia's effort to control, manage, and conserve the sustainable use of biodiversity depends to a large extent on the effectiveness of the different legal instruments in place.

3 International Environmental Law Pertinent to Biodiversity Protection in Namibia

It has been discussed in Chapter 5, how international law is applied in the national setup. On the global level, several multilateral environmental agreements have been established that directly or indirectly contain provisions relating to the protection of biological diversity. The Convention on Biological Diversity (CBD), and the

20 Barnard (1998:283ff.).

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as the most relevant international biodiversity related agreements will be sketched in the following.²¹

There was no consensus regarding biodiversity among the nations of this world until the 1992 Earth Summit in Rio. It was at this Summit, the first of its kind at international level, where consensus was reached among scientists, policymakers and civil society that humanity was in the process of unconsciously depleting an invaluable important resource central to our food, health and economic security. The consensus reached at the Summit was in the form of a legal instrument, the Convention on Biological Diversity (CBD), which aims to regulate, protect and preserve global environmental resources. The CBD was signed by Namibia on 12 June 1992 in Rio de Janeiro and ratified on 18 March 1997. Accordingly, Namibia is obliged to ensure that its domestic legislation is in conformity with the objectives and obligations of the CBD. Namibia gives effect to the CBD *inter alia* by implementing the National Biodiversity Strategy and Action Plan and has issued its fifth national report under the CBD.²²

The CBD's Preamble affirms that biodiversity is humankind's common concern and that it has to be conserved for continued human survival. However, rather than lay down substantive rules, the CBD rather sets up overall principles, objectives and goals, leaving it up to the contracting states to develop and adopt detailed means to achieve these. It leaves it up to individual countries to determine exactly how to implement most of its provisions. Thus, major decision-making is placed at national level. The CBD provides guidelines and directions to state parties as to how they should use these resources in a conservative manner for the benefit of present and coming generations. The objectives of the CBD comprise the conservation of biodiversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources.

Methods applied to ensure the maintenance of biological diversity are *in situ* and *ex situ* conservation. *In situ* conservation is defined as follows:²³

[W]here the maintenance and recovery of habitats, species and populations occur in their natural surroundings or, for domesticated or cultivated species, in the place where they developed their distinctive properties.

While *ex situ* conservation refers to the conservation of components of biodiversity outside their natural habitats, for example in zoos and aquaria.²⁴

21 Other international agreements which also relate to the protection of biodiversity include the UN Convention to Combat Desertification; the UN Framework Convention on Climate Change; the International Convention for the Protection of New Varieties of Plants (UPOV Convention); international conventions containing fishery provisions e.g. UN Convention on the Law of the Sea; the Ramsar Convention on Wetlands; and the Global Biodiversity Strategy.

22 GRN (2014h).

23 Article 2 of the CBD.

24 Glazewski *et al.* (1998:281).

The CBD provides that states have and should maintain their sovereign rights over their biological or generic resources, and they bear the power to determine access to these resources through established mechanisms for the fair and equitable sharing of benefits arising from their use. There was consensus on the need to protect, conserve and sustainably utilise the available biological diversity for the benefit of humanity.

Thus, the CBD becomes the basis of domestic legislation on the promotion, protection and preservation of biological diversity. It gives the green light to states to exercise full control over their natural resources, provided that proper mechanisms protecting biological diversity are in place. Article 8(j) of the CBD provides that a state is obliged²⁵

subject to its national legislation, [to] respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of benefits arising from the utilisation of such knowledge, innovations and practices.

Although national sovereignty is recognised, states are obliged to conserve biodiversity and regulate the sustainable use of its component resources. They are also urged to cooperate with each other regarding areas beyond national jurisdiction and other matters of mutual interest. Article 5 of the CBD states that contracting parties are obliged to develop and adopt national biodiversity strategies, plans, or programmes, and integrate the conservation of biodiversity and the sustainable use of its components into relevant sectoral or cross-sectoral plans, programmes and policies.

The CBD has so far been extended by two Protocols. The Cartagena Protocol on Biosafety to the Convention on Biological Diversity, an international treaty governing the movements of living modified organisms (LMOs) resulting from modern biotechnology from one country to another was adopted in 2000 and entered into force on 11 September 2003. The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) which was adopted in 2010 and entered into force on 12 October 2014 provides a legal framework for the effective implementation of one of the three objectives of the CBD, namely the fair and equitable sharing of benefits arising out of the utilisation of genetic resources thereby contributing to the conservation and sustainable use of biodiversity. Namibia ratified the Cartagena Protocol in 2005 and acceded to the Nagoya Protocol in 2014.²⁶

Due to the fact that trade in wild animals and plants crosses borders between countries, the effort to regulate it requires international cooperation to safeguard certain

25 Cf. here also Articles 10(c), 17(1) and (2), and 18(4): The CBD does not differentiate between *indigenous*, *traditional* and *local*, although the terms may refer to different social situations. For example, compare the use of *indigenous* in the United Nations Declaration on the Rights of Indigenous People (UNGA Res. 61/195), which applies to specifically defined groups of people and not to all traditional communities – and certainly not to all that could be called *local*.

26 See <https://www.cbd.int/countries/?country=na>, accessed 20 October 2015.

species from over-exploitation. CITES, a convention that is legally binding on its parties, was conceived in the spirit of such cooperation. Today, it accords varying degrees of protection to more than 30,000 species of animals and plants, whether they are traded as live specimens, fur coats or dried herbs. CITES was drafted as a result of a resolution adopted in 1963 at a meeting of members of IUCN (The World Conservation Union) and entered in force in 1975. CITES provides a framework to be respected by each party, which has to adopt its own domestic legislation to ensure that CITES is implemented at national level. To date, CITES has 181 parties.²⁷ Namibia acceded to the Convention in 1990, and the Convention came into force for Namibia in March 1991.²⁸ The commercialisation of goods and services derived from native biodiversity, referred to as biotrade, has become reasonably well established in Namibia. Over the last years, exports of indigenous natural plants have contributed to the GDP with an estimated earning for exports of the devil's claw of N\$ 20-30 million per annum.²⁹ These developments in the biotrade sector have prompted Government to enhance its revenue collection by introducing differentiated rates on the export of all natural resources. In his national budget speech for the financial year 2015 / 2016, the Minister of Finance has proposed an export levy on the export of unprocessed minerals and other natural resources, aimed at the promotion of domestic value-addition in the primary commodity and natural resources sectors.³⁰

One issue in Namibia under the CITES convention has been the production of high-value modern jewellery pieces containing traditional ivory amulets, known as *ekipas*. Such items have thus far used antique *ekipas* considered as pre-Convention ivory. Since the supply of antique *ekipas* has become severely limited, the then Ministry of Environment and Tourism in collaboration with the jewellery industry of Namibia, has designed a control system for worked ivory and the legal production of new *ekipas* in particular. CITES approval was sought for the export of items of modern jewellery of high value, involving *ekipas* permanently mounted in precious metals and other materials and rendered uniquely identifiable through a combination of engraved marks, documentation and a photographic record of each item.³¹

Major foundations of biodiversity protection on the African continental level are contained in the Revised African Convention on the Conservation of Nature and Natural Resources, which was adopted by the second ordinary session of the Assembly of Heads of States and Government of the African Union in Maputo, Mozambique, in July 2003. The revised Convention has entered into force on 23 July 2016. Namibia signed the revised Convention in December 2003, while no instrument of ratification

27 For more information on CITES as well as the text of the Convention, see: <http://www.cites.org/>, accessed 14 January 2022.

28 See <https://cites.org/eng/disc/parties/chronolo.php>, accessed 20 October 2015.

29 See Venture Publications (2014:34).

30 GRN (2014c:22).

31 See <https://cites.org/eng/app/appendices.php>, accessed 30 May 2021.

has been deposited as of yet. Provisions directly related to the protection of biodiversity are contained in Article IX on Species and Genetic Diversity; Article X on Protected Species; Article XI on Trade in Specimens and Products thereof; and Article XII on Conservation Areas.

The parties to the Convention shall maintain and enhance species and genetic diversity of plants and animals whether terrestrial, fresh-water or marine. They shall for that purpose, establish and implement policies for the conservation and sustainable use of such resources. Parties are obliged to undertake to identify the factors that are causing the depletion of animal and plant species which are threatened or which may become so, with a view to their elimination, and accord a special protection to such species. Furthermore, domestic trade in as well as the transport and possession of specimens and products must be regulated by the Parties' appropriate penal sanctions, including confiscation measures. To ensure the long-term conservation of biological diversity, the Parties shall establish, maintain and extend conservation areas.

Sub-regional agreements relevant for biodiversity protection in Namibia are the various protocols under the umbrella of the Southern African Development Community (SADC). The Parties may conclude Protocols as may be necessary in each area of cooperation, which shall spell out the objectives and scope of, and institutional mechanisms for, cooperation and integration. SADC Protocols of major concern with regard to biodiversity conservation are the Protocols on Fisheries; on Forestry; on Wildlife Conservation and Law Enforcement and on Shared Watercourse Systems.

4 Biodiversity Protection under National Environmental Law

Namibian environmental law is a complex and interlocking system of statutes, policies, treaties, common, customary and case law with the Constitution as the supreme law of the land and therefore the ultimate source of law in Namibia. However, research done under the BIOTA project administered in the Faculty of Law of the University of Namibia has demonstrated that many obstacles prevent the societally expected degree of implementation. Statutory environmental law meets challenges from customary law.³² Apart from this, environmental policies and their translation into law are, in general (and this applies in all parts of the world), faced with the economic interests of sections of society that are not easy to harmonise with each other.³³

32 Cf. Hinz / Mapaure (2010); Ruppel (2009h).

33 How to balance environmental policies with economic interests, given the conditions of Namibia, is still an area where more research is needed. Groenewaldt (2008) submitted BIOTA-based legal research in which possibilities to provide incentives in support of individual measures to prevent land degradation were analysed. See also Jürgens *et al.* (2018).

4.1 The Constitution

According to its Article 1(6), the Constitution of the Republic of Namibia is the law above all laws. Therefore, all legislations ought to be consistent with the provisions of the Constitution. Although the Constitution so far contains no enforceable environmental right as such, the foundation is laid for all policies and legislation in Namibia.³⁴ Two key “environmental clauses” relevant to sustainable use of natural resources are included in the Constitution. On the issue of biological diversity and its protection, the Namibian Constitution is very clear. It is one of the provisions enshrined under the Chapter on principles of state policy. The relevant clause is Article 95(1) which stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies which include the “...maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefits of all Namibians both present and future...”. With this particular Article Namibia is obliged to protect its biological diversity and to promote a sustainable use of its natural resources. Furthermore, Article 91(c) includes in the functions of the Ombudsman “the duty to investigate complaints concerning the over utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.”³⁵ In addition to these clauses it needs to be emphasised that Article 100 provides that all natural resources, including water, vest in the state, unless otherwise legally owned.

The Constitution sets the framework and Independence created the opportunity to revise a wide range of national policies and laws. This, together with the emphasis placed on environmental concerns at the Rio Summit in 1992, and the increasing awareness, triggered widespread legislative reform particularly in terms of natural resource management. Thus, recent policy and legislative reforms have created a unique opportunity for Namibia to incorporate environmental sensitivity, and as a result Namibian legislation is supported by sound policy direction regarding sustainable development and sustainable use of natural resources.³⁶

4.2 Statutory Law

Sectoral legislation covering the protection of biodiversity is wide ranging in Namibia. A myriad of legislative instruments provide for the equitable use of natural resources

34 Ruppel (2010h).

35 On the environmental mandate of the Ombudsman see Chapter 27 in this publication.

36 Ruppel (2008a).

for the benefit of all. Only the most relevant legal instruments will be introduced briefly in the following paragraphs.

One of the major biodiversity related laws in Namibia is the legislation governing the conservation of wildlife, and protected areas, the Nature Conservation Ordinance.³⁷ The Ordinance was amended by the Nature Conservation Amendment Act.³⁸ One of its major highlights is the creation of conservancies in communal areas. In terms of the amendment, rural communities have to form a conservancy in order to be able to acquire the use-right over wildlife. Conservancies can be defined as land units managed jointly for resource conservation purposes by multiple landholders, with financial and other benefits shared between them in some way. Conservancies occur in both communal and commercial land.³⁹ The Ordinance deals with *in situ* and *ex situ* conservation by providing for the declaration of protected habitats as national parks and reserves, and for the protection of scheduled species. It regulates hunting and harvesting, possession of, and trade in listed species. Under the existing laws Namibia has national parks zoos and safari areas to conserve biodiversity. Most people consider these areas as tourist areas but the same areas have a significant scientific significance as they allow for natural movement of large animals and to ensure that there is enough space and food for all of the species. In addition to the broader national agenda on conservation of biodiversity is the Community-Based Natural Resource Management (CBNRM). This has enabled local communities to do *in situ* conservation of natural resources hence biodiversity conservation.

The Environmental Management Act⁴⁰ requires adherence to the principle of optimal sustainable yield in the exploitation of all natural resources. The Act gives effect to Article 95(l) of the Constitution by establishing general principles for the management of the environment and natural resources. It promotes the coordinated and integrated management of the environment and sets out responsibilities in this regard. Furthermore, it intends to give statutory effect to Namibia's Environmental Assessment Policy, and to enable the Minister responsible for the environment to give effect to Namibia's obligations under international environmental conventions; and to provide for associated matters. The Act promotes inter-generational equity in the utilisation of all natural resources. Environmental impact assessments and consultations with communities and relevant regional and local authorities are provided for to monitor the development of projects that potentially impact on the environment.

The Access to Biological and Genetic Resources and Associated Traditional Knowledge Act⁴¹ has been passed by Parliament but still has to come into force on a

37 No. 4 of 1975.

38 No. 5 of 1996.

39 Barnard (1998:45). Moreover, Section 1(b) of the Amendment Act defines a conservancy. To mean any area declared a conservancy in terms of Section 24A.

40 No. 7 of 2007.

41 No. 2 of 2017.

date set by the Minister. The objective of this piece of legislation is to regulate access to genetic resources and associated traditional knowledge and innovation, practices and technology associated with biological and genetic resources and traditional knowledge. Furthermore, the Act strives to protect the rights of local communities over biological resources and associated traditional knowledge. Moreover, the Act provides for a mechanism for fair and equitable benefit sharing. The Act applies to biological and genetic resources, the derivatives of biological or genetic resources, associated traditional knowledge, benefits arising from the use of biological and genetic resources, their derivatives and associated traditional knowledge, and the discovery or commercialisation phase of bioprospecting. The responsibility of ensuring fair and equitable sharing of the benefits arising from the utilisation of genetic resources and associated traditional knowledge vests in the State. Access to biological and genetic resources is subject to an access permit issued by the Ministry and to written prior informed consent of the concerned right holders. The Act also recognises general rights of local communities and provides for the protection of community intellectual property rights. Non-registration of any traditional knowledge does not render it unprotected as community intellectual property rights.

The Controlled Wildlife Products and Trade Act,⁴² which came into force in 2012, provides for the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Among others, the Act establishes a technical committee that performs duties and has certain powers as per CITES; furthermore, the Act defines certain offences and penalties related to wildlife crimes. As per Section 9 of the Act, Regulations⁴³ came into force in 2011, which deal with a system of permits and procedures required for import, export, re-export or re-import of any species listed in the Appendices of CITES, including live specimens as well as parts and derivatives.

The proposed Protected Areas and Wildlife Management Bill, which is still under discussion,⁴⁴ seeks to protect all indigenous species and control the exploitation of all plants and wildlife. The Bill is intended to give effect to paragraph (l) of Article 95 of the Constitution by establishing a legal framework to provide for and promote the maintenance of ecosystems, essential ecological processes and the biological diversity of Namibia and to promote the mutually beneficial co-existence of humans with wildlife, to give effect to Namibia's obligations under relevant international legal instruments including the Convention on Biological Diversity (CBD) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In keeping with the Constitution, the principles underlying the draft Act, are simply that

42 No. 9 of 2008.

43 See Government Gazette No. 4773 (2011) Government Notice 144.

44 See <https://www.namibian.com.na/204116/archive-read/The-Wildlife-and-Protected-Areas-Management-Bill>, accessed 20 April 2021.

biological diversity and essential ecological processes and life support systems be maintained. In case the proposed Act comes into force, it repeals the Nature Conservation Ordinance⁴⁵ and the the Controlled Wildlife Products and Trade Act No. 9 of 2008 (as amended in 2017 and 2020).

Water-related legislation is manifold in Namibia and highly relevant to biodiversity conservation.⁴⁶ Although the new Water Resources Management Act was approved by Parliament in 2013, the rather out-dated Water Act No. 54 of 1965 remains in force until the new Act has been made operational by respective notice in the Government Gazette. The Water Act of 1956 does not directly refer to the protection of biological diversity; it however contains provisions relating to water quality and conservation which are at least indirectly beneficial for the maintenance of biodiversity.⁴⁷ The new Act which provides for the management, protection, development, use and conservation of water resources provides means with regard to the protection of biodiversity. One of the Act's fundamental principles has been defined as the "harmonisation of human water needs with the water requirements of environmental ecosystems and the species that depend on them, while recognizing that the water resource quality for those ecosystems must be maintained."⁴⁸ Water resource quality is subject to several provisions in the new Act and includes the physical, chemical and biological characteristics as well as the characteristics, condition and distribution of the aquatic biota. The Act specifically endows the Minister with the function to protect the international water resource quality, with the competence to declare certain areas as water protection areas and to reserve certain water resources from being abstracted or used in order to "reasonably protect and maintain aquatic and wetland ecosystems, including their biological diversity, and to maintain essential ecosystem functions."⁴⁹

The Marine Resources Act⁵⁰ provides for the conservation of the marine ecosystem and the responsible utilisation, conservation, protection, and promotion of marine resources on a sustainable basis. For that purpose, it provides for the exercise of control over marine resources and for matters connected therewith. It replaces the Sea Fisheries Act,⁵¹ which in turn replaced the Sea Fisheries Act.⁵²

The Aquaculture Act⁵³ regulates and controls aquaculture activities and the sustainable development of aquaculture resources.⁵⁴ All aquaculture ventures will be subject to strict licensing. Section 27 is of most relevance for the protection of biodiversity. A

45 No. 4 of 1975.

46 See Ruppel / Bethune (2007).

47 Cf. a critical analysis of water law in the BIOTA project by Mapaura (2010).

48 Section 3(c).

49 Section 37.

50 No. 27 of 2000.

51 No. 29 of 1992.

52 No. 58 of 1973.

53 No. 18 of 2002.

54 Bethune *et al.* (2004).

person may not, without written permission granted by the Minister, introduce, or cause to be introduced into Namibia or any Namibian waters any species of aquatic organism or any genetically modified aquatic organism or transfer any species of aquatic organism from one aquaculture facility to another or from any location in Namibia to another.

The Inland Fisheries Resources Act⁵⁵ deals with the conservation and utilisation of inland fisheries resources and allows for the updating and development of new policies for the conservation and sustainable utilisation of Namibia's inland fisheries. It encourages cooperation with neighbouring countries regarding the management and conservation of shared waterways.

Legislation on forest is one further important mosaic in the legal system of biodiversity conservation in Namibia. Major threats to forests in Namibia include the expansion of land for agriculture; the use of fuel wood and charcoal for domestic use; tobacco curing and; land clearing for infrastructure development; uncontrolled wild fires; selective logging through timber concessions and unlicensed curio carving; and habitat destruction by elephants.⁵⁶ The Forest Act⁵⁷ consolidates the laws relating to the use and management of forests and forest produce, provides for the control of forest fires and creates a Forestry Council. Protection of the environment is found in part IV of the Act. This part of the Act deals with protected areas, protection of natural vegetation and control over afforestation and deforestation. Purpose of the Act is to conserve soil and water resources, maintain biological diversity and to use forest produce in a way that is compatible with the forest's primary role as the protector and enhancer of the natural environment.

In recognising the worldwide diversity situation, the Government of Namibia enacted the Biosafety Act⁵⁸ after having signed the Cartagena Protocol on Biosafety to the CBD, which was adopted in 2000. The Act provides for measures to regulate activities involving research, development, production, marketing, transport, application and other uses of genetically modified organisms and to establish a Biosafety Council. The objective of the Act is *inter alia* to introduce a system and procedures for the regulation of genetically modified organisms in Namibia in order to provide an adequate level of protection to the conservation and the sustainable use of biological diversity.

55 No. 1 of 2003.

56 Groenewaldt (2008).

57 No. 12 of 2001.

58 No. 7 of 2006.

4.3 National Biodiversity Strategy and Action Plan

Namibia's 10-year National Biodiversity Strategy and Action Plan for Sustainable Development through Biodiversity Conservation (2001-2010) was updated in 2012 / 2013. The second National Biodiversity Strategy and Action Plan (NBSAP2) covers the period 2013 to 2022.

The goal of the first Biodiversity Strategic and Action Plan was to protect ecosystems, biological diversity and ecological processes, through conservation and sustainable use, thereby supporting the livelihoods, self-reliance and quality of life of Namibians in perpetuity.⁵⁹ The action plan attempted to provide a national strategic framework for natural resource management activities involving biological resource management and the natural environment, including trade and economic incentives, and to prioritise, through detailed action plans, activities and measures needed to address this strategy effectively. The strategic aims of this document included: Conserving biodiversity in priority areas; sustainable use of natural resources; monitoring, predicting and coping with environmental change and threats; sustainable land management; sustainable wetland management; sustainable coastal and marine ecosystem management; integrated planning for biodiversity conservation and sustainable development; Namibia's role in the larger world community; and capacity building for biodiversity management in support of sustainable development.

NBSAP2 Vision reads as follows:

Namibia's biodiversity to be healthy and resilient to threats, and for the conservation and sustainable use of biodiversity to be key drivers of poverty alleviation and equitable economic growth, particularly in rural areas.

NBSAP2 has identified as leading threats to biodiversity: unsustainable water uses; expansion of urban areas and increasing industrialisation; threats and impacts of climate change; mining and prospecting; unsustainable land management practices; uncontrolled bush fires; alien invasive species; illegal harvesting and trade of wildlife and forest and plant resources; and human wildlife conflict. Five Strategic Goals have been formulated in NBSAP2 with regard to the protection of biodiversity, namely:

- To address the underlying causes of biodiversity loss by mainstreaming biodiversity across Government and society;
- to reduce direct pressures on biodiversity and promote the sustainable use of biological resources;
- to improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity; and
- to enhance the benefits to all from biodiversity and ecosystem services and the implementation of NBSAP2 through participatory planning.

With 17 strategic targets and 38 strategic initiatives the above goals are to be realised.

59 Barnard *et al.* (2000:13).

Chapter 11: Namibia's Wildlife Crime Legislation

Willem Odendaal

1 Introduction

Namibia has a long history of protecting its environment and its wildlife. It is one of just a few nations in the world that expressly includes principles of conservation in its Constitution, requiring the adoption of policies aimed at maintaining biological diversity and utilising “natural resources on a sustainable basis for the benefit of all Namibians, both present and future.”¹ Namibia's Nature Conservation Ordinance (NCO), one of the nation's principal legislation regarding environmental conservation and wildlife crime prevention, has been in force for over 40 years.² After Namibia's poaching problem of the 1970s and 1980s, the population rates for the nation's two most vulnerable species, the Black Rhinoceros³ and the African Elephant,⁴ largely recovered during the 1990s and 2000s.⁵ However, the number of poaching incidents in Namibia has increased at a staggering rate in the past 6 years.⁶ In the context of the entire black rhino population, these numbers are even more alarming – it is estimated that a mere 5,000 remain in the wild, approximately 1,850 of which live in Namibia.⁷

Elephants and rhinoceroses are especially at risk of poaching due to the value of their tusks and horns, but other animals are increasingly in danger as well. For example, lion and giraffe bones are also being used in illegal wildlife trade.⁸ Pangolins –

1 Article 95(l) Constitution of the Republic of Namibia.

2 Nature Conservation Ordinance No. 4 of 1975. The NCO has been amended several times over the years. Perhaps the most notable amendment is the Nature Conservation Amendment Act No. 5 of 1996 which provides for an “economically based system of sustainable management and utilisation of game in communal areas”.

3 The International Union for Conservation of Nature's (IUCN) Red List classifies the Black Rhinoceros as “critically endangered” meaning the species faces an “extremely high risk of extinction in the wild.” See IUCN Red List of Threatened Species, *Diceros bicornis*, at <http://www.iucnredlist.org/details/6557/0>, accessed 10 June 2021; IUCN (2012), hereinafter “Red List Categories”.

4 The IUCN Red List classifies the African Elephant as “vulnerable,” meaning the species faces a “high risk of extinction in the wild.” See IUCN Red List of Threatened Species, *Loxodonta africana* at <http://www.iucnredlist.org/details/12392/0>, accessed 10 June 2021; IUCN (2012:15).

5 ESAAMLG (2016).

6 MEFT (2021:34 and 38) estimates that a total of 329 elephants were poached from 2014-2020, the highest yearly number being 101 in 2016. A total of 447 rhinos (both black and white) were poached over the period 2013 to 2020, the highest yearly number being 97 in 2015.

7 Financial Intelligence Centre (2017:19).

8 LAC (2014:14); Lionaid (2016) “CITES records show that Namibia sent 13 lion skeletons to Vietnam in 2013 and then 23 skeletons to Vietnam in 2014. The source code indicates these were skeletons from wild lions”.

mammals that are often called “scaly anteaters” and that also live in Namibia – are also being increasingly trafficked for their scales and meat, and for use in Chinese medicinal products. Indeed, the pangolin is the most trafficked mammal in the world.⁹

But, despite this increase in poaching in Namibia, the increase in the prosecution of these crimes remain relatively low. In September 2016, four accused were convicted in the Windhoek Regional Magistrates’ Court of trafficking 14 rhino horns and a leopard skin which were discovered in their luggage when they were attempting to leave Namibia via Hosea Kutako Airport. Subsequently, they were all sentenced to 14 years imprisonment in the court *a quo*. The matter was then brought by the accused persons on appeal before the High Court of Namibia, which, in its judgment found the prosecution had proven its case against them, but also found the trial court should have convicted the accused of money laundering in terms of the Prevention of Organised Crime Act No. 29 of 2004 (POCA) and increased their sentences to 20 years imprisonment.¹⁰ Unfortunately, this sort of prosecution is a rare exception. Even when poachers are brought to justice, often the network of criminals that aided and conspired to commit the crime goes undetected and unpunished, which allows for crimes against wildlife to continue without repercussion or penalty. Namibia’s need to increase efforts to combat wildlife crime has not gone unrecognised. The Financial Intelligence Centre (FIC) recognises the need to “revis[e] the local wildlife protection laws” and increase “[t]raining and technical assistance to the Namibian FIC on how to deal with wildlife crime cases.”¹¹

While the Namibian legislature has introduced increases in wildlife crime penalties in recent years (as will be discussed in more detail below), this chapter primarily aims to address some of the key shortcomings with Namibia’s current legislative framework and to provide specific recommendations for how the legislation dealing with wildlife crimes can be reformed to more effectively address those issues, in the hope of empowering the State to stem the alarming rise in wildlife crimes.

2 The Duty of the Namibian Government to Act

In terms of the Namibian Constitution, national law, national policies and duties under international agreements, the government of Namibia is obligated to take action to address the poaching crisis. These directives provide the basis for this chapter’s recommendations for legislative reform in order to more effectively prosecute and deter

9 Hall (2016). MEFT statistics records show that in the period from 2015 to 2020, 109 live pangolins have been seized with the highest number in 2019 (52) and 272 dead pangolins have been seized with the highest number in 2019 (77), see MEFT (2021:41).

10 For more details on this case, see *Xiaoling and 3 Others v S (CA 18/2017) [2019] NAHCMD 94*.

11 Financial Intelligence Centre (2017:56-57).

poaching and other wildlife crimes and to protect and conserve wildlife, including, most importantly, threatened and endangered species.

2.1 Article 95 of Namibia's Constitution

Under Article 95 of Namibia's Constitution, the State is duty bound to promote and maintain biological diversity and sustainable development. Since obtaining Independence on 21 March 1990, Namibia has recognised the value of environmental protection within the context of its legislative and constitutional framework.

Article 95 of the Namibian Constitution requires the State to

actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:

(...) maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future;

Failing to take steps to adequately address the grave and undeniable increase in poaching across Namibia would violate the government's constitutional duties under Article 95. Thus, the significant increase in poaching obligates government action pursuant to Article 95 in order to maintain Namibia's ecosystems and biodiversity. The number of deaths of endangered and threatened animals, which undeniably constitute Namibia's living natural resources, is not sustainable. Article 95 of the Constitution necessitates reform of the current system to preserve biodiversity and living natural resources for present and future Namibians.

2.2 The Environmental Management Act No. 7 of 2007

The Environmental Management Act No. 7 of 2007 ("EMA") implements the principle established in Article 95 of the Constitution. The objective of the EMA is to promote the sustainable management of the environment and the use of natural resources by creating central norms for decision making on matters affecting the environment. The EMA is also designed to provide for assessment and control of activities that may significantly impact the environment. More specifically, the EMA aims to ensure that (a) the significant adverse effects of activities on the environment are considered carefully and in a timely manner; (b) there are opportunities for the timely participation of interested and effected parties throughout the assessment process, and (c) the findings of an assessment are taken into account before any decision is made in respect of activities.¹² The EMA defines "activity" broadly to mean "a physical work that a

12 Section 2.

proponent proposes to construct, operate, modify, decommission or abandon or an activity that a proponent proposes to undertake.”¹³

The EMA expressly states that “Namibia’s cultural and natural heritage including its biological diversity must be protected and respected for the benefit of present and future generations.”¹⁴ The Act also makes clear that “where there is sufficient evidence which establishes that there are threats of serious or irreversible damage to the environment, lack of full scientific certainty may not be used as a reason for postponing cost-effective measures to prevent environmental degradation,” and “damage to the environment must be prevented and activities which cause such damage must be reduced, limited or controlled.”¹⁵

The EMA utilises various mechanisms to achieve its objectives including the requirement for the production of environmental plans¹⁶ and environmental clearance certificates¹⁷ in order to carry out activities. Environmental plans under the EMA seek to harmonise environmental policies, plans, programmes, and decisions,¹⁸ and enable MET to monitor the growth and protection of a sustainable environment.¹⁹ Regulated departments of the State that perform functions that may affect the environment are obliged to produce environmental plans²⁰ and to report annually to MET on their success in implementing and complying with adopted environmental plans.²¹

There are a number of prescribed activities set out in Section 27 of the EMA that may not be undertaken without first obtaining an environmental clearance certificate. Such activities include, *inter alia*, resource removal (“including natural living resources”), agricultural processes, recreation, and any other area that MET considers necessary.²²

2.3 Namibia’s National Biodiversity Strategy and Action Plan

In addition to Article 95 of the Constitution and the EMA, Namibia’s national policy establishes conservation of the environment and the nation’s biodiversity as national priorities. Namibia’s Second National Biodiversity Strategy and Action Plan (2013-

13 Section 1.

14 Section 3(g) (emphasis added).

15 Section 3(k)-(l).

16 Section 23.

17 Section 32.

18 Section 23(a).

19 Section 23(b).

20 Section 24(1)-(2).

21 Section 26(1).

22 Section 27(2). Please note that the Ministry of Environment and Tourism has become the Ministry of Environment, Forestry and Tourism as of March 2020.

2022)²³ (“NBSAP2”) establishes nine key priorities, including addressing critical threats to biodiversity, which are supported by a number of strategic goals. The NBSAP2 recognises that a coordinated approach to preserving biodiversity is required and that there is a correlation between threats to biodiversity and the economic and social development of the country. On this basis, NBSAP2 seeks to address such threats in a holistic manner by using a number of mechanisms and measures.²⁴

Specifically, Strategic Goal C of the NBSAP2 focuses on improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity by setting a number of national targets, including:²⁵

By 2018, existing terrestrial protected areas (national parks) are conserved, effectively and equitably managed, within an ecologically representative and well-connected system, and by 2020 coastal and marine areas, of particular importance to biodiversity and ecosystem services, are identified and measures for their protection initiated.

The success of implementing these targets will be assessed and measured against a number of key performance indicators including: (1) addressing human wildlife conflict by engaging and educating local communities and consolidating integrated park management;²⁶ (2) periodically reviewing species lists and implementing species management plans;²⁷ and (3) strengthening the framework for law enforcement and improving aspects of surveillance, interception, and prosecution.²⁸

2.4 Obligations under International Agreements

In addition to its domestic obligations, Namibia also has sustainable environmental management obligations under international agreements. Article 144 of Namibia's Constitution affirms that international laws and the international agreements to which Namibia is a party are automatically incorporated into domestic law. Many of these international agreements compel the promulgation and enactment of national laws to fulfil the basic requirements of implementation of the agreements.

23 GRN (2014e), hereinafter “NBSAP2”.

24 GRN (2014e:14) states that “NBSAP2 is geared towards tackling the critical threats to biodiversity that Namibia is facing. These threats can undermine the economic and social development of the country. It is a strategic priority of NBSAP2 to address these threats in a holistic manner through a range of measures and mechanisms.

25 Ibid:24. It also sets the following goal to be achieved: “By 2016, threatened and vulnerable species lists are updated, and measures implemented by 2019 to improve their conservation status.”

26 Ibid:42.

27 Ibid:43.

28 Ibid.

2.4.1 Obligations under the Rio Declaration

In 1992, Namibia became one of the now over 170 signatory countries to the Rio Declaration on Environment and Development (“Rio Declaration”) during the United Nations Conference on Environment and Development. The Rio Declaration consists of principles intended to guide countries through sustainable development in the future. In 1995, Namibia ratified the Rio Declaration, affirming its responsibility to safeguard the common environment. For instance, Principles 3 and 4 of the Rio Declaration state:²⁹

Principle 3

The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.

Principle 4

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

2.4.2 Obligations under CITES

Further, while not an original signatory, Namibia joined the Convention on International Trade in Endangered Species of Wild Fauna and Flora (“CITES”) in December 1990 through accession,³⁰ and the relevant national legislation incorporating CITES came into force in March 1991. CITES is implemented in Namibia through the Controlled Wildlife Products and Trade Act No. 9 of 2008 (“Wildlife Trade Act”), which replicates the entire text of CITES and its Appendices in Schedules 2 and 3. Under the terms of CITES, Article VIII provides that the parties to the Convention shall “take appropriate measures” to enforce its provisions, including the penalisation of illegal import or export of wildlife products and confiscation of illegally obtained specimens. Thus, Namibia is also expressly obligated under CITES to ensure adequate prosecution and enforcement of wildlife crimes.

Additionally, Namibia is considered a “Category 1” country under CITES, which indicates that its domestic legislation meets the following criteria:

- Designation of national CITES authorities;
- prohibition of trade in violation of the Convention;
- penalisation of illegal trade; and
- authorisation to confiscate illegally traded or possessed specimens.

29 Rio Declaration on Environment and Development, at <http://www.unep.org/documents.multilingual/default.asp?documentid=78&articleid=1163>, accessed 12 June 2021.

30 Convention on International Trade in Endangered Species of Wild Fauna and Flora, List of Contacting Parties, at <https://cites.org/eng/disc/parties/chronolo.php>, accessed 12 June 2021.

However, a “Category 1” country with little enforcement and few prosecutions of those who commit wildlife crimes leaves the country’s natural resources vulnerable to exploitation, particularly with the increase in sophisticated organised crime syndicates that traffic in the illegal wildlife trade.

2.4.3 Obligations under the UN Convention on Biological Diversity

Moreover, Namibia signed the UN Convention on Biological Diversity in 1992 and ratified it in 1997, agreeing to the three core principles of the Convention: (1) the conservation of biological diversity; (2) the sustainable use of the components of biological diversity; and (3) the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.³¹ Under the Convention, Namibia is obligated to “[i]ntegrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.”³² Namibia is also obligated to, *inter alia*.³³

- Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use;
- promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings; and
- develop or maintain necessary legislation and/or regulatory provisions for the protection of threatened species and populations.

Each party to the Convention is required to establish a National Biodiversity Strategy and Action Plan (“NBSAP”).³⁴ As discussed above, Namibia’s NBSAP2 was adopted in 2013, establishing a vision for “Namibia’s biodiversity to be healthy and resilient to threats, and for the conservation and sustainable use of biodiversity to be key drivers of poverty alleviation and equitable economic growth, particularly in rural areas.”³⁵ Despite establishing key priorities, this document, which is over 60 pages, does not make reference to poaching and only refers to hunting in the context of revenue gained through trophy hunting permit sales. The plan’s failure to address the steep losses in wildlife due to illegal poaching renders it inadequate to ensure the conservation of biological diversity, in contravention of the UN Convention and other international obligations, and Article 95 of the Constitution.

31 United Nations Convention on Biological Diversity, <https://www.cbd.int/doc/legal/cbd-en.pdf>, accessed 12 June 2021.

32 Article 6(b).

33 Article 8(c), (d), (k).

34 Article 6.

35 GRN (2014e:v).

3 Overview of Namibia's Legislative Framework

3.1 For Wildlife Crimes

As indicated above, Namibia is one of the few countries in the world that addresses sustainability and conservation directly within its Constitution, laying the foundation for a comprehensive national legal framework. Key pieces of domestic national wildlife protection legislation, which are discussed more fully below, include:

- The Nature Conservation Ordinance No. 4 of 1975 (“NCO”), which outlines hunting regulations;
- the Nature Conservation Amendment Act No. 5 of 1996 (“Conservancies Amendment Act”), which amended the NCO by introducing a community-led system of “conservancies”;
- the Game Products Trust Fund Act No. 7 of 1997 (“Trust Fund Act”), which establishes a government fund that supports the conservancies, wildlife councils, and other projects concerning wildlife conservation and resource management;
- Government Notice 240, Regulation of Game Parks (25 August 1976); and
- the Controlled Wildlife Products and Trade Act No. 9 of 2008 (“Wildlife Trade Act”), which deals with the possession, trade, import and export of wildlife products.

Namibia's MEFT oversees the implementation of this regulatory framework. MEFT also controls the issuing of hunting permits and generally formulates policies and guidance in relation to human-wildlife management and species-specific management plans.

3.2 The Nature Conservation Ordinance No. 4 of 1975

The Nature Conservation Ordinance No. 4 of 1975 (NCO) is the primary Namibian legislation governing the prevention of wildlife crime and sustainable conservation. It prohibits the hunting of any animal in any national game park or any nature reserve without the written permission of the State.³⁶ In relation to private game parks, the owner of the land may hunt game, wild bird, and animals (except Protected and Specially Protected Game, as defined below) without the written permission of the State.³⁷

The NCO divides animal species into three protective categories: (i) specially protected game,³⁸ which includes elephant and rhinoceroses; (ii) protected game, such as

36 Section 20.

37 Section 23.

38 Schedule 3.

leopards;³⁹ and (iii) huntable game, such as buffalo and springbok.⁴⁰ the following animals are classified as specially protected game,⁴¹ protected game⁴² and huntable game and are afforded additional protections under the NCO:

Table 1: Protective Categories of Animal Species under the Nature Conservation Ordinance

Specially Protected Game	
Mountain Zebra	Impala
Giraffe	Hippopotamus
Klipspringer	Black-faced Impala
Black Rhinoceros	Zebra
White Rhinoceros	Elephant
Protected Game ⁴³	
Aardwolf	Steenbok
Dikdik	Roan Antelope
Blue Wildebeest	Cheetah
Leopard	Silver Jackal
Sable Antelope	Crocodile
Huntable Game	
Bushpig	Buffalo
Eland	Oryx
Kudu	Springbok

Source: Table compiled by the author.

Although the NCO uses the term ‘huntable game’ for the third category of animals, the NCO also permits hunting of Specially Protected Game and Protected Game in certain defined circumstances. Under Sections 26, 27, and 30 of the NCO, specially protected game and protected game can be hunted on both state-owned and private land if an individual possesses a permit granted by the MET. There is also a general defence to killing any animal with protected status under the NCO without a permit if this is done (1) in defence of human life or (2) to prevent harm to livestock, poultry, or other domestic animals.⁴⁴

Permits are granted subject to conditions imposed in relation to the number and species of specially protected game and the location in which the hunting may occur. For example, the permit may relate to an adult bull elephant in the Bwabwata National

39 Schedule 4.

40 Schedule 5.

41 Schedule 3.

42 Schedule 4.

43 An additional 23 species, not included here, are categorised as Protected Game under the NCO.

44 Nature Conservation Ordinance No. 4 of 1975 (as amended), Sections 26(4)(a) and 27(5)(a).

Park. However, the NCO does not set out any conditions or criteria for the issuance of a permit. Permits presumably could be issued to hunt specially protected game and protected game for purely commercial purposes.

The severity of the punishment for an infringement of the NCO depends upon the protected status of the species that is the subject of the crime. Penalties under the NCO generally operate on a sliding scale of severity according to the following categories of animal. From most severe to least, the penalties relate to elephants and rhinoceroses, other specially protected game and protected game.

Although elephants and rhinoceroses are included within the category of specially protected game, the NCO generally provides for additional enhanced penalties to apply in respect of offences involving elephants and rhinoceroses, in addition to the penalties that otherwise apply to offences involving all Specially Protected Animals. The penalty increases as per Government Gazette 6344, 28 June 2017 are as follows:

- Section 26(3)(a) the poaching of a rhino or an elephant is punishable by a fine of up to N\$ 25,000,000 or 25 years in prison, whereas the penalty until 2017 was merely a fine up to N\$ 200,000 or twenty years imprisonment.
- Section 26(3)(b) the penalties for illegal hunting of any other specially protected game have been increased from a maximum fine of N\$ 20,000 to a maximum fine of N\$ 10,000,000, with the maximum potential imprisonment being raised from five years to ten years.
- These penalties apply only for first convictions. In the case of subsequent convictions for hunting elephant, rhino or other specially protected game, the maximum fine goes up to N\$ 50,000,000 and can be combined with imprisonment for up to 40 years.
- Section 27(4) penalties for illegal hunting of protected game have also been increased, from N\$ 4,000 or four years imprisonment to N\$ 500,000 or five years imprisonment. In the event of a previous conviction the fine may be increased to N\$ 1,000,000 or ten years imprisonment.
- Section 30(1)(c) penalties for illegal hunting of huntable game under owner's authority without a permit have been increased from N\$ 2,000 to N\$ 50,000 and from two years to five years imprisonment. In the event of a previous conviction of an offence under this paragraph, a fine not exceeding N\$ 1,000,000 or imprisonment for a period not exceeding 10 years, or both may be imposed.
- The general penalty under Section 87 for any offence in terms of the Ordinance for which no penalty is expressly provided, shall be liable on conviction to a fine not exceeding N\$ 6,000. The previous penalty was N\$ 250 or imprisonment for a period not exceeding six months, previous penalty was three months, or to both. In the case of a previous conviction, the penalty should not exceed N\$12,000 of which the previous penalty was N\$ 500 and/or 12 months, the previous penalty was six months in prison.

- Increased penalties have also been set for illegal hunting at night.
- Another important new provision provides that a foreign national convicted of any offence under the NCO will be automatically declared a prohibited immigrant and deported.

The NCO, as amended in 1996, provides for community conservation units on communal land,⁴⁵ known as conservancies, in recognition of the necessity for proactive wildlife management. Conservancies are essentially communally-managed areas in which communities possess the same rights over wildlife and tourism as freehold farmers. Under the conservancy system, communities are motivated to take responsibility for the conservation and management of their own local natural resources. Non-governmental organisations have identified conservancies as crucial in mitigating the impact of human-wildlife conflicts.

There are currently 86 registered conservancies in Namibia, covering an area of 166,045 square kilometers and involving approximately 227,941 local community members.⁴⁶ Initially the creation of conservancies led to successful natural resources-based management of these areas and the conservation of wildlife. Wildlife is considered a valued livelihood asset in communal conservancies, with populations of lions, cheetahs, black rhinos, zebras and other native species restored in some of the conservancies after Independence. However, in recent years, poaching in the conservancies has increased significantly, indicating that additional measures are needed to effectively prevent wildlife crime.

3.3 The Game Products Trust Fund Act No. 7 of 1997

The Game Products Trust Fund Act No. 7 of 1997 establishes a government fund that has the objectives of, *inter alia*: (a) making grants to emerging conservancies and wildlife councils; (b) supporting measures aimed at improving the relationship between wildlife and people; and (c) allocating funds to conservancies, wildlife council, and protected areas for programmes and projects concerning wildlife conservation and resource management.

Under this Act, any income generated from game products (whether from the sale of permits for trophy hunting, park entry fees, or the legal sale of ivory if permitted by CITES) is returned to the conservancies and used towards promoting rural development. This dedicated fund provides incentive for local communities to establish

45 Communal land is vested in the State on behalf of traditional communities. The Communal Land Reform Act of 2002 defines areas of communal land as tribal land, ownership of which is vested in the State on behalf of traditional communities. See generally, Communal Land Reform Act No. 5 of 2002.

46 NACSO, "Registered Communal Conservancies", at <http://www.nacso.org.na/conservancies#statistics>, accessed 10 June 2021.

conservancies. An example of where the Trust Fund Act has proved successful is in the *≠Khoadi-//Hôas* conservancy in the Kunene region, whereby proceeds from the fund were used to construct designated water points for elephants.

The Game Products Trust Fund Act also allows the government fund to receive income from the restricted export of ivory by CITES-approved auctions of ivory from stockpiled animals that died of natural causes, ensuring that the proceeds of such sales are used exclusively for elephant conservation, community conservation, and development programmes. Research and investigations show that exporting stockpiled ivory has been unhelpful to curtailing poaching and indicate that any ivory entering the market fuels demand.⁴⁷

3.4 The Controlled Wildlife Products and Trade Act No. 9 of 2008

The Controlled Wildlife Products and Trade Act No. 9 of 2008, repealed the Controlled Game Products Proclamation of 1980 and provides for the implementation of CITES within Namibia. The Act addresses the possession, trade, import, and export of wildlife products, but does not regulate the hunting or capturing of wildlife. It principally regulates:

- The possession and manufacture of controlled wildlife products; and
- the import and export of species listed in the CITES Appendices.

A controlled wildlife product is defined as “any animal or plant (or any portion thereof),” as well as any product or substance derived from any plant or animal as set out in Schedule 1 to the Act.

Schedule 1 to the Act provides that no person may possess, manufacture any object from, deal in, import into, or export from Namibia any tusk, horn, head, ear, trunk, skin, tail or foot or any part thereof, of any elephant or rhinoceroses, or any part of any species mentioned in CITES Appendix I unless the action in question is authorised by a permit and the person holding the permit complies with the conditions specified therein.⁴⁸ The powers that an inspector has in relation to the implementation of the Act are also set out therein. These powers are quite wide ranging and, importantly, include the ability to seize anything that is used in the commission of an offence under the Act

47 Neme (2015); Kahumbu / Halliday (2016); Gabriel *et al.* (2011:3) “The sale approved by CITES in 2008 spurred production and trade of ivory products in China and stimulated the demand for ivory from a growing class of wealthy consumers that covets ivory products as collectables and investment vehicles.”

48 Schedule 1 provides exceptions for the possession of up to five items of worked ivory with a total weight of less than 1 kg for personal use only and for omakipa or other ivory carvings that are possessed or transferred in accordance with the customary law or the long-standing customs of any group of people indigenous to Namibia.

(such as a vehicle or firearm) as well as examine any paperwork or computer systems as the inspector deems appropriate.

Penalties for offences under the Act, as was the case with under the NCO, also increased as per Government Gazette 6421, 27 September 2017:

- In terms of Section 4(2)(a) the penalty for possession of controlled wildlife products increased from N\$ 20,000 to N\$ 15,000 000 and from five years to fifteen years imprisonment.
- In terms of Section 4(2)(b) relating to dealing, importing or exporting, a penalty of a fine up to N\$ 25,000,000, the previous penalty was N\$ 200,000 and/or 25 years in prison, the previous penalty being twenty years. In the event of a previous conviction of an offence referred to Section 4(2)(a)(b), a fine not exceeding N\$ 50,000,000 or imprisonment for a period not exceeding 40 years, or to both. These penalties are applicable to all the controlled wildlife products.

3.5 The Protected Areas and Wildlife Management Bill (2017)

The draft Protected Areas and Wildlife Management Bill, which would, if once enacted, replace and repeal the NCO is currently under consideration by the Namibian government. In terms of the Bill's Preamble, it is also to give effect to Article 95(1) of the Namibian Constitution by establishing a legal framework to provide for and promote the maintenance of ecosystems, essential ecological processes and the biological diversity of Namibia, and the utilisation of living natural resources on a sustainable basis for the benefit of Namibians, both present and future, and to promote the mutually beneficial co-existence of humans with wildlife and to give effect to Namibia's obligations under relevant international legal instruments. In essence, the Bill proposes the consolidation and reform of the existing legislation on the protection and conservation of wildlife.⁴⁹ Given the uncertainty of when this legislation will eventually be enforced, the Bill will not form part of the deliberations of this chapter.

4 Key Issues with Namibia's Existing Legislative Framework

While the increase in penalty fines in the NCO and Controlled Wildlife Products and Trade Act No. 9 of 2008, as described above, are welcomed, certain shortcomings in the current Namibian legislative framework for wildlife crimes still exist. The most

49 The most recent draft that we were able to obtain is dated 2017. As of the date of this report, it remains unclear as to when the Protected Areas and Management Bill will be enacted.

significant issues with the legislative framework, as discussed in more detail below, include:

- **Limit of reach.** The framework does not effectively enable the prosecution of those involved with wildlife crimes beyond just the actual poacher;
- **Lack of monetary incentives for information and cooperation.** There are no effective monetary incentives to provide information to authorities;
- **Lack of coordination in enforcement.** There is a distinct lack of coordination amongst governmental authorities in the prosecution of wildlife crimes;
- **Judicial inefficiencies.** Judicial reforms are needed to increase prosecution and adjudication of wildlife crimes; and
- **Improving land management.** Communal property areas need more effective management mechanisms for wildlife in those areas.

Unfortunately, it is uncommon for wildlife crimes cases to be thoroughly investigated in Namibia, and cases are often ignored. When a poacher is caught, it appears that there is typically no further investigation into who else may have been involved in the crime. Furthermore, even for the few poachers that have been apprehended, the penalties remain relatively minimal despite the recent increases in penalties. The majority of poachers are released on bail and simply pay a minimal fine, and then possibly go on to repeat their crimes. Multiple shortcomings in law enforcement appear to contribute to the low rate of arrests and convictions, including:

- A lack of communication and cooperation between enforcement agencies;
- a lack of appreciation of the severity of wildlife crimes throughout the criminal justice system, by judges, prosecutors, and law enforcement officials, who typically are forced to prioritise what are seen as more important cases; and
- a lack of sophistication among law enforcement officials on how to properly investigate and handle evidence pertaining to wildlife crimes.

Moreover, the current legislation, including the revised penalties set forth in the law and imposed by the courts, is not objectively punishing or deterring poaching and other wildlife crimes.

4.1 Expansion of the Legislative Framework

One of the issues that should be addressed to prevent wildlife crime is that the legislative framework needs to be expanded to include investigation and prosecution of aiders, abettors, and corruption crimes related to wildlife crimes. Namibia is ranked number 57 on a list of 180 countries ranked from least to most corrupt by Transparency

International, a global non-governmental organisation that combats corruption.⁵⁰ Corruption could be hindering the effective implementation of much of Namibia's legislation, such as by bribery of customs officials, falsification of documentation, and other means. Whilst Namibia has numerous anti-corruption laws in place, gaps still remain as well as issues with lack of funding, resources, and staff dedicated to this area.

Often, law enforcement and prosecutors only pursue the individuals responsible for the actual poaching, as opposed to pursuing lines of inquiry to take down organised crime syndicates that sponsor and fund the illegal enterprises. One challenge with such investigations is that the syndicates do not use traditional financial channels that can be tracked, such as bank accounts, choosing instead to deal with cash or barter, which cannot be easily monitored or tracked. Enhanced financial investigations are critical to implicate the broader criminal network and not just a low-level poacher who is typically the only actor, if anyone, who is brought to justice.

Another challenge with investigating the syndicates, which, based on convictions and investigations in Southern Africa recently, often appear to be run by Chinese or Southeast Asian crime organisations, is that the Chinese also create, fund and control major infrastructure projects throughout Namibia. Through such activities, these individuals and groups reap benefits from the government and obtain favourable immigration treatment, together with control over transportation in certain areas to facilitate these projects. This system is likely to aid the smuggling of rhinoceros horns and other wildlife trophies. For example, the Chinese are engaging in significant uranium mining operations near areas where poaching is occurring,⁵¹ and security at check points are often lacking effective searches. The Chinese are also re-developing the port of Walvis Bay,⁵² Namibia's largest port and an area where significant smuggling is occurring.⁵³

4.2 The Whistleblower Protection Act and Monetary Incentives for Information and Cooperation

The Whistleblower Protection Act No. 10 of 2017 was passed in 2017 but has not been enacted yet. The Act is aimed at the protection of persons who report information to officials on improper conduct, which includes amongst other things: criminal activities; violation of the fundamental rights and freedoms protected by the Namibian Constitution; failure to comply with any law; waste, misappropriation or mismanagement of resources which affects the public interest; environmental degradation; endangerment of the health and safety of an individual or community; or the deliberate

50 See <https://www.transparency.org/en/countries/namibia>, accessed 12 June 2021.

51 OxPeckers (2015).

52 Kaira (2016).

53 See e.g. Hartman (2012).

concealment of such matters. The Act establishes a Whistleblower Protection Office to investigate whistleblower disclosures and complaints of detrimental action taken against the whistleblower or someone related to or associated with the whistleblower. It also provides for a Whistleblower Protection Review Tribunal which reviews decisions of the Whistleblower Protection Office and is empowered to make determinations on whether detrimental action has been taken against a whistleblower and if so, to provide appropriate remedies.⁵⁴

The necessity for the protection of whistleblowers is clear. People are often afraid to provide information to aid law enforcement because they fear retaliation in their communities or from their employers. Individuals might feel victimised when they assist law enforcement and are scared to provide information to the police, particularly given the difficulty of the police hiding or protecting individuals in small, interconnected villages. Legislative whistleblower protections would safeguard individuals who come forward with information regarding illegal conduct of their employers that would assist authorities in their investigation and prosecution efforts.

Whistleblower protection would prevent an employer from retaliating against an employee for coming forward with information relating to past, ongoing, or future criminal acts of the employer. This would help alleviate the fear of an individual from losing his or her employment or being treated negatively for coming forward with such information. Since the illegal poaching and export of animals is significantly run by Chinese and South Asian criminal organisations, and the Chinese currently have ongoing development contracts in Namibia, whistleblower protection would be a valuable tool for employees involved in these developments who may have first-hand knowledge of wildlife crimes.

A formalised process for handling and protecting informants, whistleblowers, and sensitive investigations would be beneficial, in part, to prevent inconsistencies with evidence gathering and prosecutions. When informants and whistleblowers do come forward, the courts typically take steps to protect them (as part of a sealed affidavit) and the police are careful with informants' identities. However, prosecutors sometimes must elect to forego investigations in order to avoid divulging an informant's identity. To assist in the protection of informants and whistleblowers, making it a separate crime to harm or threaten to cause harm to an informant or whistleblower would provide an additional level of security for these individuals and deterrence for potential retaliation.

In addition to protecting the identity of informants and whistleblowers, most statutory whistleblower laws and informant protection laws also provide for monetary awards payable to those who provide useful information that lead to the arrest, prosecution, and conviction of an individual or legal entity of a crime. Cash awards for those who provide useful information would provide a powerful incentive for individuals to come forward and continue to cooperate with the authorities throughout the

54 See also <https://www.lac.org.na/namlex/Criminal.pdf>, accessed 12 June 2021.

investigation and prosecution of these crimes. The amount of the reward should increase depending on the severity of the crime and whether the alleged criminal was arrested or convicted. The funds typically are drawn from the amount of the criminal penalty.

4.3 Greater Coordination in the Prosecution of Wildlife Crimes Is Needed

There is a substantial lack of cohesion between the various authorities charged with investigating and prosecuting wildlife crime. Often this is due to distrust and a lack of cooperation between prosecutors and law enforcement, various government agencies and even between these entities and NGOs. By way of illustration, Etosha National Park has been highlighted as an area of highest concern with an alarming rate of poaching. Yet, it is difficult to obtain information about wildlife crimes in Etosha or to patrol this area because, as a national park, access is restricted.

In addition, there is also a lack of cooperation and agreement between various conservancies in Namibia. One of the reasons why adoption of the Protected Areas and Wildlife Management Bill has been stalled for so long is disagreement among the 86 conservancies and those residing in it over the legislation. These conservancies and their residents often have competing interests in land and how best to manage natural resources. This lack of consensus has contributed to the current unsatisfactory status quo preventing progress and change.

Moreover, Namibia has so far had no central record of wildlife crimes prosecutions, and there still appears to be little publicity of these cases. The absence of a publicly available database of criminal offences or prosecutions means that the decisions of the Magistrates' Court are difficult to access. This lack of transparency makes it difficult to assess the levels of corruption within the criminal justice system, as well as the overall implementation, effectiveness, and consistency of decision-making in dealing with the poaching epidemic. This lack of transparency also obviously limits public awareness of prosecutions, which is a lost opportunity to present a valuable deterrent against crime and increase public confidence in the prosecution of offenders. Thus, the development of a national integrated database of wildlife crime in Namibia (Integrated Database of Wildlife Crime in Namibia, ID-WCN) began in 2019 with first outputs reflected in the Annual Report on Combatting Wildlife Crime in Namibia⁵⁵ and in the Revised National Strategy on Wildlife Protection and Law Enforcement.⁵⁶ The database includes data on registered wildlife crime cases, wildlife mortalities caused by poaching, seized wildlife products, seized firearms, impounded vehicles, arrests,

55 MEFT (2021).

56 GRN (2020b).

nationality of suspects, relevant charges, targeted species, areas of crime prevalence, status of registered court cases, and the legal status of suspects.⁵⁷

4.4 Judicial Reforms Are Needed to Enable Prosecutors to More Diligently Prosecute Wildlife Crimes

Other significant challenges faced by prosecutors in Namibia include the chronic backlog of criminal cases caused by a lack of capacity at the lower levels of the court system;⁵⁸ economic and geographic barriers, due to the areas which are vulnerable to wildlife offences often being located great distances from Namibia's administrative centres;⁵⁹ and a shortage of public prosecutors.⁶⁰ This creates a slow and ineffective system for prosecuting wildlife crimes.

There are two key challenges relating to judicial capacity: Firstly, there are issues concerning corruption/independence of the judiciary/prosecutor-general; and secondly, a lack of resources. Despite the internationally-recognised comparative independence of the Namibian judiciary, it seems as though Namibian citizens still perceive judges and magistrates to be involved in corruption at some level.⁶¹ Reports (unverified) in the Namibian press have stated that the majority of Namibians do not believe that a decline in the number of reports of alleged corruption reflects reality.⁶² The Anti-Corruption Commission ("ACC"), mandated to combat and prevent corruption in Namibia, has previously been criticised in the Namibian press as being "largely toothless,"⁶³ and having "hopelessly failed to deal with high profile cases."⁶⁴ This illustrates a lack of public confidence in the judicial process and does nothing to assist with deterring individuals from committing wildlife crimes.

57 MEFT (2021:6).

58 Nakuta / Chipepera (2014).

59 Jones (1999).

60 Heritage Foundation, 2016 Index of Economic Freedom, <http://heritage.org/index/country/namibia>.

61 See the GAN Business Anti-Corruption Portal, Namibia Corruption Report, at <https://www.gan-integrity.com/portal/country-profiles/namibia/>, accessed 12 June 2021.

62 See Vries (2008). "The report [by Transparency International in 2008] further said that the CPI scores of most African countries, including Namibia, show that the continent is 'dangerously lagging' in meeting the 2010 deadline for the full implementation of the 2005 Paris Declaration, which lays down principles of making aid more effective".

63 See <https://www.namibiansun.com/news/unshackling-the-toothless-acc2019-11-15>, accessed 12 June 2021.

64 Kaure (2016).

4.5 Communal Property Areas Need Improved Management

There are many issues with how Namibia's communal conservancies are managed. To begin, many conservancies have weak central authorities with very limited oversight. In many conservancies, hunting and poaching laws are not enforced, permitting individual areas to devolve into a 'free for all.' Most of the money that is earned by the conservancy, such as through tourism or hunting permits, does not go back into the community, leaving residents poor and struggling. Furthermore, trophy hunting, which is often cited as a critical revenue stream for conservancies, sends mixed signals about the sanctity of wildlife and who is allowed to kill protected species. As such, the conservancies have had fewer poaching incidents lately due to the tragic reason that much of the wildlife within them has already been killed. The difficulty of policing poaching, and the promise of payment from syndicates to residents in excess of what they may receive through community-ownership and management, creates willing partners to provide information on the whereabouts of game animals or even pull the trigger themselves.

5 Recommendations for Reforming the Legislative Framework

Recommendations for how to reform Namibia's legislative framework to address the key issues identified in Section 4 above and to effectively combat wildlife crimes are explained below.

5.1 Beyond the Poacher: Prosecuting Criminals Higher Up the Chain

The NCO allows for a significant loophole that is being exploited to justify killing threatened and endangered species including elephants and rhinoceros. The provision allows a person to kill an animal even in a protected area if in defence of a person or livestock, an exception that is all too easily exploited. It is recommended that the defence may be used as follows:

No person shall, without the written authorisation of the Minister, collect any wild species or hunt any wild animal in any State protected area, provided that a dangerous animal may be killed in defence of a human life or to prevent a human being from imminent bodily injury provided that:

- (a) the killing of such animal is necessary for one of these express purposes,
- (b) the threat is imminent,
- (c) the killing is reported to a conservation officer and the PRD within 24 hours of such killing, and
- (d) the entire animal is turned over to a conservation officer or the PRD within 24 hours of such killing.

(e) Each such incident must be investigated by the PRD within 48 hours and a report provided by the PRD to the Prosecutor General's Office and MET within seven (7) days setting forth the circumstances of the killing.

Under the above recommendation, the killing may only be done to protect a human from imminent death or bodily injury, and not to protect against the killing of livestock. In addition, specific reporting requirements, including notifying authorities within 24 hours, and that the entire animal be turned over to the State should be put in place.

The Anti Corruption Act No. 8 of 2003 (ACA) is also an important tool in the prevention of corruption in Namibia. The ACA seeks to achieve this in two ways: (1) it establishes the Anti-Corruption Commission, an "independent and impartial" body with wide ranging functions including to receive, investigate, and initiate investigations into corrupt practices; and (2) it provides a series of different corruption offences, including the corrupt giving/acceptance of gratification, bribery of public officials and fraudulent concealment of offences.

A number of issues remain with the ACA legislation. Often individuals fear victimisation and therefore do not report cases although they are aware of corrupt behaviour. According to the Namibia National Urban Corruption Perception Survey, undertaken by the ACC in 2011, 67.5% of respondents were aware of corrupt acts but did not report these.⁶⁵ When asked why, the most common response was for fear of victimisation (42.8%), with 15.9% stating that they did not know to whom to report the matter.⁶⁶ Where cases are brought, often these are hampered by a lack of resources and evidence. Out of 262 cases brought by the ACC to the Office of the Prosecutor General, 36 were not advanced due to a lack of evidence.⁶⁷ Making whistleblower protection legislation operational is critical.

Courts in Namibia recently criticised the definition of "corruptly" in the ACA as being "unduly vague." It is recommended that by replacing the current definition with the definition of "corruptly" from the United States Code as used in the context of the obstruction of justice. "Corruptly" is defined there as "acting with an improper purpose, personally or by influencing another, including making a false or misleading statement, or withholding, concealing, altering, or destroying a document or other information."⁶⁸ Also useful is the United States Foreign Corrupt Practices Act which stipulates: "This also includes making an offer, payment, promise, or gift with the intention to induce the recipient to misuse his official position."

The ACA also omits key elements which, if included, would bolster its effectiveness. These include provisions concerning the confiscation of proceeds from corruption and the holding of unexplained assets. The ACA could also contain a system for cataloguing facilitation payments and declaring assets received by public officials,

65 ACC (2011:35).

66 Ibid.

67 Tjirera / Hopwood (2011).

68 18 U.S.C. § 1515(b).

together with provisions concerning compulsory training of the ACC and clear avenues of complaint, should members of the public wish to voice complaints about the ACC.

In addition, harmonisation needs to occur between anti-corruption legislation and wildlife crime penalties, such that these act as sufficient deterrents and adequately punish perpetrators of corrupt activities/wildlife crimes. This could be achieved through draft legislation that imposes stricter penalties for wildlife crimes, which increases penalties if a person has also engaged in corruption or organised crime.

With regard to recommendations to strengthen POCA, a new provision providing that where a confiscation is made in relation to a wildlife crime, all money confiscated should be given to an Anti-Poaching Trust Fund that is maintained by the Prosecutor General's Office to be used pursuant to the purposes set forth in the legislation imposing harsher penalties for wildlife crimes. The fund would be used to make payments to informants under the Wildlife Trade Act, to reimburse law enforcement officials including the Protected Resources Division for investigative costs related to wildlife crimes enforcement and to provide financial assistance to law enforcement agencies working to investigate and prevent the commission of wildlife offences. It may also be used to compensate farmers for the killing of livestock by wildlife at the discretion of the Ministry or the Court.

Further, the Namibian prosecution should consider the possibility of introducing plea bargaining into its criminal judicial system. These provisions state that an admission of guilt is sufficient to convict a defendant without the need for a trial. The prosecutor may recommend a reduced sentence in exchange for cooperation, and the scope of the reduction should be proportionate to the degree to which the defendant has cooperated with authorities and has provided information or other evidence that may lead to other arrests. The main purposes of plea bargaining are to encourage defendants to cooperate and provide information that will lead to additional arrests and prosecutions. This will increase enforcement of wildlife crimes and lead to more convictions, and it will also thereby increase deterrence. In addition, plea bargaining will reduce the strain on judicial resources as a result of increased wildlife crimes arrests and prosecutions. Allowing defendants to plead guilty in lieu of a trial will save a significant amount of time and resources.

5.2 Improving Coordination in, and Effectiveness of, the Prosecution of Wildlife Crimes

To improve the efficacy of prosecuting wildlife crimes, it is recommended that some amendments to Namibia's Criminal Procedure Act are needed, specifically the provisions related to bail and to searches and seizures. Regarding bail for wildlife offences, amending the law to state that the accused should be detained and denied bail until he

has either been charged with the offence in question or the charges against him have been dropped. If the accused is nonetheless granted bail, provisions stating that conditions should be placed on the grant of bail, including not being allowed to possess a firearm or communicate with people whom the court determines may be connected to wildlife crimes. It is recommended that a provision prohibiting the posting of bail by someone who is believed to be involved in wildlife crimes be put in place.

With regard to seizure of wildlife products by a police officer, a provision stating that the wildlife product must be reported to the Protected Resources Division and Office of the Prosecutor General within 48 hours, and the item must be properly logged within 48 hours is recommended. The same requirement applies to any wildlife product seized by the State if the wildlife product relates to a wildlife offence or is a wildlife product relating to a specially protected species or protected species.

Namibia could consider establishing an environmental court and special wildlife crimes prosecutors. Namibia's cultural and legal history make it uniquely suited to take this bold and promising step to create a specialised court to specifically address wildlife crime cases. This would alleviate the burden on Magistrates' Court by relieving them of cases pertaining to wildlife crimes and would ensure that there are sufficient judicial resources available to efficiently adjudicate these cases in a timely manner. In addition, under this approach, wildlife crimes training can focus on the judges who will sit on the environmental court and special wildlife crimes prosecutors, ultimately requiring fewer resources. Further, by requiring electronic and print publication of decisions by an environmental court, the public's awareness of prosecutions related to wildlife crimes will be greatly enhanced, which may increase the deterrent effect. Establishing special environmental prosecutors is also a key procedural reform to ensure compliance with access to environmental justice and redress. They could ensure that wildlife crimes are treated seriously and effectively, and also build critical relationships with law enforcement and legal counsel.

Lastly, Namibia should increase its international cooperation with other countries, particularly with other countries in southern Africa on enforcement of wildlife crimes, trafficking, and smuggling, and with countries importing poached animals, rhinoceros' horns, and elephant ivory. Improving these international efforts is extremely important and highly recommended to better prosecute and deter wildlife crimes.

6 Conclusion

Namibia has long supported the principles of environmental protection and sustainable development and has undertaken both domestic and international obligations in recognition of these principles. In the past years, however, there has been a startling increase in the prevalence of poaching in Namibia. Despite this increase in poaching incidents, prosecution of these wildlife crimes has not significantly increased. This is due, in part,

to gaps in Namibia's current legislative and enforcement framework, an overburdening of the judiciary, and ineffective management of communal property areas. This chapter's specific recommendations aim to repair these gaps so that Namibia may more effectively protect the wildlife that it has so long cherished.

PART V:

WATER ENVIRONMENT

Chapter 12: Water Related Policy and Statutory Law

Pieter Heyns and Shirley Bethune

1 Introduction

Namibia is the most arid country in sub-Saharan Africa due to the huge difference between precipitation and evaporation.¹ Fresh water scarcity thus remains a major environmental challenge. As per figures compiled by the World Bank, the percentage of arable land area stands at only 1% of the country's surface area.² Only limited rainfall and groundwater sources are available to support agriculture.³ Water supply is a major challenge in Namibia, especially in the rural areas where small settlements are in very remote places. With an average of 89%, the target of the Fourth National Development Plan (NDP4) to provide 100% of the population with access to water for human consumption has not been reached as revealed by the NDP4 Terminal Report.⁴ For the period of NDP5, it is envisaged to supply 95.5% of the rural and 100% of the urban households with access to safe drinking water by 2022.⁵ Existing water supply infrastructure has to be maintained, additional water supply infrastructure must be established, facilities have to be operated, and fees collected to recover the cost to supply water.⁶ The same applies to sanitation services and waste water disposal. Thus, sound and sustained water management remains high on the agenda, to ensure social, economic and environmental benefits. Scarce water resources must be shared between the growing population, increasing agricultural production and an expanding industrial sector, while environmental requirements must also be accommodated. Appropriate policy, legislation and regulations are therefore of great importance to achieve these objectives.

1 Heyns *et al.* (1998:55).

2 Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded. Latest figures are from 2018. See <https://data.worldbank.org/indicator/AG.LND.ARBL.ZS?locations=NA>, accessed 1 June 2021.

3 See <https://climateknowledgeportal.worldbank.org/country/namibia/climate-data-historical>, accessed 1 June 2021.

4 GRN (2017c:7).

5 GRN (2017a:107).

6 On water management problems, especially in the Kavango Region, see Falk (2016).

2 Namibia's Water Environment in Context

2.1 Rainfall

Precipitation comes from convective thunderstorms during the rainy season in summer from October to April.⁷ The rainfall is relatively unpredictable, low, erratic, variable, unreliable and unevenly distributed across the landscape. The average annual rainfall varies between 150 mm at Keetmanshoop in the south, 360 mm at Windhoek in central Namibia, 500 mm at Grootfontein in the north and 700 mm in the Zambezi Region, formally known as the Caprivi. Precipitation along the Namibian coast is less than 25 mm per annum and mostly from fog that moves in from the Atlantic Ocean and condenses on the surface of the Namib desert as far as about 60 km from the coast.⁸ This moisture is vital to support the ecosystems in the Namib Desert. The average mean annual rainfall across the whole country is about 250 mm.⁹

2.2 Evaporation

The rate of evaporation across the country varies between 3,700 mm in the south to 3,300 mm in central area and 2,800 mm in the north. The evaporation in the south is 25 times more than the rainfall, nine times more in the central area and six times more than in the north.¹⁰ This huge rainfall deficit is the main cause of the arid conditions and desiccation of the landscape.

2.3 Water Balance

It is estimated that 83% of the rainfall evaporates shortly after precipitation, 2% is available as surface runoff, 1% infiltrates the soil to become available as underground water (referred to as "groundwater") while 14% is available to the vegetation and is productively lost as evapotranspiration.¹¹ This phenomenon is a huge environmental benefit and an important opportunity for stock farmers to "farm with grass" rather than allowing overgrazing, because it is the vegetation that "absorbs" most of the rainfall (14%) and makes the rainfall productive because it and produces the biomass that enables profitable stock farming. It is therefore incumbent on any stock farmer to manage rangeland in a sustainable way and to keep grass in reserve for use during drought

7 Shikangalah (2020); Mendelsohn *et al.* (2002:84ff).

8 Seely (1987:14-15).

9 Shikangalah (2020:40).

10 Heyns *et al.* (2017:42)

11 *Ibid*:42.

periods. This type of rangeland management is not practical on large tracts of communal land because there is no private ownership of land or fenced farms and grazing is basically a free for all. A policy and remedy for this situation is presently under consideration after a study had been done to investigate land acquisition by private and/or foreign investors in large-scale agricultural activities on communal land.¹² The purpose of such study is, among others, to ascertain the socio-economic impacts of such deals on communities, whether legal requirements are adhered to before land for such deals are acquired or allocated, and whether community members can protect or defend their land rights or successfully oppose such deals if such is not in their interest.

2.4 Water Resources

The water resources in Namibia are classified as perennial surface water, ephemeral surface water, groundwater, and unconventional water sources such as reused water, desalinated sea water and water losses prevented by good practice in demand management.¹³

Some perennial water is available from groundwater via natural fountains, springs and seeps as well as from hand dug wells or “gorras” in the dry riverbeds. These water sources made it possible for the indigenous people in the interior of Namibia to survive for thousands of years during the dry seasons. The water was mainly used for domestic consumption, as well as stock and wildlife drinking. However, the water was not “safe” for human consumption but was all that was available at that time. The people living next to the perennial rivers, forming some of the borders of Namibia, had access to much more reliable and safer water because the rivers were much more pristine than now. All the rivers in the interior of Namibia are ephemeral, which means that they only flow during the rainy season, provided that the intensity of the rainfall in the respective catchments is high enough to cause the rivers to start flowing.

Due to population growth and socio-economic development over time in Namibia, the water demand grew and as a result it became necessary and unavoidable to impound the ephemeral runoff during the rainy season in dams so the water can be utilised during the dry season. In studies that were done by the Department of Water Affairs (DWA), it was estimated that the 95% assured safe yield that can be obtained from possible dams in the ephemeral rivers is about 200 million cubic metres per annum (Mm³/a). Similar studies and investigations done by the DWA established that the potential of the groundwater sources in Namibia is in the order of 300Mm³/a. It is also possible to recover about 25Mm³/a of the used water for reuse. This means that

12 Thiem / Muduva (2015).

13 Heyns *et al.* (2017:42).

the total potential of the internal water sources in Namibia is only 525Mm³/a as can be seen in the figure below.

Table 1: National and Transboundary Water Sources

NATIONAL (Internal water sources)	
	Mm³/annum
Groundwater (Estimated sustainable safe yield)	300
Ephemeral Rivers (95% Assured yield from dams)	200
Unconventional water sources	25
TOTAL	525
INTERNATIONAL (Transboundary water sources shared with other States)	
	Mm³/annum
Perennial Rivers	
Kunene (at Ruacana)	5 500
Okavango (at Mukwe)	10 000
Zambezi (at Katima Mulilo)	40 000
Orange (at Noordoewer)	11 000

Source: Heyns *et al.* (2017:100).

Although there are no significant perennial water sources in the interior of the country, Namibia has access to the perennial runoff in the rivers on some of the borders of the country. These rivers are the Orange in the south, the Kunene in the northwest, the Okavango in the north and the Zambezi in the northeast.¹⁴ All the watercourses feeding the perennial rivers along the Namibian borders originate upstream from Namibia in the neighbouring countries (The Kunene, Cuvelai and Okavango in Angola, the Orange in South Africa, the Zambezi in Angola and Zambia or in more remotely located sovereign States such as Lesotho on the Orange. These rivers are therefore classified as transboundary watercourse systems and access to the use of the water is governed by the principles of international water law and water treaties.

2.5 Water Demand

In 2015 the total water demand in Namibia was about 427 Mm³/a. This is estimated to increase to 770 Mm³/a by 2030.¹⁵ However, the availability of water from the internal water sources is only 525 Mm³/a. The difference will have to be augmented by developing additional water sources by utilising the perennial boundary rivers or the desalination of sea water. The total estimated water consumption in 2020 by the different consumer groups is 584 Mm³/a. The total domestic water demand is 134 Mm³/a (23%

14 Ibid:45.

15 Ibid:100.

of the total), comprising 91Mm³/a in the urban areas, 11 Mm³/a in the rural areas and 32 Mm³/a by the tourism industry. The water demand, for livestock is 87 Mm³/a (15%), for mining 18 Mm³/a (3%), and for irrigation 345 Mm³/a (59%). Irrigation is by far the largest consumer of water in Namibia and it stands to reason because of the high evaporation losses when irrigating the fields. A hectare of land in Namibia requires between 10,000 and 20,000 m³/a, depending on the expected rainfall and the type of soil and the irrigation method.

Table 2: Total Water Demand in Namibia

Consumer Group	Demand (Mm ³ /a)			
	2015	2020	2025	2030
Urban Domestic	80.0	91.1	103.5	117.2
Rural Domestic	10.6	10.9	11.1	11.4
Tourism	27.5	31.9	35.2	38.9
Livestock	86.8	86.8	86.8	86.8
Mining	17.2	18.1	19.1	20.3
Irrigation	204.6	344.6	379.8	497.2
TOTAL	426.7	583.4	635.6	771.7

Source: Heyns *et al.* (2017:100).

2.6 Water Scarcity

The natural, internal availability of water in Namibia is about 525 Mm³/a. The present population is about 2,5 million. This means that the water availability is 210 cubic metres per annum per person (m³/a/p). Water scarcity can broadly be understood as the lack of access to adequate quantities of water for human and environmental uses. According to the ‘Falkenmark indicator’ or ‘water stress index’, water scarcity is measured in terms of the total water resources that are available to the population of a country in comparison to the quantity of renewable freshwater that is available for each person each year.¹⁶ If the amount of renewable water in a country is below 1,700 m³/p/a, that country is said to be experiencing water stress. Below 1,000 m³/p/a it is experiencing water scarcity and below 500 m³/p/a, the country faces absolute water scarcity.

16 Damkjaer / Taylor (2017).

Table 3: Water Stress Index

Category	Water Stress Index (m ³ /person/annum)	Namibia (m ³ /person/annum)
No water stress	> 1,700	Not applicable
Water scarcity	1,700 – 1,000	Not applicable
Water stress	1,000 – 500	Not applicable
Absolute water stress	< 500	210

Source: Table compiled by the author based on Damkjaer / Taylor (2017).

This simple analysis shows that Namibia is suffering from absolute water scarcity and the only remedy for this situation is to reuse more of the remaining internal water resources, and/or to import water from the internationally shared perennial rivers or to use desalinated sea water from the coast or to reduce demand by using the available water resources in the interior more efficiently.

The latter can be achieved by recycling, reusing or reclaiming used water and to implement water demand management practice. Recycling water is when water that was used for industrial processes (such as in mining) is directly reused without treating the water to improve its quality. Water reuse is when used water is treated to the extent that the water can be used for the watering of gardens, sport fields or golf courses or to irrigate landscape features in cities or certain types of vegetables. Water reclamation is to treat domestic sewage effluent to potable water quality standards. At present, the reclamation of domestic sewage effluent for domestic use has been in practice in Windhoek since 1969 and although the capacity of the reclamation plant is in the process to be increased, it is still a small contribution to the total water demand in Namibia.

Water demand management is achieved by reducing water consumption by employing several measures such as a block tariff system where exorbitant water users are penalised at increasing rates for higher consumption, by reducing unaccounted for water, by preventing leakages, by informing the public about water conservation measures and creating public awareness in general, to name a few.

3 The Challenge to Provide Water Services

Namibia is the most arid country in Southern Africa due to low rainfall and high evaporation. The sustainable availability of water for human and animal consumption, agricultural production and industry is therefore limited and fragile as indicated above. This is further compromised by the increasing demand for water due to population pressure and socio-economic growth while threats such as unsustainable water

abstraction and environmental pollution from wastewater which must be prevented. This situation calls for competent water management to ensure that water supply and sanitation services are available to support development as required over time. For this purpose, there are water policies, water legislation and appropriate institutions in place, such as the DWA in the Ministry of Agriculture Water and Land Reform (MAWLF) to administrate the water act, and to coordinate rural water supply and sanitation services while the Namibia Water Corporation (NamWater) is responsible for the management of bulk water supply services to its customers.

Article 95(l) of the Constitution requires that natural resources (such as water) must be protected against overuse and to prevent wastewater disposal from causing environmental pollution. The Environmental Management Act No. 7 of 2007 entered into force in 2012 to strengthen compliance with the Constitution and environmental requirements. This Act can substantially contribute to reduce the negative effects resulting from poor water resources development, indiscriminate wastewater disposal, the use of pesticides that can contaminate scarce water sources, or by preventing the discharge of toxic wastewater or other substances harmful to aquatic and terrestrial ecosystems. Water projects require an environmental clearance certificate which can only be obtained after a proper environmental assessment to prevent fatal flaws in the design of a project.

4 Conception and Implementation of National Water Policy and Law

The administration of water affairs in Namibia is based on several pillars. These are the Constitution of the country, national and regional (SADC) water policy, national, and international water law, water treaties, international water conventions, regional protocols, regulations formulated to implement national water legislation and the procedures developed to administrate the regulations.

What should also be kept in mind is that water policy has a formal and an informal side. It is possible that within the framework of a formal, generic policy statement and the subsequent legislation to formalise the practical implementation of certain policies, there are many internal water management policies which are not enforced by law, but is practiced in the general administration of water matters. Some of these policies are contained in the regulations promulgated in terms of the law, others may be based on Cabinet decisions and some may be part of the daily decisions by the management of the DWA.

While water law can compel or prohibit behaviours (e.g. a law that prescribes that a permit is required for specific activity), a policy merely guides the actions to achieve a desired outcome such as the promulgation of an Act by Parliament to implement a policy. The technical regulations that prescribe how the Act must be implemented is drafted by the Ministry responsible for the administration of that Act and published in

the Government Gazette. This means that regulations are not promulgated by Parliament but can be adjusted by the Minister as required when it needs to be done (e.g. when the cost of a license for a car increases every year) without having to obtain the “approval” of Parliament. The next step is to formulate the internal Ministerial procedures to administrate an Act and the regulations so that there is no ambiguity between Government and the public on how the procedures should be executed.

5 The Water Policy Framework

The policy documents most relevant to water resources¹⁷ and wetland resources in Namibia are:

- The Water Supply and Sanitation Sector Policy (WASP);
- the National Water Policy (NWP);
- the Water Supply and Sanitation Policy (WSASP); and
- the Draft Wetland Policy.

The overall water planning and management functions, as well as the broad division of responsibilities within the water supply and sanitation sector are of extreme importance to achieve efficient water management. The most important functions to create and implement water and sanitation sector policy are primarily the responsibility of the DWA. This requires the development of water policy and water legislation, the publication of water regulations, the strategic planning of water development and exercising control over the development, utilisation, conservation and protection of the natural water resources of the country. This control is vested in the administration of the water legislation. Procedures must also be elaborated to guide the administration required to give effect to the decisions and actions. Procedures are required for each activity and all activities take place within the uniform boundaries of the methods employed in the day-to-day operations of the organisation.

The need for potable water and basic sanitation services in Namibia was identified at Independence as one of the major and basic essential needs that had to be improved, especially in communal areas. The Constitution clearly provides for the Government to assume responsibility for the overall management of the water and sanitation sector. It further stands to reason that the Government should be clear about its objectives and policies. Government should furthermore ensure that these responsibilities are carried out efficiently by appropriately structured institutions and with the best coordination possible between the various Governmental authorities, the private sector, water users and other beneficiaries.

In November 1990, the Government took the first steps to achieve the water policy objectives when Cabinet resolved to appoint an Inter-ministerial Committee to

17 Heyns (2005:95, 105).

investigate the water and sanitation sector with the objective to recommend an appropriate water supply and sanitation sector policy. The Water Supply and Sanitation Sector Policy (WASP) was approved by Cabinet in September 1993.

5.1 The Water Supply and Sanitation Sector Policy (WASP)

This policy was approved by Cabinet on 21 September 1993. It became an urgent necessity after the Independence of Namibia because the Government institutions were restructured, and mandates changed. The homeland authorities who had the responsibility for rural water supply and sanitation services, were abolished. Their staff was transferred to the Department of Agriculture in the new Ministry of Agriculture, Fisheries, Water and Rural Development. This caused confusion because the Department of Agriculture suddenly had rural water supply and sanitation related responsibilities, but the DWA in the Ministry was held accountable for those functions. The Department was at that time responsible for large scale bulk water supply and neither restructured to accommodate the staff allocated to the Department of Agriculture, nor received the additional staff to attend to the additional responsibilities, especially the sanitation function, which was in the ambit of the Ministry of Health and Social Services. The DWA therefore proposed that the allocation of the responsibilities for water supply and sanitation functions should be formalised by Government.

The WASP not only dealt with the policy principles regarding water supply and sanitation issues, water supply priorities and cost recovery for service delivery, but paved the way for the creation of a Directorate Rural Water Supply in the DWA, and an investigation to commercialise the bulk water supply function which led to the promulgation of the Namibia Water Corporation Act which established Namibia Water Corporation (NamWater).

The WASP recognised that it is necessary to prioritise the uses of water in a country with limited water resources, when it comes to the allocation of water for competing demands. In this regard the first priority is water for domestic purposes, which include water for livestock watering for both subsistence and commercial farming, as well as economic farming. The second priority is for economic activities such as mining, industry, manufacturing, hydropower generation, irrigation, and recreation. Priorities for these activities will in each individual case have to be determined by their respective value in relation to the overall development objectives and plans for the country. Economic activities that employ large numbers of people will in most cases be a higher priority than the use of water for irrigation where mechanisation reduce the number of people employed. The policy also clarified the allocation of responsibilities in the water supply and sanitation sector, but these responsibilities have been adjusted over time. The present (September 2020) situation is:

- In 1993, the DWA remained responsible for bulk water supply, but rural water supply was added and the name of the Ministry changed from to the Ministry of Agriculture, Fisheries, Water and Rural Development to the Ministry for Agriculture, Water and Rural Development. (MAWRD). At present the DWA is in the Ministry of Agriculture Water and Land Reform (MAWLR) and responsible for water resource management, as well as rural water supply and sanitation coordination.
- In 1997, the function for the supply of bulk water according to sound business principles was transferred from the DWA to the Namibia Water Corporation (NamWater), established under the Namibia Water Corporation Act No. 12 of 1997
- The Local Authorities got the responsibility for urban water supply, water reticulation, treatment of domestic sewage effluent, as well as the reclamation and reuse of treated domestic effluent (e.g. Windhoek) or water supply, reticulation and sewage treatment only (e.g. Outjo) or reticulation and sewage treatment only (e.g. Rehoboth) in the cities and towns.
- The Regional Authorities are responsible for water supply and sanitation services to small communities in villages and settlements.
- In 1993, the Ministry of Health and Social Services got the responsibility for the development of rural sanitation facilities at villages and settlements, but this is now the responsibility of the Regional Authorities, assisted by the Directorate Water Supply and Sanitation Coordination in the DWA.
- The private sector, such as commercial farmers, mines and tourism lodges is responsible for their own water supply and disposal of domestic sewage effluent.
- The mining sector is responsible to supply their own water or approach the Department of Water Affairs to provide bulk water and to dispose of mining effluent to avoid pollution and the reuse of water in the mining processes.

The WASP aimed to improve sustainable food self-sufficiency and security and provided a foundation for the equitable and efficient development of water supply in Namibia. The policy promotes the supply of water, as well as improved sanitation at an affordable cost to all Namibians. The objective here is to subject these developments to environmental impact assessments to guarantee their sustainability. The policy states that improved provision of sanitation can contribute to improved health, ensure a hygienic environment, protect water sources from pollution, promote water conservation, and stimulate economic development. The policy laid the foundations for the establishment of a Directorate of Rural Water Supply, the community-based management of rural water supplies, and over 200 Water Point Committees countrywide.

The policy grants communities the right, with due regard for environmental needs, to plan, maintain and manage their own water supply and to choose their own solutions and levels of service. Yet, the policy makes it clear that this right is subject to the

obligation that beneficiaries should contribute towards the cost of the water provision services. Furthermore, the policy stresses the environmentally sustainable development and utilisation of water resources. The Water Point Committees are obliged to raise concerns about any developments or alterations that may pose a threat to the water supply and their water resources. They are also responsible for implementing specific management measures, such as the strict allocation of an ecological water reserve and water demand management measures. With these provisions, the policy places strong emphasis on community involvement, participation and responsibility.

5.2 The National Water Policy (NWP)

In March 1998, the Government decided to initiate the Namibia Water Resources Management Review (NWRMR)¹⁸ to:

- Assess the existing arrangements for managing water resources and services;
- promote the sustainable development of freshwater resources;
- provide the population with equitable access to water, especially the rural and urban poor; and
- ensure long-term social and economic development.

The NWRMR took a fresh, progressive look at the advances and initiatives in water resource management that have been made in both Namibia and elsewhere in the world. On this basis a set of new approaches and policies were recommended to address the contemporary challenges facing the country in conserving its limited and vulnerable resource base and to extend reliable water and sanitation services to the population. This work led to the adoption of a National Water Policy (NWP) in 2000.¹⁹ The NWP provides for community participation to lowest appropriate level in water resources management and the development of basin management plans that will serve as inputs to the national water master plan.

In 2002, Cabinet approved the National Water Policy White Paper, which formed the foundation of the Water Resources Management Act No. 4 of 2004 that was promulgated by Parliament. The NWP provides a framework for equitable, efficient and sustainable water resources management and water services, and stresses sectoral coordination, integrated planning and management as well as resource management aimed at coping with ecological and associated environmental risks. It states that water is an essential resource to support life and that an adequate supply of safe drinking water is a basic human need. The policy makes it clear that water concerns extend beyond human needs for health and survival. Water is essential to maintain natural ecosystems, and the policy recognises that, in a country as dry as Namibia, all social

18 Heyns (2005:95 and 105).

19 GRN (2000a).

and economic activity depends on healthy aquatic ecosystems. The NWP stresses that the management of water resources need to harmonise human and environmental requirements, recognising the role of water in supporting the ecosystem. One of the strategies to ensure environmental and economic sustainability is to ensure that in-stream flows are adequate – both in terms of quality and quantity – to sustain the ecosystem.

The NWP was developed to guide water resources management in Namibia. It is based on the country's physical and climatic setting, particularly its aridity, the legacy of the pre-independence era and current trends in development, specifically relating to water resources management. This policy clearly states that water concerns extend beyond human needs for health and survival, that water is essential to maintain natural ecosystems while all social and economic activity depend on healthy aquatic ecosystems. The policy further recognises the need for inter-sectoral coordination between all stakeholders involved in using and managing water resources. Salient principles contained in the policy include:

- **Integrated management and planning** – management and planning of water resources should be integrated across economic, environmental, and social dimensions;
- **development and intergenerational equity** – the country's water resources should be utilised, developed and managed in a way that promotes equitable and sustainable socio-economic development without prejudicing the benefits and opportunities of future generations;
- **ownership of water** – Namibia's limited and vulnerable water resources are an indivisible national asset, whose ownership is vested in the state on behalf of the whole society;
- **equity** – all Namibians should have the right of access to sufficient safe water for a healthy productive life;
- **water for ecosystems** – water resources management needs to harmonise human and environmental requirements and recognise the role of water in supporting ecosystems;
- **shared watercourses** – Namibia should strive to promote the equitable and beneficial use of international watercourses based on generally accepted principles and practices of international law, respect the rights of upstream and downstream users in other countries, strive to harmonise domestic legislation with the tenets of international law and respect the right of all stakeholders including basin communities to participate in negotiations and consultations at international level;
- **recognition of economic value** – economic value of water resources in Namibia should be recognised given their scarcity and vulnerability. Water abstraction, use, conservation and management, should be efficient and cost effective;

- **stakeholder involvement** – water resource use, planning, service provision and management should take place within a framework that encourages awareness and participation among stakeholders at all levels;
- **information exchange** – water resources information systems should be developed and made accessible to the public, and that institutions involved in the management and provision of water services should do so in an open and transparent manner;
- **decentralisation** – the management of water resources and water services should be decentralised to the lowest practicable level are recommended;
- **roles of institutions** – there is a need to have institutional functions clearly defined; and
- **capacity building** – capacity building should be a continuous process of institutional and human development and should include participation by the public and private sectors, civil society and community structures.

The Policy recognises the need to promote equitable and beneficial use of international watercourses based on generally accepted principles and practice of international law. This realisation originated from the 1974 Water Master Plan²⁰ that identified the need for Namibia to negotiate for access to shared perennial rivers to complement the internal water sources. The policy proposes to protect water resources from pollution by enforcing the polluter pays principle and regular water quality monitoring on all proposed projects. Furthermore, it proposes to improve knowledge on the vulnerability of critical wetland ecosystems and to develop strategies for their effective management. Two clauses within Section 2.3 on Water Use and Conservation Principles and Section 2.5 on Legislative and Regulatory Principles are particularly relevant to shared water resources:

- Precautionary environmental protection: The resource base shall be protected against any kind of contamination or pollution that could render any part of it unfit for beneficial human, economic and environmental purposes, applying the precautionary principle.
- Factoring environmental considerations in decision making: The need to protect the environment in general, and the aquatic ecosystems in particular, including their biodiversity and the nation's wetlands will be factored into the allocation of water resources for use and will include the prior assessment of the environmental impacts of proposed water uses.

The totality of the principles found in Namibia's policy framework for water resources management satisfies the criteria for sustainable use of shared watercourse systems and principles found in international law instruments that Namibia is party to and provides sound guidelines for legislation.

20 DWA (1974).

5.3 The Water Supply and Sanitation Policy (WSASP)

Water policy is not cast in concrete and can be changed, revised or renewed over time as new approaches to water management are required. The effectivity of the WASP was assessed in 2006 mainly due to the slow progress with sanitation services which had only 50% coverage in comparison with water services that reached 95% coverage. The poor performance in the sanitation sector was attributed to institutional fragmentation which defeated the objectives of the WASP in the sanitation sector. In 2008, the WSASP²¹ was the third water policy adopted by Cabinet and although the directives in the previous two water policies, WASP and NWP, have not all been accommodated in the WSASP, it does not mean that certain elements in the previous policies have been ignored or rescinded because they are still being applied. For example, the WASP already stated in 1993 that water resources and the environment are closely related. The sensitivity of the ecosystem to any changes in the water balance should always be respected and accommodated when water resources and new water infrastructure developments are planned. Measures to prevent the pollution of water resources and the environment should also be part of the management approach rather than trying to restore previous or allow future negative effects. This theme runs consistently through all previous policies and in the WSASP.

One of the main additions to the WSASP is that its principles are in line with the principles of integrated water resources management, including a strong focus on water demand management and the improvement of the sanitation services. Generally, it aims at ensuring equitable access to water resources sufficient to maintain life, health and productive activities of citizens.

Under this policy, the Government is the custodian of all water resources and has the right to control all water use and disposal of effluent. Integrated supply and demand planning are required in both the short and long term. Further, the WSASP promotes sustainable water utilisation through suitable pricing, promotion of water-efficient technology, public information and awareness programmes, information sharing and co-operation between parties, the promotion of wastewater re-use and active support of applied research and data gathering to monitor water conservation. There is also provision made for subsidies to those who cannot afford to pay the full costs of water, however, not all communities who cannot pay receive subsidies.²²

Water resources and the environment of Namibia are closely related. Due cognisance of this fact should be taken and respected whenever any employment of water for development is valued. The sensitivity of the country's natural ecosystem to any changes in the water balance should always be appreciated. The possible pollution of water and other resources should also be guarded against. A pre-emptive

21 GRN (2008f).

22 Schachtschneider (2001).

management approach rather than trying to counteract eventual negative effects should form part of all planning and decision-making processes.

5.4 The Draft Wetland Policy

The vision of the 2004 Draft Wetland Policy²³ is to manage national and shared wetlands wisely by protecting their vital ecological functions and life-support systems for the current and future benefit of people's welfare, livelihoods and socio-economic development.²⁴ The objectives of the policy are to:

- Protect and conserve wetland diversity and ecosystem functioning to support basic human needs;
- provide a framework for sustainable use of wetland resources;
- promote the integration of wetland management into other sectoral policies; and
- recognise and fulfil Namibia's international and regional commitments concerning shared wetlands and wetlands of international importance.

The basic principles of the policy are intended to provide a framework for the development of all water related policies. In terms of ecosystem values and sustainability, the Policy follows the Ramsar Convention on Wetlands' definitions and guidelines regarding the wise use of wetlands.²⁵

The basic principles used in the National Water Policy, which are intended to provide a framework for the development of all water-related policies, have been adapted for the Wetlands Policy in order to complement existing national policy instruments relevant to sustainable development and sound natural resource management and to help meet the national commitments as a signatory to the SADC (Southern African Development Community) Protocol on Shared Watercourse Systems, NEPAD (New Partnership for Africa's Development), several regional water commissions on shared river courses, the Ramsar Convention, the UNCBD (United Nations Convention on Biological Diversity), the UNCCD (United Nations Convention to Combat Desertification) and the UNFCCC (United Nations Framework Convention on Climate Change). It was prepared in consultation with all relevant ministries. Recognising that wetlands often span two or more political regions within a single country or two or more sovereign states and that this can lead to conflicts of interest, duplication and possible habitat loss, a basin-wide approach to wetland management is advocated and to conserve shared wetlands, the establishment of trans-frontier protected areas is specifically stated.

23 GRN (2004c).

24 On wetlands in Namibia, cf. Ruppel / Bethune (2007).

25 The text of the Ramsar Convention is available at <http://www.ramsar.org>.

Legislative and regulatory principles include the development of legislation to protect Namibia's diverse and vulnerable wetlands. Further to this, the need to protect the biodiversity and ecological functioning of wetlands will be factored into all new laws and policies as well as setting aside water for aquatic ecosystems (water for environmental flows). The right to consultation between all relevant stakeholders, including basin communities affected by development decisions occurring at the local, basin and international level shall be respected.

In February 2014, at the occasion of the official launch of the fifth site in Namibia listed under the Ramsar Convention, the Bwabwata-Okavango Ramsar site which covers the lower Okavango River in north-eastern Namibia,²⁶ the Minister of Environment and Tourism announced that the Ministry will start to finalise the Draft National Policy on Wetlands in the next two years to provide the policy framework and guidance to the management of wetlands. It is furthermore envisaged by the Ministry to establish a National Committee on Wetlands as required under the Ramsar Convention, to spearhead the national wetland programme of the Government.²⁷ Regrettably, the Draft Wetlands Policy still lacks approval.²⁸ The Wetlands Working Group submitted the Draft Wetland Policy to the Ministry of Environment and Tourism (MET) to obtain approval from the Cabinet but this authority has not yet been obtained. The MET will be responsible for implementing the Wetland Policy, unless otherwise directed.

6 The Statutory Framework

6.1 The Constitution of Namibia

There are three Articles in the Constitution that have direct bearing on the management of water resources. Chapter 11 of the Constitution addresses the principles of State policy regarding environmental management of water resources the ownership of water and Chapter 21 with the legal status of international water agreements. The Articles are:

- Article 95 deals with the promotion of the welfare of the people by adopting inter alia policies such as Article 95 (1) which calls for the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation living natural resources on a sustainable basis for the benefit of all Namibians, both present and future.

26 The other four wetlands already listed under the Ramsar Convention are the Orange River Mouth, the Walvis Bay Lagoon, Sandwich Harbour and the Etosha Pan.

27 Nakale (2014); see also MET (2015).

28 See the national Report to COP13 (2018) at https://www.ramsar.org/sites/default/files/documents/importftp/COP13NR_Namibia_e.pdf, page 8.

- Article 100 deals with the sovereign ownership of natural resources and states that land, water and natural resources below and above the surface of the land and in the continental shelf and within the territorial waters and the exclusive economic zone of Namibia shall belong to the State if they are not otherwise lawfully owned. However, the reference to “if they are not otherwise legally owned” is not only ambiguous and open for interpretation, but often deliberately omitted when the Article is quoted.
- Article 144 states that unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements are binding upon Namibia under the Constitution and shall form part of the law of Namibia.

With these provisions, the Constitution lays the foundation for all policies and legislation in Namibia and contains three key environmental clauses relevant to sustainable use of natural resources. Article 100 of the Constitution vests all natural resources in the state, unless otherwise legally owned. Thus, unless legal ownership in a specific locality is proven, such natural resources are owned by the state; the provision implies that natural resources can be legally owned as private property.

It may be arguable that the emerging dichotomy of the Article 100 is that it affects only the farming community on commercial land as far as water sources are concerned. This can be examined by looking at the present land tenure system which makes provision for the private ownership of land e.g. commercial farms and plots or erven in urban areas. However, large tracts of land are either communal land, held in trust by the State, or nature parks that also belong to the State, and technically the water resources are therefore owned by the State in any case and the State can allocate the water to any user in any case.

The land and the water resources on or below the surface of privately owned land is part of the property because nobody would want to own a farm with the objective to farm commercially, and on business principles, if the water belongs to somebody else. The concept that if one owns something, like water in an arid country, the owner will take good care of it, seems defeated if water belongs to the State. Will a commercial farmer invest money in water abstraction facilities or waste pumped water because he had paid for the water supply infrastructure and the operating cost of the service, which is therefore not free of cost? He/she will unlikely pollute the water sources or use it in an unsustainable way, because that will ruin farming activities. Whether and to what extent water and property should clearly both be part of the (private or commercial) ownership package can be debated. If the argument holds that water on privately owned land belongs to the State, then it can be argued that the State has an obligation to supply water to the farmer (which is actually being done in many cases on resettlement farms where it is expected by the resettled farmers that the State, to whom the land and belongs, must assist to supply water, which is at the expense of the taxpayer while the commercial farmer who previously provided that service himself, when he

owned that same farm and therefore did not burden the tax payer. A similar situation may exist on communal land where not only the water, but also the land belongs to the state. The capital cost of rural water supply infrastructure is, directly or indirectly funded with taxpayers' money, and the operating cost to supply the water is heavily subsidised by the taxpayer because the rural communities find it difficult to pay the full economic cost so supply the water, while commercial farmers bear the full responsibility on their farms.

It would also be inequitable to serve some communities with water from sources that do not belong to them, while it is expected from a private landowner to protect the property (water) of the state on his land, but he is not assisted with the supply of water. The best the state can do is to monitor the sustainable abstraction of water on commercial farms through a permit system that may require information about the quantity of water abstracted, but many successful commercial farmers do that in any case because, by doing that, they can plan stock numbers, based on the availability of water and grass after a rainy season, thus enabling the farmers to reduce stock numbers when boreholes are yielding less water after a poor rainy season.

6.2 The Water Act No. 54 of 1956

Only those Articles of the South African Water Act No. 54 of 1956, that cover issues that applied in a similar way to Namibia, had been made applicable in Namibia²⁹ and according to Article 140 of the Constitution of Namibia, all laws which were in force immediately before the date of Independence shall, subject to the provisions of the Constitution, remain in force until repealed or amended by an Act of Parliament or until they are declared unconstitutional by a competent Court.

The Water Act of 1956 is generally referred to as the 'old Water Act', and often in the past tense, although strictly speaking it remains applicable until it is officially repealed and replaced with a new Water Act. The Water Resources Management Act 11 of 2013 has been promulgated by Parliament to replace the Water Act, but the Regulations, which are of a highly technical nature, are still with the Ministry of Justice for approval. The Act has therefore not yet come into operation because the Minister has

29 Only the following Sections of the Act have been made applicable to Namibia: Sections 1-4, with effect from 25 June 1969 – according to Section 180(2) of the Act; Section 162, with effect from 1 April 1971, by Proclamation 281 of 1970 in terms of South African Government Gazette 2921 of 13 November 1970); Sections 5 to 7, 9A, 21 to 23, 26 (excluding paragraph (a)), 27, 28(1), 30, 34 to 43, 44(2), 45 to 51, 54 to 56, 57(1), 59(2), 66, 69, 70 (excluding paragraphs (d), (f), (g) and (h)), 139 to 152, 164 bis, 164 ter, 165, 166, 170 (excluding sub-Section (3) and paragraph (c) of sub-Section (5)) and 171 – with effect from 26 June 1971 by Proclamation 151 of 1971 in terms of South African Government Gazette 3167 of 25 June 1971; and Sections 9B; 30A (a) and 170(3) with effect from 18 December 1985 by Act No. 22 of 1985. See the Water Act No. 54 of 1956.

not yet specified a date for the Act to come into force as required by Section 134 of the Act. Thus, the 1956 Act remains applicable for the time being.³⁰

The main purpose for passing the Water Resources Management Act, as its Preamble states, was to consolidate and amend previous laws relating to the control, conservation and use of water for domestic, agricultural, urban and industrial purposes in South Africa. The Act also aims to make provision for the control of the use of sea water for certain purposes, for the control of certain activities on or in water in certain areas and for the control of activities which may alter the natural occurrence of certain types of atmospheric precipitation.

The old Water Act clearly defines the interests of the state in protecting water resources and gives the Minister the power to, amongst others, investigate water resources, plan water supply infrastructure, develop water schemes, control water pollution, protect, allocate and conserve water resources, inspect water works, levy water tariffs and advise on all matters related to the water environment in general. It basically makes the Department of Water Affairs responsible for control over the use, allocation, disposal and conservation of all surface and groundwater resources. Provision is made for the protection of river catchments, drilling of boreholes and making of wells, controlling effluent discharge on land and into rivers as well as to authorise weather modification, such as cloud seeding.

The Act also aims to make provision for the control of the use of sea water for certain purposes (such as desalination), for the control of certain activities on or in water in certain areas (such as unsustainable groundwater abstraction) and for the control of activities which may alter the natural occurrence of certain types of atmospheric precipitation. The implementation of the Act is guided by the Regulations made to prescribe water quality control, the construction of farm dams, the disposal of waste water, the protection of artesian water sources and the use of large groundwater sources of national interest in declared groundwater water control areas.

Although the sections in the Water Act that were made applicable to Namibia are still enforced, the Act do not cover all the new policies and principles of water law required in an independent Namibia. To inform the drafting of the Water Resources Management Act No. 11 of 2013, Government considered the WASP and NWR water policies as elaborated above. The Old Water Act distinguishes between private and public water. Private water is that which flows, naturally rises, falls or generally drains or is directed into land but is not available for common use.³¹ Public water includes any water flowing or found in or derived from the bed of a public stream, whether visible or not.³² It should also be noted that during the German colonial period the

30 The Water Act No. 54 of 1956, was for example still applied by the High Court in Windhoek in the case concerning the use of groundwater by the Valencia Uranium Mine; see Menges (2008).

31 Section 1.

32 Section 1.

major ephemeral rivers in Namibia all belonged to the State and was therefore “public water”. Farms have been surveyed in such a way that the farm boundaries did not include major rivers and those farmers did not have rights to that public water although their location was riparian to the river.

There is therefore no private property right to public water,³³ and the sole and exclusive use and enjoyment of private water is vested in the owner of the land on which such water is found.³⁴ The Act thus gives preferential abstraction rights to the landowners on whose land such water is found³⁵ because the water is required for commercial agricultural purposes, unless the area in which the water resources occur, has been declared as a subterranean water control area and in such cases water can also be allocated under a permit to enable the farmer to continue with commercial farming activities. The private-public water dichotomy might be unconstitutional in the current constitutional dispensation because whereas the Act provides for private and public water, the Constitution regards natural resources as common resources, thus they constitutionally belong to the state unless otherwise lawfully owned. Considering that all water is controlled by the State under the public trust doctrine emanating from Article 100 read together with schedule 5 of the Constitution all the water can be regarded as a common resource – hence public.³⁶ The Act, however, has some balancing provisions whereby the Minister of Agriculture, Water and Land Reform (MAWLR) has the power to control the amount of water to be used by a person who has private water rights.³⁷ Connected to this in terms of Section 21, the Minister has the power to order a person to purify water he has contaminated. A person can, however, apply for an exemption from this duty and the Minister must use his/her powers to consider whether to grant the application or not.³⁸

Section 23 prohibits pollution of public or private water, including underground water, or seawater. Sections 27 to 55 deal with control and use of subterranean water. The President is empowered to declare certain waters to be a subterranean water control area, if the Minister is of the opinion that it is in the public interest to do so.³⁹ Once proclaimed, Cabinet has extensive powers to determine how that water is going to be abstracted and all concomitant matters.⁴⁰

33 Section 6.

34 Section 5.

35 Land-based entitlement: Rights to abstract and use public and private water is based on the riparian principle which means that the right to water usage is determined by the location of the water resources in relation to the land.

36 See similar arguments advanced in GRN (2000b).

37 Section 9A.

38 Section 21(5).

39 Section 28(1) as substituted by Section 5 of Act No. 42 of 1975. Only this sub-Section is applicable in Namibia. The other sub-Sections including Section 29 are not applicable to Namibia.

40 See the powers in Section 30.

The Act gives the Minister the power to investigate water resources, plan water supply infrastructure, develop water schemes, control pollution, protect, allocate and conserve water resources, inspect water works, levy water tariffs and advise on all matters related to the water environment in general. It makes the Department of Water Affairs, in MAWLR, responsible for the use, allocation, control, and conservation of Namibia's surface and groundwater resources.

What is interesting to note is that Section 174 deals with the application of the Act in relation to certain land in South-West Africa. Section 174(1) stipulates that the provisions of the Act shall apply in relation to any land in the territory of South-West Africa which, if it were within the Union of South Africa, would have been riparian to the Orange River in terms of this Act, and such land shall for the purposes of the application of the provisions of this Act be deemed to form part of the province of the Cape of Good Hope. Section 174(2) states that for the purposes of sub-section (1) the Orange River shall be deemed to form a boundary of any land in the said territory which is situated on the bank of that river. Section 174 was not applied to South West Africa, but it is included here for background as it has obvious relevance.

6.3 The Water Resources Management Act No. 24 of 2004

The Water Resources Management Act No. 24 of 2004 has been passed by Parliament, promulgated on 23 December 2004 by Government Notice 284 and published in the Government Gazette.⁴¹ The objective of this Act was defined to ensure that water resources of the country are managed, developed, protected, conserved and used in a sustainable manner for the benefit of every Namibian. It also established the Water Advisory Council, the Water Regulatory Board, the Water Tribunal and a special section on rural water supply management.⁴²

The Act was based on the NWP and provided for the management, development, protection, conservation, and use of water resources. The Act introduced equitable access to water resources for all population groups in Namibia. It provided an integrated, enabling legislative framework within which Namibian water resources could be managed, and water services provided. The objective of the Act was to ensure that Namibia's water resources are managed, developed, protected, conserved and used in ways, which are consistent with or conducive to be consistent with certain fundamental principles set out in Section 3 of the Act and promote:

- Equitable access to water resources by every citizen, in support of a healthy and productive life;

41 Government Gazette No. 3357 (2004) See: <https://bit.ly/3mge0EB>, accessed 3 June 2021.

42 Sections 16 to 22 of the Act.

- access by every citizen, within a reasonable distance from their place of abode, to a quantity of water sufficient to maintain life, health and productive activities;
- essentiality of water to support life, and need for safe drinking water as basic human right;
- harmonisation of human needs with environmental ecosystems and the species that depend upon the water, while recognising that those ecosystems must be protected to the maximum extent;
- integrated planning and management of surface and underground water resources, in ways which incorporate the planning process, and economic, environmental and social objectives;
- management of water resources in such a way that sustainable development is promoted;
- facilitating and encouraging awareness programmes and participation of interested persons in decision-making;
- prevention of water pollution, and the principle that a polluter has a duty of care and liability to make good; and
- meeting international obligations of and promoting respect for rights of the country regarding internationally shared water resources and to the abstraction of water for beneficial use and the safe disposal of polluting effluents.

The Act provided for basic human and environmental water needs, although not as specifically as stated in the NWP. Part 5 of the Act,⁴³ provided for the establishment of Water Point User Associations⁴⁴ at community level, consisting of those rural community members who permanently use a water point. Their function was defined as to operate and maintain the water point in question and to make decisions about water use regulations. The Act provided for a Water Point Committee to monitor and enforce compliance with such regulations and for the establishment of a Water Resources Management Agency as well as Basin Management Committees to manage water resources sustainably.

Part 4 of the Act paved the way for establishing basin management committees to promote the management of water resources on hydrological boundaries taking into account physical, climatic, ecological and human factors affecting the quantity and quality of water resources. By 2011, eight basin management committees had been established.⁴⁵

The Act specifically dealt with the control of alien invasive species in Section 133 on regulations, stating that the Minister may declare any species to be alien invasive species and may make regulations for their control or eradication. Further, as the Act

43 For more details on water point associations, see Falk (2008) and the following Chapter.

44 GRN (2012:29).

45 *Ibid.*

requires water resources management to operate according to the principles of environmental sustainability, this implies that where aquatic invasive species threaten water resources and wetland habitats they will be dealt with. Another fundamental principle upon which the Water Resources Management Act was based is that Namibia meets its international obligations and promotes respect for its rights with regard to internationally shared water resources, resource quality and, in particular, to the abstraction of water for beneficial use and the discharge of polluting effluents.

Part 10, of the Act deals with internationally shared water resources, recognises the obligations of Namibia under international treaties and conventions such as the Convention on the Law of the Non-Navigational Uses of International Watercourses and the revised SADC Protocol on Shared Water Resources. Regarding shared water courses, the Minister was authorised to participate in the development of a common database, joint projects, conflict resolution and to establish institutional links and ensure stakeholder participation with neighbouring riparian states. The Act includes the obligation to collect and share data and information on internationally shared water resources and lists these in Section 55.

However, the Act never came into force because a date for the commencement of the Act, as prescribed by Section 138(1)(b) of the same Act, has never been determined by the Minister. This was mainly because the Act instructed the Minister in Section 7 of the Act to establish a Water Resources Management Agency and to abolish the Department of Water Affairs as instructed by a Cabinet decision to that effect. The Minister was hesitant to abolish the DWA and since the Act was promulgated without the Regulations had been drafted, the implementation of the Act and the establishment of the Water Resources Management Agency could not be authorised until that had been done. The Regulations for a Water Act are very technical in nature and the DWA did not have the capacity to prepare the Regulations in a short period of time because most of the technical and engineering staff were transferred to NamWater. This caused a delay, and the fact that a new Water Policy was adopted in 2008, and an Integrated Water Resources Management Plan formulated by 2010, it was decided to revise the Act to accommodate the new developments. It was therefore repealed as a whole by the Water Resources Management Act No. 11 of 2013.

6.4 The Water Resources Management Act No. 11 of 2013

Although the Water Resources Management Act No.11 of 2013 has been passed by Parliament, signed by the President, promulgated on 19 December 2013⁴⁶ and published in the Government Gazette,⁴⁷ it has not yet been signed into law by the Minister,

46 Government Notice 332.

47 Government Gazette No. 5367 (2013).

and is therefore not in force yet. The main reason why Minister has not yet determined a date for the Act to come into operation as required by Section 134 of the Act is the cause of the delay in the completion of the preparation of the Regulations required to implement the Act. As stated before, the Regulations are highly technical in nature and have thus not been finalised as of yet. The MAWLR is currently waiting for comments on the draft Regulations by the Ministry of Justice. Once in force, the Act repeals both, the Water Act No. 54 of 1956 as a whole and the Water Resources Management Act No. 24 of 2004⁴⁸ (which had *de facto* never come into force).

The Water Resources Management Act No. 11 of 2013 was enacted to provide for the management, protection, development, use and conservation of water resources, and the regulation and monitoring of water services among others. As per Section 2, the objective of the Act includes to ensure that the water resources of Namibia are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, specific fundamental principles including, among others, equitable access to safe and sufficient drinking water; the maintenance of the water resource quality for ecosystems; and the promotion of the sustainable development of water resources based on an integrated water resources management plan which incorporates social, technical, economic, and environmental issues. The Act provides for the establishment of a Water Advisory Council to advise the Minister on issues such as water policy development and review; water resources management; and water abstraction and use.

Furthermore, a Water Regulator is to be established under the Act, to determine the tariffs of fees and charges that may be levied by a water services provider or that are payable by licence holders for the abstraction of water or the discharge of effluent or the supply or re-use of effluent. The Water Regulator also performs other functions regarding water service providers, which must be licenced under the Act. Basin Management Committees are institutions that may be established under the Act to further the Government's objective in achieving the integrated management of water resources.

The Act aims to ensure that Namibia's water resources are managed, in a manner that is consistent with, or conducive to, specific fundamental principles as set out in Section 3 of the Act, namely:

- (a) Equitable access for the population to safe drinking water as an essential basic human right to support a healthy productive life;
- (b) access by all people to enough safe water within a reasonable distance from their place of abode to maintain life and productive activities;
- (c) harmonisation of human water needs with the water requirements of environmental ecosystems and the species that depend on them, while recognizing that the water resource quality for those ecosystems must be maintained;

48 Section 137.

- (d) promotion of the sustainable development of water resources based on an integrated water resources management plan which incorporates social, technical, economic, and environmental issues;
- (e) availability of open and transparent information about water resources to the public;
- (f) recognition of the economic value of water in the allocation of water;
- (g) development of the most cost-effective solutions to establish infrastructure for the provision of water, including conservation measures;
- (h) supporting integrated water resources management through human resources development and capacity building;
- (i) promotion of water awareness and the participation of persons having interest in the decision-making process should form an integral part of any water resource development initiative;
- (j) cognisance of namibia's international rights and obligations in the utilisation of internationally shared water resources and the disposal of waste or effluent;
- (k) consistency of water resource management decisions within the specific mandate from the government regarding the separation of policy, regulatory and operational functions;
- (l) prevention of water pollution and implementation of the principle that a person disposing of effluent or waste has a duty of care to prevent pollution;
- (m) a polluter is liable to pay all costs to clean up any intentional or accidental spill of pollutants; and
- (n) cognisance of the regional diversity in water resources development and the decentralisation of responsibilities to the lowest level of government where adequate and appropriate competency exists to manage water resources effectively.

In these fundamental principles, many general principles of environmental law are echoed, such as the principles of prevention, precaution and the polluter pays principle. The Act in terms of Section 4 of the Act imposes on the state an obligation to ensure that water resources are managed and used to the benefit of all people in furtherance of the aims of the Act.

Part 2 of the Act assigns a variety of powers and functions to the Minister with regard to the management of water resources including among many others the powers to conduct water resources management planning and to ensure an adequate supply of water for domestic use. The Minister is furthermore responsible for international negotiations related to internationally shared water resources and water related matters. Certain powers can be delegated to the Water Regulator, a basin management committee or to the permanent secretary or any other staff member of the Ministry. Furthermore, according to Section 129 of the Act the Minister can make regulations relating to various issues pertaining to the management of water resources.

Part 3 of the Act provides for the establishment of a Water Advisory Council⁴⁹ to advise the Minister on issues such as water policy development and review, water resources management, water abstraction and water use. The Water Advisory Council is established upon nomination and “consists of 11 members who are persons with

49 Section 7.

extensive knowledge and experience in water resource management and from authorities or institutions responsible for or involved in water supply or water management.”

Furthermore, a Water Regulator⁵⁰ consisting of five members is to be established under Part 4 of the Act, to determine the tariffs of fees and charges that may be levied by a water services provider or that are payable by licence holders for the abstraction of water or the discharge of effluent or the supply or re-use of effluent. The Water Regulator also performs other functions regarding water service providers, which must be licenced according to the provisions in part 10 of the Act.

Part 5 of the Act is designated to the management of rural water supply. Basin Management Committees⁵¹ are institutions that may be established to further the Government’s objective in achieving the integrated management of water resources. The Basin Management Committees have several functions, including the promotion of community participation and “to advise the Minister on matters concerning the protection, development, conservation, management and control of water resources and water resource quality in its water management area.” with the option to establish Water point committees⁵² and local water committees to be “entrusted with the responsibility of managing and controlling the supply of water at any rural state waterwork.”

Internationally shared water resources are considered in Part 6 of the Act, which describes in more detail the functions of the Minister related to agreements on internationally shared water resources.⁵³ Specific agreements are listed in relation to which regulations can be made by the Minister to give effect to these agreements. These are in general agreements relating to internationally shared water resources binding on Namibia and announced by the Minister by notice in the Gazette. In particular, the agreements establishing the Orange-Senqu River Commission (Orasecom); the Permanent Okavango River Basin Water Commission (Okacom); the Zambesi Watercourse Commission (Zamcom); and the Kunene Permanent Joint Technical Commission are listed as such international agreements.

For the development, conservation, management and control of Namibia’s water resources, the Minister must in cooperation with regional councils, basin management committees and water services providers prepare an Integrated Water Resources Management Plan⁵⁴ to be submitted to Cabinet for approval and which is subject to review after ten years following Cabinet’s approval.⁵⁵

50 Section 11.

51 Section 20.

52 Section 30.

53 Section 28.

54 Section 31.

55 According to personal communication with the Deputy Executive Director of the DWA, such plan was adopted by Cabinet in 2012.

Water supply, abstraction and the use of water are regulated in Part 9 of the Act which foresees a close cooperation between the Minister responsible for water affairs on the one hand and the Minister of health on the other.

As a general rule, a non-transferable licence is required for the abstraction and the use of water.⁵⁶ This requirement does, however, not apply to the abstraction of water for domestic use and to owners of a private well for the abstraction of water for domestic use.⁵⁷ The licence, which is subject to a fee, may be obtained by application to the Minister and can be combined with a licence to discharge effluent as required according to Section 70 of the Act.

The control and protection of groundwater is addressed in Part 12 of the Act, which contains specific provisions as regards to the construction of boreholes and wells and respective licenses. Part 13 of the Act deals with water pollution control and lays down the precautionary principle. A licence is required to discharge effluent or construct or operate wastewater treatment facility or waste disposal sites. On the initiative by the Minister or upon application by other persons having an interest, Water Protection Areas can be declared under the provisions of Part 14 of the Act “in order to protect and enhance any water resource, riverine habitat, watershed, ecosystem or other environmental resource that is at risk of significant changes to resource quality, depletion, contamination, extinction or disturbance from any source, including aquatic or terrestrial weeds.”⁵⁸ The overall effect of declaring an area a water protection area is that there is a duty to comply with any limitation or prohibition imposed and specified in the notice of declaration of the water protection area.

Certain emergency powers for the Minister are stipulated in Part 15 of the Act to limit the right to abstract and use water for example in situations of water shortages or to control pollution.⁵⁹ Further provisions of the Act deal with water services plans and efficient water management practices; dams, dam safety and flood management; the control of activities affecting wetlands, water resources and resource quality (including the control of aquatic invasive species); water services provided by state; and servitudes which may be claimed by licence holders to give effect to that licence.

Offences are addressed by Section 127 of the Act and cover several acts related to abstraction or use of water not in conformity with the licence or the pollution of water resources. What is remarkable from a legal point of view is the establishment of an appeal body to be known as the Water Tribunal⁶⁰ to hear and decide appeals against decisions by the Minister in matters specified in detail in Section 120, including for example in cases where the issuance of a licence has been refused. The Water Tribunal will consist of a chairperson appointed by the Minister with the concurrence of the

56 Section 44.

57 Sections 38 and 39.

58 Section 85.

59 Section 88.

60 Section 117.

Judge President of the High Court and up to six other persons selected and appointed by the Minister.⁶¹

The implementation of the WRMA is of particular concern regarding the number of regulatory structures and the technical content such as dam safety, water pollution control, wetlands management etc. that must be administrated based on technical inputs from competent engineering and technical staff. In this context it is clear that the Water Advisory Council, the Water Regulator, the Water Tribunal would require from the DWA to administrate the activities (convene meetings, take minutes, prepare technical and legal documents etc.). Some of these entities must report directly to the Minister, which seems to be very impractical in view of the many duties of the Minister. Furthermore, each of these groups is proposed as a body corporate (in this instance it is not clear whether they will fall within the existing state structures as body corporates, e.g. Local Authorities, or alternatively as completely new parastatal entities).

Another question is whether Namibia, a country with less than three million people, can even begin to consider the necessity for a governance structure that is much more complex than that of many countries with higher populations. This also raises the issue of cost in terms of the existing budgetary constraints, given the fact that the activities of the existing DWA are already underfunded.

6.5 The Soil Conservation Act No. 76 of 1969

The Soil Conservation Act was promulgated in South Africa and dates back to 1969. It was made applicable in Namibia with effect from 1 April 1971 by Act No. 38 of 1971. This Act is another important legal document with regard to the prevention of environmental degradation because it covers the prevention of soil erosion, the conservation, improvement and manner of use of the soil and vegetation, and the protection of water sources.⁶² As per the Act, the Minister has the power to declare directions applicable with reference to land conservation and may order construction of soil conservation works. Soil Conservation Committees may be established under this Act to advise the Minister, owner or occupier of land on all matters relating to soil conservation.

The main driving forces for soil erosion are rainfall, wind and agricultural activities. The cultivation of land loosens the soil while veldfires and overgrazing reduces the vegetation cover. This increases the effect of rainwater and wind eroding the topsoil. Activities such as the alteration of the flow of natural watercourse or the alteration of the banks of rivers may not be done while the drainage of wetlands, marshes, natural

61 See Ruppel (2008d) for the role of the executive in safeguarding the independence of the judiciary.

62 Section 2.

water sponges and watercourses are not permitted. Soil erosion is immensely detrimental to infrastructure like dams which must impound rainfall runoff during the rainy season to use the water during the dry season. Millions of tons of soil and silt is deposited in dams during each rainy season. This reduces the storage capacity and efficiency of the dams. Control of soil erosion and control over the design and construction of small water retaining infrastructure is particularly important from a safety point of view. In order to reduce soil erosion in a donga or gully it is necessary to construct small barriers or embankments in the donga to retain the soil to fill up the donga while allowing the water to pass.

The Water Act has been amended by the Water Amendment Act 22 of 1985 to control the construction of such a structure if it would impound more than 20,000 cubic metres of water. The construction of a farm dam with a capacity of more than 20,000 cubic metres of water requires a formal design and a permit to construct the dam. If large enough, a farm dam must also comply with legislation regarding dam safety and inspections according to the prescribed regulations. The control and protection of groundwater is addressed in Part 12 of the Act, which contains specific provisions as regards to the construction of boreholes and wells and respective licenses. Part 13 of the Act deals with water pollution control and lays down the precautionary principle. A licence is required to discharge effluent or construct or operate wastewater treatment facility or waste disposal sites.

6.6 Territorial Sea and Exclusive Economic Zone of Namibia Act No. 3 of 1990

The importance of this Act, as far as it relates to fresh water, is that it determines the boundary between internal waters which are located on land in Namibia and the water in the sea. This boundary is at the low water line, which is defined as the line of the lowest astronomical tide.⁶³

According to Section 3(1) of the Act the waters landward from the low water line, or any other baseline from which the territorial sea was measured, shall form part of the internal waters of Namibia. Section 3(2) states that the provisions of sub-section 3(1) shall be in addition to and not in substitution for any other law relating to or defining the internal waters of Namibia.

The Water Act No. 54 of 1956 does not make any provision for control over the abstraction of water from the sea, but the disposal of wastewater into the sea and the control over such disposal is covered under Section 21(5)(a) the Act to prevent the pollution of sea water.

The Water Resources Management Act No. 11 of 2013 makes provision for control over the abstraction of water, but not specifically about sea water. There is no provision

63 Territorial Sea and Exclusive Economic Zone of Namibia Act No. 3 of 1990.

about the area of jurisdiction of the Act. There is also no specification about the chemical quality of water that may be abstracted, which means that water, regardless of the chemical quality, can be abstracted and if it is not potable (such as high salinity sea water) it can be treated to the required standard required for the purpose it will be used for.

The caveat in the legislation about the abstraction of sea water is that the point where sea water can be abstracted is not “on land” but beyond the “low water mark” in an area which is under the jurisdiction of the Territorial Sea and Exclusive Economic Zone of Namibia Act No. 3 of 1990. The control over the abstraction of sea water is therefore theoretically not under control of provisions in any of the said Acts mentioned above and needs to be rectified to provide for the abstraction of seawater beyond the “low water line” mentioned above.

6.7 The Namibia Water Corporation Act No. 12 of 1997

The Namibia Water Corporation Act⁶⁴ establishes the water utility company, called NamWater, and places an obligation on NamWater to conduct its functions in an environmentally sustainable and sound manner. The Act also specifies the duty to conserve and protect the environment. It should conduct all activities with due regard for the protection and conservation of ecological resources and habitats. Water is allocated by the DWA through a permit regulatory system and NamWater is entitled to apply for a permit to impound surface runoff in ephemeral rivers, to abstract water from perennial rivers and to abstract groundwater. Certain Sections of the Act will be amended by the Water Resources Management Act No. 11 of 2013 when it enters into force.

Section 2(1) of the Namibia Water Corporation Act established a company to be known as the Namibia Water Corporation (NamWater) The objectives of NamWater are to carry out efficiently, the primary business of bulk water supply to customers, in sufficient quantities, of a quality suitable for the customers’ purposes, and by cost-effective, environmentally sound and sustainable means; and the secondary business of rendering water-related services, supplying facilities and granting (lease) rights to customers upon their request.

The Act provides for the responsibilities of NamWater as well as to regulate its powers, duties and functions; to provide for a more efficient use and control of water resources; and to provide for incidental matters. NamWater was established as a commercial entity and has the duty to supply water and *inter alia*, must consider each application for bulk water supply by any potential customer, and subject to the

64 Namibia Water Corporation Act No. 12 of 1997.

availability of the required quantity and quality of water, must accept the applicant as a customer.

In Part 8, Section 40, the provision of water to customers is deemed an essential service (which means it cannot be suspended by labour actions or strikes), but NamWater has the right to interrupt or reduce water supply whenever a condition of drought causes an insufficient source yield; or when there is a breakdown of any water work; or if there is an emergency likely to endanger life or property. Sections 5 and 6 of this Act set out the objects and functions of the Corporation, respectively. Section 5 requires the Corporation to act “in the best interests of the Republic of Namibia”. This is not defined further, and it is perhaps worth noting that such a statement could be interpreted widely. It is reasonable to conclude that it is in the best interests of the country that NamWater provides appropriate water services at an affordable cost recovery regime instead of running the risk of bankruptcy and becoming dependant on Government bail-outs as is the case with other parastatals who are supposed to operate on business principles. Section 6(3) of this Act allows that the Minister may negotiate and conclude, on behalf of the State as the sole shareholder in the Corporation, the expectations of the Government in respect of the scope of business of the Corporation, its efficiency and financial performance, as well as the financial targets which the Corporation is expected to achieve over periods of at least five years at a time. This may be interpreted that the Minister may negotiate and agree with the Corporation on their expected profitability or financial performance and should NamWater be required to implement policies to supply subsidised water under Section 6(2), it would be reasonable to assume that such requirements and implications will be factored into the financial performance required of the Corporation, to be negotiated between the Minister and the Corporation.

It should be noted, that even after NamWater has been in existence for more than 25 years,⁶⁵ the agreement between NamWater and the Government, regarding the scope of business and financial performance of NamWater, has still not been concluded. Such an agreement between the Government and NamWater should serve to provide a framework within which the general performance can be evaluated as well as guidelines according to which the income of the Company (water tariffs) can be determined.

Section 7 of the Act deals with the powers of the Corporation. The Act specifies that the Corporation has the power, but not necessarily the duty (according to an opinion from the Attorney General) to impose water on a full cost recovery basis. However, if the Corporation must operate as a commercial enterprise with the primary purpose to supply water in bulk, then it would be reasonable to assume that the levy tariffs for water supplied must cover the costs associated with its business activities as its primary source of income. The fact that tariff setting should be done in consultation with the

65 Namwater was officially registered as a company on 9 December 1997.

Minister is slightly ambiguous, and do not provide any practical guidelines. For example, the annual increase in water tariffs, to cover the increase in cost due to inflation, can also be perceived to be a result of an unreasonable increase in salaries or just plain bad management, resulting in extra operating costs. It may also be that the approval of tariff increases could become a political issue and the Minister may then approve an arbitrary reduction in the tariffs proposed by NamWater for approval. As a result, this clause has led to much misunderstanding between NamWater and the Ministry.

Until such time as the independent Water Regulator, as contemplated in Water Resources Management Act No. 13 of 2013 comes into effect, NamWater and the Ministry (the Minister) should agree on the process to be followed to approve and publishing NamWater tariffs, as well as to negotiate a business performance contract for NamWater between the two parties.

Section 15 of this Act deals with subsidies for the supply of water by the Corporation. The Minister may enter into a written agreement with the Corporation for the supply of water services or facilities at a cost subsidised or fully paid for by the Minister with funds appropriated by Parliament for such purposes. In this way the cost for water services can be made affordable for those living in abject poverty.

In the case of cross-subsidisation, which is when consumers from one water scheme are charged more than the cost of supply in order to subsidise consumers of another scheme where the consumers are charged less than the cost of supply, it can be said, according to this Section of this Act, that such an arrangement requires the written approval of the Minister. It can also be reasonably assumed that, should the Minister instruct the Corporation to implement a Government policy of subsidisation under Section 6(2), and consequently agree on the financial implications to the Corporation under Section 6(3), he will approve and provide the funds for whatever subsidy is required, under Sections 15(1) and (2).

Section 30(1) deals with the financial provisions of the Corporation and entitles the Corporation to capitalise such portion of its profits as the Board may deem necessary for the financing of future capital works, and any amounts so capitalised and not immediately required to be expended shall be deposited in a reserve account. The reference to profits and the provision of operating a reserve fund is consistent with the operation of a commercial entity. However, profits are not defined in the NamWater Act and due to an anomaly in the tax legislation, NamWater is liable for tax, even if they do not make a profit, or receive income more than expenditure.

According to Section 30(2), the Corporation may establish and operate such reserve funds as the Board may deem necessary and the management of these reserve funds is therefore left to the discretion of the Board, which implies that the Corporation may indeed make profits as befitting a commercial entity. As a rule of thumb, commercial entities capitalise 30 to 50% of their profit for investment purposes (future upgrades or expansion) and pay out the remainder of the profit as dividends. The issue of dividends on profits is also a contradictory issue due to the fact that NamWater is not

supposed to make “profits” because it makes the water itself more expensive for the consumers. A similar arrangement to deal with this could possibly be negotiated between the Corporation and the Minister under Section 6(3).

Sections 32 and 33 of the NamWater Act provides for accounts, auditing and annual reporting that are consistent with the operation of a commercial entity. Section 42 does not exempt NamWater from complying with any provision of the Water Act No. 54 of 1956 or any other water law which requires a permit or authority to be obtained in order to impound or utilise water from water resources.

7 Water Development Planning

7.1 Introduction

Master water planning is the long-term implementation strategy for large scale water projects to ensure that the provision of water at the national level can meet the growing water demand in the country over time. Other water planning activities are also required for shorter term implementation, because the exceptionally large projects are often implemented in phases over time as the demands increase. This requires that the responsible authorities, in this case the DWA, NamWater, local authorities and the private sector, must investigate, plan, design, build and operate the required infrastructure in time to meet the anticipated water demand or waste water disposal requirements. The development of water infrastructure in an arid country is very problematic because the water resources are often remotely located from the places where the water is required and that requires huge capital investments and high operating costs to pump the water over long distances through pipelines. The planning must also be done well in advance of the time when the water will be required because the implementation of a water project may take between three and five years on average. The planning of water supply infrastructure that must be ready in time as development takes place, is normally done with a planning horizon of 30 years. This period is basically a “generation” and many water consuming developments that were not anticipated, may evolve over time. Master Plans are therefore revised every 20 years to accommodate such changes.

The extent to which any Government facilitates the requirements for equitable access to water and sanitation by its citizens has been under discussion for a long time by the international community. However, on 28 July 2010, after years of campaigning to capture the right to water and sanitation services, the United Nations General Assembly eventually passed Resolution 64/292 in which the right to safe and clean drinking water and sanitation was recognised as a human right.⁶⁶ The Resolution gives

⁶⁶ Resolution available at <https://bit.ly/33v2XjC>, accessed 2 June 2021. See also UN (2002a).

guidance to the standards of service delivery that States must seek to achieve for their citizens or must ensure their private sector providers are achieving. It also calls upon States and international organisations to provide financial resources to support capacity-building and to transfer technology to assist countries, in particular developing countries, to provide safe, clean, accessible and affordable drinking water and sanitation for all.

Here it is important to understand that there is difference between the right to water (or sanitation) and the obligation to pay for water (and sanitation) services provided for the benefit of the population. The principle here is that a human right to water cannot be denied, but that does not mean that the service to supply water must be free. This implies that if a water service is too expensive for the intended users, someone else must pay to recover the full cost of the water service or pay a subsidy which is the difference between the cost that the poor can afford and the full cost. This eventually becomes the responsibility of the State to fund a portion (often the bigger portion which is usually the capital expenditure), or a subsidy, that the State must pay to help the poor, but this eventually becomes a burden on the taxpayer. This *modus operandi* has been approved as part of the WASP policy and the idea was that the State must budget for this expenditure so that the taxpayers would be informed about their contribution to alleviate the plight of the poor. This policy has, however, never been implemented by the Government.

The expression “the cost of water” is therefore a misnomer. People often fail to correctly interpret the terminology that is used when they refer to the “cost of water”. What is really meant is that it is the cost to provide a water supply service and not the cost of the water itself because water itself is free in Namibia, but there is a cost to supply the water by a service provider. The cost to build a water supply scheme and the operating cost to supply the water from its source to the tap of the user is the cost that a service provider like NamWater must recover. This cost does not include any cost for the water itself. The cost to supply water under the prevailing arid conditions in Namibia is extremely high and the therefore water is unavoidably expensive. The trick here is to advise the public to understand why water cannot be considered a free commodity (for example, as a gift from God), why the cost of “water” is the cost of the water supply service, why this cost is high and how this unavoidably high cost can be adjusted to make water more affordable for the consumer. The bottom line is that water is free in Namibia, but there is a cost to supply the water.

This means that the water consumer, must pay the full cost for the supply of water, otherwise a water service provider will go bankrupt and the service will have to be terminated, unless a subsidy is provided to enable poor water users to “afford” the water. If the Government pays the subsidy, it is the same difference as funding the difference between the real cost of the water service with the taxpayers’ money.

The NWP of Namibia makes provision for more affordable water to the poor by introducing subsidies. Water is an economic good and it is essential to recover the full

financial cost to supply water to enable the water supply and sanitation sector to become self-sufficient and sustainable over time. It is therefore clearly recognised that without the necessary revenue, service providers will be unable to continue providing the expected level of water supply and sanitation services, especially if Namibia wants to achieve Vision 2030 for that matter.

However, there is also a social responsibility to make water available to the poor and, in the case of people with low income in rural and urban areas, at least the operational and maintenance cost must be recovered with support from government subsidies or cross-subsidies amongst consumers. There are various ways to achieve the latter, for example to introduce a block tariff system where users pay different amounts for different consumption levels. If the cost for water supply are subsidised, it should be done in a transparent way by including such subsidies in the national budget.

7.2 National Water Planning

7.2.1 The 1974 Master Water Plan

In the early seventies, the growth rate of the economy in South West Africa picked up (as much as 7%/annum) and the DWA conducted studies to develop a Master Water Plan (MWP)⁶⁷ to meet the rapidly increasing water demand. The MWP was formally adopted in 1974 and implementation commenced with the construction of water supply infrastructure.

The areas in the country where major developments were expected had been identified and the availability of water resources to meet the estimated water demand was determined. The main areas with accelerated demand would be in the north, the central area, the central Namib coast, and the fish river basin in the south. Irrigation development was recommended along the perennial rivers and the import of water into the interior of the country was considered the only alternative remedy to meet the demand. At that time, the desalination of sea water at the coast was considered, but the technology was new and prohibitively expensive while the science of water reclamation in the central area was in its infancy. In fact, Namibia was a pioneer and world leader in the development of the technology to convert domestic sewage effluent to potable water quality standards. The main thrust of the MWP was that the estimated future water demand that may be required for domestic use, manufacturing, industry, mining activities and agriculture must be met with water from:

- The Kunene River, supplied into the central northern area, known today as the Ohangwena, Omusati, Oshana and Oshikoto Regions, as well as the

67 DWA (1974).

central coastal area where Walvis Bay and Swakopmund are located. The water carrier to the coast was called the Western National Water Carrier (WNWC);

- the Okavango River, supplied into the area known today as the East Kavango and West Kavango Regions, as well as the Central Area of Namibia, including the Otjozondjupa, Omaheke and Khomas Regions, and towns like Okakarara, Otjiwarongo, Okahandja, Gobabis, Windhoek, Rehoboth, Karibib, Usakos, and Omaruru. This water carrier was called the Eastern National Water Carrier (ENWC);
- the Windhoek aquifer, surface water in the central area dams and water reclamation for the city of Windhoek, as well as the future augmentation of those water sources with water imported from the Okavango River, to serve the Central Area;
- the available groundwater sources from the Kuiseb and Omaruru aquifers, as well as possible desalination in the distant future, to supply water to the towns of Walvis Bay, Swakopmund, Hennies Bay and Arandis in the area known today as the Erongo Region;
- the Zambezi River and the Quito – Linyanti – Chobe tributary of the Zambezi into the Caprivi, known today as the Zambezi Region;
- the Orange River and dams in the Fish River basin into the area known today as the Hardap and !Karas Regions; and
- boreholes in the communal and commercial farming areas. This very small-scale water supply activities are mostly for domestic use, stock and wildlife drinking, as well as limited irrigation where possible.

7.2.2 The 1993 Master Water Plan

The 1974 MWP had a planning horizon for 30 years but an update is normally made after 20 years because many of the demand estimates made at the beginning may not have materialised and the potential of more water resources may have been identified. The scheduled updates were 1993 and 2013.

By 1993, three of four phases of the Eastern National Water Carrier proposed in the 1974 MWP had been completed, but an adjustment was made to proposed implementation of the proposed Western National Water Carrier because it was considered a better option to reserve the water from the Kunene for power generation and that the coast should rather be served with water from the ENWC or other local options such as possible additional groundwater sources or the desalination of sea water. It was also proposed that a study should be done to determine which of water supply options would be the most economical and desalination was identified as the most viable option if all other alternatives have been exhausted. The updated in 1993 MWP also

accommodated the objectives of the new Government after Namibia became independent in 1990 and called for water source studies in the Kuiseb, desalination at the coast and further groundwater studies in the Karst area and the Stampriet artesian basin. An updated version of the 1993 Master Plan is presently under preparation.

7.2.3 The Integrated Water Resources Management Plan

The main objective of an integrated water resource management plan (IWRMP) is to achieve a sustainable water resources management regime and adequate infrastructure contributing to social equity, economic efficiency and environmental sustainability. An IWRMP is not a plan to develop a specific water project but to implement a comprehensive plan to address all the relevant activities that will ensure sustainable management of water resource use, water supply services and effluent disposal, as well as addressing capacity building activities and funding requirements. This includes all water that is used for personal hygiene, sanitation, stock and wildlife drinking, industry, mining, and irrigated agriculture.

In 2004 the Government launched Vision 2030 for Namibia. This provides the overarching framework for the development of Namibia with the main goals to improve the quality of life of its people and achieving the status of a developed country by the year 2030.

The IWRM plan was conceived in November 2004 when the Global Water Partnership in Southern Africa hosted a workshop at a Symposium in Windhoek where the concept and implementation of an integrated water resource management plan (IWRMP) for each country in Southern Africa was introduced and encouraged.

The IWRMP for Namibia was completed in 2010⁶⁸ and Government adopted the IWRMP in 2012. The IWRMP addresses all aspects of water management by means of themes that are elaborated in detail in the plan. The objectives and actions required in IWRM to address the issues were grouped in the following themes:

- Policy, legislation, regulations and procedures;
- institutional support for water administration, infrastructure development and financial management;
- capacity building for engineers, scientists, technicians, artisans and labourers;
- stakeholder involvement and awareness about resource use and infrastructure maintenance;
- groundwater, surface water and unconventional water are assessed to enable sustainable management;
- knowledge management through data collection, monitoring of resources and demand;

68 DWA (2010).

- monitor the effects of climate change, droughts and floods;
- water demand management and water use efficiency;
- sanitation and effluent discharge control to protect aquatic ecosystems and the environment; and
- investment to facilitate IWRM.

The overall goal in addressing water resources management is sustainability. Planning and implementation of IWRM is not a linear exercise but it is cyclical and must be accompanied by regular evaluation, assessment of progress and re-planning.

A wealth of knowledge exists about the climate, rainfall, runoff, surface water and groundwater resources. Information has been collected in Namibia over more than a hundred years including measurements, investigations and research by scientists and engineers. Namibia has been able to meet the growing demand for water to sustain development through innovation and exceptional ingenuity. There is no reason to believe that this could not be maintained with the proper development of human resources and adequate financial investments.

The country has a huge body of experience in the planning, design, construction and operation of water infrastructure development operation and maintenance. Water awareness training, water demand management, community participation and an acute knowledge of the need to be on top of technological developments to maintain access to adequate supplies of water of an acceptable quality for different kinds of uses.

The practical implementation of the proposed IWRMP will ultimately depend on the organisational efficiency of the existing water sector institutions in place, the capacity of the human resources employed in those institutions and the financial resources made available. However, the implementation of water management activities at the community level should receive priority attention to succeed with the IWRMP.

It is essential that the legal framework must be in place and enforced. Although there are good policies, these need implementation, effective legal backing and competent administration to enforce the control over water issues by the DWA. Essential role players such as the Water (and Sanitation) Advisory Council and the Water Regulator are key to the success of IWRM.

Integrated Water Resources Management is an important responsibility of all stakeholders in the water sector, i.e. all water service providers, related management and governance entities and all water users in Namibia. Effective stakeholder participation at all levels is required in all decisions concerning water resources allocations and management, with the focus of capacitating stakeholders for managing specific water resources activities, thus ensuring ownership and overall responsibility.

Water Demand Management (WDM) is a fundamental part of an integrated approach to the sustainable management of the water sector and contributed significantly to avoid disaster to a lack of water availability in 1980, 1997, 2014 and 2019. Within the Namibian context, the WDM strategy attempts to improve cost recovery, the

management and maintenance of infrastructure and the reduction of inefficient consumer demand to reduce the pressure and reliance on conventional water resources and infrastructure operation and maintenance. This, in turn, results in a net financial benefit to the supplier as well as its customers and serves the protection of the water environment.

Capacity building and institutional development are essential elements for implementation of IWRM in Namibia. IWRM capacity building must be focused on all stakeholders to ensure effective and balanced water use and water resource conservation for water resource security. Information systems must be strengthened to keep them relevant and up to date. Funding is crucial to a successful IWRM Plan. In analysing the possible options and instruments available to Namibia for developing a funding strategy there are a number of approaches and instruments available, domestically as well as internationally. Namibia has come a long way in creating the enabling environment necessary for ensuring that the investments to be made in the WSS can be mobilised, but there are however a number of issues that are critical to the feasibility of any investment programme and associated funding strategy which must be incorporated into future financial planning. The current underperformance of service providers in terms of financial management must be addressed as a matter of urgency. Namibia is wasting valuable and scarce resources through financial mismanagement. Funds from central government that could be utilised to finance Water Supply and Sanitation programmes and projects are being utilised to finance bad debt.

The water sector objectives are specifically aligned to the Poverty Reduction Strategy and the National Poverty Reduction Action Programme. The Water Resources Management No. 11 of 2013 is based on IWRM principles and provides overall guidance in the water and sanitation sector. The overarching goals for the water sector were also fully aligned to meeting the Millennium Development Goals (MDGs) and the sub regional goals articulated in the Revised SADC Protocol on Shared Watercourse Systems in the SADC and the SADC Water Policy.

The key challenges of the water sector are the operationalisation and implementation of the policies, legislation and proposed plans. The technical, institutional, financial, socio-economic and many other issues are addressed under the consolidated, National IWRM Plan that will assist to achieve Vision 2030 within the set time framework. Namibia will also increasingly need to use the maximum potential offered by transboundary water resources. Hence the Government has taken steps to ensure sustainable cooperation with the neighbouring sovereign states within the existing international water treaty frameworks and the SADC Watercourse Protocol. Transboundary cooperation on beneficial use of shared water resources will be greatly enhanced leading to joint project implementation and operational management. The following issues drive the need for IWRM:

- Shortcomings in the management of water; a focus on developing new sources rather than managing existing ones better, and top-down sector

approaches to water management result in uncoordinated development and management of the water infrastructure;

- growth in population, increased economic activity and improved standards of living lead to increased competition for and conflicts over the limited fresh-water resource;
- a combination of social inequity and economic marginalisation forces people living in poverty to overexploit land and other natural resources, with damaging impacts on water resources;
- water demand has increased faster than the growth in population;
- the threat of pollution increases the risk of water scarcity;
- more and more development have greater impacts on the environment; and
- current concerns about climate variability and climate change demand improved management of water resources to cope with potentially more intense floods and droughts.

The overall long-term impact of the IWRM Plan will be to enable Namibia to achieve a sustainable water resource management regime contributing to social equity, economic efficiency and environmental sustainability in the country. This will result in improved health and sanitary conditions of communities, improved water related livelihoods, gains to agriculture from improved land and water management, reduced risk of floods and droughts.

7.2.4 Regional and Local Water Plans

Water infrastructure planning provides a framework to ensure the availability of water sources when demand grows due to development and the timeous provision of water supply infrastructure to meet the managed water demand. Regional Authorities have the responsibility for the development of water schemes in the rural areas with the assistance of the DWA or NamWater. Local Authorities have the responsibility to reticulate water to urban communities and can provide their own water or buy water in bulk from NamWater. These responsibilities are covered in the Regional Councils Act No. 22 of 1992 as amended, and the Local Authorities Act No. 23 of 1992 as amended.

One of the most important policies regarding water resource use is that the local water sources within (say) a five to ten kilometres radius, should be developed first. The next step is a regional water scheme where water resources may be more than a hundred kilometres away from the consumer point. The final step is a national water scheme which is linked to one of the perennial rivers and may stretch over a distance of more than 700 km such as the Eastern National Water Carrier which is still under development. NamWater also divided the country into six management areas to facilitate and streamline water supply operations.

8 Transboundary Water Management

8.1 Introduction

Effectively managed transboundary water resources can serve as a tool for cooperation, joint planning, building trust, sustainable development, supporting preventive diplomacy between basin States and foster regional peace. Water can have an overreaching value capable of uniting conflicting interests and promoting consensus building among countries and societies. In order to incorporate all social, political, economic, environmental, physical and cultural characteristics of an international watercourse system, water should be managed based on hydrogeographical boundaries and thus not only on administrative and political boundaries.⁶⁹ Both, the Rio Earth Summit⁷⁰ and the World Summit on Sustainable Development (WSSD 2002)⁷¹ explicitly recognised that integrated transboundary water resources management is a necessary tool for achieving sustainable development.⁷² However, in some cases the absence of detail legal and institutional frameworks, along with effective dispute resolution mechanisms and guidelines for cooperative management involving the riparian countries poses major challenges to efficient integrated transboundary water resources management.

Studies in Namibia in the early seventies of the twentieth century indicated that the long-term sustainable yield of the water resources in the interior of the country will not be enough to support the anticipated socio-economic development, which was 7% at that time, until the end of the century and that water must be imported from the perennial rivers on the borders of Namibia to assuage the thirst of the nation. However, the potential for water conflicts over transboundary waters can be high, especially in times of scarcity.

The only other option to import water is to use desalinated sea water, but the capital investment required and operating cost will be much higher when supplied from the coast because the sea water must first be desalinated and the fresh water elevated more than a thousand metres from sea level into the interior of the country. The cost of the long-distance pipelines required and the infrastructure to desalinate and pump the water, as well as the energy cost will be much higher than access to the perennial rivers, such as the Kunene or the Okavango. Desalination is an expensive option but is the only solution to supply additional water for development at the coast.

After Independence, Namibia was a sovereign country for the first time since the colonial times. The master water plan had to be completed to obtain an equitable and

69 Rahaman / Varis (2005).

70 See the 1992 UNCED Report of the United Nations Conference on Environment and Development. (Rio de Janeiro, 3-14 June 1992) Annex I, at <https://bit.ly/2VjMEBO>.

71 See the 2002 WSSD Report of the World Summit on Sustainable Development, A/Conf. 199/20. at <https://digitallibrary.un.org/record/478154?ln=en>.

72 Rahaman / Varis (2008).

reasonable share of the water in the transboundary rivers and the Government acted on the advice of the DWA to embark on a project to establish water commissions between Namibia and the other basin states on the Kunene, Cuvelai, Okavango, Zambezi and the Orange rivers.

Each country has its expectations about the use of shared water sources and the downstream states have their fears about the possibility that their access to a share of the transboundary water will be denied. The purpose of those water commissions is therefore to build mutual understanding and trust while executing joint studies to determine the magnitude of the shared water resources and how much water each state would reasonably require. When the quantity of water that is sustainably available has jointly been assessed and all parties have indicated what their planned measures are in using their share of the water, cooperation can thrive.

8.2 The Helsinki Rules

The International Law Association (ILA), having received the Report of the Committee on the Uses of the Waters of International Rivers, approved the Articles on the Uses of the Waters of International Rivers set forth in that Report in Helsinki, Finland in August 1966 and resolved that those rules shall be known as the Helsinki Rules on the Uses of Waters of International Rivers.⁷³ These rules are an international guideline regulating how rivers and their connected groundwaters that cross national boundaries or are contiguous to national boundaries in the case of rivers, may be used. The Helsinki Rules have been recognised as a basis for consideration in negotiations about water use in the Preambles of all the water commission agreements between Namibia and States co-riparian to the perennial rivers flowing on the northern and southern borders of Namibia. A brief overview of the Helsinki Rules is given below and only those chapters and articles that relate to water use, pollution and conflict resolution are discussed.

The Helsinki Rules were used as a basis for discussion, negotiation, mutual understanding and cooperation between the basin States riparian to the border rivers of Namibia since the first watercourse Agreements on transboundary water sources started in late 1960's, until the 2000 whereafter the Agreements make reference to the Revised SADC Protocol on Shared Watercourses and the United Nations Waters Convention (UNWC). As per its Preamble, the UNWC established "a framework for the utilization, development, conservation, management, and protection of international watercourses; whilst promoting optimal and sustainable utilization thereof for present and

73 The Helsinki Rules and the commentaries are given here as they have been published in the ILA publication *Helsinki Rules on the Uses of the Waters of International Rivers*, London, 1967. See: <https://bit.ly/3fCejap>, accessed 14 February 2022.

future generations, and accounting for the special situation and needs of developing countries”.

The general rules of international law as set forth in UNWC are applicable to the use of the waters of an international drainage basin except as may be provided otherwise by convention, agreement, or binding custom among the basin States. An international drainage basin is defined as a geographical area extending over two or more States determined by the watershed limits of a system of waters, including surface and underground waters, flowing into a common terminus.

A basin State is a State the territory of which includes a portion of an international drainage basin. However, surface runoff in ephemeral or perennial river are flowing across the landscape and are easy to recognise as flowing into a common terminus, but with the flow of subterranean waters it is less clear and in many cases extensive studies to determine the flow and which States qualify for a share is required. In the case of Namibia, one of the shared rivers is the ephemeral Cuvelai drainage basin which has numerous streams only flowing from southern Angola in the rainy season and terminating in the Etosha Pan. The flow into the pan is endoreic because it is an internal landlocked terminus, not ending in an ocean. There is also a body of groundwaters flowing underground from the highland in southern Angola and emerge as sub-artesian water in the Ohangwena Aquifer in the Ohangwena Region in central northern Namibia. A similar aquifer is the Stampriet Artesian Basin in the eastern part of the Hardap and !Karas Regions in Namibia. The Stampriet Artesian Basin drains underground across the border between Namibia and Botswana while the ephemeral Nossob River crosses the border between South Africa and Namibia on the surface.

8.2.1 Equitable Utilisation of the Waters of an International Drainage Basin

Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin. The question here is what is meant with a reasonable and equitable share. The Helsinki rules give guidance about what must be done to determine the share by examining “relevant factors” in each case. The relevant factors which can be considered include, but are not limited to

- the geography of the basin, including the extent of the drainage area in the territory of each basin State;
- the hydrology of the basin, including the contribution of water by each basin State;
- the climate affecting the basin;
- the past utilisation of the waters of the basin, including existing utilisation;
- the economic and social needs of each basin State;
- the population dependent on the waters of the basin in each basin State;

- the comparative costs of alternative means of satisfying the economic and social needs of each basin State;
- the availability of other resources;
- the avoidance of unnecessary waste in the utilisation of waters of the basin;
- the practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses; or
- the degree to which the needs of a basin State may be satisfied, without causing substantial injury to a co-basin State.

The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable share, all relevant factors are to be considered together and a conclusion reached based on the whole assessment. It stands to reason that this method to determine the share of a State identifies may include issues that can be considered; but to reach the point where an actual allocation can be made is extremely difficult to achieve in practice. One of the main reasons is that basin States must be able look into a crystal ball and take decisions about an allocation that can be completely inadequate when development possibilities arise that had never been anticipated and countries would always like to play it safe and insist on a large share, regardless of the environmental consequences.

To cover for this, the Rules state that a use or category of uses is not entitled to any inherent preference over any other use or category of uses and a basin State may not be denied the present reasonable use of the waters of an international drainage basin to reserve for a co-basin State a future use of such waters. In simple terms, water that will not be able to be used in the reasonably foreseeable future cannot be claimed. The only way to deal with such an issue about future water uses, is when a large dam is built to vest the interests of the basin States in the quantity of water claimed. A good example of this approach is the development of the proposed Noordoewer Vioolsdrift Dam on the lower Orange River. The Namibian interests is to secure the water supply for domestic use, mining and irrigation along the lower Orange River and the South African interests is to make the operation of the large dams in the upper reaches of the Orange River basin more efficient, by achieving higher yields. The investment in the construction of the dam, would be based on the quantity of water that each State will benefit from, thus maximising the benefits, and achieving more water security by making the investment. In this way, the yield available for Namibia and for South Africa will be secured in the agreement between the States.

The Rules also make provision that an existing reasonable use may continue in operation unless the factors justifying its continuance are outweighed by other factors leading to the conclusion that it be modified or terminated to accommodate a competing incompatible use. A use that is in fact operational is deemed to have been an existing use from the time of the initiation of construction related to the use or, where such construction is not required, the undertaking of comparable acts of actual

implementation. Such a use continues to be an existing use until such time as it is discontinued with the intention that it be abandoned. A use will not be deemed an existing use if at the time of becoming operational it is incompatible with an already existing reasonable use.

8.2.2 Pollution

The term water pollution as used in the Rules, refers to any detrimental change resulting from human conduct in the natural composition, content, or quality of the waters of an international drainage basin. This issue is always a threat to a downstream basin State such as Namibia that is at the bottom end of the headwaters of all the perennial rivers flowing on the borders of the country. The Orange River is of particular concern because Namibia is at the bottom end of the sewer running from the industrial and mining heartland of South Africa to the Atlantic Ocean.

Therefore, consistent with the principle of equitable utilisation of the waters of an international drainage basin, a basin State must prevent any new form of water pollution or any increase in the degree of existing water pollution in an international drainage basin which would cause substantial injury in the territory of a co-basin State. Each State should take all reasonable measures to abate existing water pollution in an international drainage basin to such an extent that no substantial damage is caused in the territory of a co-basin State. This applies to water pollution originating within territory of the State, or outside the territory of the State if it is caused by the conduct of the State causing the pollutions. In the case of a violation of the rule to avoid pollution, the State responsible shall be required to cease the wrongful conduct and compensate the injured co-basin State for the injury that has been caused to it. In a case a State fails to take reasonable measures to terminate pollution, it shall be required promptly to enter negotiations with the injured State with a view towards reaching a settlement equitable under the circumstances.

8.2.3 Procedures for the Prevention and Settlement of Disputes

The Rules also relate to procedures for the prevention and settlement of international disputes taking the legal rights or other interests of basin States and other States into consideration regarding the waters of an international drainage basin. Consistent with the Charter of the United Nations, all member States are under an obligation to settle international disputes as to their legal rights or other interests by peaceful means in such a manner that international peace, security, and justice are not endangered. States are under a primary obligation to resort to means of prevention and settlement of disputes stipulated in the applicable treaties binding upon them and they are limited to the

means of prevention and settlement of disputes stipulated in treaties binding upon them only to the extent provided by the applicable treaties. With a view to preventing disputes from arising between basin States, each State is obliged to furnish relevant and reasonably available information to other basin States concerning the waters of a drainage basin within its territory and its use of, and activities with respect to such waters.

A State, regardless of its location in a drainage basin, should furnish to any other basin State, the interests of which may be substantially affected, a notice of any proposed construction or installation which would alter the regime of the basin in a way which might give rise to a dispute. The notice should include such essential facts as will permit the recipient to assess the probable effect of the proposed alteration. A State providing such a notice of a planned measure should afford the recipient a reasonable period to assess the probable effect of the proposed construction or installation and to submit its views thereon to the State furnishing the notice. If a State has failed to give notice, the alteration by the State in the regime of the drainage basin shall not be given the weight normally accorded to temporal priority in use in the event of a determination of what is a reasonable and equitable share of the waters of the basin.

In case of a dispute between States as to their legal rights or other interests, they should seek a solution by negotiation. If a question or dispute arises which relates to the present or future utilisation of the waters of an international drainage basin, basin States could refer the question or dispute to a joint agency to survey the international drainage basin and to formulate plans or recommendations for the most efficient and beneficial use in the joint interests of all such States. The joint agency should be instructed to submit reports on all matters within its competence to the appropriate authorities of the basin States concerned and the agency should in appropriate cases invite non-basin States, which by treaty enjoy a right in the use of the waters of an international drainage basin, to associate themselves with the work of the said agency or that they be permitted to appear before the agency.

If a question or a dispute is one which is considered by the States concerned to be incapable of resolution in the manner set forth, it is recommended that they seek good offices, or jointly request mediation of a third State, a qualified international organisation or a qualified person. If the States concerned have not been able to resolve their dispute through negotiation or have been unable to agree on the measures recommended by the agency, it is recommended that they form a commission of inquiry or an ad hoc conciliation commission, which shall endeavour to find a solution, likely to be accepted by the States concerned, about the dispute. It is recommended that the States concerned agree to submit their legal disputes to an *ad hoc* arbitral tribunal, to a permanent arbitral tribunal or to the International Court of Justice if:

- A commission could not be established; or
- the commission has not been able to find a solution; or
- a solution recommended has not been accepted by the States concerned; or
- an agreement has not been otherwise arrived at.

In the event of arbitration, the states concerned have recourse to the Model Rules on Arbitral Procedure prepared by the International Law Commission of the United Nations at its tenth session in 1958. Recourse to arbitration implies the undertaking by the States concerned to consider the award to be given as final and to submit in good faith to its execution. The means of settlement referred to in the Rules are without prejudice to the utilisation of means of settlement recommended to, or required of, members of regional arrangements or agencies and of other international organisations.

8.3 The United Nations Watercourses Convention

The International Law Association (ILA), a nongovernmental organisation founded in 1873, has a consultative status with several United Nations (UN) agencies. The ILA's work on international water law began in 1954. The general principle of ILA's work is contained in Article 4 of the 1966 Helsinki Rules, which state that the equitable utilisation principle governs the use of international drainage basin waters. The International Law Commission (ILC) was established by the General Assembly in 1947 to undertake the mandate of the Assembly, under Article 13(1)(a) of the Charter of the United Nations to "initiate studies and make recommendations for the purpose of encouraging the progressive development of international law and its codification".

In the late 1960s, the UN decided to assign the international water law topic to the ILC for detailed study. In May of 1997, after more than quarter of a century of working on the topic and considerable discussion during the period from 1991 to 1997 on the draft codification on international water law, the UN General Assembly adopted a framework convention on the Law of the Non-Navigational Uses of International Watercourses on 21st May 1997, widely known as the UN Watercourses Convention (UNWC).⁷⁴ This Convention codified the principles of sharing international watercourses, building on the 1966 Helsinki Rules. The Convention came into force on 18 August 2014. Namibia signed the Convention in 2000 and ratification by Parliament followed in 2001.

The Law of the Non-Navigational Uses of International Watercourses is elaborated in a users' Guide.⁷⁵ The Convention is presented in seven Parts and contains 34 Articles. Advice is also provided about Arbitration in an Annex with 39 Articles. The rest of the Guidelines provide a detailed explanation regarding the interpretation and understanding of the Articles.

74 Abu-Zeid (2001).

75 UN Watercourses Convention User's Guide. See: <https://bit.ly/39uc9IY>, accessed 27 January 2022.

The main aim of the UNWC is to overcome major obstacles due to the absence of detail legal and institutional frameworks, along with effective dispute resolution mechanisms and guidelines, to achieve cooperative management of transboundary water resources among the riparian countries.

Some of the key challenges in managing transboundary waters are adapting to climate change, changing river flow patterns, floods, and droughts, meeting growing water demands due to population increase, industrialisation, increasing agricultural production fed by irrigation and ecological changes in the water environment. The Convention applies to uses of international watercourses and measures of protection, preservation and management related to those uses.

For the purposes of the Convention, “watercourse” means a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole, normally flowing into a common terminus. An “international watercourse” means a watercourse that is situated in more than one State and a “watercourse state” means a State Party to the Convention.⁷⁶

Nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force when it became a party to the Convention, but the parties to such agreements can adjust the agreements to harmonise them with the Convention. An agreement between some of the watercourse States will not affect the rights or obligations under the Convention of watercourse States that are not parties to such an agreement. Every watercourse State is also entitled to participate in the consultations and negotiations as well as to become a party to any watercourse agreement that applies to the entire international watercourse.⁷⁷

Watercourse States are obliged to use the watercourse in an equitable and reasonable manner to attain optimal and sustainable benefits, considering the interests of the other watercourse States concerned and the protection of the watercourse. All States must participate in the use, development, and protection of water resources in an equitable and reasonable manner, including the right to utilise the water and the duty to cooperate in the protection of the watercourse.⁷⁸

The factors relevant to equitable and reasonable utilisation in the Convention are like those in the Helsinki Rules but more emphasis is placed on the analysis of alternatives and the participation of all parties affected in negotiating different options and solutions.⁷⁹

Watercourse States shall take all appropriate measures to prevent the causing of significant harm to other watercourse States. If harm is nevertheless caused to another watercourse State, the States causing such harm shall take all appropriate measures, in

76 Ibid: Article 2.

77 Article 4.

78 Article 5.

79 Article 6.

consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, discuss the question of compensation.⁸⁰ They shall cooperate, based on sovereign equality, territorial integrity, mutual benefit, and good faith to attain optimal utilisation and adequate protection of an international watercourse. This can be achieved by the establishment of joint water commissions to facilitate cooperation on relevant measures and procedures.⁸¹ Namibia is party to such commissions established on all the rivers systems shared with the other riparian States.

All watercourse States have the obligation to cooperate based on sovereign equality, territorial integrity, mutual benefit, and good faith to attain optimal utilisation and adequate protection of an international watercourse. Pursuant to this, watercourse States shall exchange readily available data and information on the condition of the watercourse, regarding the hydrological, meteorological, hydrogeological, and ecological conditions and issues related to the quality of the water originating in an upstream State.⁸²

No use of an international watercourse enjoys inherent priority over other uses and in the event of a conflict between uses it shall be resolved with reference to Articles 5 to 7 of the Convention and having special regard for the requirements of vital human needs.⁸³

A State party to the Convention has an obligation to inform the other parties about its plans about using the water resources of a shared river system and possible effects on the condition of the watercourse.⁸⁴ Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, to enable the notified States to evaluate the possible effects of the planned measures.⁸⁵

Here it should be noted that when Namibia conducted environmental studies on the development of the proposed Epupa and Baines dams on the Kunene, the proposed Noordoewer-Vioolsdrift dam on the Orange River and the recently completed Neckartal dam by informing the other watercourse states about the planned measures and requesting their participation in the environmental assessments. The same was also done with the ENWC which will draw water from the Okavango River when the proposed pipeline link between Rundu on the Okavango and Grootfontein is completed. In the case with the studies on the Orange River, the challenge was to agree on the harmonisation of the respective environmental policies and laws in each State and consensus was achieved by a joint decision to use the South African policy and legislation as the guideline and to negotiate outcomes in good faith and mutual acceptance.

80 Article 7.

81 Article 8.

82 Article 9.

83 Article 10.

84 Article 11.

85 Article 12.

The Convention provides procedures for the notification about planned measures without with adverse effects, the period within which an informed State should reply to the notification, extending the time to render a reply if the informed State requires more information, the obligation to supply such information if requested and what to do when there is no response.⁸⁶

The Convention also provides for cases where the urgent implementation of planned measures is required, especially when public health, public safety or other equally important interests are at stake. In such cases there must be a formal declaration of the urgency of the measures, information about the measures contemplated, the immediate implementation and consultations with any affected States to alleviate the consequences of such implementation.⁸⁷

Part 4 of the Convention deals with the protection and preservation of ecosystems, the prevention, control and reduction of pollution, the introduction of alien or new species in a shared watercourse system, as well as the protection and preservation of the aquatic environment at the terminus of a river system.⁸⁸ The Convention also provides guidelines about the flow regulation in shared rivers and the operation of the flood control infrastructure.⁸⁹

In Part 5 of the Convention addresses harmful conditions and emergency situations. Watercourse States must take all appropriate measures to prevent or mitigate conditions that may be harmful, resulting from natural causes or human conduct, such as floods, water-borne diseases, erosion, siltation, erosion, drought, or desertification. Emergency situations are imminent threats such as floods earthquakes or industrial accidents. The Convention recommend that watercourse States should jointly identify the potential threats and develop appropriate contingency plans to respond effectively.⁹⁰

Part 6 of the Convention deals with miscellaneous issues such as water infrastructure installations during armed conflict, the release of data and information compromising defence security and the protection of the interests of the people in a transboundary river system and the settlement of disputes.⁹¹

The UNWC covers the basic international law principles regarding the management of international water resources, including:

- Sovereignty principle: Each nation has the right to develop its own policies, laws and institutions and their own strategies for natural resources development and utilisation.

86 Articles 13 to 19.

87 Article 19.

88 Articles 20 to 24.

89 Articles 25 to 26.

90 Articles 27 to 28.

91 Articles 29 to 33.

- Transboundary principle: Upstream water users have a responsibility towards downstream water users, and vice-versa. This principle is in a sense the extension of the equity and precautionary principles across national borders.
- Equity principle: All people have basic rights of access to resources for their survival and development. Society should not be put at a serious disadvantage in this respect.
- Intergenerational principle: Future generations should not be deprived from access to an adequate resource base.
- User-pays principle: Users should pay the real cost of water services, considering the ability to pay. A different, and more contentious, principle is that water is an economic good, and that users should pay a tariff according to the economic value of water, if this is not conflict with the equity principle.
- Polluter-pays principle: Entities causing damage to the natural resources system should pay for the repair of damage.
- Precautionary principle: Governments are obliged to protect citizens against risks and from disasters, even if the precise effects have not yet been unequivocally established by scientific proof. This principle aims to prevent or reduce pollution by specific 'new' pollutants and to preclude irreversible changes to ecosystems.
- Prevention principle: Where there is scientific proof of the cause-effect relationship between pollutants and unacceptable conditions, measures must be taken to prevent or rectify the situation.
- Precautionary principle: Preventive action should not be delayed on the grounds of lack of scientific information proving conclusively that there is an unacceptable situation.

8.4 Theories of Sharing Transboundary Water

Before the customary international law governing international watercourses began to emerge in the 1950s, there were two conflicting approaches reflecting the claims and counterclaims of States over their share of transboundary water resources.⁹² The **theory of absolute territorial sovereignty** favours upstream States, allowing the unlimited use of the waters of a transboundary watercourse located within national borders regardless of any consequences that may occur downstream. In short it insists upon the complete freedom of action of the upstream State. The **theory of absolute territorial integrity** on the other hand, favours the downstream States wishing to prohibit any

92 Theories of Resource Allocation UN Watercourses Convention User's Guide Fact Sheet Series: Number 10. See: <https://bit.ly/3fVLHcl>, accessed 27 January 2022.

development in an upstream State that would interfere with the natural flow of such a watercourse. Both traditional doctrines oversimplify the complex issues associated with modern resource allocation. For example, they equally deny that sovereignty entails duties as much as rights. However, these two approaches have been modified to adopt a more balanced concept of “limited territorial sovereignty” and is widely accepted as the foundation upon which the general laws and principles of international watercourses have evolved.

The **theory of limited territorial sovereignty** stipulates that all watercourse States enjoy an equal right to the utilisation of a shared resource, and each watercourse State must respect the sovereignty and reciprocal rights of other watercourse States. The concept of limited territorial sovereignty is also strongly reflected in the principle of equitable and reasonable utilisation. One of the main advantages of this principle is that it simultaneously recognises the rights of both upstream and downstream nations without sacrificing the principle of sovereignty.

The **theory of community of interests** indicates the current trend and future general direction in which the law and practice in this field appears to be moving towards. It derives from the idea that a community of interest in the water is created by the natural, physical, and social unity of the ecosystems that rely on the watercourse. By its nature water is a common property and should be shared by the community. When compared to the principle of limited territorial sovereignty, the community of interest includes a more accurate conception of the relationships of the States. It also encapsulates the notion of watercourses as being part of a broader hydrological system and implies collective action when managing it.

It can be said that there is little support for isolationist theories of absolute territorial sovereignty or integrity. At present, the doctrine of limited territorial sovereignty most accurately reflects the actual situation produced by State practice, but mindful that the community of interest theory is rapidly developing. It is therefore part of the strategy of the Namibian Government to survive water scarcity by utilising the principles of international water law dealing with transboundary water resources management. This requires an analysis to determine to what extent these principles are incorporated into recent international conventions and treaties as well as to scrutinise the provisions of the Helsinki Rules, the UN Watercourses Convention, and the Revised SADC Water Protocol to serve as background to Namibian endeavours to obtain an equitable and reasonable share of the transboundary water resources it has access to.

8.5 Customary and General Principles of International Law

Some important customary and general principles of international law applicable to transboundary water resources management that are accepted globally and in modern international conventions, agreements and treaties include:

- Equitable and reasonable utilisation of transboundary water sources – sharing water;
- obligation not to cause significant harm – pollution or unreasonable abstraction;
- principles of notification, consultation, and negotiation – discuss planned measures;
- principles of cooperation and information exchange – building trust and understanding; and
- peaceful settlement of disputes – increasing the benefits for the total population in each basin state with territory in a shared river basin.

These principles are incorporated in most international water agreements between Namibia and States riparian to the international boundary rivers of Namibia.⁹³

8.6 The SADC Water Protocols

After the Independence of Namibia, the country became a member of SADC and a Zambezi River basin state. In April 1993, Namibia attended a meeting of the Zambezi Action Plan (ZACPLAN) where a draft document about a protocol on the management of the Zambezi basin was discussed. At that time Namibia was a new SADC member country on the Zambezi, sharing transboundary rivers with Lesotho, Botswana and South Africa on the Orange, Angola on the Kunene, Cuvelai, and Okavango, with Botswana on the Okavango, Orange, and Zambezi. Namibia then proposed that the draft protocol should not only be a Zambezi basin protocol but a SADC Protocol on Shared Watercourse Systems. Further motivation was that other SADC states such as Botswana, Lesotho, Mozambique, Swaziland, and Zimbabwe also shared transboundary rivers with South Africa and between themselves. The first SADC Protocol on Shared Watercourse Systems entered into force in 1998 and was succeeded by the Revised Protocol on Shared Watercourses, which entered into force in 2003. Both these protocols were ratified by Parliament. The reason why the first Protocol was revised was to bring it in line with the United Nations Watercourses Convention.

The Revised Protocol on Shared Watercourses of the SADC repeals and replaces the 1995 Protocol on Shared Watercourse Systems and recognises international consensus on several concepts and principles related to water resource development and

93 E.g. the 1966 Helsinki Rules (Articles 29.2, 29.3, 29.4, 30, 31), the 1992 Water Convention (Article 10) of the United Nations Economic Commission for Europe (UNECE), the 1995 SADC Protocol on Shared Watercourse Systems (Articles 2.9, 2.10), and the 1997 United Nations Watercourses Convention (Articles 3.5, 6.2, 11-19, 24.1, 26.2, 28, 30) These principles are also acknowledged by modern international environmental conventions and declarations, e.g. the 1992 Rio Declaration on Environment and Development (Principles 18, 19) and the 1992 Convention on Biological Diversity (Article 27.1).

management in an environmentally sound manner. The Protocol acknowledges the Helsinki Rules, the UN Convention on the Law of the Non-Navigational Uses of International Watercourses, Agenda 21 concepts and facilitates the establishment of shared water agreements.⁹⁴

The Protocol aims to foster closer cooperation for judicious, sustainable, and coordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation. In order to achieve the objective, the Protocol, by virtue of Article 2, seeks to promote and facilitate the establishment of shared watercourse agreements and shared watercourse institutions for the management of shared watercourses; advance the sustainable, equitable and reasonable utilisation of the shared watercourses; promote a coordinated and integrated environmentally sound development and management of shared watercourses; promote the harmonisation and monitoring of legislation and policies for planning, development, conservation, protection of shared watercourses, and allocation of the resources thereof; and promote research and technology development, information exchange, capacity building, and the application of appropriate technologies in shared watercourses management. SADC states undertake to harmonise the water uses in the shared watercourses and to ensure that all necessary interventions are consistent with the sustainable development of all watercourse states and observe the objectives of regional integration and harmonisation of their socioeconomic policies and plans. The utilisation of shared watercourses (including agricultural, domestic, industrial, navigational, and environmental uses) within the SADC region is open to each watercourse state, in respect of the watercourses within its territory and without prejudice to its sovereign rights, in accordance with the principles contained in the Protocol. Member states are obliged to respect the existing rules of customary or general international law relating to the utilisation and management of the resources of shared watercourses. According to Article 3.4 of the Protocol, member states commit themselves to maintain a proper balance between resource development for a higher standard of living for their people and conservation and enhancement of the environment to promote sustainable development. Watercourse states in their respective territories undertake to utilise a shared watercourse in an equitable and reasonable manner considering the interests of the watercourse states concerned, consistent with adequate protection of the watercourse for the benefit of current and future generations, and they participate in the use, development, and protection of a shared watercourse in an equitable and reasonable manner. Such participation includes both the right to utilise the watercourse and the duty to co-operate in the protection and development thereof, as provided in this Protocol. Furthermore, the Protocol states that member states must take all appropriate measures to prevent the causing of significant harm to other watercourse states. Where significant harm is caused to another watercourse state, the state whose use causes such

94 Ruppel / Bethune (2007).

harm is to take all appropriate measures to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation. Disputes between member states regarding the interpretation or application of the provisions of the Protocol which are not settled amicably, are to be referred to the SADC Tribunal⁹⁵ under the SADC Treaty.

The Protocol establishes several SADC water sector organs (Committee of Water Ministers, Committee of Water Senior Officials, Water Sector Coordinating Unit, and Water Resources Technical Committee and sub-committees) and shared watercourse institutions.

8.7 The SADC Regional Water Policy

The Regional Water Policy for the Southern African Development Community (SADC) was launched in 2005. It is aimed at providing a framework for sustainable, integrated and coordinated development, utilisation, protection, and control of national and transboundary water resources in the SADC region. This policy is intended to support the SADC Common Agenda of socio-economic development and regional integration and improvement of the quality of life of all people in the region. The policy was formulated through a participatory and consultative process, and includes nine thematic areas, addressing key water resources management issues and challenges:

- Regional Cooperation in Water Resources Management: including policy provisions on water for regional integration and socio-economic development; cooperation in water resources management of shared watercourses; inter-sectoral and international cooperation; and the harmonisation of national policies and legislation.
- Water for Development and Poverty Reduction: containing policy provisions on water for basic human needs and for industrial development; water for food and energy security.
- Water for Environmental Sustainability: containing policy provisions on water and the environment, water quality management, and control of alien invasive species in watercourses.
- Security from Water-related Disasters: including policy provisions covering people's protection from water related disasters; disaster prediction, and management and mitigation.
- Water Resources Information and Management: covering data and information acquisition and management; and information sharing.

95 Which is currently not functional.

- **Water Resources Development and Management:** including policy provisions on a river basin approach; integrated planning; dams and dam management; water demand management; and alternative sources of water.
- **Regional Water Resources Institutional Framework:** including policy provisions covering institutional arrangements at regional and national levels and for Shared Watercourse Institutions (SWCIs).
- **Stakeholder Participation and Capacity Building:** including provisions focusing on participation and awareness creation; capacity building and training; gender mainstreaming; and research, technology development and transfer.
- **Financing integrated water resources management in the region.**

9 Transboundary Water Agreements

9.1 Introduction

In every river basin there are upstream and downstream States. All States have their expectations about using the water in their territories in the basin and downstream States have their fears about the magnitude of consumptive use of water for development in the upstream States. The way to manage that is basically to do joint studies to determine the yield of the available water sources and the most probable water using developments in each State. The management of shared transboundary water resources is accomplished through joint water commissions established between the relevant basin States and guided by international water law principles, regional integration bodies such as SADC, the SADC Water Sector Division, and the African Ministers' Council on Water (AMCOW). Various bilateral and multilateral water commissions have been established in the SADC region and as far as Namibia is concerned, almost all the Agreements included in the discussion below have been ratified and form part of the law of Namibia as they are part of the general rules of public international law and are international agreements binding upon Namibia under the Constitution (Article 144).

The main purpose of a water commission is to advise the basin States about the sustainable development of water resources in a shared river basin, but they are not bodies that implement water infrastructure development. They may facilitate joint studies to determine the development potential of the resource base of the basin, including its people. This work is called a diagnostic assessment of the prevailing and future development possibilities and the water requirements as well as the interventions required to supply in the water demand without compromising environmental concerns beyond the agreed mitigating measures identified. A commission would normally appoint a consultancy to do the work while staff of each of the relevant Government Ministries or Departments (i.e. Water, Agriculture, Justice, Foreign Affairs) in each State will also participate in the work and in this way the work is done on a joint

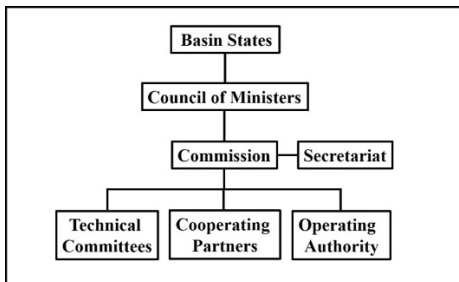
basis and the reports on the results would be agreed and uncontested between the staff involved.

A diagnostic assessment is followed up by a strategic action plan for the river basin providing a framework within which each basin State can do its conservation duties and anticipated water developments while other States will be aware of those developments. The duty of the Commission is to monitor the developments and jointly advise the Governments about the progress with the ongoing monitoring and development activities. In this context, each State will be informed about the planned measures of the other States.

9.2 Water Commission Institutional Structure

The structure of each water commission is different, but a generic structure can be described as follows. A commission usually comprises the members of the delegations from each basin state. The members are supposed to be experts in the various disciplines. The number of basin states in the SADC can vary between two states on the Kunene (Angola and Namibia) and eight states on the Zambezi (Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia, and Zimbabwe). The Council of Ministers is composed of the responsible ministers and discusses proposals with the Commission. Technical committees comprise staff from the water departments in each state, or consultants. Cooperating partners are the funding agencies, donors, non-governmental organisations or consultants and their activities are coordinated by the Secretariat. The administrative duties of the Secretariat are to organise meetings, workshops, coordinate activities and do general administrative duties. An Operating Authority may be responsible, for example, for the operation of a joint hydropower plant or irrigation project.

Figure 1: Typical Structure of a Water Commission



Source: Figure compiled by Pieter Heyns.

9.3 The Kunene River Agreements

9.3.1 Joint Commission of Cooperation between Angola and Namibia

Since 1886, two border agreements and five water use agreements have been concluded between the Colonial Powers before Namibia became independent in 1990. The first border agreement was between Germany and Portugal and the second between Portugal and the Union of South Africa, appointed as the mandatory for territory of German South West Africa. After Independence it became necessary to renegotiate the existing Kunene agreements to enable the continuation of the Kunene development project that commenced in 1969 but was on hold since 1973 when the civil war broke out in Angola before the Independence of Angola in 1975.

This resulted in an Agreement between the Governments of the People's Republic of Angola and the Republic of Namibia to establish the Angola-Namibian Joint Commission of Cooperation (JCC)⁹⁶ signed on 18 September 1990 in Lubango, Angola. The agreement was ratified in 1997 and entered into force immediately due to the cordial relations between the parties. The JCC agreed at its first meeting to endorse and affirm the previous border and water use water agreements between the Colonial Powers, i.e. Germany, Portugal, and South-Africa on the borders between Angola and Namibia, as well as development of the Kunene Scheme.

9.3.2 Terms of Reference and Constitution of the Permanent Joint Technical Commission

The Terms of References and Constitution of the Permanent Joint Technical Commission (PJTC) for the Cunene River⁹⁷ was drafted and agreed upon on 18 September 1990 in Lubanga, Angola, pursuant to the provision of Article 2.2 of the Third Water Use Agreement for the Kunene River signed on 21 January 1969 in Lisbon, Portugal.

The PJTC was instrumental in the development of the Kunene Project which entailed the construction of three dams in Angola: the Gove Dam, the Calueque Dam, and the Ruacana Diversion Weir, as well as the Ruacana Hydropower Plant in Namibia at the Ruacana Falls. The purpose of Gove Dam is to impound the summer rainfall and to release the water on a continuous basis during the year to provide water to the hydropower station at the Ruacana Falls. The purpose of the Calueque Dam is to regulate the weekly flow to Ruacana and supply water that is pumped into canal taking the water into northern Namibia. The purpose of the Weir at Ruacana is to divert water

⁹⁶ The Treaty document is not available on the internet, but at the DWA, Namibia.

⁹⁷ Available at <https://bit.ly/33hz2eL>, accessed 3 June 2021.

into the generators in the underground power station to generate electricity during the entire year.

9.3.2.1 The First Border Agreement

This Agreement between the Governments of Germany and Portugal⁹⁸ is about respecting the limits of their respective possessions and spheres of influence in Southern Africa and was signed in 1886. This agreement was ambiguous and open for interpretation because it said that the Kunene will be the border between the two territories and although the agreement said that the middle of the Kunene (or the deepest valley in the river) would be the centre line of the border, it failed to define exactly where the border line from the coast, along the border line into the interior would end.

9.3.2.2 The Second Border Agreement

This Agreement between the Government of the Union of South Africa and the Government of the Republic of Portugal in relation to the boundary between the mandated Territory of South West Africa and Angola.⁹⁹ The South African Authorities at the negotiations about the border wanted the border to run along the middle of the Kunene River from the coast to a point more or less where the Calueque dam had been built on the Kunene. The Portuguese authorities wanted the line along the river to start at the coast but stop at the top of the Ruacana Falls. The Germans were originally against this position because that would mean that they had to elevate water more than 400 m (metres) from a position downstream of the said falls into Ovamboland while the difference in elevation at Calueque would only be about 20 m. The South African authorities supported this view of the Germans for the same reason, but the South African Authorities then agreed that the border may start at the top of the Ruacana Falls, provided that the border agreement must reflect a compromise that South Africa will have access in perpetuity to a more favourable point upstream of Ruacana for the abstraction of water from the Kunene (at Calueque). At the end of the negotiations, it was agreed to keep the border starting at the top of the said falls in exchange for South Africa having access to the Calueque dam site in Angola in perpetuity, but the Portuguese Authorities then insisted that there must be a separate Border Agreement and a separate Water Use Agreement. The South African delegation failed to notice that the concessions made about the border and access to the water in the two separate agreements

98 Ibid.

99 Ibid.

were not reflected in both agreements. This has been a bone of contention and falls in the same category as the agreement on the border on the Orange River.

9.3.3 The Water Use Agreements

9.3.3.1 First Water Use Agreement

The First Water Use Agreement¹⁰⁰ (together with the Second Border Agreement) between the Government of the Union of South Africa and the Government of the Republic of Portugal was signed in 1926 in Cape Town, Union of South Africa. The agreement dealt with the use of the water of the Kunene River for purposes of generating hydraulic power, as well as the inundation and irrigation in the Mandated Territory of South West Africa.

9.3.3.2 Second Water Use Agreement

The Second Water Use Agreement¹⁰¹ between the Government of the Republic of South Africa and the Government of the Republic of Portugal dealt with “rivers of mutual interest” and the Kunene River Scheme. The agreement set out general principles for mutually beneficial water management and “best joint utilisation”. The activities envisaged comprised technical collaboration, including sharing hydrological and other data, as well as further negotiation on major schemes. In addition, this Agreement set out the basis for further work on specific schemes on the Kunene, namely pumping water for use in Ovamboland, more electrical power from Matala for South West Africa and the principle to build a hydroelectric power plant at Ruacana.

9.3.3.3 Third Water Use Agreement

This detailed Water Use Agreement¹⁰² between the Government of the Republic of South Africa and the Government of Portugal regarding the first phase development of the water resources of the Kunene River Basin was negotiated and drafted in Lisbon by the South African and Portuguese delegations in 1968 and signed in 1969. The agreement detailed works to be carried out in the first phase and these included to:

100 Available at <https://bit.ly/39lyA37>, accessed 4 June 2021.

101 Available at <https://bit.ly/3fyR2WK>, accessed 4 June 2021.

102 Available at <https://bit.ly/363p4zn>, accessed 4 June 2021.

- Regulate of the flow of the Kunene by means of dams at Gove and Calueque in Angola and a diversion Weir at Ruacana in Namibia.
- Increase the power generation capacity at the existing Matala dam on the Kunene in Angola.
- Supply water for humans, livestock and irrigation in the middle Kunene area in Angola.
- Supply water to northern South West Africa for humans, livestock, and irrigation in Ovamboland, today known as the Omusati, Oshana, Ohangwena and Oshikoto Regions.
- Develop a 240 Megawatt (MW) hydroelectric power station at Ruacana. This facility has recently been upgraded to generate 347 MW.

The agreement established a Permanent Joint Technical Commission (PJTC) to act in an advisory capacity to the respective Governments about the construction and operation of the Kunene scheme, as well as the financing arrangements for the various components of the schemes. This mandate was later extended to include the management of the Kunene Basin.

9.3.3.4 Fourth Water Use Agreement

This is an agreement between the Governments of the People's Republic of Angola and the newly independent Republic of Namibia to endorse and affirm the old agreements between the Colonial Powers (Germany, Portugal, and South Africa), to re-establish the PJTC and the Joint Operating Authority on the Kunene River.¹⁰³ It was signed in 1990 in Lubango, Angola¹⁰⁴ and ratified by Parliament on 2 July 1997. This agreement was unique in the world because it endorsed the principles of the previous three water use agreements with specific aims to:

- Establish a joint operating authority on the Kunene;
- ensure the maximum beneficial regulation at Gove Dam;
- ensure the continuous operation and adequate maintenance of the water pumping works at Calueque Dam and the diversion weir at Ruacana; and
- task the Permanent Joint Technical Commission to evaluate the development of further hydroelectric schemes on the Kunene River to accommodate the present and the future needs for electricity in both countries.

103 Fourth Water Use Agreement. See <https://bit.ly/310Zu2k>, accessed 4 June 2021.

104 The document was signed by Honourable Minister Hidipo Hamutenya, Minister of Information and Broadcasting.

9.3.3.5 Fifth Water Use Agreement

The Protocol of Agreement between the Government of the People's Republic of Angola and the Republic of Namibia on the Development of a Hydro-electric Generating Scheme, in principle, on the Kunene River¹⁰⁵ was signed in 1991 in Lubanga, Angola. This agreement is pursuant to Article 2 of the Fourth Water Use Agreement of 1990 and laid the foundation for further studies to develop a new hydroelectric scheme proposed on the Kunene River at Epupa. The PJTC was instructed to prepare a pre-feasibility study report about the technical and economic feasibility of such a scheme, inclusive of environmental and ecological studies, to advise the respective Governments about the implementation of such a facility. The proposed scheme at Epupa met with great opposition by the environmental lobby and an alternative site at Baynes is most probably the most viable to implement.

9.4 The Okavango River Agreement

The Agreement between the Governments of the Republic of Angola, the Republic of Botswana, and the Republic of Namibia, on the establishment of a Permanent Okavango River Basin Water Commission (OKACOM)¹⁰⁶ was signed in Windhoek in 1994 and ratified in 1997. Chapter 13 will elaborate on the conflict between development and the environment in the Okavango River Basin.

9.5 The Orange River Agreements

9.5.1 Introduction

In 1987, shortly before Namibia became independent, a Joint Technical Committee (JTC) was established between the Republic of South Africa and the Transitional Government of National Unity of South West Africa/Namibia. The purpose of the JTC was to support the activities of the irrigation farmers in Namibia and South Africa where the Orange River was contiguous along the border between the two countries, and specifically at the Joint Noordoewer-Vioolsdrift Irrigation Scheme. In 1992, two years after Namibia became independent, the JTC was replaced by the Permanent Water Commission (PWC) between Namibia and South Africa. There are at present three Water Commissions on the Orange River. They are the bilateral Lesotho Highlands

105 Fifth Water Use Agreement. See: <https://bit.ly/37eCrMD>, accessed 4 June 2021.

106 Permanent Okavango River Basin Water Commission. See: <https://bit.ly/3luCLvU> accessed 4 June 2021.

Water Commission (LHWC) between Lesotho and South Africa, the bilateral PWC between Namibia and South Africa and the multilateral Orange-Senqu River Commission (ORASECOM) between Botswana, Lesotho, Namibia, and South Africa.

9.5.2 The Joint Technical Committee

Three years before the Independence of Namibia an Agreement of Cooperation was reached between the Transitional Government of National Unity of South West Africa/Namibia and the Government of the Republic of South Africa regarding the control, development and utilisation of the water of the Orange River¹⁰⁷. The agreement was signed in 1987 in Windhoek. The agreement provided for the establishment of a Joint Technical Committee (JTC) to serve as an interim arrangement for the management of the lower Orange River until Namibia became independent. The purpose of the JTC was to make recommendations to the two Governments about the abstraction and allocation of water from the lower Orange, the creation and maintenance of water supply infrastructure of joint interest, the prevention of pollution and control over the abstraction of allocated water. What is important to note is that although the boundary along the lower Orange was ambiguous, South Africa conceded that Namibia is in principle entitled to utilise water from the Orange River because Namibia is a co-riparian basin State.

9.5.3 Permanent Water Commission

The Agreement between the Governments of the Republic of Namibia and the Republic of South Africa on the Establishment of a Permanent Water Commission (PWC) on water matters of mutual interest (but concentrating, at present, on the lower Orange River)¹⁰⁸ was signed in 1992 at Noordoewer, Namibia and ratified in 1997. The objective of the Commission is to act as technical adviser to the Parties on matters relating to the development and utilisation of water resources of common interest to the Parties and shall perform such other functions pertaining to the development and utilisation of such resources as the Parties may, from time to time, agree to assign to the Commission. The functions and powers of the Commission are to advise the Parties on the reasonable demand for water from common water resources; investigations, separately or jointly by the Parties, related to the development of any water resource of common interest including the construction, operation and maintenance of any water works in connection therewith; the prevention of and control over the pollution of common

107 Joint Technical Committee Agreement: A copy can be obtained from the DWA, Namibia.

108 A copy of the Permanent Water Commission Agreement can be obtained from the DWA.

water resources, soil erosion affecting such resources, etc. The Commission conducted several studies and projects on the lower Orange to support the activities of the Joint Irrigation Authority (JIA), the maintenance of the canal system, and two joint feasibility studies between South Africa and Namibia on the management of the Lower Orange River and the development of a dam on the lower Orange, about six kilometres upstream from Noordoewer. The estimated cost of the different dam options was said to be between 4.9 and 3.3 billion NAD.

9.5.4 The Vioolsdrift and Noordoewer Joint Irrigation Scheme

The Agreement between the Governments of the Republic of South Africa and the Republic of Namibia on the Vioolsdrift and Noordoewer Joint Irrigation Scheme ¹⁰⁹ (on the lower Orange River) was signed on 14 September 1992 at Noordoewer, Namibia, and ratified in 1997.

The irrigation scheme was completed in 1935 and built during the depression in South Africa. Water is diverted by a weir, located upstream from the irrigation scheme in the Orange River, into a canal system that starts on the South African side of the river and criss-cross the river to reach irrigation fields on the northern and southern banks of the river in Namibia and South Africa. Although the canal system starts at the weir on the South African side of the river, the irrigation fields are on both banks of the river, and it is imperative that the farmers on both sides of the river must work together to operate and maintain the water supply infrastructure. Therefore, the agreement also established a JIA which reports to the PWC.

9.5.5 The Lesotho Highlands Water Commission

The LHWC is responsible for the management of the Lesotho Highland Water Project and oversight of the Trans-Caledon Tunnel Authority (TCTA) which must plan, finance, implement and operate sustainable and accessible water resource infrastructure. The TCTA was originally established as a special purpose vehicle to fulfil South Africa's treaty obligations in respect of the Lesotho Highlands Water Project.

109 A copy of the Vioolsdrift - Noordoewer Joint Irrigation Scheme Agreement can be obtained from the DWA.

9.5.6 The Orange-Senqu River Commission (ORASECOM)

This agreement between the Governments of the Republic of Botswana, the Kingdom of Lesotho, the Republic of Namibia, and the Republic of South Africa on the establishment of the Orange-Senqu River Commission (ORASECOM)¹¹⁰ was signed in 2000 at Okapuka, Namibia and ratified in 2001. The establishment of the ORASECOM goes back to a PWC meeting between Namibia and South Africa in Swakopmund, Namibia, in May 1995, during which the Namibian delegation proposed that a basin wide Orange River Basin Water Commission must be established between the four basin States, Botswana, Lesotho, Namibia and South Africa. The establishment of ORASECOM was indicative of the endeavours of the basin States to cooperate and this facilitated huge interest by many cooperating partners to support the Commission with studies, capacity building and development. The ORASECOM has a Secretariat, stationed in Pretoria, South Africa, to coordinate all the activities of the Commission in the respective countries. The ORASECOM agreement was revised and signed in 2018.

9.5.7 The Revised Orange-Senqu River Commission Agreement

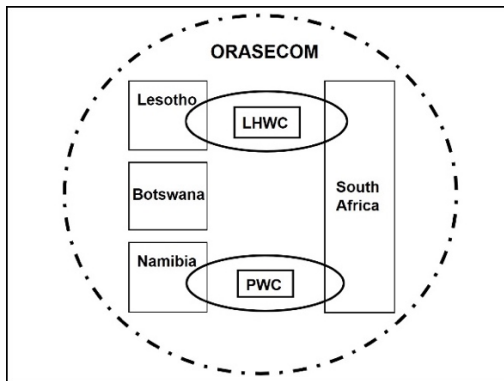
The Revised Agreement between the Governments of the Republic of Botswana, the Kingdom of Lesotho, the Republic of Namibia, and the Republic of South Africa on the establishment of the ORASECOM¹¹¹ was signed on 14 December 2018 at Maseru, Lesotho.¹¹² This Agreement is in the process of ratification. The main reason for the revision is the adjustments to the structure of the commission to accommodate the Forum of the Parties, the Council of Commissioners, Task Teams, and the Secretariat.

110 Copies of the original and revised agreements can be obtained from the DWA or the ORASECOM Secretariat.

111 Revised Orange-Senqu River Commission Agreement: The Treaty document is not available on the internet, but a copy at the DWA, Namibia.

112 The agreement was signed on behalf of the Republic of Namibia by the Honourable Minister of Agriculture, Water and Forestry, Alpheus !Naruseb.

Figure 2: Water Commissions on the Orange River



Source: Figure compiled by Pieter Heyns.

9.6 The Zambezi River Agreements

9.6.1 Then Joint Permanent Water Commission (JPWC)

This is an Agreement between the Governments of the Republic of Botswana and the Republic of Namibia on the establishment of a Joint Permanent Water Commission (JPWC).¹¹³ It was signed in Windhoek in 1990 and ratified in 1997. The Agreement relates to water matters of common interest and concentrated its activities mostly on the Kwando – Linyanti – Chobe River System that is a tributary of the Zambezi River forming the border between Botswana and Namibia in the eastern part of the Caprivi Region in Namibia.

The Commission concentrated its work on Policy and a Legislative Review of Wetland Use and Management in Namibia. They concentrated mostly on the Kwando – Linyanti – Chobe River System. The JPWC was also instrumental in getting the Okavango River basin States together to establish a basin wide Commission on the Okavango. The JPWC became inactive due to the Kasikili/Sedudu Island border dispute between Namibia and Botswana that came before the International Court of Justice¹¹⁴ and the fact that the OKACOM that was established in September 1994, took over the responsibility of advising the respective governments on issues and developments related to the Okavango River. The negotiations leading to the establishment of the Zambezi River Commission (ZAMCOM) further reduced the need for the JPWC to meet

113 The name changed from Committee to Commission. A copy of the Joint Permanent Water Commission treaty document can be obtained from the DWA.

114 *Kasikili / Sedudu Island (Botswana/Namibia)*, ICJ Reports 1999, 1043.

because the Kwando – Linyanti – Chobe River System is a tributary of the Zambezi River and can therefore be included under the ZAMCOM.

9.6.2 The Zambezi Watercourse Commission (ZAMCOM)

The agreement between the Governments of the Republic of Angola, the Republic of Botswana, the Republic of Malawi, the Republic of Mozambique, the Republic of Namibia, the United Republic of Tanzania, and the Republic of Zimbabwe on the establishment of the Zambezi Watercourse Commission (ZAMCOM)¹¹⁵ was signed in 2004 in Kasane, Botswana and ratified in 2005. The objective of the Commission is to promote the equitable and reasonable utilisation of the water resources of the Zambezi Watercourse as well as the efficient management and sustainable development thereof. To that end, the Commission *inter alia* has the following functions:

- Collect, evaluate, and disseminate all data and information on the Zambezi Watercourse as may be necessary for the implementation of this Agreement;
- promote, support, coordinate and harmonise the management and development of the water resources of the Zambezi Watercourse;
- advise Member States on the planning, management, utilisation, development, protection and conservation of the Zambezi Watercourse as well as on the role and position of the Public regarding such activities and the possible impact thereof on social and cultural heritage matters;
- advise Member States on measures necessary for the avoidance of disputes and assist in the resolution of conflicts among Member States regarding the planning management, utilisation, development, protection, and conservation of the Zambezi Watercourse;
- foster greater awareness among the inhabitants of the Zambezi Watercourse of the equitable and reasonable utilisation and the efficient management and sustainable development of the resources of the Zambezi Watercourse;
- co-operate with the institutions of SADC as well as other international and national organisations where necessary; and
- promote and assist in the harmonisation of national water policies and legislative measures.

115 Zambezi Watercourse Commission. See: <https://bit.ly/37pIM7T>, accessed 4 June 2021.

9.7 The Cuvelai Watercourse Commission

The Agreement between the Governments of the Republic of Angola and the Republic of Namibia on the establishment of the Cuvelai Watercourse Commission (CUECOM)¹¹⁶ was signed in 2014 in Windhoek. This agreement is in the process of ratification. The Commission is developing a bulk water supply project in the Cuvelai basin in southern Angola. It is a project that is similar to the water distribution pipeline network in northern Namibia and the pipelines in Angola will at the beginning be supplied from Calueque Dam in Angola, via the Namibian canal and pipeline system, crossing the border at Oshikango in Namibia to Santa Clara in Angola to link up with the Angolan water supply distribution network to numerous small communities.

116 Cuvelai Watercourse Commission Agreement at <https://bit.ly/39zrqzZ>, accessed 5 Jun 2021.

Chapter 13: The Okavango River Basin – Resolving the Dichotomy Between Development and Environment

Pieter Heyns

1 Introduction

In any watercourse system in a river basin that covers the territory of more than one sovereign State, the water resources should be shared equitably among the countries concerned. Maximising the development potential of the basin for the benefit of the population requires an understanding of the potential of the natural resources available to support the population and to implement the identified development options without compromising the environmental integrity of all ecosystems. In the Okavango River Basin, this complex task is compounded by the relative location of the four basin States (Angola, Botswana, Namibia, and Zimbabwe), pressing development needs in those countries, the pristine nature of the ecosystems, and the international pressure to protect the unique Okavango Delta. Unresolved, these issues may lead to conflict between the need for socio-economic development and the protection of the environment. People are just as much part of the environment and have the capacity to preserve the environment or destroy their livelihood to their own detriment. Several measures to prevent or manage the dichotomy between development and the environment in the Okavango Basin have been implemented since 1994 when the Okavango River Basin Water Commission was established.

2 Background

The territory of South West Africa, a German colony prior to the First World War, was entrusted to South Africa in 1920 as a Mandate under the League of Nations Covenant. In 1963 the South African Government published the Report of the Commission of Enquiry into South West African Affairs, commonly known as the Odendaal Report.¹ Seen against the background of increasing domestic and international opposition to the South African administration, the purpose of the report served, *inter alia*, to recommend the best ways to promote development in the mandated territory. The plan did have some positive outcomes because huge capital investments were made available by South Africa for infrastructure development projects in Namibia, including bulk water supply schemes comprising dams, pipelines, and canals. For the first time, water

1 Botha (1998).

from the Kunene River secured the availability of reliable water supplies to communities in the Cuvelai Basin in northern Namibia, as well as the Ruacana hydropower facility and other large, bulk water distribution and supply projects, especially in the communal areas in the Kavango, Zambezi, Otjozondjupa and Omaheke Regions.

Further water resource investigation studies were funded and conducted to deal with the supply of water to the rest of Namibia, and a Master Water Plan was tabled in 1974. The plan was revised in 1993 after considering additional information about the availability of water resources and the areas with the best potential for future growth. After considering many options, the revised Water Plan recommended that the demand on the water resources of the central area, both in the interior and at the coast, must respectively in future be augmented from the perennial Okavango River and from desalinated seawater at the coast (see the letters “C” and “F” in the figure below. The legend of the figure shows which water sources should be utilised to supply the areas indicated).

Figure 1: The Revised 1974 Master Water Plan of Namibia



Source: Figure compiled by the author.

Access to the water from the Okavango River is unavoidably linked to the principles of international water law, territorial sovereignty, and transboundary water resources management. However, Namibia only became an independent, sovereign State in 1990, and the Department of Water Affairs (DWA) subsequently advised the new

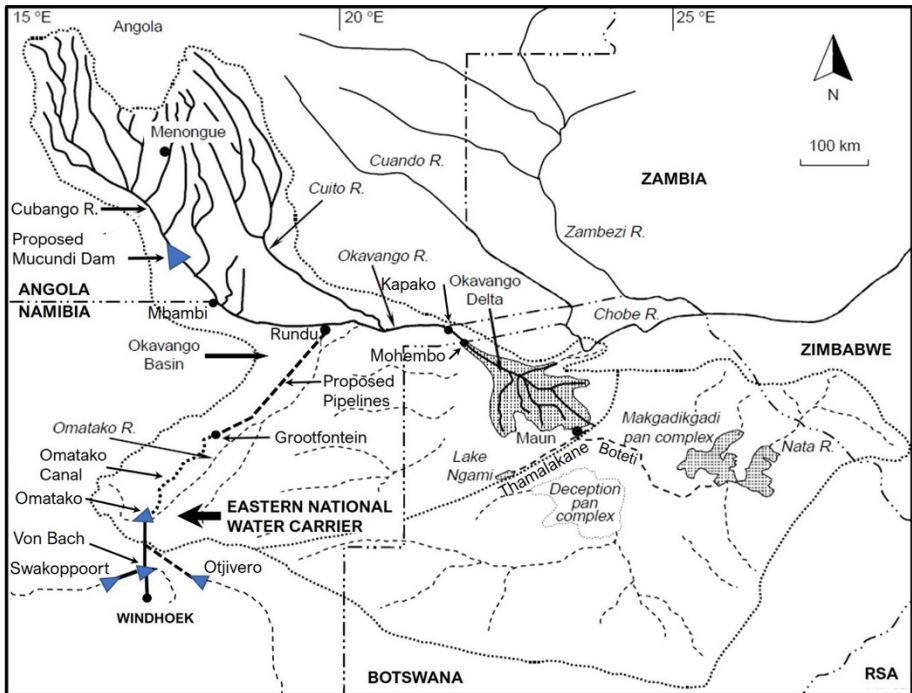
Government to establish water commissions on all the perennial border rivers of Namibia to negotiate with the other basin States about future access to the water of those rivers. In 1991, two bilateral water commissions were established. The first was the reinstatement of the Permanent Water Commission (PJTC) between Angola and Namibia to deal with the management of the Kunene River basin, and the second was the Joint Permanent Water Commission (JPWC) between Botswana and Namibia to deal with the utilisation and management of water resources of common interest, such as the Okavango River, the Cuando–Linyanti–Chobe River system, and groundwater resources. In 1992 both commissions had meetings in Windhoek, Namibia, and provided an opportunity for the three basin States to discuss prior proposed institutional arrangements concerning the management and utilisation of the water of the Okavango Basin. The Namibian Government took the initiative by bringing the delegations of the said commissions together at a joint meeting to discuss the possibility to establish a Tripartite Water Commission between Angola, Botswana and Namibia in view of the absence of an instrument of joint cooperation between all three basin States to manage the Okavango Basin.² This endeavour came to fruition in September 1994, when the Permanent Okavango River Basin Water Commission (OKACOM) was established by an agreement between Angola, Botswana, and Namibia. The main purpose of the delegations to the OKACOM was to jointly address the objectives, expectations and concerns of the sovereign basin States and to advise the respective governments about the development possibilities while strengthening all levels of good, cooperative governance in each individual State.

3 The Okavango River Basin

The name of an international river is normally the name of the river at its terminus because the tributaries of the river may have other names in the upstream basin States. The perennial Okavango River is part of a complex system of perennial rivers and endorheic ephemeral watercourses converging in the Makgadikgadi depression located in northern Botswana, as can be seen in the figure below.

2 Pinheiro *et al.* (2003).

Figure 2: Geographical extent of the Okavango River Basin, its rivers, the location of important towns and existing or proposed major water projects



Source: Map redrawn from Map 1 in Ashton / Neal (2003).

The total area of the drainage system into the depression is 725,200 km² (rounded figure) and covers portions of the territory of four sovereign States comprising 200,200 km² in Angola, 340,000 km² in Botswana, 165,000 km² in Namibia and 20,000 km² in Zimbabwe. Only 57% of the total area of the larger Makgadikgadi Basin or 413,600 km² (rounded figure), comprising 200,200 km² in Angola, 59,600 km² in Botswana and 153,800 km² in Namibia, yield perennial runoff. The total length of the Okavango River is about 1,610 km (rounded) between Menongue in Angola and Maun in Botswana and ranks fourth in length in Southern Africa.

Table 1: Perennial Okavango River Sections

River Section	Distance (km)		Clarifications
Cubango – Mbambi	970	970	Cubango in Angola
Cuito – Cubango	920		Cuito to confluence with Cubango
Mambi – Rundu		165 160	Namibia calls river section "Kavango"
Rundu – Cuito		125 120	Namibia calls river section "Kavango"
Cubango – Cuito	1,260	1,260	Cubango to confluence with Cuito
Cuito – Kapako		60 60	Namibia calls river section "Kavango"
Kapako – Mohembo		50 50	Okavango crosses Namibian territory
Mbambi – Mohembo		400	Namibian access to Kavango
Mohembo – Delta Fan	100	100	Delta Panhandle section in Botswana
Delta Fan – Maun	150	150	Okavango terminates in the Delta
Mohembo – Maun	250		Botswana access to Okavango
Total length of Okavango		1,610	Headwaters in Angola to Maun

Source: Table compiled by the author.

The Okavango has two perennial tributaries, the Cubango and the Cuito. The headwaters of the Cubango starts at an elevation of about 1,850 m above mean sea level and flows 970 km in a south-westerly direction until it reaches Mbambi on the west-east boundary between Angola and Namibia. The boundary extends to the middle of the Cubango, and from that point, the middle of the river is the border between the two countries for about 350 km until the Okavango turns southwards at Kapako, crosses Namibia for about 50 km to Mohembo and enters the panhandle of the Okavango Delta in Botswana. The length of the panhandle is about 100 km, and the terminus of the Delta 150 km further to Maun.

The Cuito starts near Menongue on the eastern side of the headwaters of the Bié plateaux at an elevation of 1,430 m above mean sea level and flows 920 km south-eastwards to join the Cubango. The Okavango terminates at an altitude of 850 m above mean sea level near Maun on the southern edge of the endorheic Okavango Delta in Botswana. The Okavango is called the Kavango in Namibia. In years with high perennial flow into the Okavango Delta, water flows out of the delta area via the Boteti River in the direction of the Makgadikgadi Pans and westwards via the Thamalakane River into Lake Ngami.

The origin of the ephemeral Omatako River Namibia is at the Omatako Hills in central Namibia. The watercourse goes northwards to join the Okavango River, 45 km upstream from the Cubango – Cuito confluence. However, the runoff has never reached the Okavango River in living memory. The Omatako only flows for some distance in its upper reaches during the rainy season, depending on the intensity and

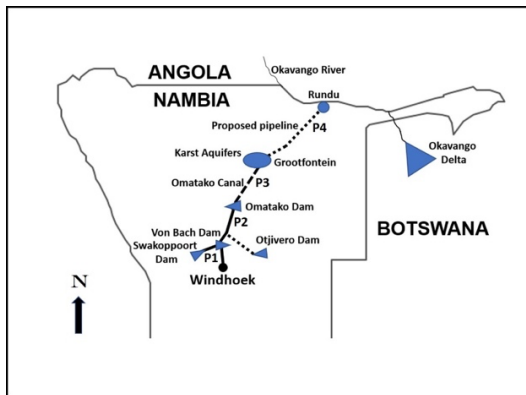
duration of the summer rainfall. The Omatako dam is situated in the upper reaches of the Omatako and is only 50 km from the southern boundary of the Okavango basin. Zimbabwe contributes some ephemeral flow via the Nata River into the Makgadikgadi pan complex on the eastern side of the basin in Botswana. The Nata is known as the Amanzamyama River in Zimbabwe. The mean annual rainfall in the headwaters of the Okavango in Angola is 1,300 mm but decreases to 500 mm in the middle Okavango. Further southwards, the precipitation is between 350 mm and 450 mm in Namibia and Botswana, respectively. The average annual runoff in the Okavango is about 9,863 million m³ which is rounded off to 10,000 Mm³ or 10 km³. The contribution of Angola to the flow is 94.5%. Botswana contributes 2.6% and Namibia 2.9%.

4 Development of the Eastern National Water Carrier in Namibia

In the period after the Odendaal Plan was tabled, the socio-economic growth in Namibia accelerated to 7% per annum, and it soon became apparent that the water resources in the central area and the central coastal area of Namibia would not be able to meet the estimated future water demand. This led to the construction of the Von Bach Dam – Windhoek Water Supply Scheme and a Master Water Plan that was adopted in 1974. The result was that major water supply infrastructure projects were launched according to the master plan under the auspices of the Department of Water Affairs. The construction of the proposed Eastern National Water Carrier in Namibia (ENWC) to link the central area of Namibia with the Okavango River started in 1970 when the Von Bach Dam on the Swakop River was completed.³ By 1977, the Von Bach – Windhoek pipeline had to be upgraded due to the growth in Windhoek, and a new dam had to be built as Phase 1 of the ENWC project. See “P1” in the Figure below. Work on the Swakoppoort Dam, 80 km downstream from Von Bach on the Swakop River, started in 1977 and was completed in 1979. In each phase of the four phased development plan, an additional water source would be added over time as the water demand increased and Swakoppoort Dam was the next water source in operation, linked with a pipeline to transfer water to the central water treatment works at the Von Bach Dam. Phase 2 started in 1980 with the construction of the Omatako Dam that was linked via a pipeline to the Von Bach Dam (see “P2” in the Figure below).

3 Ravenscroft, W. (1985). *The Eastern National Water Carrier – Assuaging the Nation’s Thirst*. South West Africa Annual 1985.

Figure 3: Eastern National Water Carrier



Source: Figure compiled by the author.

This is a typical transboundary interbasin water transfer scheme from the internationally shared Okavango basin into the Swakop River basin, which is a national river system in Namibia. There is no objection to such interbasin transboundary transfers in the principles of international water law.

It is also planned to divert water in future from the Omatoko – Von Bach pipeline to the Otjiwero Dam located in the Nossob River, which is an endoreic watercourse in the Orange River basin and the project theoretically implies a water transfer from the international Okavango River into the upper reaches of the international Orange River basin which is shared between Botswana, Lesotho, Namibia, and South Africa. Phase 3 of the ENWC was the construction of a 260 km parabolic shaped concrete-lined canal and 40 km of inverted syphons (total 300 km) to link the Omatoko Dam with the water sources of the Karstveld Aquifer system located in the vicinity of Grootfontein, which is about 250 km from Rundu on the Okavango. The inverted syphons transport the water in the canal under the rivers and other obstacles that cross the open canal. The fourth and final Phase of the ENWC should have been completed by 1992, but the project could be delayed due to more efficient water use innovations such as water demand management, the reclamation of domestic sewage effluent to potable water standards, water banking in the Windhoek Aquifer, increasing the efficiency of the three dams system in the central area by means of interbasin water transfers to reduce evaporation losses, the managed recharge of the Windhoek Aquifer with treated surface water from the water treatment plant at the Von Bach Dam and the conjunctive use of surface water and groundwater from the Karst and Windhoek Aquifers. All these conservation actions and access to alternative water sources give credibility to the future need to obtain access Okavango water, which is a right in terms of the UNWC.

5 Environmental Issues

5.1 The Omatako Canal

Environmental issues are harmful effects on the biophysical environment due to human activity. Environmental protection is a practice of protecting the natural environment for the benefit of both the environment and humans. From a water engineering perspective, the value of environmental assessments is that it may uncover and prevent fatal flaws in the conception, design, construction, and operation of infrastructure development projects. It is therefore a useful tool. However, the perception of many people in Africa was that the need for environmental assessments for infrastructure projects was primarily aimed at preventing development to preserve the pristine African environment and wildlife for the benefit of tourists arriving from densely populated first world countries. Another important aspect is that water and people are part of the environment and that an increasing population is placing an additional burden on the environment, especially in arid areas like Namibia.

The first major conference on international environmental issues, the United Nations Conference on the Human Environment⁴ (also known as the Stockholm Conference), was held from 5 to 16 June 1972 in Stockholm, Sweden. This marked a turning point in the development of international environmental politics. In 1989, the Department of Agriculture and Nature Conservation, the Gobabeb Research Center and the Engineering Professions Association of Namibia, held a workshop on practice and procedures for environmental assessments.

At that time, the DWA was confronted with an environmental disaster along Grootfontein – Omatako canal and stood accused of failing to conduct a proper environmental assessment before the canal was built. The water engineers were condemned as “the wreckers of the environment” by building dams in the ephemeral rivers, long pipelines and canals across the arid countryside and perpetrating the unsustainable abstraction of groundwater while failing to do environmental assessments. But man needs water to survive!

However, before the construction of the Omatako canal there were no environmental policy or law in place that required and made environmental assessments compulsory, but the engineers in the DWA considered three possible alternatives and conducted an economic analysis to determine the most economically viable option for the water supply link between the Omatako dam and Grootfontein. The difference in elevation between the Karst Aquifers in the Otavi mountainland and the Omatako Dam made it possible to gravitate water from Grootfontein to the Omatako Dam via:

4 United Nations Conference on the Environment. Documents available at <https://bit.ly/3qd70tx>, accessed 8 June 2021.

- A canal, which would be longer because it must follow the contours of the landscape; or
- a large diameter pipeline over a shorter distance; or
- a smaller diameter pipeline over a shorter distance but would generate additional operating costs to pump the required water.

The economic and technical analysis indicated that the canal would be the most attractive cost alternative and would have the additional advantage of using labour-intensive construction methods. This provided an opportunity to employ about a thousand men that could learn construction skills for future, more skilled employment opportunities in the construction industry while earning an income.

The DWA was aware of possible environmental consequences, such as water losses from the canal due to evaporation, and the solution to reduce this, was to design a parabolic shaped canal section instead of using a box or trapezium shape. This alternative was therefore the least expensive option, even if the cost of the evaporation losses was included. The DWA had prior experience in the construction and operation of other canals in Namibia, notably in the Cuvelai basin (± 110 km), at the Hardap irrigation scheme (± 10 km) and the Noordoewer – Vioolsdrift irrigation scheme (± 40 km). In all these cases there were no major environmental consequences except for the occasional goat, sheep, cow, or wild animals (and rarely children) that drowned in the canals. Even the senior staff of the Department of Agriculture and Nature Conservation were informally consulted, but no fatal flaws were anticipated. The Omatako canal was fenced with a cattle fence on both sides while small bridges across the canal and access roads were provided in the canal servitude to enable a farmer to farm on both sides of the canal where it crossed a farm and for the DWA to inspect and maintain the canal.

However, soon after the canal was completed, it was found that large numbers of wildlife are trapped in the dry canal or drown in the canal when water was flowing. This was caused by several factors that were never considered to be an issue. It was known that canal would not carry water when the dams had enough water because there was no point in pumping groundwater (that cannot evaporate) via the canal into an open water body like a dam. The parabolic shape of the empty canal had steep sides and the trapped animals had to be assisted by hand to escape if they were found alive or removed if they were dead. Most of the animals trapped were small, such as snakes, aardvark, and tortoises, while others like warthogs, jackal and small antelopes were trapped less frequently. Even bigger game like eland and kudu sometimes misjudged their jumping capacity and ended up in the canal. Maintaining the canal became an expensive, continuous effort to inspect and remove trapped wild and domestic animals. Horrific numbers of trapped and drowned wildlife were quoted and reported in the media.⁵ The canal became known as the ‘Killer Canal’.

5 *Weekly World News* (1990).

Another unidentified fact was that the canal formed an ecotone.⁶ An ecotone may appear on the ground as a gradual blending of two biological communities across a broad area, for example, the same type of grassland may have been rejuvenated after rainfall in one area and is green, while the grass in other areas that have not received rain have not yet regrown to restore the grazing capacity. An ecotone may manifest itself as a sharp boundary line, such as the Omatako canal, that obstructs the east-west-east migration of wild animals across the canal in search of grassland for grazing, depending on the areas where sufficient summer rainfall has occurred on the eastern or western side.

Seen in retrospect, it was not only a disaster, but useful lessons were learned about the value of proper environmental assessments and how to mitigate the consequences. Mitigation was tried by experimenting with various kinds of escape structures on the canal to assist the animals to get out while the canal was empty or full and to provide improved fencing along the canal to prevent animals from entering the canal servitude. An experimental study was also done to cover a section of the canal with reinforced concrete slabs to test its efficiency and cost. This option worked well, and although the cost to cover the canal, plus the cost of the canal without the cover was still less than the other alternatives considered before the canal was built, the Government never made money available to cover the canal.

5.2 The Proposed Rundu–Grootfontein Pipeline Feasibility Study

This pipeline would be the final Phase 4 link of the ENWC to the Okavango River. See “P4” in the figure above. This leg of the project was supposed to be completed by 1995 at the latest, but since less costly alternatives were developed and implemented to increase water use efficiency and conservation, it was possible to delay the completion of the project.

After the failure of the 1995/96 rainy season in Namibia, it became ominously clear that the country would face an unmanageable water supply crisis in the central area at the end of 1997 if insufficient rains were to fall during the 1996/97 rainy season. The only solution to the challenge was to complete the proposed Rundu–Grootfontein pipeline component of the ENWC within the available twenty months between May 1996 and December 1997.⁷ The planning for the project was completed, and an environmental assessment was done with all basin States participating according to their interests in the project.⁸

6 Kark (2013).

7 Heyns (2007:162).

8 DWA (1997).

During June and September in 1996, the Minister responsible for water in Namibia and the Namibian Delegation to OKACOM met with their counterparts in Gaborone, Botswana, and Luanda, Angola, respectively, to discuss the impending critical water shortage in Namibia.⁹ The Ministers expressed their satisfaction over existing cooperation in the water sector and the exchange of information, endorsing the principle of mutual consultation about studies on planned measures and the need to draw water from the Okavango River to address the short-term and long-term water supply deficits in Namibia.

Although Botswana knew since the middle eighties about the pipeline, the Angolan authorities were also informed when the OKACOM was established, but the sensational press release made after the meeting between the Ministers in Gaborone brought the whole issue of the abstraction of water from the Okavango River into the international arena. A few internationally supported NGO's and environmental interest groups expressed their concern about the proposed project. Most of the interested parties were unaware of the long-standing Namibian intention to utilise the waters of the Okavango River to augment the central area water resources, and very few understood that Namibia was complying fully with the conditions stipulated in the OKACOM Agreement and international water law principles. This gave rise to somewhat alarmist reactions¹⁰ that did not fully represent the details of the issue, stating that the Namibian Government had never informed Angola and Botswana about its planned measures to use Okavango water.

A commissioner in the Namibian delegation to the OKACOM made a presentation about the planned measures of Namibia at an information meeting in Gaborone, Botswana, in November 1996 and pointed out that the Namibian water requirement from the Okavango is only about 100 Mm³/a, which is a negligible 0,1% of the mean annual runoff in the river, while the unknown 'sleeping giant' is Angola because there is a civil war going on in the upper Okavango basin and no planned development projects can be implemented, but it will happen when hostilities have abated.

Both the technical and the environmental feasibility studies were eventually completed in consultation with OKACOM and included a broad base of stakeholder participation in Botswana and Namibia. Fortunately, however, the good rains that fell in Namibia during the 1996/97 rainy season improved the water situation to such an extent that the emergency project could be shelved to the relief of all concerned parties, but it was clearly confirmed that this pipeline is still a critical must for Namibia's development.

Some of the reasons why the completion of the ENWC could be delayed for more than 25 years since 1995 is because of the cost of the project (estimated ± N\$ 10 billion

9 Ibid.

10 Ramberg (1997).

in present values) and other innovative water management alternatives that were implemented. These are

- the inter-basin transfer of water between the dams in the central area of Namibia;
- the conjunctive use of groundwater from the Karst aquifers;
- managed recharge of the Windhoek aquifer with water from the central area dams;
- increasing the capacity of the Windhoek water reclamation facilities; and
- the implementation of water demand management measures such as public participation in water conservation, reduction of water losses in water distribution pipelines and a water tariff system to encourage water-saving practice.

However, the writing is on the wall, and studies are at present being conducted to consider alternatives as the completion of the water carrier to the Okavango, desalination of seawater to transfer water into the interior of Namibia and other, clearly less viable alternatives such as linking the central area with the newly completed Neckartal Dam, located about 500 km south of Windhoek.

5.3 The Proposed Divundu Hydropower Project

The Okavango River flows through Namibia for approximately 50 km and the Popa Falls is about 30 km from the border between Botswana and Namibia. The “falls” is not much more than a rapid because the fall down the rapid is only between 2.5 and 4 metres, depending on the flood level during and after the rainy season. It is nevertheless a scenic tourist attraction which is a source of income for the people living at Divundu. Although the head through the turbines will be low, the high volume of the water flowing in the Okavango makes it possible to generate hydropower.

In August 1969, the Director of Water Affairs commissioned a preliminary feasibility investigation of the proposed Popa Falls Hydropower Scheme near Divundu town. This was followed up with a new study in 2003¹¹ and it is possible to construct a weir, 9.75 m high and 930 m across the river, about 7.5 km upstream of Popa Falls to maintain the flow of water at the falls and the potential for tourism in the area. A hydropower plant at the weir will generate 20 MW or 165 GWh of electricity per year. An environmental assessment of the proposed project¹² was made in 2009 as part of the Okavango River basin transboundary diagnostic analysis conducted by OKACOM.

The presence of the weir will have environmental impacts due to flow regulation, impeding sediment transport and the loss of seasonal, pulsed flows into the Okavango

11 NamPower (2003).

12 OKACOM (2009).

Delta. Evaporation losses will be insignificant, but about 5 km² of agricultural land within Namibia will be inundated. The priority of the power station is extremely low in comparison to other alternative power sources available to Namibia and the development of the proposed hydropower scheme, has been laid to rest at present. This shows the value of proper investigations to determine the viability of proposed projects.

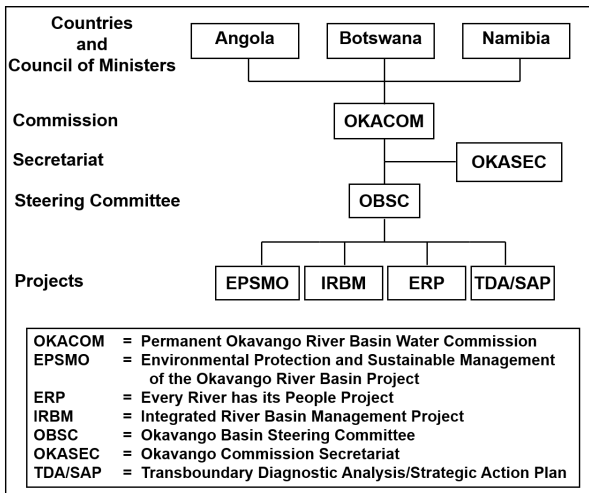
5.4 The Activities of the OKACOM

The establishment of OKACOM demonstrates the political will of the Okavango basin States to create a management institution that must determine the needs of civil society and facilitate the social, scientific and environmental investigations required for planning and development purposes. The Commission must jointly advise the governments of the respective countries about the development of the basin in each State to maximise the socio-economic benefits for the advancement of the standard of living of the population. The Commission is therefore responsible for ensuring good collective governance that meets the objectives and expectations of the sovereign basin States, while strengthening the levels of governance in each individual State. To achieve this, the Commission must

- determine the long-term sustainable safe yield of the water resources in river basin;
- estimate the reasonable demand of possible agricultural, mining, industrial and human developments;
- prepare criteria for the conservation, equitable allocation, and sustainable utilisation of water;
- conduct investigations related to water infrastructure development and investment;
- recommend measures to prevent water pollution;
- develop measures for the management and alleviation of the effects of droughts and floods; and
- address other matters as determined by the Commission.

The structure of the Commission is shown in the Figure below. The countries (Angola, Botswana, and Namibia) are represented by the respective water ministers in the Council of the Commission. The Council convenes as required, to be informed by the Commission (OKACOM) about the work that is being done and to enable the Ministers to agree jointly about the decisions that must be taken forward to the respective governments for advice, endorsement and approval.

Figure 4: Structure of the OKACOM



Source: Figure compiled by the author.

The Commission comprises three delegations, each with three commissioners, one of which is the leader of each delegation. Each leader of delegation is also a co-chairperson of the Commission and is the chairperson when a meeting takes place in his country. Each delegation is supported by advisors as required. The supporting staff are from the different water and other ministries in each country, and they form the Okavango Basin Steering Committee (OBSC). The OBSC guides the activities of the OKACOM Secretariat (OKASEC) that is responsible for coordinating all activities related to administration and meetings, the different studies and investigations that are in progress, as well as stakeholder participation and workshops.

Some of the studies that were conducted by OKACOM under the supervision of the OBSC and OKASEC are shown in the above Figure. The first study that was done by OKACOM after its creation in 1994 was a preliminary transboundary diagnostic analysis (TDA) funded by the Global Environmental Facility (GEF). This work led to the Environmental Protection and Sustainable Management of the Okavango (EPSMO) Project, which produced a revised report about a Transboundary Diagnostic Assessment (TDA)¹³ of the Okavango Basin and a proposed a Strategic Action Programme (SAP) to develop the basin. This report was published in 2011 and provided an overview of the environmental issues, existing and proposed developments, as well as recommendations for future work. This led to a project to do a Multi-Sector Investment Opportunities Analysis (MSIOA)¹⁴ to assist the basin States in achieving socially just,

13 OKACOM (2011).

14 OKACOM (2019).

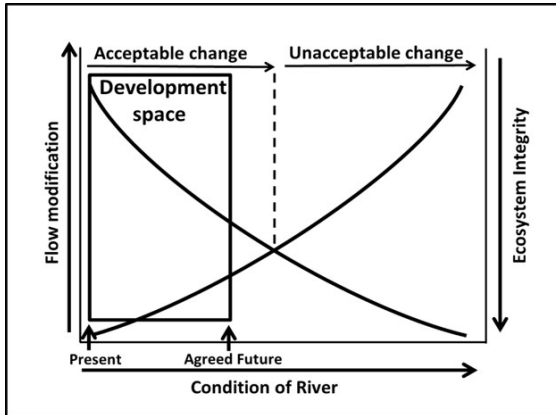
economically viable, and environmentally sound development because investments are required for appropriate infrastructure development to support socio-economic prosperity.

6 The Development Space

The TDA is a basin-wide policy framework document for the Okavango River basin that lays down the principles for the development of the basin and improvement of the livelihoods of its people through the cooperative management of the basin and its shared natural resources. The TDA defined a theoretical conceptual framework, referred to as the “development space,” to illustrate the boundary conditions and trade-off between economic development and environmental degradation, based on two conceptual parameters: ecosystem integrity and the level of basin development. The development space is the total context in which development may happen, within the ecologically acceptable limits of change, such that the greatest sustainable net benefit is achieved, as shown in the Figure below.

The graph starting at the bottom in the left corner of the figure shows the increase in development over time. This development affects the condition of the river, as shown by the arrow at the bottom, and causes the modification of flow in the river, as shown by the arrow on the left in the figure. As the development grows, the ecosystem integrity is reduced because of the changes in the flow condition and the modification of the flow as shown by the arrow on the right. This degradation over time is shown by the graph starting in top left corner of the figure. The dotted line starting where the two graphs cross, is the point between acceptable and unacceptable growth. The square in the figure shows the development space between the present development and the agreed future development of the Okavango basin, which should be contained to the left of the optimal dotted line.

Figure 5: Representation of the development space based on the conceptual limits of acceptable hydrological change



Source: Figure compiled by the author.

6.1 Development plans

One of the most important drivers for economic development, among many other resources, is water. However, the availability of water in the Okavango basin is limited if the environmental integrity of the Okavango Delta must be left unaffected. This is unavoidably not an option, because water will be required for human development as well. The other side of the coin is that the overuse of water will be unacceptable. Some way had to be found to determine the boundaries between water use, development, and the requirements of the ecosystem. In this regard, water supply infrastructure development is not the only type of development required because the term “development” includes improving the quality of life of the population, poverty reduction, food production, better nutrition, education, health, job opportunities through industry and mining or maintaining ecosystem services in the rural areas to achieve prosperity in general, to name some.

The TDA identified that the total population in the basin is 1.69 million in Angola, 0.19 million in Botswana and 0.22 million in Namibia (rounded figures). The total estimated water requirements of the three basin States for planned measures by 2040 would be 3,700 million cubic metres, including water for human consumption, agriculture and interbasin water transfer. This amounts to 37% of the mean annual runoff in the Okavango River.

6.2 Negotiating the Development Space

The MSIOA examined a complex, multicriteria scenario analysis which produced information about a range of alternative development opportunities and a better understanding of complex possibilities. This can be used to inform the decision-making process to determine the optimal preferred future state of the Okavango basin, based on a considered evaluation of trade-offs between return on investments, environmental impacts, social justice, equity considerations and climate resilience. It is important to acknowledge that the final decision will also be informed by political-economy considerations.

The proposed development agenda for each State was assessed, based on a review of their national development plans, including a review of regional initiatives such as the SADC Indicative Strategic Action Plan. The proposed developments were confirmed through a series of national consultations and engagements with officials and experts in related disciplines in each country.

Ten different basin development scenarios were considered for growth sectors that have high water demands or will have a significant impact on the river in terms of abstraction or alteration of the flow regime. These include urban water supply for towns and cities, irrigation for food production, hydropower production and water transfer out of the basin.

The MSIOA allocated water for domestic consumption as primary right of use, followed by water for commercial and industrial activities, collectively referred to as urban water supply, while reserving water for the environment in perpetuity. The abstraction of water from the Okavango for urban use in the basin will increase to 40 Mm³/a by 2040. In addition to the urban water demand within the Okavango basin, there are plans to export water from the basin to meet the urban water needs in the Cuvelai River basin in Angola (78 Mm³/a) and the Central Area of Namibia (62 Mm³/a).

It is expected that the present area under irrigation in the basin will increase from 170 ha to 280,000 ha in Angola and from 2,550 ha to 23,000 ha in Namibia. Although there are no immediate plans for further irrigation development in the basin in Botswana, the present 30 ha under irrigation will increase according to an allowance of 2,000 ha under irrigation and has been included in the model study. The total abstraction from the river at the estimated levels of development would be 3,800 Mm³/a by 2040.

As far energy production is concerned, 28 potential hydropower projects have been identified for development within the basin. These are all situated in Angola, except for one in Namibia at the Popa Falls. The 12 largest projects have a total potential capacity of 400 MW and an estimated energy production of 1,900 GWh/a per annum. None has been developed, but the overall potential of these projects is large in relation to the energy demand in the basin, which is only 10% of the potential or 40 MW. It

follows that the large hydropower projects can only be economically viable if the generated power can be exported out of the basin. The generation of hydropower is a non-consumptive use of water, except for limited evaporation losses from the reservoirs, and the identified schemes will not significantly reduce the average flow in the Okavango. However, the operational regime of the hydropower plants and dams are expected to change the timing and rate of flow of the Okavango, reducing high flows and increasing low flows or the pulsed flow into the delta.

The purpose of the proposed Mucundi Dam and hydropower station in Angola is twofold. It can be configured to regulate the river flow and will have an installed capacity to generate 105 MW, and the possibility exists to export surplus power into the Southern African Power Pool (SAPP) that is a cooperation between nine national electricity companies in Southern Africa under the auspices of SADC. The members of the SAPP have created a common power grid between their countries and a common market for electricity in the SADC region.

The extent to which all the considered developments in the Okavango basin will materialise would depend on the investments required to improve existing and build new water supply infrastructure in the urban and rural environment as well as capital for urban, rural, industrial, mining, hydropower, and irrigation development. There is therefore a need to develop further tools that can help to identify and clarify where trade-offs are needed between competing interests.

7 Conclusion

Development is a complex phenomenon. It is about improving the wellbeing of people and raising welfare, but there exists a dichotomy between development and environment because it is perceived that development will lead to environmental degradation. It is argued that due to rapid growth, there has been an incessant overuse of natural resources and indiscriminate damage to the environment because of infrastructure development, poor agricultural practice, harvesting of ecosystem services and pollution. However, sustainable development is the key, and the Okavango River basin States recognised the need to jointly confront the issues at stake and to ensure that planned measures will maintain the integrity of the environment for all that live in the Okavango Basin. OKACOM found a way to resolve the potential threat of conflict between development and environment as well as to foster the existing cordial relations between sovereign Okavango Basin States to build trust, understanding, cooperation and collaboration.

Chapter 14: Fisheries Related Statutory Law and Policy in Namibia

Clinton Hay

1 Introduction

This chapter gives a brief overview of the legislative framework that governs the marine resources, the inland fisheries resources, and the aquaculture sector. Some general remarks are provided before discussing the policy framework and the statutory framework separately for each sector.

Namibia has one of the most productive marine fishing grounds in the world due to the highly productive Benguela Current System. The system has relatively low biodiversity mainly due to the variable nature of the marine environment. The high primary production, due to the upwelling system forced by the trade winds allowing continuous nutrient-rich, cold water from the deep to fertilise these waters, causing Sulphur eruptions leading to unfavourable marine conditions influencing the fishing industry and marine aquaculture activities along the Namibian coast. These Sulphur eruptions occur due to anaerobic decomposition of organic matter. The high concentration of dinoflagellates (a certain phytoplankton species) can also lead to further problems as these release toxins in the water that can affect the edibility of shellfish that could be harmful to people when consumed. These conditions are called “red tides” due to the colouration of the water. Very low oxygen levels or even anoxia conditions are perennially present in the sub-thermocline waters that do impact on the functioning of the ecosystem. However, fish species have adapted to these extreme conditions either physiologically or behaviourally.¹

The marine fisheries play an important role in employment, export, production and government revenue, creating around 16,000 jobs and approximately N\$ 10 billion annually in FOREX earnings between 2012 and 2016.² The demersal trawl fishery targets hake and monk, midwater trawl fishery adult horse mackerel and the purse seine fishery sardine and juvenile horse mackerel. Other important fisheries are the large pelagic species such as tuna, swordfish and sharks and the benthic species targeted are rock lobster and deep-sea red crab. The line fishery is made up of two sub-sectors, namely the commercial line fishery and the angling subsector. The latter consists of a recreational and a subsistence component. The subsistence fishery along the Namibian coast is insignificant mainly due to the absence of large settlements along the arid coastline. Hake is the most valuable and horse mackerel the most abundant of the commercial species targeted by the fishing industry.

1 MFMR (2013:7).

2 MFMR (2017:7).

The Ministry developed, with the input from stakeholders, the following strategic objectives for the marine resources for the period 2017 to 2022:

- Encourage scientific advice on the sustainable management of the marine ecosystem;
- strengthen compliance with fisheries legislation;
- develop a blue economy policy and legal framework;
- strengthen the development of aquaculture;
- improve the contribution of value-added exports to the national economy;
- increase employment creation and the contribution to the national economy; and
- enhance organisational performance.

The main objective of Government immediate after Independence was to rebuild the severely depleted stocks. To achieve this, the Ministry implemented a rigorous management system that included a fishing right allocation system, a Total Allowable Catch (TAC) and a quota allocation system based on scientific research surveys. Further management approaches were a Monitoring, Control, Surveillance Programme, including a Vessel Monitoring System to ensure compliance by fishing companies and a depth limiting threshold of 200 m where trawlers are not allowed to fish to protect nurse areas.³

Inland Fisheries is very complex and intertwined with many livelihood activities of the floodplain communities and which is very difficult to manage especially on the Zambezi, Chobe, Kwando and Kavango Rivers, where channels meander through large floodplains sometimes inaccessible for patrol boats. A range of different fishing gear is used by the fishers targeting different fish species and at different times of the flood season. It is also a multispecies fishery with a wide range of fish species with different life-history cycles. Many of the underlying factors causing the deterioration of the fish stocks are not controlled by the Ministry of Fisheries and Marine Resources such as overgrazing of the floodplains, irrigation schemes, illegal entries of fishers into Namibian fishing grounds, siltation of rivers due to erosion factors and the sharing of all major fisheries with neighbouring countries. A KAZA (Kavango Zambezi Trans-frontier Conservation Area) Fisheries sub-working group was established to facilitate cross border initiatives related to fisheries including research protocols, co-management regimes, and joint patrols.

Inland fish play a major role in the daily livelihoods of hundreds of thousands of people in Namibia despite the fact that Namibia is considered the driest country in sub-Saharan Africa.⁴ Where the marine fish are considered important in economic terms for the country, the inland fish contribute towards food security and the livelihoods for the poor riverine communities, especially women and children. The largest fishery is

3 FAO (2013).

4 Dirx *et al.* (2008:4).

along the Zambezi and Chobe Rivers with associated floodplains, the ephemeral lake, Lake Liambezi with some fishing on the Kwando and Linyanti Rivers in the western parts of the Zambezi Region. Other fisheries are those on the Kavango River in the Kavango East and Kavango West Regions and the seasonal fishing in the iishana in the Ohangwena, Omusati, Oshana and Oshana Regions. The iishana are shallow, often vegetated depressions with low gradients in which water accumulates or moves depending on the amount of rainfall. These are seasonally flooded, mainly from the southern parts of Angola, bringing fish with the floods. Manmade dugouts are present filled with water, some perennially that also provide shelter for fish during the dry periods.

Very little fishing is taking place in the rest of the country. The annual value of inland fish in Namibia is approximately N\$ 109 million that is five times more than trophy and game hunting on communal lands.⁵ However, inland fisheries are usually under-reported due to the difficulties encountered to monitor fish landings. Inland fisheries also have a much lower environmental footprint compared to agriculture. Very little waste is generated, especially with small-sized fish species that are consumed whole including intestines and bones. This makes small-sized fish extremely nutritious contributing immensely to the nutrient source for poor riverine communities.

Inland fisheries are still gender-segregated with the gillnet fishery male-dominated while the vendors are female-dominated. Nearly all vendors at the Katima Mulilo fish market are women, some heading households stressing the importance of fish as an income source for women-headed households. Worldwide inland fish play a critical role in the daily activities of women and around 35 million of the total estimated 60 million people in inland fish and its value chain are women.⁶

The fishery in the Zambezi Region changed dramatically with the flooding of Lake Liambezi in 2009. This highly productive lake stimulated a major bream fishery causing an influx of fishers from across the region. Most of the fish harvested were exported to neighbouring countries (mainly Zambia) as far as the Democratic Republic of the Congo. This demand inflated the local market fish prices and suddenly fishing had become a lucrative undertaking, though conflicting with the policy principles that stipulate that subsistence fishing is preferred over commercial fishing. Once the Lake Liambezi dried out, the supply of bream declined drastically, but the fish prices did not follow the same trend probably putting more pressure on the poor who cannot afford these escalated fish prices.

The Kavango River is a much smaller river compared to the Zambezi River that makes it more vulnerable to overfishing. The fish exploitation further intensified after the Angolan war ended and people started to settle next to the river. Although there is no formal fish market along this river, a small informal market is present in Rundu and

5 Forsythe *et al.* (2018:26).

6 FAO (2018:110).

at some sites next to the gravel road between Nukurenkuru and Divundu where fishers are selling their catches. Recent studies also point towards a decline in fish catches driving fishers to more destructive use of fishing gear and methods to ensure a reasonable catch.

The Cuvelai System an ephemeral system that floods seasonally depending on the rainfall pattern for that particular year do have fish, mainly catfish and small minnows that inhabit the iishana and pools in the region. Fish harvesting in this area is seasonal, linked to the flooding of the iishanas that flow from Angola where the Cuvelai Systems has more permanent water bodies.

The Kunene River is subject to very little harvesting of fish as the Ovahimba People do not eat fish and therefore do not harvest any fish from this river. Some people from the Omusati Region do some fishing at localised areas along the river.

The Lower Orange River does not have a history of fish utilisation although this changed recently with the inflow of temporary workers from the north to some of the irrigation schemes next to the river. The legislation does not allow the use of any nets in this river.

The central regions of Namibia do not have any natural open water sources except for the two sinkholes in the north, Guinas and Otjikoto, and the many state dams that were constructed for water consumption and irrigation. Some small-scale fisheries are present in some of these dams where communities do some fishing for own consumption and to sell some surplus catches. These state dams are important for the recreational fishery with some international competitions being held at some of these dams. The recreational fishery is also an important source of revenue in the Zambezi and Kavango Regions with annual international competitions held in those rivers. These competitions usually attract large numbers of anglers from across the region and even from countries abroad.

In the Aquaculture Act No. 18 of 2002, aquaculture is defined as the “farming or the ranching of aquatic organisms”. Marine aquaculture and inland aquaculture are used to differentiate between organisms farmed in the marine environment (sometimes called mariculture) and in the freshwater environment. The history of aquaculture started in the early 1800s with the introduction of carp, bass and the Mozambique tilapia (all exotic species to Namibia) into cattle dams and state dams, although these introductions could probably not be seen as actual aquaculture practices as very little fish farming was done. The private sector became more involved in this sector during the mid-1980s, mainly in the marine aquaculture sector.⁷ By the mid-1990s, marine species farmed ranged from oysters, mussels to seaweed. The freshwater species farmed were mainly tilapia species and catfish. These were largely stocked in farm dams and some state dams around the country with no commercial farms operating. The slow growth of the aquaculture sector is attributed to the focus of government to

7 GRN (2001b:4).

develop and recover the rich wild capture marine fish in the Benguela Current just after Independence. The lack of open freshwater bodies and the low winter temperatures, especially in the south of the country further slowed the progress in the inland sector. On the marine side, high infrastructure cost in unsheltered bays along the coast is the main reason for the slow growth in this sector. The highly productive Benguela Current provides opportunities especially for filter-feeding organisms, but this high productivity is also the cause of Sulphur outbreaks that brings its own challenges for the marine aquaculture sector.

2 The Policy Framework

2.1 Namibia's Marine Resources Policy: Towards Responsible Development and Management of the Marine Resources Sector (2004)

The Namibian Marine Resources Policy "Towards Responsible Development and Management of the Marine Resources" was approved in 2004. The main objective of the marine resources sector is to utilise the marine resources in a sustainable manner and to develop industries that will contribute to the country's economy and overall development. The policy outlined the following four main strategies to attain the main objective:

- Maintaining an appropriate legislative, institutional and administrative framework;
- conservation and responsible management of marine resources;
- support for domestic catching, processing and marketing; and
- enhanced participation for Namibians in all aspects of the marine resources sector.

The Government's approach to resource management is to control catches of the different marine stocks through annual total allowable catches (TACs), by-catch restrictions and the introducing of closed seasons and areas. This approach was followed by Government due to the depleted state of many fish stocks at Independence and to rebuild these stocks to a sustainable level and to explore the potential of any new fisheries to contribute to the national economy. The main stocks commercially exploited by the industry are hake, pilchard, horse mackerel, rock lobster, linefish, monk, orange roughy, deep seas red crab, cape fur seal, mullets and anchovy.

The processing of marine resources remains export-orientated with value addition a priority, especially for commercial stocks such as hake, pilchard, rock lobster, crab, monk, and horse mackerel. Exploratory rights will be allocated to enhance the development of potentially new fisheries and in the process expanding the export and local markets that will provide additional jobs in the fishing sector.

The Namibian Government is in favour of joint ventures with foreign partners in the exploitation, processing and marketing of the marine resources and in the process creating foreign investment opportunities, the transfer of knowledge to Namibian counterparts while benefitting from the rich marine resources.

The state of the marine resources is depended on a pristine environment. The policy highlights the importance of protecting the marine environment and mentions threats to the environment such as domestic and industrial wastes, discharged hazardous and toxic substances, oil pollution and micro-pollutants. This is supported by the Prevention and Combating of Pollution of the Sea by Oil Act 6 No. of 1981. This particular Act prohibits the discharge of oil from ships, tankers or any other offshore installations. The Act is applicable to the marine environment and gives the Government the mandate to deal with such spills. Pollution prevention is inter-sectoral and a collaborative approach needs to be followed to treat any pollution effectively and prevent any harm to the resources.

The fisheries legislation provides guidelines on the following areas:

- Sustainable utilisation of marine resources through the allocation of fishing rights and fishing quotas and the issuing of fishing licences with certain conditions;
- management and conservation measures through the setting of TACs, by limiting fishing effort and specifying fishing gear such as minimum mesh sizes and grid selectivity, restrictions on by-catch and closure of certain areas or seasons. Transboundary fishing activities are similarly managed;
- compliance and Enforcement through enforcement officers and specifying their powers and through the setting up of a Fisheries Observers Agency to assist with scientific data collection and to report on the fishing activities on fishing vessels;
- offences and Penalties by specifying penalties for violating the Marine Resources Act; and
- regulatory powers for the Minister to make regulations to implement the Marine Resources Act.

The Namibian Government adheres to the principle of optimum sustainable yield of all marine resources according to the Namibian Constitution. The Government is committed to responsible fisheries according to international best practices. The rich marine resources should benefit Namibia and Namibian citizens. Government will further ensure equitable involvement of women in the marine sector. The precautionary approach to fisheries management shall be applied and the marine sector shall be self-sustaining and will not be supported through public sector subsidies.

2.2 Namibia's Inland Fisheries Policy: White Paper on the Responsible Management of the Inland Fisheries of Namibia (1995)

This White Paper deals with the policy of the Namibian Government on the sustainable management of the inland fisheries resources in the country. The policy is based on the following principles:

- The approach is to allow the sustainable utilisation of these resources while protecting the biodiversity on the Namibian inland fish;
- different management approaches are formulated for the different aquatic ecosystems due to the diverse nature of these systems;
- the interest of the subsistence households depending on these resources to supplement their diets is protected against the commercialisation of the resource;
- the management of the resource is conducted through the control of the fishing effort through gear restrictions and preference is given to passive fishing gear overactive fishing gear and traditional fishing gear to modern fishing gear;
- control and law enforcement are to be carried out by police officers and law enforcement personnel already employed by other line Ministries with the assistance of traditional communities and the traditional authorities. A limited number of staff will be appointed to act as fisheries extension and law enforcement officers from the Ministry of Fisheries and Marine Resources;
- local community members should share in the income generated by commercialisation or any use of communal resources;
- future research policies on inland fish and the founding of a multi-disciplinary research station to eventually serve the region is addressed; and
- regional co-operation on inland waters and related matters between countries that share the basins is emphasised.

The main objective is to guarantee the sustainable utilisation of the inland fish for the benefit of the present and future Namibians. Furthermore, the management systems in place will be based on sound scientific knowledge and the responsibility of the management is vested at local level rather than at a centralised institution. A consultative and transparent process is followed through the involvement of local communities and the traditional authorities. The National Policy on Community Based Natural Resources Management⁸ recognises the rights of local communities and encourage the biodiversity conservation and in the process empowering communities to manage and benefit from natural resources including fisheries.⁹ Due to the importance of fish as a

8 GRN (2013).

9 MFMR (2013:2).

protein source for poor communities, the utilisation of the resource is conducted on subsistence principles rather than a commercialised approach due to the vulnerability of the fish populations. A healthy fish population depends on well-functioning ecosystem services; therefore, a holistic approach is followed through the management of the fish, the river systems and the floodplain environments, including the maintenance of the hydrology of these aquatic ecosystems. Namibia shares all perennial rivers with neighbouring countries; therefore, all fisheries border international boundaries. Collaboration with neighbouring countries sharing a particular fishery is therefore critical to ensure the sustainable utilisation of these valuable resources.

The goal is to obtain an optimal sustainable yield which is defined as the level at which maximum yield can be achieved without causing irreversible damage to the species composition or genetic diversity of the ecosystem. Maximum sustainable yield, on the other hand, is focusing only on production levels without taking into account the genetic diversity, species composition or the integrity of the aquatic system. This may lead to the decline of certain preferred fish species being replaced by undesirable fish species, negatively influencing food security and driving the ecosystem towards an unbalanced state. The policy focusses mainly on the perennial rivers and the ephemeral Cuvélai System as these regions are the key fisheries areas with very little happening regarding a fishery in the state dams in the rest of the country. Management of these systems is focused on monitoring fishers' behaviour and their catches and not through a quota system due to the variability of fish production owing to a dynamic flood regime.

Fishing methods and fishing gear used can be classified into traditional and modern gear and these can further be classified into passive or active methods or gear types. Traditional gear is defined as gear manufactured by the local population in an artisanal manner making use of natural materials available from the local environment. Active gear types are dragged, moved or pushed in the water to catch fish while passive gear types are placed in the water and only moved once fish are recovered. The fishing gear type that fishers use depends on the water level of the river and the fish species group they are targeting. Some traditional gear will target catfishes, some will target the mormyrids when used in rapids, or some will target some small minnow fish species. The large mesh size gillnets target the large bream species and the small mesh size gillnets the silver catfish or the striped robber. Longlines are used for catfish species or some will use drift baiting for tigerfish. The recreational fishers use different types of bait or artificial lures and target the large bream species, tigerfish and catfish. During artificial lure competitions, fishers will even go for the small minnows as the aim is to catch as large a diversity of fish species as possible. The policy emphasises the importance of research and the development of competent Namibian fisheries scientists and technical personnel. Government will acquire the necessary equipment to facilitate the research in the country.

Fish are one of the ecosystem services delivered by freshwater ecosystems. However, the productivity of inland fish depends on the health of the freshwater ecosystem that is also impacted by the aquatic habitat conditions and land use activities within the catchment. The threats of alien aquatic species introductions into Namibian waters and the transfer of species between watersheds are highlighted in the policy document. Unfortunately, inland fish must compete with perceived more important sectors such as agriculture, electricity generation or transport services and do only receive limited consideration when competing with these sectors. Inland fish have a major role to play in Namibia in food security and livelihood resilience, especially with the predicted impacts climate change may have on food security in poor rural communities, especially on women and children.

2.3 Namibia's Aquaculture Policy: Towards Responsible Development of Aquaculture (2001)

Catches from the global capture fisheries have plateaued and with an expected 9 billion people in 2050 that will need to be fed, aquaculture could be one way of closing this deficit. This, however, needs to be done responsibly with science-based support. The aquaculture industry in Namibia (both marine and freshwater) is small compared to other countries in Africa. The main objective of the Namibian policy on aquaculture is the responsible and sustainable development of aquaculture to achieve socio-economic benefits for all Namibians and to secure environmental sustainability. The Government of Namibia is obligated to protect the environment and prevent irresponsible aquaculture practices that can damage the aquatic environment to the disadvantage of present and future generations. This policy is guided by the Code of Conduct on Responsible Fisheries and will maintain the highest standards of ethical practices as provided in the FAO Technical Guidelines for Aquaculture Development and the Holmenkollen Guidelines.

The Government is therefore compelled to practice and promote responsible aquaculture and to facilitate sustainable development and management of aquaculture ventures within the national water bodies. The policy highlights the following principles:

- Both marine and freshwater aquaculture are to be governed by the same basic management principles;
- the Government is to ensure the protection of the living resources of national and international waters, both marine and freshwater, from possible adverse effects resulting from aquaculture activities, introductions and effluents;
- preference is to be given to Namibian citizens and to ventures beneficially controlled by Namibian citizens to benefit from the utilisation of Namibia's natural resources for aquaculture development;

- women, being the majority in Namibia, should be fully involved in the aquaculture development process;
- aquatic farming communities, voluntary aquaculture producer organisations and individual aquaculturists are to be encouraged to develop responsible aquaculture at the farm level;
- there should be broad and balanced participation by Namibians in aquaculture, and access to resources available for aquaculture will be equitable;
- aquaculture ventures should be self-sustainable; and
- as SADC Marine Fish Co-ordinator, Namibia should strive to serve as a model for the development of strategies for coastal aquaculture.

Both commercial and small-scale aquaculture will be supported as both these do have important roles to play in the socio and economic arenas in Namibia. Small-scale aquaculture will mainly focus on the freshwater ecosystems (but not exclusively) while commercial aquaculture is more likely to feature in the marine environment due to the rich Benguela current that supports one of the most productive marine ecosystems in the world. The Fifth National Development Plan (NDP5) for the period 2017/2018 to 2021/2022 promotes investment in marine aquaculture and considers marine aquaculture as a viable economic option. This should be done through the demarcation of suitable areas for marine aquaculture and the development of infrastructure and to facilitate services.¹⁰ Namibia's Vision 2030 states that freshwater aquaculture does not have the potential to provide large economic activities in the country.¹¹ Small-scale aquaculture with low investment and running cost near the perennial rivers or large floodplains could be viable as a subsistence protein source for poor communities.

The Government will designate certain areas, when necessary, as aquaculture zones. These areas could be in communal areas, watersheds or specific coastal areas. The rationale of having designated aquaculture zones is to facilitate and regulate the development of this sector and to guarantee appropriate standards to protect the sector and the environment against any harmful activities. In the same sense, the policy mentions the classification of sensitive aquatic environments as exclusive zones where aquaculture activities will be prohibited. This is a further proactive step to protect the environment.

Environmental assessments must be performed before aquaculture activities can commence, especially those outside of the aquaculture zones. This will be done in consultation with the Ministry of Environment and Tourism and other relevant authorities. The cost of the assessment will be borne by the proponent. All international laws and conventions will be respected and will form part of the assessment. These are the Convention on International Trade in Endangered Species (CITES), the Convention

10 GRN (2017a:27).

11 GRN (2004a:136).

on Wetlands of International Importance (RAMSAR), the International Council for the Exploration of the Seas (ICES) and the Code of Conduct for Responsible Fisheries.

Responsible aquaculture is critical as farming with aquatic organisms can have irreversible negative impacts on the environment. The introduction of alien species is probably one of the most serious threats to the ecosystem. These alien species can threaten food security and can serve as a vector for the introduction of parasites and diseases. Alien fish species can also decrease the genetic diversity through the hybridisation process reducing the survival rate of these species. There is this notion that alien species have characteristics better suited for farming with a higher quality end product compared to native species, which is not always justified. Eutrophication from aquaculture ponds is also of major concern influencing ecosystem services when the functioning of these ponds fails or are not functioning at optimum levels. The carbon footprint of aquaculture is also much higher than captured inland fisheries when considering the construction and the running of the farm, transport, fish feed and the use of antibiotics. A permanent threat to the success of marine aquaculture along the Namibian coast is the presence of harmful algal blooms and Sulphur eruptions that can cause damage to farmed organisms or even pose health risks to consumers. Preventative measures must be in place to minimise these risks and to safeguard people from these hazards.

3 The Statutory Framework

3.1 The Marine Resources Act No. 27 of 2000

The Marine Resources Act No. 27 of 2000 provides for the conservation of the marine ecosystem for the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis. This Act replaces the Fishing and Factory Owners' Committee Ordinance, the Sea Birds and Seals Protection Act, Sections 42 and 43 of the General Law Amendment Act, and the Sea Fisheries Act. According to Section 64(2) of the Marine Resources Act regulations made under previous legislation remain in force. The Act provides the Minister with the authority to determine the general policy regarding the conservation and sustainable utilisation of the marine resources for the benefit of the Namibian people. The territorial sea and exclusive economic zone are determined by the President through gazette proclamation. The Minister may designate any staff or official of any Ministry as a fisheries inspector¹² with designated powers¹³ to enforce the law as determined by the Act and regulations. The

12 Section 41.

13 Section 13.

Act makes provision for the establishment of a Fisheries Observer Agency¹⁴ to appoint and train fisheries observers that will observe harvesting, handling and processing of marine resources and related operations on any fishing vessel. The Minister will determine the policy of the agency and will approve their annual plan, budget and report.

A Marine Resources Advisory Council¹⁵ is established which will advise the Minister in relation to any matter on which the Minister is required to consult the council under this Act. The minister may refer any matter to the advisory council for investigation or advice. The Act further stipulates the conditions under which commercial harvesting of marine resources will be allowed. Commercial harvesting of marine resources is subject to a right,¹⁶ an exploratory right¹⁷ or fisheries agreement. Certain conditions are attached to these rights and may include a period of validity as specified by the Minister. An exploratory right may only be granted to one person to explore the potential of harvesting a marine resource for which no right has been granted. The Minister may from time to time determine a total allowable catch on the basis of the best scientific evidence available and advice from the Advisory Council.

The Minister may with consultation with the advisory council determine fees payable in respect of the harvesting of marine resources. These funds will be paid into the Marine Resources Fund¹⁸ and the Fisheries Observer Fund.¹⁹ These funds will be utilised to fund the activities of the Fisheries Observer Agency and for research, development, training and education relating to marine resources.

The Act stipulates several management and control measures relating to prohibited fishing gear and fishing methods, closed areas and closed seasons, marine species that are protected and those that may be harvested and measures to limit the amount of harvesting capacity.²⁰ The Act makes provision for the establishment of marine reserves²¹ for the protection or regeneration of marine resources. The Minister may declare an area a marine reserve after consultation with interested stakeholders. This Act was amended in 2015,²² providing for the sovereign exercise of ownership by the state over marine resources and amending the provisions relating to the total allowable catch and allocation of quotas.

Regulations relating to the exploitation of marine resources were made under Section 61(1) of the Marine Resources Act. These regulations outline the forms and procedures for granting rights or exploratory rights, allocating quotas and issuing licenses and the requirements for fishing for recreational purposes. It further stipulates the

14 Section 8.

15 Section 24.

16 Section 33.

17 Section 34.

18 Section 45.

19 Section 43.

20 Section 47.

21 Section 51.

22 Act No. 9 of 2015.

conservation measures relating to fishing gear used for commercial purposes, the clearance of fishing vessels, measurement of meshes of fishing nets and any attachments to trawl nets. The regulation lists protected marine species that are not allowed to be killed, disturbed, or injured. A pristine environment is critical for optimum marine resources yield and the regulation highlights the way fishing gear, non-biodegradable objects and waste should be handled on fishing vessels as well as onshore. Other topics referred to in the regulations are documents to be carried on board a fishing vessel, the handling of by-catch and the fees payable by the company, compliance control relating to the role of inspectors and their functions and offences and penalties.

Regulations relating to Namibian Islands' Marine Protected Area were made under Sections 51 and 61(1) of the Marine Resources Act. The regulations outline the delimitation and co-ordinates of the different islands, the restrictions and prohibitions in the buffer zones of the Namibian islands' marine protected areas as well as in the different zones.

3.2 The Inland Fisheries Resources Act No. 1 of 2003

This Act is to provide for the conservation and protection of aquatic ecosystems and the sustainable development of inland fisheries resources and to provide for the control and regulation of inland fishing. It further makes the Minister responsible for the development of the policy and must consider the social, economic and environmental factors with the best scientific knowledge for the conservation and utilisation of the inland fisheries resources. The Minister must consult the regional council, the local authority or the traditional authority in that particular area before developing or amending the policy. There is an Inland Fisheries Council that the Minister can consult on any Inland Fisheries Resources matters with the constitution of this council as described in this Act.²³ A fishing license must be obtained when engaging in recreational fishing using a rod and reel and when using a gillnet.²⁴ The number, length and mesh size of the gillnet, the way a gillnet is allowed to be used and conditions of these licenses are specified. Bag limits are prescribed for recreational fishing with minimum lengths for the fish species targeted. However, no bag limits are prescribed for the gillnets or any other fishing gear. Amendment of the Act was done through Government Notice No. 296 of 2016 that prohibits the use of monofilament gillnets and only allows for the use of multifilament gillnets in Namibian inland waters. The Act further provides the Minister with the power to close certain areas or for certain time periods for any fishing related areas if the Minister feels that the fish resource needs protection. The Minister by Government Notice No. 297 of 2016 under Section 22(1) of this Act

23 Section 3.

24 Section 11.

declared the Zambezi/Chobe River System as a Fisheries Reserve where no fishing activities are allowed for the period 1 December to 28 February of every year. Furthermore, fisheries reserves can be established where no fishing activities are allowed or any activity that may interfere with the natural environment of the fish or any related ecosystem without the written permission of the Minister. Several areas along the Zambezi, Chobe and Kwando Rivers have been gazetted as fisheries reserves each with their management plan and rules and regulations (Government Notices No. 64, 65, 66 and 67 of 2020, No. 298 of 2016 and No. 276 of 2015).

Certain fishing methods are seen as destructive and are not allowed. These fishing methods are the use of chemicals, poison or any noxious substance, explosives, firearms and electrical devices and the use of light to attract fish during the night.²⁵ This Act prohibits the transfer of any fish species between any inland waters of Namibia or the introduction of any fish species into any inland waters without the written permission from the Minister. The import and export of any fish species are also regulated and permission for such transport is needed.

The Minister may declare any fish species as endangered that will provide special protection to such a species. Such a species may not be killed or injured, caught or removed from its environment without the written permission from the Minister.²⁶ This Act further gives the power to the Minister to designate any staff member in prescribed Ministries, regional council, local authorities or any person nominated by the traditional authority as an inspector. The powers of these inspectors are specified in Section 25 of the Act.

The Minister is allowed to make regulations that pertain to the conditions fishing can be undertaken, the fishing gear types allowed with specifications and the fishing methods used, the establishment of inland fisheries committees and their functions and duties, and the penalties for contravening these provisions.

The Inland Fisheries Resources Regulations of this Act (power is given to the Minister to make regulations accordance to Section 29 of the Act) are presented in the Government Notice No. 118 of 2003. Regulated fishing is defined as a rod, reel, line and hook or a net. For these regulated fishing gear, a licence must be obtained. Each regulated fishing gear has certain conditions on how these should be used by the licensee. Further specifications are prescribed for the rod, reel and hook and line such as no one is allowed to use a cluster of hooks and the nets have limitations on the length, depth, mesh sizes and how far apart they are allowed to be set in a water body. The different river systems have different minimum mesh sizes and no gillnets are allowed in the Lower Orange River. Fishing competitions need to be authorised by the Minister with all conditions of hosting such competitions listed in the regulations of this Act.

25 Section 17.

26 Section 21.

3.3 The Aquaculture Act No. 18 of 2002

The Aquaculture Act is to regulate and control aquaculture activities, to provide for the sustainable development of aquaculture resources, and for related matters. It further gives the Minister the necessary power to determine the aquaculture policy of Namibia taking into account the economic, social and environmental situation in the country after considering the best scientific advice provided. The Minister must consult the advisory council when formulating the general aquaculture policy of Namibia. The Minister must further consult the regional council and the local authority and traditional authority when developing the policy in that particular area. The Act makes provision for the establishment of an advisory council, known as the Aquaculture Advisory Council, to advise the Minister in relation to any matter related to this Act and any matter that the Minister may refer to the advisory council for investigation on matters related to the Aquaculture Policy. The functioning, the constitution and the meeting schedule of the Aquaculture Advisory Council are stipulated in Part III of the Act.

No person is allowed to practice aquaculture without a license issued by the Minister in terms of Section 13 of the Act. The Minister must be satisfied that the applicant has met the following conditions:

- The applicant has the necessary approval or permit which may be required under the laws of the country relating to land or water use;
- the applicant has obtained an environmental clearance certificate where an environmental impact assessment is required according to the relevant laws; and
- a consent letter from the landowner should accompany the application if the applicant is not the owner of the site.

Furthermore, the Minister may also consider:

- Any objections received under Section 12(4) of this Act;
- whether a significant risk of pollution or other adverse impacts may affect the environment if the activity should go ahead;
- whether the site is not suited for the particular aquaculture activity planned or whether there is any risk of conflict with other activities or proposed activities; and
- any other matters applicable to the license that, in the opinion of the Minister, are relevant.

Section 13 of the Act mentions the necessity to obtain an environmental clearance certificate before commencing any aquaculture activity. The Environmental Management Act No. 7 of 2007 specifies the conditions for obtaining such a certificate. An environmental clearance certificate must be obtained:

- If the aquaculture facilities are not within a declared aquaculture development zone;

- if organisms are genetically modified changing the characteristics of those organisms;
- when importing, processing and transiting any genetically modified organisms or the releasing of these organisms into the environment;
- if any pest control is done;
- for the release of any organisms outside of their natural environment for biological pest control;
- for the introduction of alien species within Namibian waters;
- if water is abstracted either underground or surface water;
- for constructing any facilities in watercourses within flood lines or within catchments; and
- when altering a natural wetland system.

Further conditions of an issued license relate to quantities of the organisms, which may be retained or introduced at the site, the structures and equipment used and the maintenance process followed, the water quality, composition of feed used, types of manures or fertilisers used, the use of hormones, drugs, antibiotics, chemicals, the disposal of dead organisms, waste, the keeping of records and other conditions as the Minister may deem necessary.

The Act also specifies management and control measures that a licensee must adhere to. These specifications are on the reporting of disease or harmful organisms, the monitoring of the water quality, the introduction and transfer of aquatic organisms, the import and export of live organisms, the handling and marketing of aquaculture products and on aquaculture activities in conservation or other protected areas if authorised by the Minister.

All aquaculture products of the species specified in the license are the property of the licensee until sold or traded. These organisms remain the property of the licensee if these escape into the natural environment and the licensee can prove their identity.

Section 32 of the Act makes provision for the establishment of Aquaculture Development Zones with the purpose to:

- Attract, promote or increase the development of aquaculture facilities in areas which are particularly suitable for aquaculture;
- manage and control aquaculture in those areas;
- encourage the transfer of technology and the development of responsible aquaculture practices;
- generate or increase employment in aquaculture;
- protect aquaculture developments; or to
- ensure responsible planning of aquaculture.

The enforcement of this Act will be conducted by inspectors designated by the Minister. The Minister may designate any staff member in the Ministry as an inspector and the Minister may also designate with the concurrence of the Minister responsible for any other Ministry or a regional council or a local authority council a staff member by

notice in the Gazette as an inspector. The powers of these inspectors are outlined in Section 27 of this Act. Part VIII of this Act stipulates the offences and penalties. The Minister may make regulations in relation to any matter permitted or required in terms of this Act. Section 45 gives the Minister the power to exempt any person who conducts scientific research or experimentation or any person or category of persons whom the Minister considers appropriate on other grounds previously referred to from any or all of the provisions of this Act. The Minister may also amend or cancel such an exemption that was granted.

Government Notice No. 246 stipulates the regulations of the Aquaculture Act. These regulations specify that aquaculture products must conform to international standards due to Namibia's obligations as a member of the World Trade Organisation and the Office International des Epizooties (OIE, the World Organisation for Animal Health). Health measures included in the regulations are diseases outbreaks and reporting protocol, the use of approved drugs, antibiotics and other chemicals, quarantine measures, disease zoning to control the spread of infectious diseases and intra-national movements of live aquatic organisms.

Aquaculture activities, when poorly managed can have significant negative impacts on the environment and on other aquatic organisms. This translates into harmful social impacts, particularly within rural communities that depend on healthy aquatic environments for their daily livelihoods. Poorly managed aquaculture activities will also damage the export market, depriving the country of vital foreign revenue. The licensee must take all necessary precautions to prevent any organisms from escaping. This is especially true when introduced species are farmed with. Although farming with exotic aquatic species is not encouraged, permission can be given by the Minister for the introduction of such a species under special circumstances. Aquaculture farms do create waste that needs to be disposed of. Section 20 stipulates that waste should be disposed of or treated in accordance with the terms and conditions of the aquaculture licence.

The rules and regulations regarding the import and export of aquatic organisms are stipulated in the Government Notice 70 of 2010, "Regulations relating to Import and Export of Aquatic Organisms and Aquaculture Products". A licensee must adhere to certain conditions when importing aquatic organisms. The Minister may request a risk assessment to be carried out in accordance with the law or policy relating to environmental assessment. The Minister may only approve an import permit relating to aquatic species listed in Annexures I (List of freshwater and marine ornamental aquatic organisms approved for importation) and J (List of aquatic organisms whose importation is restricted or prohibited). The Minister may also approve the import of aquatic organisms for introduction or transfer if the licensee has a quarantine facility or has contractual access to a quarantine facility. All imported aquatic organisms and documentation will be inspected at the port of entry. These regulations further lay out the conditions of operating a quarantine facility especially for aquatic organisms listed in Annexure I

and for introduced species or species that will be transferred. Sections 15 to 20 lay down the conditions for the export of aquatic organisms or aquaculture products. A person intending to export aquatic organisms or aquaculture products listed in Annexure O (List of aquatic organisms and aquaculture products whose exportation is prohibited) will need special clearance from the Minister before such organisms or products can be exported. The Minister will approve an export permit once satisfied that the applicant has complied to all health requirements and all requirements as instructed by the importing and transit countries as well as all conditions that the Minister may deem necessary. Additional authorisation may have to be obtained as required by law. The import and export of aquatic organisms or aquaculture products can only be done at approved ports. The Minister may cancel or suspend any permit as mentioned in Section 22.

PART VI:

LAND, SOIL AND FORESTRY

Chapter 15: Land, Soil and Agriculture from a Namibian and International Law Perspective

Oliver C. Ruppel and Anielle von Finckenstein

1 Introduction

This chapter addresses soil protection from a Namibian and international law perspective. Especially in Africa we know that scarce land is more than a source of food security, income and shelter. It is also subject to distributive inequalities, often related to cultural identity. It is thus often a source of political and economic competition, tribal and social tension as well as historical, feudal, imperial, missionary or colonial injustices.¹

Indeed, the most significant natural capital asset is productive land and fertile soils. For those communities that rely heavily on land as their main source, especially the rural poor, human well-being and sustainable livelihoods are completely dependent upon and intricately linked to the health and productivity of the land. “Land is territory, property, a resource, our heritage, and much more. Land has economic, social and environmental value and, even when privately owned, it provides many benefits to society.”²

Soils are essential ecosystems that deliver valuable services such as the provision of food and carbon sequestration, among others. Therefore, soil is crucial for fighting climate change, protecting human health, safeguarding biodiversity and ecosystems and ensuring food security.³ In this regard it is important to note that ‘soil’ is not synonymous with ‘land’. Of course, soil is a constituent of land but, while soil is movable, land is not. Moreover, soil protection is closely related to and even overlaps with land use and land management.

Land degradation is one of the major environmental concerns in Namibia as land is the basis for survival. Land degradation threatens environmental quality and has a negative economic impact. In Namibia, farming has deep cultural and social meaning. About 70% of the Namibian population depends on agricultural activities for a livelihood.⁴ Thus, the conservation of land by legal means is of critical importance for the country.⁵

1 FAO (2020a).

2 Larbodière *et al.* (2020:8).

3 European Commission (2020).

4 GRN (2007b:1).

5 This Chapter is partially based on Ruppel / Bethune (2007) and Hinz / Ruppel (2008b).

Land degradation in Namibia, like elsewhere in the world occurs in different forms and the effects and causes of land degradation are manifold.⁶ It is, inter alia, caused by climatic variations, especially the high variability of rainfall patterns, and human activities. The major driving forces of land degradation in Namibia include poverty in rural areas; population pressure; land management policies; unsustainable use of water; limited capacity and cross-sectoral collaborations to effectively prevent land degradation; limited financial and technical resources; and climate change.⁷

According to the 2015/2016 Namibia Household Income and Expenditure Survey,⁸ 10.6% of all households in Namibia reported subsistence farming as their main source of income. This figure has changed from 23% in 2009/2010, 29% in 2003/2004 and 38% in 1993/1994.⁹ However, many Namibians depend – directly or indirectly – more on farming than on any other economic activity.¹⁰ Despite the fact that the whole agriculture, forestry and fisheries sector only made up 9 % of GDP in 2020,¹¹ almost half of Namibia's land area (47.1%) was used for agricultural purposes in 2018.¹²

Overstocking and overgrazing are considered to be the main causes for land degradation in Namibia. Especially in rural areas, poverty forces people into unsustainable environmental management practices such as overstocking and overgrazing in order to ensure food supply. More often than not, the densities of livestock exceed the carrying capacity of the land, which places strain on the environment. Further negative effects on land are caused by the unsustainable harvesting of forest resources, wild plants and game, and the clearing of land for farming or housing purposes.¹³

Land degradation not only has negative economic consequences in that it reduces the country's resources, it also poses a serious threat to food security and rural livelihoods, which particularly affects the most vulnerable groups in Namibia's poor and densely populated areas. The most alarming effects of land degradation are deforestation, decreased availability of palatable grass species, soil erosion, bush encroachment and soil salinisation.¹⁴

In light of this environmental background, the importance of soil conservation becomes apparent. After all, Namibia is one of the driest countries in the world with two of the largest deserts, namely the Kalahari Desert and the Namib Coastal Desert. This

6 Klintonberg / Seely (2004); see also Ruppel / Ginzky (2021).

7 GRN (2014d).

8 NSA (2016:13).

9 NSA (2012:56).

10 Iyambo, N, then Minister of Agriculture, Water and Forestry in his foreword to Mendelsohn (2006).

11 See <https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=NA>, accessed 15 July 2021.

12 See <https://data.worldbank.org/indicator/AG.LND.AGRI.ZS>, accessed 15 July 2021.

13 Hengari (2018:11); MET (2006:1ff.).

14 Hengari (2018:9); Klintonberg / Seely (2004:7).

makes its soil particularly vulnerable. However, both nationally and internationally this area of the environment has not yet received the attention it deserves.

2 Soil Protection in the International Legal Framework

Article 144 of the Namibian Constitution incorporates international law explicitly as the law of the land. International law is thus integrated into domestic law.¹⁵ Where possible national authorities and the judiciary, in particular, can therefore apply international law directly on the national level, before cases are taken to regional or international judicial or quasi-judicial bodies. International agreements become Namibian law when they come into force for Namibia. The conclusion of or accession to an international agreement is governed by Articles 32(3)(e), 40(i) and 63(2)(e) of the Namibian Constitution. It is important to mention that the Constitution does not require the promulgation of an international agreement for it to become part of the law of the land.¹⁶

Even though some international conventions recognise the importance of soil conservation, no overarching framework exists as yet. One of the reasons advanced by opponents of an overarching, global and binding framework is that soil is non-moving and has *locally unique* problems, which should be dealt with locally.¹⁷

The European Soil Charter of 1972 is held to have been the first international document relating to soil.¹⁸ The World Soil Charter and the World Soils Policy were negotiated by the United Nations Environment Programme (UNEP) in coordination with the United Nations Food and Agriculture Organization (FAO) and were adopted in 1981. Both instruments contain non-binding guidelines and principles relating to soil conservation¹⁹ and were intended to aid states in formulating domestic policies. However, in light of modern environmental practices, these instruments are considered to be outdated.²⁰

Yet, 2015 was the International Year of Soils, which has resulted in a wealth of awareness activities across the globe, in addition to putting soils back on the international policy agenda.²¹ This has also led to a new international dialogue concerning the protection and rehabilitation of soils and sustainable farming practices in general.²²

15 Article 144 reads as follows: “Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia.”

16 Ruppel (2016b:55ff).

17 Montanarella (2015).

18 Alori / Nwapi (2015:105).

19 Ibid.

20 Ibid:106.

21 See <http://www.fao.org/soils-2015/news/news-detail/en/c/353737/>, accessed 20 January 2021.

22 Ibid.

The Global Soil Partnership (GSP) is a body established prior to the International Year of Soils and aided in the implementation and coordination of the roll-out of the year-long activities.²³ The GSP further encourages research, plans conferences and establishes local and regional partnerships.²⁴ However, criticism has been voiced relating to the felt absence of tangible results and calls for specific actions are mounting.²⁵

New scientific knowledge has been gained over the past three decades, “especially with respect to new issues that emerged or were exacerbated during the last decades, like soil pollution and its consequences for the environment, climate change adaptation and mitigation and urban sprawl impacts on soil availability and functions”.²⁶ In this respect, the World Soil Charter has been revised and was unanimously endorsed in June 2015, during the course of the International Year of Soils, by the member states of the FAO during the 39th Session of the FAO Conference.²⁷ The revised guidelines intend to ensure that “soils are managed sustainably and that degraded soils are rehabilitated or restored”.²⁸ The actions are targeted at individuals and the organised private sector, governments and international organisations, which triggered an international dialogue concerning the protection and rehabilitation of soils and sustainable farming practices.²⁹ While tools such as FAOLEX and ECOLEX already compile national legislation and policies, and include some legislation on soil protection and soil degradation prevention, the newly established working group on soil legislation will in the time to come contribute to reviewing and updating the SoiLEX database containing all soil-related legal instruments adopted in each country.

While the World Charter on Nature³⁰ and Agenda 21³¹ have been criticised to be inappropriate to aid in soil conservation, as their wording is too broad to establish clear norms,³² other international law instruments have proved to be more relevant. Particularly for Africa, the United Nations Convention to Combat Desertification (UNCCD) is the main international legal document to combat desertification and mitigate the effects of drought in affected countries through effective action at all levels supported by international cooperation. This instrument is the only international treaty

23 See <http://www.fao.org/globalsoilpartnership/iys-2015/en/>, accessed 20 January 2021.

24 Montanarella (2015).

25 Ibid.

26 See the revised World Soils Charter at http://www.fao.org/fileadmin/user_upload/GSP/docs/ITPS_Pillars/annexVII_WSC.pdf, accessed 16 January 2021.

27 The revised World Soil Charter is organised into a Preamble, nine principles, and guidelines for action.

28 See Section 3 of the Revised World Soil Charter.

29 See <http://www.fao.org/soils-2015/news/news-detail/en/c/353737/>, accessed 20 January 2021.

30 See <http://www.un.org/documents/ga/res/37/a37r007.htm>, accessed 16 January 2021.

31 United Nations Conference on the Environment and Development, Agenda 21, UN Doc a/CONF.151/4 (1992).

32 Alori / Nwapi (2015:106).

specifically addressing land-related issues, while the definition of desertification therein clearly relates to soil conservation.³³

The UNCCD laid the groundwork for developing and establishing the concept of LDN. After adoption of the SDGs, the CCD claimed leadership for implementation of target 15.3 on LDN. It decided to integrate LDN in its work and has engaged in various activities. Besides a target setting programme this includes elaborating guidance material. In particular, the CCD published a Scientific Conceptual Framework that is intended to apply to all land and guide all parties in implementing LDN. Although the legal and political constraints make the UNCCD's potential difficult to assess, it could continue to pursue a leading role in implementing the LDN target and serve as forum for discussing soil-related issues between developing and developed countries.³⁴

So far, however, the tangible effect of the UNCCD remains limited, as the focus is primarily placed on capacity-building, as opposed to creating binding obligations *per se*.³⁵

The Namibian Program to Combat Desertification (NAPCOD) was established subsequently to the UNCCD.³⁶ Relating specifically to soil erosion, the NAPCOD focuses on education and awareness surrounding this issue.³⁷ This is done by means of the Regional Awareness Programme, which aims to enhance the understanding of desertification, soil erosion, deforestation and related issues with local and traditional decision makers. The dissemination of information to communities and the creation of engagement were identified as crucial obstacles in raising awareness. The main educational activities were generally centred at the Gobabeb Training and Research Centre, and included programmes to educate teachers in order to allow for them to subsequently undertake environmental education. Furthermore, media awareness workshops are also undertaken by NAPCOD, aimed at raising awareness of the widespread implications arising from desertification.³⁸ NAPCOD also engages in a range of other programmes related to not only educational, but also practical implementation of efforts to combat desertification.³⁹

Namibia has drafted its Third National Action Programme (2014-2024) to implement the Convention to Combat Desertification.⁴⁰ NAP3 aims to set forth a framework to allow for the implementation of the UNCCD, for the time period of 2014 to 2024. It first focuses on illustrating the current obstacles which Namibia faces in regard to the environment, desertification, land degradation and drought processes, and

33 Land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors including climatic variations and human activities.

34 See with further references, Bodle *et al.* (2020:14).

35 Alori & Nwapi (2015:107).

36 Seely / Montgomery (2009).

37 *Ibid*:viii.

38 *Ibid*:100.

39 These include workshops for farmers and farm managers relating to the prevention of soil erosion and sustainable farming practices, community projects allowing for an increased food and social security standard and general institution and capacity building.

40 See GRN (2014d).

how these pose threats to Namibia's land-based agricultural sector.⁴¹ The document further names poverty and population growth, in addition to unsustainable resource usage and severe impact of climate change. This document also highlights the inadequate institutional and individual capacity and weak mechanisms of cross-sector collaboration for sustainable land management.⁴² The inadequate application of technology is another related obstacle. The objectives set out in NAP3 aim to address these impediments, by setting six specific outcome targets and proposing tangible and pragmatic solutions, in order to achieve the overall objective to "prevent and reverse desertification and land degradation in affected areas and to mitigate the effects of draught in Namibia in support of poverty reduction and environmental sustainability".⁴³ Emphasis is placed on improving cross-sectoral collaboration between Government agencies *inter se*,⁴⁴ as well as between relevant actors and research institutes. This is intended to allow for research and subsequent data to be used more effectively when developing and implementing policies and programs.⁴⁵ Additionally, the NAP3 discusses policies and programs currently in place and proposes improvements where deemed necessary.⁴⁶

The 2003 Maputo Convention, which entered into force in 2016 has one article dedicated to land degradation and soil conservation, overlapping with those contained in the UNCCD. Herein, agricultural activities have been identified as one important driver for land degradation in Africa, pointing out conflicts around land tenure that require parties to develop and implement land tenure policies that are able to facilitate the measures to prevent land degradation and to conserve and improve the soil.⁴⁷

It has been stated in recent studies that there is an overlap and potential competition and conflict between the UNCCD and the FAO, which also claims leadership regarding international soil. Both regimes are major international actors with high participation and political legitimacy in this field. Moreover, there seems to be an overlap with the Convention on Biological Diversity (CBD) in terms of legal scope and mandate regarding soil biodiversity. Here the CBD is probably the more relevant international instrument, as the diversity within species and ecosystems is closely linked and reliant upon the conservation of soils and ecosystems. It aims at conserving biological diversity, promoting the sustainable use of its components, and encouraging equitable sharing of the benefits arising out of the utilisation of genetic resources.⁴⁸

41 Ibid:3.

42 This specifically refers to overlapping and contradictory capacity of Ministries and Departments with opposing goals.

43 GRN (2014d:13).

44 Ibid:44.

45 Ibid:46ff.

46 Ibid:31ff.

47 See with further references, Bodle *et al.* (2020:19).

48 Ibid:53.

3 Soil, SDGs and the Right to Food

The Sustainable Development Goals (SDGs) were formulated as a successor to the Millennium Development Goals at the United Nations Conference on Sustainable Development. The SDGs were adopted in 2015 and Goal 15.3 therein pertains to achieving the “[p]rotection and promotion of sustainable use of terrestrial ecosystems, halt desertification, land degradation and biodiversity loss” and further aims to “achieve a LDN world”. Although not legally binding, the SDGs, and in particular the Land Degradation Neutrality (LDN) target in SDG 15.3, have at least established a political consensus for continued dialogue that guides national policies and governmental action for national land and soil policies.⁴⁹

From the aforementioned it becomes clear, that the international soil governance framework remains highly fragmented, while the displayed international law instruments cover different aspects of soil protection in a relatively unconcerted manner.⁵⁰

Soils are essential in ensuring food security and thus also the right to food.⁵¹ Strategies in support of the progressive realisation of the right to food seem to be very much in line with the recommendations of the Committee on Economic, Social and Cultural Rights in its general comment No. 12 on the right to adequate food (para. 21).⁵²

According to Article 25(1) of the Universal Declaration of Human Rights (UDHR), everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, while Article 11 of International Covenant on Economic, Social and Cultural Rights (ICESCR) recognises the right of everyone to an adequate standard of living for himself and his family, including adequate food; as a fundamental right of everyone to be free from hunger.

Article 11(2) ICESCR in recognising the fundamental right of everyone to be free from hunger, compels Parties to take measures to (a) improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge, by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilisation of natural resources; (b) taking into account the problems of both food-importing and food-exporting countries, to ensure an equitable distribution of world food supplies in relation to need.

Similarly, Article 24(2)(c) of the Convention on the Rights of the Child (CRC) obliges Parties to take appropriate measures to combat disease and malnutrition, including within the framework of primary health care, through, inter alia, the provision of

49 Ibid:11.

50 Ruppel *et al.* (2021); Ruppel (2021b).

51 European Commission (2020).

52 Cf. with further references De Schutter (2014:para. 40).

adequate nutritious foods, taking into consideration the dangers and risks of environmental pollution.

In addition to the international human rights framework, regional human rights treaties have been developed, such as the African Charter for Human and People's Rights (Banjul Charter). It has been ratified by most African states and is considered to provide implicit recognition to the right to food in its Articles 4 (right to life), 16 (right to health) and 22 (right to economic and social development), as interpreted by the African Commission on Human and People's Rights Principles and Guidelines on the implementation of Economic, Social and Cultural rights in the African Charter on Human and People's Rights and in the case law of the African Commission. The right to food is further expressly recognised in relation to women in Article 15 of the Protocol to the Banjul Charter on the Rights of Women in Africa. The vast majority of African countries have ratified these regional and relevant international human rights treaties.⁵³

While states have the obligation to respect, protect and fulfill the human right to food, this obligation is complemented by the following principal non-legally binding instruments relating to the right to adequate food, namely the 1974 Universal Declaration on the Eradication of Hunger and Malnutrition; the 1996 Rome Declaration on World Food Security; and the 2004 Voluntary Guidelines to support the progressive realisation of the right to adequate food in the context of national food security.

In addition, the SDGs provide a universally accepted framework to foster global collaboration with a strong emphasis on the rule of law and human rights. While Agenda 2030 is aimed at fostering and renewing multilateralism and international cooperation on the global but common challenges, the SDGs include economic and social development goals that potentially involve trade-offs with environmental sustainability. One of society's most urgent challenges is to satisfy the rights of people to a 'good life', including adequate food and nutrition, while remaining within the planetary boundaries. In other words, we need to reconcile agriculture and the environment to "end hunger, achieve food security and improved nutrition and promote sustainable agriculture" (Zero Hunger, SDG 2) and also "protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" (Life on Land, SDG 15).⁵⁴

In terms of the right to food, the SDGs call for more sustainable production and consumption patterns and agricultural and food systems that protect natural resources (i.e. soil). Possible supply chain approaches, for example, intervene at the point of end consumption of such products, the production of which in distant, politically sovereign states causes sustainability risks.

The 2014 Malabo Declaration of the African Union on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods is

53 FAO (2018a).

54 Larbodière *et al.* (2020:8).

another set of goals for a targeted approach to achieve the agricultural vision for the continent which is shared prosperity and improved livelihoods. In the Declaration the signatories *inter alia* commit themselves in the pursuit of agriculture-led growth as a main strategy to achieve targets on food and nutrition security and shared prosperity; and especially to ending hunger in Africa and to halving poverty by the year 2025, through inclusive agricultural growth and transformation and by means of enhancing resilience of livelihoods and production systems to climate variability.⁵⁵

4 Soil and Global Climate Governance

The 1992 the United Nations Framework Convention on Climate Change (UNFCCC) was adopted to regulate levels of greenhouse gas concentration in the atmosphere, so as to, *inter alia*, avoid the occurrence of climate change on a level that would compromise initiatives in food production. Article 2 of the UNFCCC defines the parties' ultimate objective as the stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

So far, international climate policy has mostly focused on emission sources and thus on the avoidance of greenhouse gas emissions, for example from the electricity sector, the production industry, transport, and land-use changes. This will, however, be increasingly complemented by the preservation and enhancement of emission sinks to remove carbon dioxide from the atmosphere. To achieve the global climate targets adopted by the UNFCCC, alternative mitigation methods, as for example through programmes for re- or afforestation and the restoration of ecosystems, become more and more relevant. Despite the fact that the combination of bioenergy and carbon capture and storage, increased carbon sequestration in soils,⁵⁶ and the direct capture of CO₂ from ambient air need to be further researched and are not yet at the stage of market maturity, the carbon removal approach has considerable potential, while soils are the world's second largest carbon sink after the oceans.⁵⁷

The most potentially devastating impacts of industrial modes of agricultural production stem from their contribution to increased greenhouse gas emissions. Together, field-level practices

55 Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods Malabo, Equatorial Guinea, 26 June 2014, at https://au.int/sites/default/files/documents/31247-doc-malabo_declaration_2014_11_26.pdf, accessed 25 November 2020.

56 Soil carbon sequestration is the process of capturing atmospheric CO₂ through changing land management practices to increase soil carbon content. Various land management practices promote soil carbon sequestration.

57 Geden / Schenuit (2020:5).

represent approximately 15 per cent of total human-made greenhouse gas emissions, inter alia from the loss of soil organic carbon in croplands.⁵⁸

The 2015 Paris Agreement, as part of the UNFCCC regime, in its Preamble includes the explicit acknowledgement “that climate change is a common concern of humankind” and that “Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights”. As such the agreement binds its parties regarding activities on their respective territories and under their control.

The Paris Agreement supplements the UNFCCC and the Kyoto Protocol of 1997 by incorporating existing elements of this regime. Both the UNFCCC and Kyoto Protocol adopted rules on reporting and accounting for emissions from land use, land use change and forestry (LULUCF). These rules determine how parties have to report LU-LUCF in their regular emission inventories, which under the Kyoto Protocol is also relevant for accounting whether parties meet their emission reduction targets.⁵⁹

According to Article 2, the Paris Agreement’s overarching objective is to keep the increase in global temperature well below 2°C, or even 1.5°C. Parties are required to prepare and present individual climate plans (Nationally Determined Contributions - NDCs) every five years that set out how the party intends to contribute to the collective objectives. Under the Paris Agreement, the Principle of Common but Differentiated Responsibilities (CBDR) is an obligation for all parties when formulating their NDCs. This is the result of protracted negotiations about the role and impact of historic and present, and of relative and absolute, GHG producers. Although the Paris Agreement does not specify how to take the CBDR principle into account, principles of justice and equity help to improve the understanding of the normative implications of climate law under the Paris Agreement. While equity as a normative concept has a sense of fairness, justice plays an important role in legal-political decisions in relation to climate policy in particular and through differentiation in obligations.⁶⁰ GHG emissions have global, not merely national, effects, which on the basis of the need to contain the potential proliferation of trade distortions due to climate policies in terms of equity, may justify sanctioning the inaction by large GHG emitters, which can have a serious impact on local food production affected by global warming.⁶¹

Through the sustainable development mechanism in Article 6, the Paris Agreement allows the space to harness the lowest cost mitigation options worldwide. This may incentivise policymakers to enhance mitigation ambition by speeding up climate action.⁶² This implies that global climate policy development and the future of the carbon market also relate to mechanisms which support and encourage sustainable climate

58 De Schutter (2014:para. 7).

59 Bodle *et al.* (2020:17).

60 Lawrence / Reder (2019).

61 Häberli (2018:34).

62 Tänzler *et al.* (2019).

policies in host countries as production-based accounting does not necessarily reflect a country's contribution to global emissions because globalisation and consumption can prompt emissions beyond borders.

By signing the Paris Agreement (and in particular Article 14 therein), parties agreed on long-term goals backed by national plans that are collectively reviewed in the global stocktake, which is key to increasing ambition. While the first planned stocktake is scheduled for 2023, it has already become apparent today that the improved accuracy of carbon stock estimates would allow for more targeted interventions and better monitoring of the NDCs – which has equal significance for the protection of soil in the context of agricultural production.⁶³ Whereas the UNFCCC does not explicitly provide for specific trade measures, the Kyoto Protocol contains more detailed obligations related to the reduction of greenhouse gases and provides for trade-affecting techniques such as tax impositions on carbon dioxide emissions and the elimination of subsidies adversely affecting the objective of the UNFCCC.⁶⁴ In addition, the parties to the Paris Agreement explicitly recognise

the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change;

while Article 2(1)(b) of the Paris Agreement provides for

[in]creasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production.

Notwithstanding the legally neutral wording of Article 2(1) when read in isolation, achieving its purpose⁶⁵

is mandatory not for any one state or group of states, of course; it is mandatory for the state parties collectively. This straightforward logical implication of the Paris Agreement does not seem to have been noticed before, despite its potentially profound consequences.

The Paris Agreement further requires parties to engage in adaptation planning and implementation that takes into account “vulnerable people, places and ecosystems” and builds “the resilience of socio-economic and ecological systems, including through economic diversification and sustainable management of natural resources”. Of course, soil as well as land use, land degradation and sustainable land management are closely linked to climate change in terms of carbon capture and storage and the emissions from deforestation and agriculture. This is underlined by Article 4 of the Paris Agreement, which explicitly includes the target “to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second

63 Interestingly, in its NDCs, the Republic of South Africa, states that policy instruments under development include regulatory standards and controls for specifically identified GHG pollutants and emitters; see <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/South%20Africa%20First/South%20Africa.pdf>, accessed 12 February 2021.

64 Ruppel (2018).

65 Zahar (2020).

half of this century”, although the Paris Agreement fails to explicitly mention ‘soil’, ‘land’ or ‘agriculture’. As such, the Paris Agreement only indirectly addresses soil protection in the general context of climate change. And despite the importance of land use and soil management for climate change, the UNFCCC, the Kyoto Protocol and the Paris Agreement have not established a comprehensive regime with regard to land-related climate change measures.⁶⁶ Article 5(1) of the Paris Agreement obliges parties to take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4(1)(d) of the Convention. Yet, in fact, agriculture first appeared in the ongoing climate negotiations under the Koronivia joint work on agriculture programme at COP 23 in 2017:⁶⁷

The decision officially acknowledges the significance of the agriculture sectors in adapting to and mitigating climate change. Countries agreed to work together to make sure that agricultural development ensures both increased food security in the face of climate change and a reduction in emissions. The joint work is expected to address six topics related to soils, nutrient use, water, livestock, methods for assessing adaptation, and the socio-economic and food security dimensions of climate change across the agricultural sectors.

In order to achieve the aforementioned, countries should take all appropriate measures according to their capabilities to progressively achieve the protection of the interests of all concerned. And when speaking of ‘all concerned’ in the context of global food security, this phrase is by no means an exaggeration. Much of the work to translate the Paris Agreement and the NDCs into concrete climate interventions in agriculture is in progress.

Food systems are responsible for 21-37% of global greenhouse gas emissions and a major driver of deforestation and land degradation, yet there is still widespread food insecurity and malnutrition. Managing the land sector (agriculture, forestry, wetlands, bioenergy) sustainably and holistically could contribute up to 30% of the global climate mitigation effort.⁶⁸

In 2018, the Paris Agreement adopted a transparency framework which, inter alia, included rules for reporting on and accounting for land use and land-use change, which is expected to eventually replace the existing UNFCCC framework. This may open opportunities also to shape new rules complementing the UNFCCC’s Koronivia joint work on agriculture.

A wide range of policy instruments is needed to strengthen the mutually supportive role of the Paris Agreement and other international agreements when it comes to the protection of soil. The AFOLU (agriculture, forestry, and other land use) sector plays an important role in the 1.5°C pathways and is, inter alia, responsible for food production. Changes in the AFOLU sector are driven by demand changes, efficiency of production, and policy assumptions. While demand for agricultural products and other land-based commodities is influenced by consumption patterns, including dietary

66 Bodle *et al.* (2020:53).

67 See <http://www.fao.org/climate-change/our-work/what-we-do/koronivia/en/>, accessed 12 February 2021.

68 Palahí *et al.* (2020).

preferences and food waste (affecting demand for food), policy assumptions relate to the level of land protection, the treatment of food waste, policy choices about the timing of mitigation action, the choice and preference of land-based mitigation options, and interactions with other sectors and trade.⁶⁹

In the soil-land-climate interface, effective policy responses must include carbon pricing, emissions trading schemes (including net CO₂ emissions from agriculture), carbon taxes,⁷⁰ regulations limiting GHG emissions and air pollution, forest conservation (mix of land-sharing and land-sparing) through participation, incentives for ecosystem services and secure tenure, protecting the environment, microfinance, crop and livelihood insurance, agriculture extension services, agricultural production subsidies, low export tax and import tariff rates on agricultural goods, dietary awareness campaigns, taxes on and regulations to reduce food waste, improved shelf life, sugar/fat taxes, and instruments supporting sustainable land management (including payment for ecosystem services, land-use zoning, REDD+, standards and certification for sustainable biomass production practices, legal reforms on land ownership and access, legal aid, and legal education), as well as reframing these policies as entitlements for women and small agricultural producers.⁷¹ Similarly, border carbon adjustments can help level the playing field and prevent emissions leakage,⁷² which occurs when climate action in one region merely shifts emissions elsewhere.⁷³

5 Soil Protection in the National Legal Framework

5.1 The Constitution and Land Tenure in Namibia

According to Article 1(6) of the Namibian Constitution of 1990, the Constitution is the law above all laws. Therefore, all legislation ought to be consistent with the provisions

69 Rogelj *et al.* (2018).

70 Such was for example the Carbon Tax Act 15 of 2019, a relatively new addition to South Africa's legislative record, aiming to provide for the imposition of a tax on the carbon dioxide (CO₂) equivalent of greenhouse gas emissions; and to provide for matters connected therewith. This aim is expected to be achieved by the deployment of a range of measures to support the system of desired emissions reduction outcomes, including the appropriate pricing of carbon, the use of emissions offsets and economic incentives for rewarding the efficient use of energy to provide appropriate price signals to help nudge the economy towards a more sustainable growth path. Such tax phased in over time allows for learning, while the tax revenue can for example finance additional climate change mitigation efforts. Whether a carbon tax yields a better result, for global food security, than carbon sequestration, depends on many different factors. Taxation for climate change mitigation could be included under any broad (NDC) commitment to reduce emissions or in the promotion of green technologies.

71 Rogelj *et al.* (2018).

72 Peters *et al.* (2011).

73 Kasturi *et al.* (2019).

of the Constitution. The Constitution lays the foundation for all policies and legislation in Namibia and contains three key environmental clauses relevant to sustainable use of natural resources.⁷⁴

Article 100 of the Constitution vests all-natural resources in the state, unless otherwise legally owned. Thus, unless legal ownership in a specific locality is proved, such natural resources are owned by the state. The provision thus implies that natural resources can be legally owned as private property. The land (and the soil on the land) belongs to the state in terms of Article 100 of the Constitution, if not otherwise lawfully owned. By means of Article 95(1), Namibia is obliged to protect its environment and to promote a sustainable use of its natural resources.⁷⁵ It compels state organs to be directed by the environmental principle of state policy.

The era of colonial reign over Namibia has skewed land ownership of the country in favour of a white minority. After Namibia acquired Independence, the Government promulgated several laws aimed to implement a comprehensive plan of land reform. Even though there have been shortcomings with regards to the overall success of land redistribution in Namibia, a framework for the reform of land tenure, acquisition and ownership was formulated.

Natural persons, the State and legal entities can hold land in Namibia. Overall, the State holds all communal land in trust for the indigenous tribes who reside on the land, in addition to owning all nature reserves, game parks, military bases and certain urban properties.⁷⁶ The types of land tenure are ownership/freehold tenure; communal tenure; conservancies and leaseholds. Regarding tenure in informal settlements, the practice incepted prior to 1990 of Permissions to Occupy (PTO) still applies but is in the process of being phased out and replaced by leaseholds under the Communal Land Act.⁷⁷

Ownership and freehold tenure gives owners the rights to property as developed in common law. Most of the agricultural (commercial) land in Namibia, namely 86.2% is privately owned by individuals, companies, estates and trusts, churches, farmers associations and foundations. The remaining 13.8% is owned by government for resettlement farms, servitudes and research farms.⁷⁸ The Communal Land Reform Act, in addition to the common law, regulate leaseholds. The Communal Land Board can grant communal and commercial land leases for a period of 99 years.⁷⁹ Land held in such leasehold may be transferred, inherited, renewed and mortgaged.⁸⁰

74 Ruppel (2016b:30).

75 Ibid.

76 Ibid:6.

77 No. 5 of 2000.

78 NSA (2018b).

79 Sections 2 and 3 of Act No. 5 of 2000.

80 Amoo (2014:234).

Communal tenure is held in trust by the Government, for the benefit of local communities. Traditional Authorities and Land Boards generally administer this land and all such land is registered with the Land Board.⁸¹

Conservancies – once established – become legal entities and for such purposes require identified boundaries, a constitution and defined membership in addition to demonstrating the ability to manage finances.⁸² The Nature Conservation Ordinance No. 4 of 1975 and its Amendment in 1996 form the legal framework for this type of land tenure.

The occupancy in informal settlements is still in a period of major transition. As stated above, PTOs as issued during the previous administration are in the process of being phased out. However, these give the holder a right to apply for ownership or leasehold rights once these become available.⁸³ The new Flexible Land Tenure Act⁸⁴ is aimed to provide secure tenure to the large part of the population residing in informal settlements and envisages an alternative system to the formalisation of land rights in this context.

5.2 Policy, Legislative, and Institutional Framework Relating to Soil Protection: An Overview

With roughly 78% of the country being used for farming purposes and more than 1.2 million people living on such land,⁸⁵ the preservation of arable land in Namibia is imperative. Despite the fact that the whole agriculture and forestry sector, which includes hunting, and fishing, as well as cultivation of crops and livestock production, only made up 6.6% of GDP in 2019,⁸⁶ most of the land in Namibia is used for agricultural purposes⁸⁷ and in 2019, 21.9% of total employment in Namibia was in the agricultural sector.⁸⁸ Agriculture therefore plays a vital role for the livelihoods in the country. It must be kept in mind that, farming practices utilised on communal land, impact the quality of soil and other resources. Thus, in order to fully develop sustainable farming practices, communal farming methods must also be addressed sufficiently.

81 The land is allocated by the traditional authority for residential or agricultural use, as well as other uses as recognised by the Minister.

82 Ibid.

83 Ibid.

84 No. 4 of 2012.

85 Mendelsohn (2006:10).

86 As per World Bank Indicator data available at <https://databank.worldbank.org/source/world-development-indicators>, accessed 25 March 2021.

87 Mendelsohn (2006:10).

88 World Bank Indicator data available at <https://databank.worldbank.org/source/world-development-indicators>, accessed 25 March 2021.

Furthermore, appropriate support must be given to ‘emerging’ commercial farmers, who have received land in the frame of land redistribution in Namibia.

The name of the Ministry of Agriculture, Water and Forestry changed to the Ministry of Agriculture, Water and Land Reform in 2020. It is responsible for soil management and the promotion and development of sustainable soil management practices in the agriculture, water and forestry sectors through appropriate policy and legal instruments. The directorate for Agriculture Research and Development aims to facilitate the development and management of human resources at all levels and in all disciplines, and to undertake well-balanced crop, livestock and natural resource research within the communal and commercial sectors, with the goal of contributing to increased productivity and sustainable utilisation of natural resources under arid, semi-arid and sub-humid conditions, and thereby improving the living standards of the Namibian population.⁸⁹ Several national policies are also aimed at making sustainable farming the norm in Namibia.

The Third National Action Programme for Namibia (NAP3), is the framework intended to aid in implementing the UNCCD between 2014 and 2024. This programme focuses largely on the importance of sustainable land management in Namibia, in light of its arid climate. The programme also names several problematic practices which need to be addressed in the context of sustainable land management and farming in Namibia. These include overgrazing and overstocking of land, in addition to water and soil degradation. NAP3 further illustrates pragmatic steps which can be taken to address these issues, such as raising awareness and education,⁹⁰ ensuring reliable data is available which can lay the foundation for new policies and implementation of existing ones and providing for a functional monitoring system.⁹¹

The National Agricultural Policy of 1995 promotes the sustainable use of Namibia’s land and natural resources,⁹² in addition to demanding the strict implementation of instruments pertaining to soil erosion, which is widely applicable in the context of sustainable farming.

The National Drought Policy and Strategy of 1997 includes provisions aimed at reducing the long term vulnerability to drought, by means of improving soil fertility and moisture retention, which is only attainable by means of sustainable farming methods. In this light, the Regional Planning and Development Policy of 1997 promotes strategies such as controlled grazing cycles.⁹³ However, some measures envisaged in the Drought Policy, such as the subsidy on fodder, have contradicted this objective.⁹⁴

89 See <http://www.mawf.gov.na/directorate-research-and-development>, accessed 12 July 2020.

90 Seely / Montgomery (2009:98ff.).

91 GRN (2014d:15).

92 GRN (1995c:para. 21).

93 GRN (1995c).

94 The fodder subsidy has been criticised for leading to unsustainable farming practices, since its inception. See Vigne / Whiteside (1997:51).

The successful implementation of the Dry Land Crop Production Programme by the MAWF has aided in increasing food production and security in Namibia.⁹⁵ Ongoing research into crops which are adapted to Namibia's climate are clear indications of active steps taken to promote sustainable farming practices.⁹⁶

Various other national policies, strategies and action plans complement the most relevant pieces of legislation for the protection of soil in Namibia.⁹⁷ The environmental framework legislation of cross-sectoral nature such as the Environmental Management Act, No. 7 of 2007 is rather broad in scope, while sectoral legislation such as the Soil Conservation Act, No. 76 of 1969 and the Agricultural (Commercial) Land Reform Act, No. 6 of 1995 is more specific in nature. Apart from the aforementioned pieces of legislation, the Communal Land Reform Act, No. 5 of 2002, the Minerals (Prospecting and Mining) Act, No. 33 of 1992, the Forest Act, No. 12 of 2001, the Agricultural Pests Act, No. 3 of 1973, and the Plant Quarantine Act, No. 7 of 2008 will also be relevant to soil protection.

5.3 Land and Agricultural Policies

A number of policies impact on land and agriculture in general and they do have provisions dealing with environmental protection. These policies include the National Agricultural Policy, the National Drought Policy and Strategy, and the Namibia Forest Development Policy. To ensure environmental protection these policies promote Community-Based Natural Resources Management (CBNRM). This means that the role of the Government is limited to regulatory functions and the provision of technical support that will enable farmers to improve their capacity to manage resources more effectively. The Government provides the necessary fiscal and administrative support under these policies, while the farmers do the groundwork of managing their land and agricultural resources. However, issues such as bush encroachment require collaborative effort.

95 MAWF (2014a:18).

96 Ibid:41.

97 These include inter alia the Third National Action Programme for Namibia to Implement the United Nations Convention to Combat Desertification 2014-2024 (NAP3); the National Biodiversity Strategy and Action Plan (NBSAP) 2013-2022; the National Climate Change Strategy and Action Plan (2013-2020); the Forestry Strategic Plan 1996; the National Drought Policy and Strategy 1997; and the Strategic Action Plan for the Implementation of Renewable Energy Policy 2006.

5.3.1 Land-use Planning: Towards Sustainable Development

This policy document drafted by the Ministry of Environment and Tourism in 1994 defines five physiographic land forms: Communal state land; privately-owned commercial farmland; proclaimed state land; urban areas; and wetland systems, including their catchment areas. The policy emphasises sustainability of natural resources, biodiversity and essential ecological processes.

5.3.2 The National Land Policy

The National Land Policy drafted in 1998 is based on constitutional principles and on the national commitment to redress the social and economic injustices inherited from Namibia's colonial past. The policy calls for the establishment and proclamation of urban areas as townships and municipalities and strives to promote decentralisation and community involvement. This policy proposes financial and tax incentives for the protection and rehabilitation of natural environments (e.g. planting of indigenous trees and using alternative energy to reduce rates of deforestation and pollution). It states that, in accordance with Article 95(1) of the Constitution, the policy will promote environmentally sustainable land use, and goes further to state that failure to demonstrate environmental sustainability may be grounds for the denying or termination of a title.

One of the aims of this policy is to establish a Land Use and Environmental Board (LUEB) to promote environmental protection and contribute towards coordinated planning and management at national and regional levels. This LUEB shall ensure that environmental protection is promoted in order to guarantee environmental, social and economic sustainability.

5.3.3 The National Resettlement Policy

This policy provides for resettlement, which is institutionally, socially, economically and environmentally sustainable and will enable the beneficiaries to become self-supporting, in accordance with the basic objectives of Government.

5.3.4 The National Land Tenure Policy

The policy covers all land tenure systems in urban, communal, commercial (freehold) and resettlement areas and is intended to guide all land tenure rights in Namibia. The policy promotes sustainable utilisation of the nation's land and other resources, provides a way to regulate different land tenure right systems, provides secure tenure for

informal urban settlers, farm workers and occupiers (those who have been employed less than ten years on a single farm and do not have secure tenure elsewhere), and provides guidelines on compensation for occupiers of expropriated land. In keeping with the National Agricultural Policy (1995), the policy recognises the environmental limitations of a country as dry as Namibia.

5.3.5 The National Agriculture Policy

In 1995, Namibia's first National Agricultural Policy, which guided the development of the Namibian agricultural sector. It provided an enabling environment for increased food production by smallholder producers, as a means of improving employment opportunities, incomes, household food security and the nutritional status of all Namibians. The National Agricultural Policy aimed at avoiding long-term or continuing subsidies. However, the policy still allowed for the possibility that well-targeted subsidies can play an important part in achieving short-term agricultural and socio-economic objectives.⁹⁸ The 1995 National Agricultural Policy regards land degradation as a serious problem and recognises that water resources in Namibia are limited and that growth within the agricultural sector should not be at the expense of the natural environment. Furthermore, it encourages the use of Environmental Impact Assessments for agricultural projects and proposes a review of legislation related to the use of agrochemicals. The aims of the National Agricultural Policy are largely economic and focus on increasing agricultural productivity and real farm income as a contribution to national and household food security. It recognises the limitations imposed by the Namibian climate and soils and seeks to promote sustainable utilisation of the land and other natural resources within the context of a vulnerable ecosystem. Potential problems such as deforestation, soil erosion, bush encroachment and over-grazing are addressed.

Following a review of the 1995 Policy and a broad consultative process that took due account of the environmental and socio-economic changes that have taken place since 1995, the 2015 National Agriculture Policy was launched aiming at is aimed at contributing to increased agricultural production, agro-processing and marketing as well as to serve as an overarching policy in the agricultural sector.

The 2015 Agriculture Policy focuses on the policy and strategies for the agriculture sector with a focus on the agricultural value chain and its support systems. Main themes include production, agro-industry development, marketing and trade, research and development, international cooperation, training and capacity building, management information systems, agro-financing, co-operative development and extension services. Furthermore, the Policy outlines the role of stakeholders, policy

98 Groenewaldt (2008).

implementation and revision as well as monitoring and evaluation mechanisms. Within the set of strategies, the Policy states that Government aims to enforce soil conservation through implementation of the soil conservation legislation in order to implement the stated policies on crop production.⁹⁹

5.3.6 The Green Scheme Policy

The Green Scheme Policy of 2003 (GSP)¹⁰⁰ makes provision for several irrigation projects to be commenced in Namibia:¹⁰¹

The Green Scheme is an initiative conducted by the Ministry of Agriculture, Water and Rural Development to encourage the development of irrigation based agronomic production in Namibia with the aim of increasing the contribution of agriculture to the country's Gross Domestic Product and to simultaneously achieve the social development and upliftment of communities located within suitable irrigation areas, but to also promote the human resource and skills development within the irrigation sub-sector to possibly enhance cross-border investment and facilitate the exchange of relevant and limited resources with neighbouring countries in this regard.

The policy emphasises environmental impacts assessment requirements and water pricing methods. However, the implementation has been haphazard and marked by several obstacles. These are most markedly the potential loss of biodiversity if the project is expanded as planned. The GSP has further been criticised for over-emphasising the potential behind irrigation schemes to become the driving force behind agricultural production, in spite of the fact that Namibia is one of the driest countries south of the Sahara.¹⁰²

5.3.7 The National Drought Policy and Strategy

The National Drought Policy and Strategy of 1997 shifts the onus of drought management from Government aided relief to appropriate farming techniques aimed at empowering farmers to better cope with droughts themselves. Although incentives such as the Forum for Integrated Resource Management (FIRM) promotes this actively in communal areas that participate in the National Programme to Combat Desertification (NAPCOD)¹⁰³ recent responses to crop failures in the north and north east have again reverted to relief programmes. Drought preparedness is one of the important aspects

99 GRN (2015d:9).

100 Text available at <http://www.iwrm-namibia.info.na/downloads/green-scheme-policy---final1.pdf>, accessed 16 November 2015.

101 Green Scheme Policy para. 1.1.5.

102 See GRN (2005b:12).

103 Bethune (2003).

of sustainable resource use and strongly advocated in activities of conservancies elsewhere in the country.

5.3.8 The Regional Planning and Development Policy

This policy drafted in 1997 under the supervision of the National Planning Commission acknowledges trends of increasing degradation of pastures, rangelands and woodland and gives attention to soil, water and forest management as development tools. It promotes strategies such as soil conservation and controlled grazing cycles.

5.4 Land and Agriculture Related Legislation

5.4.1 The Environmental Management Act No. 7 of 2007

Although the Environmental Management Act (EMA) does not include any provisions relating specifically to soil protection and management, the definition of environment in Section 1 does include references to “land” and “all organic and inorganic materials”. Furthermore, in Part VII relating to Environmental Assessment, the listed activities which require an environmental clearance certificate to be issued before such activities can be undertaken, include land use and transformation; resource renewal; agricultural processes; waste and sewage disposal as well as any other which the Minister considers necessary for the purposes of listing. These activities can generally relate to soil management and protection and requiring environmental clearance certificates provides a valuable protection mechanism in this context.

Section 48 in Part IX further allows for the Minister to introduce legislation or make such regulations which give effect to international agreements to which Namibia is a party to. The provision goes on to list areas which can be covered by such legislation and regulations. To date, no regulations relating specifically to soil and related activities, or agreements have been promulgated.

5.4.2 The Communal Land Reform Act No. 5 of 2002

The Communal Land Reform Act provides for the allocation and administration of all communal land in the areas described in the first schedule to this Act or in any area declared to be communal land under Section 16(1)(a). The Minister is obliged to establish Communal Land Boards to perform the functions conferred on such a board by the Act within the area for which each board is established. The boards are to exercise control over the allocation and the cancellation of customary land rights by chiefs or

traditional authorities. They have to consider and decide on applications for the right of leasehold, establish and maintain a register and a system of registration of customary land rights and leasehold rights, and give advice to the Minister.

The Act makes provision for the prevention of land degradation and for mitigating the impacts of mining, prospecting, road works and water provision. It provides for certain rights to communal farmers and traditional authorities and representation on Communal Land Boards. Of note is the provision of Communal Land Boards, with representation of officials from the Ministry of Environment and Tourism and the Ministry of Agriculture, Water and Forestry as well as representatives from any of the conservancies.

The President of Namibia may declare non-alienated state land to be a communal area. Communal areas are vested in the state, in trust, for the benefit of the traditional communities residing in those areas and for the purpose of promoting the economic and social development of the people of Namibia, especially the landless and those with insufficient access to land. Customary land rights are to be allocated upon application for a limited period. Only specific customary land rights may be allocated in respect of communal land, and size limits are imposed.

The Act also provides for the recognition of existing customary land rights, and the granting of a right of leasehold for agricultural purposes or a right of grazing on communal land. The Act makes provision for the prevention of land degradation and, therefore, indirectly contributes to the preservation of biological diversity. Fundamental environmental provisions of the Act refer to the allocation of customary land rights. If a land right is being used predominantly for a purpose not recognised under customary law, customary land rights may be cancelled according to Section 27 of the Act. Furthermore, special provisions are made with regard to grazing rights. A chief or traditional authority is vested with the power to prescribe conditions relating to the kind and number of stock that may be grazed on communal land, as well as to the section or sections of the commonage where stock may be grazed, and the grazing in rotation on different sections. This provision, in particular, ensures the sustainable use of grasses and herbs.

Section 45 of the Act addresses issues pertinent to the conservation and sustainable management of certain natural resources. The Minister may make regulations in relation to watercourses, woods and the use of water (Section 45(g)) and to the combating and prevention of soil erosion, the protection of the pastoral resources and the limitation and control of the grazing of stock.

5.4.3 The Soil Conservation Act No. 76 of 1969

The Communal Land Reform Act 5 of 2002 specifically refers to the Soil Conservation Act (Soil Act), and as such makes it clear, that this Act remains applicable in Namibia.

The Soil Act gives wide ranging powers to the Minister. These include powers to issue directives relating to the cultivation of land,¹⁰⁴ the management of water and drainage,¹⁰⁵ in addition to the protection and stabilisation of soil surfaces.¹⁰⁶

The Act makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources. Although the jurisdiction of the original Act was limited to commercial land, the recent Communal Land Reform Act of 2002 specifically mentions it and requires compliance in terms of conservation and prevention of soil erosion (Clause 31), implying that these measures apply to communal land areas too.

The Act provides for the construction and maintenance of soil conservation works, at the discretion of the Minister.¹⁰⁷ The costs of such construction may be attributed to the state or to owners of such land.¹⁰⁸ Furthermore, the Act empowers the Minister to carry out soil conservation for the purposes of research or demonstrations,¹⁰⁹ subject to the land owner's consent. The Soil Conservation Committees as provided for in Part III of the Act are generally appointed for certain areas, and act in an advisory capacity to the Minister.¹¹⁰ Even though this discretion exists, the Ministry does not seem to currently have such a committee in session. A wide power to expropriate land is given to the Minister in terms of Section 18. It is stated, that expropriation may be required for the prevention of soil erosion and stabilisation of land, as well as prevention of drift-sand and protection of catchment areas.¹¹¹ One of the enforcement mechanisms for compliance is set out in Section 21, which provides for penalties in the instance of non-compliance. This conduct is further criminalised as an offence which can be punishable by a fine or imprisonment.¹¹² One of the biggest obstacles which hinder effective soil conservation in Namibia is the fragmentation of responsibilities relating to soil. As yet, there is no cohesive policy to coordinate the effectiveness of existing laws and regulations with regard to soil protection in Namibia.

5.4.4 The Agricultural (Commercial) Land Reform Act No. 6 of 1995

Approximately 36.2 million hectares, representing 44 percent of the total land area or 52 percent of agriculturally utilisable land, continue to be held under freehold title. This land is commonly referred to as the commercial farming sector and it is regulated

104 Section 3(1)(a).

105 Section 3(1)(c), (d), (f).

106 Section 3(1)(e), (g) and (h).

107 Part II of the Act.

108 Section 7(2).

109 Section 8.

110 Section 9 (1) and Section 10.

111 Section 18(1).

112 Section 21(1).

mainly by the Agricultural (Commercial) Land Reform Act of 1995. This Act, as its Preamble states, was passed to provide for the acquisition of agricultural land by the state for the purposes of land reform and for the allocation of such land to Namibian citizens who do not own or otherwise have the use of any or of adequate agricultural land, and foremost to those Namibian citizens who have been socially, economically or educationally disadvantaged by past discriminatory laws or practices. The Act vests in the state a preferential right to purchase agricultural land and it empowers the state to compulsorily acquire certain agricultural land for the purposes of land reform. It also regulates the acquisition of agricultural land by foreign nationals and establishes a Lands Tribunal to adjudicate disputes that may arise in land matters.

5.4.5 A Land Act?

In 2007, a process of reviewing and amending the Agricultural (Commercial) Land Reform Act,¹¹³ and the Communal Land Reform Act,¹¹⁴ into one Land Act was started. This process had been finalised in cooperation with relevant stakeholders,¹¹⁵ and in 2016, the Minister of Land Reform tabled the Land Bill for discussion in the National Assembly (Republic of Namibia, 2016). The aim of the Bill is, *inter alia*, to consolidate and amend the Agricultural (Commercial) Land Reform Act, No. 6 of 1995 and the Communal Land Reform Act, Act 5 of 2002. As such, the Bill introduces a number of positive changes to existing laws. Despite the fact, that the process of developing new land legislation and policy has been controversial, one of the laudable objectives of the Land Bill is to establish a unitary land system, where Namibians have equal rights, opportunities and security with regard to land, irrespective of where the land is situated. One major challenge of this objective is, however, to harmonise statutory and customary land rights.¹¹⁶

5.4.6 The Plant Quarantine Act No. 7 of 2008

The Plant Quarantine Act No. 7 of 2008, which came into force in 2012, replaced the Agricultural Pests Act No. 3 of 1973 which was aimed at preventing the introduction

113 No. 6 of 1995.

114 No. 5 of 2002.

115 GRN (2012b:7).

116 Fn. The 2016 Land Bill: Making law without consultation and policy review (2017) Briefing paper is jointly published by the Institute for Public Policy Research (IPPR) and the Department of Land and Property Sciences at the Namibia University of Science and Technology (NUST), and available at https://ippr.org.na/wp-content/uploads/2017/02/Briefing_Land2017.pdf, accessed 3 February 2021.

and spreading of plants, insects, non-farming exotic vertebrates and diseases that may have proved detrimental to the agricultural sector. The Act provides for the preventing, monitoring, controlling and eradication of plant pests and defines soil as¹¹⁷

material wholly or partly derived from the upper layer of the earth's crust which is capable of sustaining plant life and which contains solid organic substances such as parts of plants, humus, peat, or bark, but excluding any medium which is sterile, composed entirely of unused peat, or is otherwise incapable of harbouring or transmitting plant pests.

As a general rule, soil may not be imported into the country.

6 Concluding Remarks

In terms of this chapter, it can be concluded that soil management should be an integral part of land management instruments or within soil-specific legislation. In Namibia soil management can be found in sectoral legislation on agriculture, land, environment or even water. While some legislative approaches distinguish between different soil types and characteristics in order to determine the specific interventions warranted to achieve the appropriate quality for the land use selected, others focus on issues such as soil quality, contamination and pollution, soil conservation and soil rehabilitation.¹¹⁸ Fact is that the maintenance and protection of soil is vital in order to allow a continued reliance upon it. Soil maintenance and protection needs to be governed by legislation and policy, along with prescribed and practised enforcement measures. Incentives and deterrents for sustainable land use ensure that private land use is in line with social and other policy objectives and promote certain practices, fertilizers, subsidies, etc. No doubt, sustainable agriculture, rural development and the upliftment of poor and marginalised communities require a cross-sectoral involvement of environment, climate change, land rights, gender equality, traditional and indigenous affairs, health, economy and trade, among others.

Progression in terms of land tenure rights is also necessary to enable soil protection to obviate the effect that land tenure can have on soil. Human influence on the land and natural resources, such as soil, is accelerating as a result of the growth in population on the African continent and the associated increase of food requirements.¹¹⁹ While scarce, land is more than a source of food security, income and shelter. Especially in Africa, it is also related to cultural identity and is thus often a source of tribal tension or political competition.¹²⁰ Therefore, reliable land tenure arrangements will serve to reduce poverty, support sustainable livelihoods, enable social stability and

117 Section 1 of the Plant Quarantine Act.

118 FAO / UNEP (2020:132).

119 Kanianska (2016:4).

120 FAO / UNEP (2020: 93).

housing, and foster environmental protection. Moreover, food security and food availability are highly dependent on secure access to and the productivity of land.¹²¹

Land-use change is displayed in the change of land-cover, and this change is a key component of global environmental change that is affecting the climate, biodiversity and ecosystems, which in turn has an impact on land-use decisions.¹²² Increased compacted areas associated with urban development, for example, increase runoff during rainfall, which accelerates erosion and runoff downstream of the urban catchment. The way land is used plays a considerable role in the quality of soil. Land tenure thus also significantly affects soil conservation. In many countries in Africa, there is still a need for the formalisation of land tenure in respect of both individual and communal land rights and for an integration of different land tenure systems, to achieve a unitary approach that can ensure that all land is administered and regulated. This will ensure land protection and, in particular, soil protection.¹²³ In order to achieve this, a legal framework is necessary for any registration programme to function and bring about the desired outcomes, such as the administration of land usage and protection of natural resources.¹²⁴

For most of human history, the natural world has been protected from the most disruptive human influences by relatively humble technology, cultural factors (...) [and] land ownership by the ancestors.¹²⁵

And while customary law, under colonised structures, was seen as inferior to colonial law, the so-called ‘repugnancy clause’ is no longer valid. Under this clause, customary law was only recognised under the condition that it was “not repugnant to the general principles of humanity recognised throughout the whole civilised world”.¹²⁶ It was therefore in Namibia and many other African countries after Independence that¹²⁷

[a]fter generations of missionaries, anthropologists and lawyers, whose first interest was to force African customary law into the procrustean bed of either the bible, civilisation or a western paradigm of rule of law, African customary law begins to breathe again: to breathe the air of Africa.

Legal systems in Africa¹²⁸ are made up of a melting pot of cultures, religions and community practices that have culminated in the complexity and all-encompassing nature of the systems.¹²⁹ This plurality including customary law and indigenous knowledge in soil-related policies¹³⁰

121 Sandrey (2019/20:134).

122 Kanińska (2016:6).

123 Tlale (2018:267).

124 Ibid:266.

125 Hinz / Ruppel (2008:5).

126 Zenker (2020).

127 Menski (2011:143).

128 Ruppel / Ruppel-Schlichting (2011).

129 Du Plessis (2019:15).

130 Ruppel / Ifejika Speranza (2011:200).

is likely to contribute to the development of more effective adaptation strategies that are cost-effective, participatory and sustainable. After all, indigenous people have always been tasked to develop flexible mechanisms to cope with climatic conditions and their vulnerability.

And although there are still many improvements that can be made to enhance the protection of soil, education in soil law is also important in order to stress the importance of soil protection measures. The training of lawyers and law students in the subject of soil protection and law can promote the need for any legal system that has secure and effective soil protection measures. This training would see an increase in legal personnel who have the relevant expertise and knowledge to ensure that soil protection law is complied with and improved upon, as well as enforced and monitored. Moreover, when considering improvements that need to be made to soil legislation, it can also be said that the legislation relating to foreign investors should not be neglected:¹³¹

Investment for sustainable development in Africa requires political commitment to overcome substantial barriers at various levels. To enable new markets for sustainable development requires adequate regulatory frameworks (international, regional and national) in order to give investors, the necessary confidence. The national state has to balance the interest of attracting (and securing) international investment while promoting peace and security for its population. The most appropriate approach for achieving both of the aforementioned is adherence to and promotion of the rule of law while creating incentive structures for investors to act sustainably and to respect national social development goals, empowerment policies, labour standards and human rights.

The aforementioned is particularly true in the context of ‘land-grabbing’, where there is a need for legislation that clearly sets out how the foreign investor needs to comply with national interests, as well as a need for legislation that prescribes how foreign investors can acquire, possess, own and utilise land. Such legislation should also highlight and clarify social and environmental responsibilities of the foreign investor, along with the consequences should they fail to comply with these responsibilities. Lastly, both at national and at international law level, improving soil governance includes options for enhancing coordination and coherence. A clearer division of labour between sectors and institutions addressing soil holds significant potential for improving soil governance. After all, it becomes increasingly clear that the element, soil, is both international and domestic in nature and should therefore be pursued in a complementary¹³² manner in order to be able to counter soil degradation more effectively.

Soil protection has so far too often been neglected in international agreements. Despite this oversight, the climate goals cannot be reached without soil protection and conservation. The same applies when it comes to ensuring the right to food. In fact, soil protection should perhaps be viewed in light of the public trust doctrine, which has its origins in the Roman law property concept of *res communis*.¹³³ These are things which, by their nature, are part of the commons that all humankind has a right or at least a common interest in the protection thereof.

131 Ruppel / Borgmeyer (2018); Ruppel / Shifotoka (2017:56).

132 Bodle *et al.* (2020:11–21, 126).

133 Preston (2018).

Chapter 16: Land-Use Planning and the Environment

Felicity F. Owoses

1 Introduction

Finally in 2021, the Namibian courts have endorsed the importance of environmental considerations when activities such as mining are undertaken. The court echoed that the Namibian Constitution calls for a generous regime of access to courts.¹

Land is not static and is influenced by dynamic processes and developments.² This calls for a planning approach that is both inclusive and responsive to prevailing and future socio-economic and environmental challenges. In the same vein, it calls for a planning approach that is geared toward sustainable development.

The manner in which land is used has an effect on the environment. Unsustainable land management practices have been identified as one of the threats to the environment in Namibia.³ Sustainable land management is at the forefront of both academic debates, and institutional concerns as many jurisdictions are rethinking and reshaping their existing planning models in an effort to align them to sustainable development.

Globally, Integrated Land-Use Planning (ILUP) assumes a pivotal role as a planning approach to promote sustainable land management, environmental management, and sustainable development.⁴ ILUP assists countries to achieve their national development goals (NDG's). In the same vein, ILUP should domestically assume an important role in the formulation and implementation of policies and laws and decision-making relating to land use.

It has been more than 30 years since Namibia attained Independence and sovereignty to decide on the course of its environment. The question is how Namibia has fared in meeting its vision 2030 objectives, its NDG's, and related action plans using its existing planning model. Second, whether Namibia's existing policy, legislative and institutional frameworks on land use are functioning and whether these frameworks are geared toward sustainable development. It is from this premise, that this chapter revisits the existing land-use planning system in Namibia. The chapter discusses the concept of land-use planning from a developmental perspective. It further outlines the current land-use planning policy, and legislative and institutional frameworks in Namibia.

1 *Confederation of Namibian Fishing Associations & Others v Environmental Commissioner Teofilus Nghitila & Others* (2021) NAHCMD 308 para. 92.

2 Haub (2009:9).

3 GRN (2010a).

4 Kidd (2011:18).

2 The Concept of Land-Use Planning

Land-use planning is concerned with principles of planning as well as with principles of law.⁵ This interrelationship between land-use planning and the law commands an integrated approach to land-use planning. This interrelationship is demonstrated throughout this chapter.

Sustainable development is the focus of the current approaches to land-use planning and land management. The Food and Agriculture Organization (FAO) refers to the following definition of land:⁶

Land is a delineable area of the earth's terrestrial surface, encompassing all attributes of the biosphere immediately above or below this surface including those of the near-surface, climate, the soil and terrain forms, the surface hydrology (including shallow lakes, rivers, marshes, and swamps), the near surface sedimentary layers and associated groundwater reserve, the plant and animal populations, the human settlement pattern and physical results of past and present human activity (terracing, water storage or drainage structures, roads, buildings, etc.).

In terms of the above definition of land, land does not merely relate to the biophysical cover of land but is an interrelationship between the land, plant, animal, and human life on it. On the other hand, land use refers to the function of land or what the land is used for. These uses include residential, business, institutional, industrial, agricultural, tourism, forestry, parks, conservancies, wildlife, mining, farming, transport and so on. Land uses may vary depending on the area to which it relates, as such land uses in urban areas and rural areas may differ. Land-use patterns are often influenced not only by biophysical factors but also by cultural, institutional, and political aspects, as well as demographics and economic dynamics.⁷ Often some of the functions of land must be provided for by the same piece of land, and certain functions of land require or depend on other functions, as illustrated below.

Forest land use might have several economic, environmental and societal functions such as the provision of wood for forestry and/or for renewable energy, have a recreational function, be part of a cultural landscape, regulate the supply of air, water and minerals, support biodiversity in the form of landscape cohesion and maintain ecosystem processes.⁸ These dynamics in land uses can lead to land-use conflicts, amongst others, and – if land uses are not managed – to environmental degradation and even hamper development. The phrase 'planning' has been known by related terms such as urban planning, physical planning, town planning, land-use planning, regional planning, or simply planning;⁹ however, the widely accepted generic term in the planning fraternity is that of land-use planning.

5 Meyer (1987:4); Van Wyk (2012:12).

6 FAO (1995).

7 Batista e Silva (2011:69).

8 Ibid:80.

9 Achaembong (2018:12-13).

In terms of the FAO guidelines,¹⁰ land-use planning is the systematic assessment of land and water potential and alternatives for land use and economic and social conditions to select and adopt the best land-use options. A developmental perspective on land-use planning views it as a cross-sectoral and integrative decision-making process that facilitates the allocation of land uses that give the greatest sustainable benefit.¹¹ In this context, the phrases land-use planning and integrated land-use planning are used interchangeably. According to the FAO, ILUP “assesses and assigns the use of resources, taking into account different uses, and demands from different users, including all agricultural sectors – pastoral, crop and forests – as well as industry and other interested parties.”¹² ILUP is thus a planning approach that involves the allocation of land for different uses across a landscape in a manner that balances economic, social, and environmental values at the national or sub-national level.¹³

Land-use planning and land management are often seen as two separate concepts, but land management is an integral part of land-use planning. Land management, more particularly sustainable land management was defined by the UN 1992 Rio Earth Summit as

the use of land resources, including soils, water, animals and plants, for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions.¹⁴

Some of the benefits of land-use planning as a tool of ILUP are the following:

- It can be used to minimise land degradation, rehabilitate degraded areas, and ensure optimal use of land resources for present and future generations;¹⁵
- it can be used to improve the well-being of the people. In this sense, sustainable land management can be used as a tool for poverty eradication, amongst others;¹⁶
- legally binding land-use plans prepared in a participatory manner can prevent land grabbing in cases where such plans address land tenure issues;¹⁷ and
- land-use planning can also be used as a forum for solving land-use conflicts.¹⁸

At the other end, spatial planning seems to distinguish itself from LUP as an approach most responsive to deal with prevailing spatial challenges.¹⁹ Spatial planning is

10 FAO (1993).

11 Haub (2009); GIZ (2011); Becker (2013:11).

12 FAO (2020c:2).

13 Ibid:1.

14 UNCCD (2013).

15 FAO (1993).

16 GIZ (2011).

17 Ibid.

18 Ibid.

19 Some scholars argue that there is no distinction between LUP and spatial planning as both are characterised by the element of integration and public participation in the planning process. Ibid:13-15.

defined as “a set of governance practices for developing and implementing strategies, plans, policies and projects, and for regulating the location, timing and form of development”.²⁰

Proponents of spatial planning outline its benefits as follows:

- It is an approach intended to engage with the distributional implications of allocating land for various activities and how these might be delivered with other public policy outcomes;
- it embraces social, economic, and environmental issues across national, regional and local levels and between different sectors of public policy; and
- it embraces not only a regulatory character but a promotional one that supports businesses and developers to deliver economic development as well as the livelihoods of individuals and households by removing unnecessary regulations, prohibitions, and costs.²¹

3 Environmental Aspects of Land-Use Planning

Land-use planning, development and the environment are interrelated.²² Land itself is a component of the environment, thus the manner in which land is used impacts the other interrelated aspects of the environment such the people, the animal and plant life.

The Supreme Court of Namibia judgement of *Black Range Mining (Pty) Ltd v Minister of Mines and Energy* stated that “[m]ining is a business that par excellence requires regulation by government to protect a range of interests, including the environment and the public interest”.²³ In 2021, the High Court of Namibia echoed the importance of environmental consideration with reference to phosphate mining, in the judgement of *Confederation of Namibian Fishing Associations & Others v Environmental Commissioner Teofilus Nghitila & Others* as follows:²⁴

[T]he issue of delay should - in this case - also be viewed against the relevant environmental and constitutional concerns - and that the court - in its discretion - and in the consideration of what would be in the interests of justice - and with reference to what was at play, namely important environmental issues, which should enjoy constitutional protection - should invoke a more generous approach, as the matter : ‘ (...) shouts out for a decision on the merits, as opposed to form or procedure - which is really what the defence of delay is all about’ and where ‘ (...) it would be a sad day for justice if, 100 years hence, the fish is all depleted (...)’.

20 Achaembong (2018:14-15).

21 Ibid.

22 Principle 25 of Rio Declaration on Environment and Development. Van Wyk (2012:410). Kidd (2011:209).

23 *Black Range Mining (Pty) Ltd v Minister of Mines and Energy N.O and Others* (2014) NASC 4 para. 49.

24 *Confederation of Namibian Fishing Associations & Others v Environmental Commissioner Teofilus Nghitila & Others* (2021) NAHCMD 308 para. 149.

Environmental considerations in land-use planning have taken the forefront, both internationally and domestically. On the international level, the principles of sustainable land management and environmental impact assessment²⁵ were developed as tools for environmental management. Both these principles require that environmental considerations must guide decisions affecting land use. Domestically, environmental considerations in land-use planning and land development are addressed by various policies, plans and legislation.

Under common law, environmental considerations were not addressed in decisions concerning land-use planning.²⁶ With the adoption of the Constitution in 1990 and the enactment of subsequent legislation dealing with or impacting land use, environmental considerations were built into legislative frameworks. Some of the post-independent legislation affecting land use and which have incorporated environmental considerations in land-use planning are: the Urban and Regional Planning Act No. 5 of 2018 (URPA), the Minerals (Prospecting and Mining) Act No. 33 of 1992, the Petroleum Products and Energy Act No. 13 of 1990, the Aquaculture Act No. 18 of 2002, the Water Resources Management Act No. 11 of 2013,²⁷ the Biosafety Act No. 7 of 2006, the Atomic Energy and Radiation Protection Act No. 5 of 2005, and the Forest Act No. 12 of 2001. In 2007, the Environmental Management Act No. 7 of 2007 (EMA) was enacted as the national legislation which mandates those undertaking listed activities such as mining to undertake environment impact assessment. Since not all activities are listed in terms of the Act, sector or industry-specific legislation requiring environmental consideration remains necessary.

4 Planning Levels

Land-use planning takes place at different levels of Government, namely the national, regional and local level. Within these levels of Government, various functionaries have different but interrelated and often overlapping powers and functions in respect of land-use planning. These powers and functions are in most cases dictated by the policy, legislative and institutional frameworks of the jurisdiction concerned.

5 Land-Use Plans

Land-use planning takes place through policy plans and in terms of legislation. On the policy level, land-use plans are usually presented in the form of a document or report

25 Principle 17 of the Rio Declaration.

26 Kidd (2011:209).

27 Not yet in operation.

which sets out the planning area, the responsible authority, the available resources, the maps and statistics relating to the planning area, the specific land uses and alternative uses.²⁸ These plans take the form of land development objectives, integrated development plans and spatial development frameworks,²⁹ amongst others. On the legislative level, land-use planning takes place through statutory instruments.³⁰ Legislation often prescribes the nature and content of the plan as well as the procedure for preparation and adoption and amendment of the plan concerned. Land-use plans commonly prescribed by way of legislation include forest plans, structure plans and zoning schemes amongst others.

6 The Land-Use Planning as a Process

The land-use planning process can be triggered by several factors such as conflicts in land uses, urban development, rural development, environmental damage or natural resource degradation.³¹ Land-use planning does not necessarily take place in terms of predefined stages or steps but is an iterative and cyclical process in terms of which the different stages are revisited to adapt the plan concerned to changing circumstances.³² The five common stages³³ in the land-use planning process are: the organisational stage, the analytical stage; the planning stage; the decision-making stage; and the implementation stage.³⁴

- During the organisational stage, the institution or body that will organise, steer, and guide the entire planning process is identified.³⁵ At this stage, the planning area, as well as the responsible authority, is identified. Furthermore, stakeholders and interested parties to be consulted are identified, notified and consulted.³⁶
- During the analytical stage, information data and information in the form of maps, statistics and maps are identified, collected, and analysed.³⁷ This information relates to present land uses of the area, topographic references and administrative boundaries of the area, as well as the population and legislation that will affect a particular land use.³⁸

28 FAO (1993); Haub (2009).

29 Van Wyk (2012:246).

30 Ibid.

31 GIZ (2011); Haub (2009).

32 GIZ (2011).

33 There can be fewer or more stages. See FAO (1993).

34 GIZ (2011); Haub (2009); FAO (1993).

35 Haub (2009).

36 Ibid.

37 Ibid.

38 Ibid.

- During the planning stage, a range of reasonable combinations of land uses are identified as well as alternatives for future-oriented changes and the best option is chosen.³⁹ Stakeholders and interested and affected parties are consulted regarding proposed changes, and scoping is carried out to avoid a negative impact on the environment. The purpose of the planning stage is to make sure that the proposed changes are in line with existing policies and laws.⁴⁰
- During the decision-making stage, decisions are taken as to the selected land uses for designated areas as well as the legislation to be complied with to give effect to the land-use plans. At this stage, the land-use plan is prepared and presented to the relevant body for approval in order to be binding.⁴¹

The implementation stage refers to the realisation of the land-use plan. During this stage, the plan is implemented according to agreed timelines and responsibilities as well as available resources.⁴² In order to be effectively implemented, a land-use plan needs to have a binding effect.⁴³

7 Approaches to Land-Use Planning

The top-down approach to land-use planning has been criticised as being often non-participatory and unresponsive to changes.⁴⁴ The top-down approach to land-use planning refers to centralised planning, carried out largely by technical teams on the national level. The plans are then passed on to local levels for implementation.⁴⁵ The bottom-up approach is where land-use plans are based on local decision levels and integrating them in the next higher planning levels.⁴⁶

The FAO⁴⁷ proposes an integrative approach to land-use planning which is constitutive of participatory and comprehensive cooperation between all institutions and groups at national, provincial/regional, and local levels. The FAO also acknowledges that a successful land-use planning system is dependent on the willingness and cooperation of the actors involved to continuously discuss and find solutions to conflicting demands on land uses.⁴⁸

39 Ibid.

40 Ibid.

41 Ibid.

42 Ibid.

43 Ibid.

44 Ibid.

45 Ibid.

46 Ibid.

47 FAO (1995).

48 Ibid.

8 Current Land-Use Policy and Legislative Framework

8.1 Land-Use Planning Approach

Namibia is following an approach of integrated land management and integrated ecosystem management.⁴⁹ The country is praised for having pursued one of the most progressive wildlife and natural resources management approaches worldwide.⁵⁰ Most notable efforts towards sustainable land management are the conservancy programme by the Ministry of Environment, Forestry and Tourism, the community forest management by the Ministry of Agriculture, Water and Land Reform.⁵¹ The National Planning Commission reports that “[s]ince Independence, Namibia has been committed to developing effective and sustainable uses of land and natural resources which are sustainable and do not threaten future productivity.”⁵² Despite these efforts, the following spatial challenges continue to create turbulences in the socio-economic and environmental landscape of Namibia:

- Unsustainable land management practices;⁵³
- conflicting land-use allocations and uncontrolled land-use patterns;⁵⁴
- the absence of a structured overall planning system in Namibia, conflicting and unclear policies, legislation and responsibilities;⁵⁵
- Namibia is considered to be one of the most unequal societies;⁵⁶
- unemployment;⁵⁷
- lack of serviced land for housing and rising housing prices;⁵⁸
- rise of informal settlements and associated sanitation issues;⁵⁹
- urbanisation;⁶⁰ and
- climate change threats such as droughts and floods.⁶¹

Thus, the planning approach of Government should be one that is both participatory and responsive and aimed at addressing these spatial challenges.

49 Zeidler (2008).

50 Ibid.

51 Haub (2009). Note that some ministries have been merged in 2020. See Proclamation No. 10 as published in Government Gazette No. 7167 of 31 April 2020.

52 NPC (2020:38).

53 GRN (2010a).

54 GIZ (2011).

55 Haub (2009); GIZ (2011); Jones (2009).

56 NPC (2018:3); NPC (2019); NPC (2020:96).

57 Ibid.

58 GRN (2018c). NPC (2020:79).

59 NPC (2020:77).

60 Ottolenghi / Watson (2009). NPC (2020:78).

61 Shikangalah (2020:38-40).

9 Legislative and Policy Framework on Land-Use Planning

Over the past five years, Namibia undertook considerable reform of its legislative and policy frameworks relating to land use. On the policy level, the November 2020 progress report on the implementation of the 176 resolutions of the 2nd Land Conference indicates that nine resolutions are finalised and 142 ongoing.⁶² On the resolution, to mitigate the impact of climate change on productivity, it is reported that the Land Use Plan for Bwabwata National Park developed in 2019 was approved by Cabinet on 13 November 2020.⁶³ The Government committed itself to economic progression and environmental sustainability in terms of NDP5 (2017/18 - 2021/22). The recently launched Harambee Prosperity Plan II (HPP II) of 2021-2025⁶⁴ echoes that Namibia's economic, social and environmental future depends on the Government's ability to place people at the centre of decision making and development. Under the goal, Delivery of Urban Land, Housing & Sanitation, Government aims to conduct a review of the National Housing Policy and develop an Urban Land Reform Policy and Programme in 2021, to address, among others, urban design concepts, a minimum size of erven and mixed developments for more efficient land use. Furthermore, the plan indicates that the National Energy Policy, Renewable Energy Policy and Independent Power Producers' Policy will be operationalised during HPP II. The HPP II further indicates that: "To increase Namibia's benefits from multilateral cooperation, the Government will re-align focus to proactively leverage technical cooperation in crucial areas of national interests such as the blue economy, climate change, agriculture, nuclear technology, environment, energy, education, logistics and ICT." The Country Programming Framework CPF for Namibia reports that:⁶⁵

Concerning natural resources, environmental management and climate change, Namibia aims to transition to a low carbon and climate resilient economy through addressing challenges of energy and water insecurity. Furthermore, there is an aspiration to aggressively seek multilateral financing mechanisms such as the Adaptation Fund, Green Climate Fund (GCF) and the Global Environment Facility (GEF) as well as to explore partnerships through South-South Cooperation including the private sector.

Any planning system should be guided by binding principles developed at the national level to guide land use. The question is what principles guide the land-use planning systems and processes in Namibia. These principles are informed by both, principles of land-use planning and the law. Land-use planning principles⁶⁶ contained in

62 GRN (2018c).

63 GRN (2018c).

64 GRN (2021b).

65 FAO (2019:5).

66 Haub (2009).

international agreements binding on Namibia⁶⁷ as well generally accepted principles of public international law also shape the country's land-use planning system.

The first principle of land-use planning is the principle of sustainability.⁶⁸ This principle echoes that land-use practises must be sustainable, meaning that they meet the needs of the present generation while, at the same time, conserving resources for future generations.⁶⁹ The second is the principle of environmental protection, which echoes that environmental protection constitutes an integral part of and should inform the development process.⁷⁰ The third is the principle of equitability. In terms of this principle, development must equitably fulfil the developmental and environmental needs of present and future generations.⁷¹ Fourth is the principle that land-use practices must be developed, taking into account the developmental opportunities and challenges of the area concerned.⁷² Fifth is the principle of public participation;⁷³ this principle is concerned with the involvement and participation of all persons at the relevant planning level and also that all persons should have access to information on the environment. Sixth is the principle of environmental impact assessment,⁷⁴ which requires that assessment be undertaken of proposed policies and activities which may impact the environment to minimise environmental damage. Seventh is the precautionary principle,⁷⁵ which echoes that serious threats to the environment must be identified and minimised as earliest as possible. Eight is the polluter pays principle,⁷⁶ which echoes that those responsible for damage to the environment pay for the cost for rehabilitating the environment or for the damage. Ninth is the principle of preserving the traditional knowledge and culture of indigenous people,⁷⁷ meaning that land-use practices must have regard to traditional land-use practices. The principles stated here are not conclusive but constitute the core principles that must underpin a country's land-use planning system.

On the statutory level, the Constitution is the basic norm that must guide the current land-use planning system in Namibia. The first principle to inform land-use planning in Namibia is contained in the Preamble of the Constitution. The Preamble echoes that Namibia's land-use planning system should address and correct imbalances created by

67 Namibia has agreed to several environmental agreements; among the most notable are the Banjul Charter on Human and Peoples' Rights with its Article 24 on the right to a satisfactory environment, the Stockholm Declaration, the United Nations Convention on Climate Change and the Kyoto Protocol, the Convention on Biodiversity and the Rio Declaration.

68 Principle 1 of the Rio Declaration.

69 FAO (1993).

70 Principle 4 of the Rio Declaration.

71 Principle 3 of the Rio Declaration.

72 Principle 11 of the Rio Declaration.

73 Principle 10 of the Rio Declaration.

74 Principle 17 of the Rio Declaration.

75 Principle 15 of the Rio Declaration.

76 Principle 16 of the Rio Declaration.

77 Principle 22 of the Rio Declaration.

past land-use policies, practices, and laws. Also, at the forefront of constitutional norms and principles relevant for land-use planning are the democratic values, which are the rule of law, equality, and justice,⁷⁸ which must inform the land-use planning system developed and implemented by Namibia. The Constitution also guarantees rights and freedoms, such as the right to equality before the law,⁷⁹ the right to life⁸⁰ and dignity,⁸¹ the right to property,⁸² the right to culture⁸³ and freedom of speech.⁸⁴ These rights translate into the right of people to participate and voice their opinions, and to give input during the land-use planning process. The Constitution also echoes the principle of sustainable development in Article 95 on the promotion of the welfare of the people. This principle, which is also contained in international agreements binding on Namibia, imposes an obligation on the Government to develop a sustainable land-use planning system. Also important is the principle of administrative justice,⁸⁵ which demands that planning administration must act fairly and reasonably and comply with principles of administrative justice when making decisions related to land-use planning. Furthermore, the Constitution echoes that planning policies and legislation must not infringe on rights and freedoms guaranteed by the Constitution⁸⁶ and must observe the limitations set out in the Constitution.⁸⁷ The two green principles, which should thread the principles enumerated above are, access to information and public participation in the development and implementation of policies and laws impacting land and environment. The EMA sets out principles that must guide the implementation of any law and decisions relating to environmental protection,⁸⁸ which includes land-use planning policies, decisions, and laws.

The URPA⁸⁹ sets out principles of spatial planning/land-use planning as follows:

- Spatial planning must be aimed at redressing past imbalances in respect of access to land, land ownership and land allocation;

78 Article 1(1).

79 Article 10.

80 Article 6.

81 Article 8.

82 Article 16.

83 Article 19.

84 Article 21.

85 Article 18.

86 Article 25.

87 Article 22.

88 Section 3.

89 Came into operation on 3 September 2020. This Act repeals the Town Planning Ordinance No. 18 of 1954 and the Townships and Division of Land Ordinance No. 11 of 1963 and the Removal of Restrictions Ordinance No. 75 of 1975. URPA uses the phrase Spatial Planning and it seems the context is linked to the integration of land-use planning on a national, regional and local level which in itself is also the objective of ILUP.

- spatial planning must contribute to sustainable development by enhancing the natural environment and ensuring that development takes place within environmental limits;
- spatial planning must be aimed at protecting and respecting Namibia's environment, its cultural and natural heritage, including its biological diversity, for the benefit of present and future generations;
- during the preparation, amendment and review of policies and plans dealing with spatial planning, a transparent process of public participation must be followed, which process must afford the general public and persons affected by such policies and plans access to the relevant information in order to provide inputs on matters affecting them;
- spatial planning must optimise the use of existing resources and infrastructure, and decision-making procedures relating to spatial planning must minimise negative financial, social, economic or environmental impacts;
- spatial planning must follow an integrated approach to land use and land development; and
- policies, plans and laws, at national, regional and local level of Government which are dealing with spatial planning must be harmonised and streamlined to the extent possible, and those involved in the implementation of such policies and plans and laws must cooperate in order to avoid land-use conflicts, delays in decision making and minimise negative financial, social, economic or environmental impacts.

These principles guide the application and implementation of URPA and other laws dealing with land-use planning; serve as a general scope and ambit for formulations of policies, plans and laws dealing with spatial planning; and guide the exercise of powers and performance of functions on matters relating to spatial planning under URPA or other laws dealing with spatial planning.⁹⁰ EMA and URPA have introduced land use planning principles, that are binding with reference interpretation and implementation of laws and policies relating spatial planning and environment. However, this represents a piecemeal and sector-based introduction of land use planning principles. It is recommended that at national level, cabinet should direct that all legislation dealing with land use planning and environment should contain the core principles to guide land use planning in Namibia.

On the statutory level, there are various pieces of proposed and enacted legislation that directly deal with or affect land-use planning. The following table contains key legislation dealing with or related to land-use planning in Namibia.

90 Section 3(1).

Table 1: Legislation Related to Land-Use Planning in Namibia

Access to Information Bill	Land Survey Act No. 33 of 1993
Agricultural (Commercial) Land Reform Act No. 6 of 1995 ⁹¹	Minerals (Prospecting and Mining) Act No. 33 of 1992
Aquaculture Act No. 18 of 2002	Mountain Catchment Areas Act No. 63 of 1970
Atomic Energy and Radiation Protection Act No. 5 of 2005	Namibia Investment Promotion Act No. 9 of 2016
Communal Land Reform Act No. 5 of 2002	National Heritage Act 27 No. of 2004
Crown Land Disposal Proclamation No. 13 of 1920	Nature Conservation Ordinance No. 4 of 1975 ⁹²
Decentralisation Enabling Act No. 33 of 2000	Public and Environmental Health Act No. 1 of 2015
Deeds Registries Act No. 14 of 2015	Road, Traffic and Transport Act No. 22 of 1999
Environmental Management Act No. 7 of 2007	Sectional Titles Act No. 2 of 2009
Environmental Management Amendment Bill	Soil Conservation Act No. 76 of 1969
Expropriation Act No. 63 of 1975	Standard Building Regulations of 1970, ⁹³ by town and village councils and building regulations made by various municipal councils
Fisheries and Marine Resources Act No. 27 of 2000	Subdivision of Agricultural Land Act No. 70 of 1970
Flexible Land Tenure Act No. 4 of 2012	Urban and Regional Planning Act No. 5 of 2018
Forest Act No. 12 of 2001	Water Resources Management Act No 11 of 2013 ⁹⁴
Hazardous Substances Ordinance No. 14 of 1974	Wildlife Management and Protected Areas Bill
Inland Fisheries Act No. 1 of 2003	
Land Bill	

Source: Table compiled by the author.

In 2018, Namibia repealed several pre-Independence laws it considered obsolete and not serving any purpose in post-independent Namibia.⁹⁵ The following part will discuss key legislation dealing with land-use planning.

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- 91 The proposed Land Bill, once enacted, will repeal this Act and the Communal Land Reform Act No. 5 of 2002.
 - 92 To be repealed by the Wildlife Management and Protected Areas Bill when it becomes a law.
 - 93 As adopted in terms of the repealed Standards Act No. 33 of 1962 (repealed by the Standards Act No. 18 of 200; published in Government Notice R.1830 of 23 October 1970, as amended by Government Notice R.1431 of 17 August 1973. Namibia does not have national building standards.
 - 94 This Act is not in operation.
 - 95 Repeal of Obsolete Laws Act published in Government Gazette 6812 of 31 December 2018. Some of the repealed laws include Housing Levy Ordinance of 1976 and Reservation of State Land for Natives Amendment Ordinance, 1971, amongst others.

9.1.1 The Urban and Regional Planning Act

The URPA creates a legislative framework for spatial planning in Namibia. Whilst the two repealed laws⁹⁶ focussed on land-use planning by local authorities.⁹⁷ The new law integrates spatial planning at the national, regional and local level. Although URPA suggests a top-down approach to land-use planning, the advantage of the proposed planning approach lies in the existing master plans, structure plans and integrated regional land-use plans and zoning schemes developed at the regional and local level, which will influence the development of the National Spatial Development Framework (NSDF).⁹⁸ The peremptory requirements of stakeholder and public participation in the formulation of the NSDF, regional structure plans, urban structure plans, zoning schemes, township development, rezoning and subdivision of land are yet commendable elements of the proposed approach to planning.

9.1.2 The Subdivision of Agricultural Land Act

The Subdivision of Agricultural Act No. 70 of 1970 as amended prohibits the subdivision of agricultural land without the consent of the Minister of Agriculture.⁹⁹ The purpose of the Act is:¹⁰⁰

- To prevent alienation of undivided portions of land;
- to prevent subdivision of agricultural land into uneconomic units;
- to prevent the use of uneconomic portions of agricultural land for any length of time; and
- to prevent encroachment on the use of agricultural land so as to threaten its viability as such.

9.1.3 The Flexible Land Tenure Act

The Flexible Land Tenure Act No. 4 of 2012 was enacted to fast-track land development for the poor. The implementation phase of this Act has commenced.¹⁰¹ In terms

96 The Town Planning Ordinance No. 18 of 1954 and the Townships and Division of Land Ordinance No. 11 of 1963.

97 That is regulation of land use at local government level that is in relation to municipalities, towns, villages and settlement areas.

98 Chapter 4 of URPA.

99 Section 3. Agriculture falls within the ambit of the merged Ministry of Agriculture, Water and Land Reform.

100 *Adlem v Arlow* (782/11) [2012] ZASCA 164.

101 *The Economist* of 11 June 2019.

of this Act, a local authority council or regional council, an owner of land or a group of persons, except juristic persons,¹⁰² may apply to the local authority concerned to establish a starter title scheme in respect of land in a local authority area.¹⁰³ Before such a scheme is established, the land concerned must be subdivided or consolidated so as to reflect as one piece of land so as to be registered as such. Although the formal requirements for township establishment need not be complied with, the outer boundaries of the land must be set out.¹⁰⁴ Once the required deposit or amount is paid and land and boundary measurements have been carried out, the starter title scheme will be established. Once the scheme is established, the registered member will be entitled to hold a starter title on a block erf in the land; this title entitles the holder to occupy the block erf, erect a structure on it, bequeath or transfer the title to it.¹⁰⁵ Starter title schemes can be converted to land hold title schemes, which entitle the holder to have all the rights in the plot concerned that an owner has in respect of his or her erf under the common law.¹⁰⁶ Starter title schemes or land hold title schemes in an approved township can be converted to full ownership,¹⁰⁷ but the owner of such scheme must comply with the formal provisions of town planning and township establishment legislation in that regard.

9.1.4 The Land Bill

The revised 2016 Land Bill consolidates and reforms the law on agricultural and commercial land and communal land in Namibia. One of the objectives of HPP II is the enactment of the revised Land Bill. The currently applicable Agricultural (Commercial) Land Reform Act provides for the acquisition of agricultural land by the State for purposes of land reform and for the allocation to Namibian citizens who do not own or otherwise have the use of any or adequate land and who have been socially, economically or educationally disadvantaged by past discriminatory laws or practices.¹⁰⁸ One of the ways through which this is done is the acquisition of agricultural land by the State in a commercial farming area. This land is subdivided into holdings,¹⁰⁹ which are surveyed and registered as separate farming units in the Deeds Office.¹¹⁰ The

102 Section 9(9).

103 Section 11(1).

104 Section 11(2).

105 Section 9.

106 Section 10(1).

107 Section 15.

108 Section 14.

109 Section 36.

110 Section 36.

registered units are allotted to successful qualifying applicants under 99-year lease agreements.¹¹¹

9.1.5 The Environmental Management Act No. 7 of 2007

One of the objects of Environmental Management Act No. 7 of 2007 (EMA) is to ensure that environmental impact assessments are undertaken of activities, which may have an impact on the environment.¹¹² The Act applies to physical activities and the definition of the term ‘activities’ appears to be wide enough to also include plans and policies.¹¹³ The Minister of Environment, Forestry and Tourism, by notice in the *Gazette*, lists activities that may not be undertaken without an environmental clearance certificate by the Environmental Commissioner.¹¹⁴ The consultative process for review of the EMA has been concluded.¹¹⁵

10 Land-Use Planning Institutions and Administration

In Namibia, the administration of land-use planning takes place at the national, regional and local Government level. These spheres of Government are distinct but interrelated. Land-use planning is a facet in all spheres of Government.

At the national level, planning is within the executive competence. Executive competence relates to the power to give effect to legal rules.¹¹⁶ At the national level, executive power is vested in the President and Cabinet, which consists of various Ministers.¹¹⁷ Insofar as land-use planning is concerned, the role of Cabinet as part of the executive is to develop and implement land-use policies, initiate land-use planning laws and facilitate the implementation and administration of land-use planning laws administered by the executive, and to direct, coordinate and supervise the activities of Ministries and Government departments including para-statal enterprises,¹¹⁸ which relate to land-use planning.

In 2020, H.E. the President introduced considerable institutional reforms which impact land-use planning in Namibia. A number of ministries were merged, and some functions consolidated; most notably, the Ministry of Agriculture merged with Land

111 Section 36.

112 Section 2.

113 Section 1.

114 Section 27.

115 GRN (2020c:63-64).

116 Van Wyk (2012:147); Currie / De Waal (2001:228).

117 Article 35(1) of the Constitution.

118 Article 40 of the Constitution.

Reform and administration of water affairs brought within the ambit of this Ministry. Forestry matters were brought within the ambit of the Ministry of Environment, Forestry and Tourism, previously known as the Ministry of Environment and Tourism.

10.1 The National Planning Commission

On the national level, the National Planning Commission (known as NPC) drives socio-economic developmental planning in the country. This office is part of the Office of the Presidency. The role of the NPC is to coordinate developmental planning on the national level.¹¹⁹ Some of the important functions of NPC as set out in Section 4 of the NPA Act No. 2 of 2013 are:

- Spearhead the identification of Namibia's socio-economic development priorities;
- formulate short-term, medium-term and long-term national development plans in consultation with regional councils;
- develop monitoring and evaluation mechanisms to ensure effective implementation of the national development plans;
- evaluate the effectiveness of Government socio-economic policies; and
- coordinate the development of government socio-economic policies to ensure consistency.

10.2 The Ministry of Agriculture, Water and Land Reform

Nationally, the primary responsibility for land resides with the Minister of Agriculture, Water and Land Reform. The Minister thus exercises authority over the agriculture and land reform programme, the deeds registry, the office of the surveyor general, the national spatial information framework and the administration of land held in trust by the Minister.

This responsibility is also evident from the 2017/2018 to-/2020/2022 Strategic Plan of the Ministry: "To manage, administer and ensure equitable access to Namibia's land resource." It is also clear that the Minister is the competent authority for land-use planning and management. This is evident from the Ministry's vision which states in its Strategic Plan: "To ensure that Namibia's land resource is equitably allocated, efficiently managed, administered and sustainably used for the benefit of all Namibians." In terms of the National Land Policy of 1998, the Ministry is the custodian and implementer of the policy. The policy states that:

119 Jones (2009).

The Ministry has the primary responsibility for the implementation of the National Land Policy. This duty will be performed in close consultation with other Ministries, including: the Ministry of Urban and Rural Development (MURD) (with reference, inter alia, to urban and regional planning, regional councils and local authority councils); and the Ministry of Trade and Industry (with reference, inter alia, to regional planning, investment incentives schemes, export processing zones and the relationship of credit to land rights).

The Land Reform Advisory Commission established under the Agricultural (Commercial) Land Reform Act No. 6 of 1995 advises the Minister of Land Reform on the acquisition and use of agricultural land. In terms of its 2017/2018 to -2021/2022 Strategic Plan, the Ministry promises to deliver on the following objectives, amongst others:

- Effective planning and coordination of land reform programs;
- ensure sustainable use of natural resources;
- ensure the security of tenure; and
- ensure equitable distribution and access to land.

Although the Minister of Agriculture, Water and Land Reform carries the core responsibility for the administration of land, other ministries, offices and agencies and institutions in Government also have legislative and institutional responsibilities in respect of land-use planning.

10.3 Ministry of Urban and Rural Development

The Ministry of Urban and Rural Development (MURD) is responsible for the administration of land earmarked for urban and regional development. Insofar as land-use planning is concerned, the Minister administers the URPA, the Local Authorities Act No. 23 of 1992, the Regional Councils Act No. 22 of 1992, the Town and Regional Planners Act No. 9 of 1996 and the Decentralisation Act No. 33 of 2000 amongst others.

10.4 Other Authorities, Organisations and Persons

Other ministers and institutions also have responsibilities for land-use planning arising from policy and legislative frameworks; aquaculture development, fisheries and marine resources fall under the responsibility of the Ministry of Fisheries and Marine Resources whilst environmental impact assessment, conservancy establishment, the establishment of natural parks, and protected areas fall under the responsibility of Ministry of Environment, Forestry and Tourism (MEFT).

At the regional level, land-use planning is carried out by regional councils and communal land boards, amongst others. On the local level, land-use planning is carried out by local authority councils and traditional authorities. Different organisations and non-

governmental organisations, and communities also play a role in the land-use planning process. The Legal Assistance Centre is active in raising awareness on matters relating to land-use planning through workshops and preparation and publication of documents on land-use planning.¹²⁰ Others include the *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ) and the Namibia Institute for Democracy (NID), amongst others.

11 Spatial Planning

The enactment of URPA changes the landscape of land-use planning in Namibia, which currently is uncoordinated. Not only does it show government commitment toward an integrated approach to land-use planning, but it also serves as an acknowledgement of the importance of spatial planning as a tool for development. URPA creates an inclusive and adaptive spatial planning regime at a national, regional and local level. The repealed laws¹²¹ merely focused on land-use planning on a local government level with no binding national plan or regional plan formally guiding such planning. Spatial planning in the Namibian context involves:

- The integration of NSDF, regional structure plans and urban structure plans, as well as cascading those to zoning scheme, regulation of development and management of land with the primary purpose to facilitate the allocation of land to the uses that provide the greatest sustainable physical, economic and social benefits and well-being; and
- the participation of civil society and the public in the formulation of policies, laws and planning decisions affecting them.

The purpose of spatial planning is reflected in the definition of spatial planning and the principles of spatial planning in Section 1 of the URPA. Although the URPA begs for a developmental approach to land-use planning, the implementation of that Act is yet to be assessed.

The position remains that Namibia's current urban and regional planning system can be said to be both, control and development-oriented; the control element carries more weight. This can be seen in the prevailing spatial challenges and because market forces, such as demand for land and land prices, still carry more weight than the provision of land as a means to improve the well-being of the people. This situation has resulted in the rise of informal settlements and urbanisation, amongst others, in urban areas. The URPA aims to curb this situation as it introduces a system of decentralised planning, and coupled with that, re-engineering of the urban planning process in an

120 LAC (2005 and 2012).

121 Namely the Town planning Ordinance No. 18 of 1954, the Townships and Division of Land Ordinance No. 11 of 1963, and the Removal of Restrictions Ordinance No. 75 of 1975.

effort to speed up land delivery in urban areas and settlement areas geared for urban development.¹²²

11.1 National Spatial Development Framework

The URPA obliges the Minister of MURD to develop a National Spatial Development Framework (NSDF).¹²³ One of the primary aims of the NSDF is to facilitate the coordination, integration and alignment of national, urban and regional policies and plans relating to spatial planning; and on a developmental level to guide the integrated social and economic development and land-use patterns of Namibia. The preparation and adoption of the NSDF are participatory in nature as the law mandates the publication of the draft NSDF for comments and objections by government and private institutions, civil society and the general public. The prepared NSDF must be approved by Cabinet, and its approval be notified in the *Gazette*. The Executive Director of the MURD must at no cost give access to the NSDF as approved by Cabinet to any person on request.

11.2 Regional Structure Plans

The URPA obliges each of the 14 regional councils in Namibia to prepare regional structure plans (RSP) for their respective regions.¹²⁴ As per Section 26 of the URPA, regional structure plans must

- (a) give effect to the relevant national policies, plans and laws;
- (b) be aligned to the land use plans prepared by the regional council in consultation with the Ministry administering matters relating to land reform, if such plans have been prepared for the region concerned; and
- (c) provide guidelines for the integrated social and economic development and land-use patterns in the region concerned.

The preparation and adoption of the RSP are participatory in nature as the law mandates the publication of the draft RSP for comments and objections by government and private institutions, civil society and the general public. The regional council must send the RSP as adopted by the Urban and Regional Planning Board (URPB) for its consideration and recommendation to the Minister. The Minister responsible for urban and rural development approves the RSP and gives notice of its approval in two

122 Section 1 of Town Planning Ordinance No. 18 of 1954; also see !Owoses-/Goagos (2013:39-40).

123 Part 1 of Chapter 4 of URPA.

124 Part 2 of Chapter 4 of URPA.

newspapers and the *Gazette*. The regional council whose plan is approved by the Minister must at no cost give access to the approved RSP to any person on request.

11.3 Urban Structure Plans

URPA obliges each local authority council in Namibia to prepare an urban structure plan (USP) in respect of its local authority area.¹²⁵ In terms of Section 32 of URPA, USP must

- (a) give effect to the relevant national policies, plans and laws;
- (b) give effect to the relevant national policies, plans and laws;
- (c) be aligned to the national spatial development framework and the relevant regional structure plan, if a national spatial development framework and a regional structure plan have been approved in terms of this Act; and
- (d) provide guidelines for the integrated social and economic development and land-use patterns in the local authority area concerned.

The preparation and adoption of the USP are participatory in nature as the law mandates the publication of the draft USP for comments and objections by government and private institutions, civil society and the general public. The regional council must send the USP as adopted by the Urban and Regional Planning Board (URPB) for its consideration and recommendation to the Minister of MURD.

In terms of URPA, the NSDF, URP, and USP must be reviewed every ten years, but the functionaries mandated to prepare such frameworks and plans may, at their own initiative, review or amend the NSDF, URP and USP at any time.

11.4 Zoning Schemes

The URPA replaces the term town planning schemes with zoning schemes, in line with international local government planning practices. Zoning schemes (ZS) are one of the land-use planning tools used by local authority councils to control and regulate land use in their respective local authority areas. Preparation, approval, adoption and amendment of ZS are a statutory requirement and are governed by the URPA. In terms of Section 43(1) of URPA, local authority councils are not obliged but have the discretion to prepare and adopt zoning schemes for certain areas of land under their jurisdiction. Despite this discretion, in terms of Section 43(3) of URPA, the Minister of MURD may direct a local authority council to prepare a zoning scheme. In terms of Section 41 of URPA. The primary purpose of a zoning scheme is

- (a) to promote the orderly development of the area to which the zoning scheme applies;
- (b) to promote the health, safety and general well-being of the public; and

125 Part 3 of Chapter 4 of URPA.

- (c) to determine land-use rights and provide for control over land-use rights and over the use of land in the area to which the zoning scheme applies.¹²⁶

Central to a zoning scheme is zoning, which is concerned with the allocation of different uses to different areas. Through zoning, different areas are created in a local authority area, and different use activities are permitted or prohibited.¹²⁷ A ZS sets out different areas or use zones and permits or prohibits certain uses within such areas. For example, a property may be zoned for residential, business or industrial purposes. The ZS sets out primary uses, consent uses and prohibited uses in respect of each use zone. Primary uses are those uses for which buildings may be erected and/or used. Consent uses are those uses for which buildings may be erected and/or used only with the consent of the council. Prohibited uses are those uses for which buildings may not be erected and/or used. A ZS further sets different restrictions with regard to building, such as the building line, height and side spaces, as well as density, parking and the floor area applicable to different zones. A ZS also contains provisions relating to the building values of buildings to be in different zones. The ZS also contains provisions regulating the subdivision and consolidation of land to which the scheme applies. The ZS is supplemented by buildings regulations and advertising regulations of the local authority council concerned, which prepared and adopted the ZS concerned.

A ZS also contains provisions regulating changes to land uses. A ZS permits changes to certain land uses through rezoning application and applications for consent use. These applications have to be notified in a newspaper for objections by the public before the relevant local authority council makes any decision in terms of the ZS.

In terms of URPA, regional councils are also required to prepare zoning schemes in respect of settlement areas and thus carry out urban planning functions in respect of such areas. Settlement areas are areas outside local authority areas but within regional council areas but earmarked for development as local authority areas. Regional councils control and manage settlement areas as if it's a local authority council. A regional council may, in respect of settlement areas, exercise powers and functions set out in the Local Authorities Act No. 23 of 1992 as if they were village councils.¹²⁸ Note the emphasis on village council because there are certain limitations on powers and functions of a local authority council based on its status as a municipal council, town council or village council.¹²⁹ Since regional councils are regarded as local authorities for the purposes of managing and controlling a settlement area, in terms of URPA, regional councils have to prepare and adopt in respect of the certain areas of land within the settlement area.

126 Section 1 of Town Planning Ordinance No. 18 of 1954; also see !Owoses-/Goagos (2013:39-40).

127 Kidd (2011:212); Van Wyk (1999:21 and 39-40); !Owoses-/Goagos (2013:44-46).

128 Section 32(1) of the Regional Councils Act.

129 Sections 30(2) and (3) of the Local Authorities Act.

12 Authorised Planning Authorities

In an effort to decentralise spatial planning and to streamline the turnaround time for land delivery in Namibia, URPA introduces authorised planning authorities.¹³⁰ In terms of Section 16 of URPA and the regulations,¹³¹ to be declared as an authorised planning authority, an applying local authority must demonstrate to the Minister of MURD that it has structure plans approved in terms of URPA and have town and regional planners in its employment or on contractual basis. Authorised planning authorities will be granted some autonomy to deal with certain land-use applications on their own. This is an effort to cut bureaucracy and to reduce the turnaround time for land delivery. Township establishment is basically land development that parallels subdivision of land for residential development primarily. Township establishment is a component of urban and regional planning in terms of which the land within local authority areas is developed.¹³²

In terms of Section 1 of URPA, a township is a group of portions of land or of subdivisions of a portion of land, which are combined with public places and are used or intended to be used for residential, business, industrial or similar purposes. Township establishment is governed by the URPA. In terms of the URPA, environmental considerations are a key factor in the establishment of townships, rezoning of land, subdivision of land and removal of restrictions on land.¹³³

13 Regional Planning

Land-use planning at the regional level is supervised by the National Planning Commission, the Minister of Agriculture, Water and Land Reform, the Minister of Urban and Rural Development and the Minister of Environment and Tourism, and the Traditional Authorities and Communal Land Boards.

Regional councils are established in terms of the Regional Councils Act No. 22 of 1992. Currently, there are 14 regions in the country. The Minister of Urban and Rural Development administers the Regional Councils Act. The regional councils are tasked to undertake the planning of the development of the region for which it has been established.¹³⁴ In doing this, they must have due regard to powers and functions of the

130 Section 16.

131 Regulations Relating to Urban and Regional Planning published in GG No. 7327 of GN No. 223 of 3 September 2020.

132 von Dönges / Van Winsen (1953:596).

133 Sections 48, 57, 65, 89 and 95.

134 Section 28 of the Regional Councils Act No. 22 of 1992.

National Planning Commission¹³⁵ and other laws on planning such as the URPA and the Communal Land Reform Act, amongst others.

The principal means of planning the development of the regions is the preparation of integrated regional development plans (RDPs).¹³⁶ RDPs provide an overview of the region with a situational analysis and directions for future developments, the development plan framework for the different sectors and a programme summary with specific objectives, activities and projects.¹³⁷ A total of seven even Integrated Regional Land Use Plans (IRLUPs) were finalised and handed over. In terms of the 2020-2021 Annual plan of the Ministry, the formulation of IRLUPs for Oshana and Omusati were expected to be finalised.¹³⁸ The shortcomings identified in respect of IRLP are the non-implementation of these plans as well as the non-alignment of these plans to existing policies and legislation.¹³⁹

The National Planning Commission is responsible for the development of regional profiles for the different regions. Such profiles set out each of the regions' development potentials and weaknesses.¹⁴⁰ The National Planning Commission carried out an impact assessment of the Policy Brief on the implementation of the Regional Development and Development Policy of 1997.

14 Land-Use Planning in the Coastal Zone

Namibia has a coastline, which extends some 1,570 km, from the mouth of the Orange River on the South African border to the mouth of the Kunene River on the Angolan border.¹⁴¹ In the last decade, there has been a crescendo of residential, recreational, tourism and mining activities at the coastal zone in Namibia. The coastal zone is considered to be the most ecologically sensitive area in which sustainable land management is needed.¹⁴²

14.1 Policy, Legal and Institutional Frameworks

Namibia does not have an overarching national legislation that governs coastal zone management, but there are various legal provisions that deal with or affect land-use

135 Section 4 of the National Planning Commission Act No. 2 of 2013.

136 Mukwena / Drake (2000).

137 Ibid.

138 Hautb (2009).

139 Ibid.

140 Mukwena / Drake (2000).

141 GRN (2012f:7).

142 Kidd (2011:229).

planning in the coastal zone.¹⁴³ Above all is the Namibian Constitution of 1990, international agreements ratified or acceded to by Namibia, principles of public international law,¹⁴⁴ and various pieces of legislation that deal with or affect land use in the coastal zone, most notably the Marine Resources Act No. 27 of 2000, the Merchant Shipping Act No. 57 of 1951, the Wreck and Salvage Act No. 5 of 2004, the Exclusive Economic Zone Act No. 3 of 1990, the Nature Conservation Ordinance No. 4 of 1975; the Sea Shore Ordinance No. 37 of 1958; the Environmental Management Act 7 of 2007; the Minerals (Prospecting) and Mining Act No. 33 of 1992, the Petroleum Act and the URBA. Among the legislation and proposed legislation to be reviewed and harmonised during HPP II are the Wildlife and Protected Areas Management Bill, the Namibia Investment Promotion Act No. 9 of 2016 and the Tourism Bill.¹⁴⁵

There are also various policies and plans geared toward Integrated Coastal Management (ICM). Most notable is the 2012 National Policy on Coastal Management (hereafter referred to as NPCM). The Ministry of Environment, Forestry and Tourism is in the process of finalising the Integrated Coastal Management Bill, which is currently under review.¹⁴⁶

At the institutional level, the various institutions that play a role in the coastal zone management are the National Planning Commission, the Ministry of Environment and Tourism, the Ministry of Fisheries and Marine Resources, the Ministry of Agriculture, Water and Land Reform, the Ministry of Works and Transport, the Ministry of Urban and Rural Development, Regional Councils, and Local Authority Councils. The responsibilities of these institutions in respect of land-use planning are dictated by the various policy and legal frameworks. Other institutions and non-Government institutions also contribute to the coastal zone management, especially through awareness-raising and technical support. The Ministry of Environment, Forestry and Tourism reports that several management plans for certain national parks have been finalised and are being implemented.¹⁴⁷ Furthermore, guidelines for the zonation of National Parks were approved and are being implemented.¹⁴⁸

14.2 Status of Coastal Zone Management

In 2006 and 2008, strategic environmental assessment reports have been prepared for the coastal zones of the Erongo and Kunene regions and for the Karas and Hardap

143 NACOMA (2007).

144 Article 144.

145 GRN (2021b:34).

146 *The Namibian* (2020).

147 GRN (2020c:29).

148 *Ibid.*

regions.¹⁴⁹ The purpose of the reports was to be used as decision support tools by political and technical decision-makers at local, regional and national levels in order to assist them in taking decisions on biodiversity conservation, land-use planning, and social and economic development planning in the four coastal regions.¹⁵⁰

Namibia's coastal zone management has been described as weak.¹⁵¹ The 2010 Strategic Environmental Assessment (SEA) Report¹⁵² identifies the following challenges in coastal zone management:

- The lack of institutional capacity, or unclear, over-centralised, confused and/or overlapping legal or institutional mandates, notably in the public sector agencies involved;¹⁵³ and
- the inability by stakeholders to find common understandings and a shared strategic perspective on the economic, social and environmental interactions involved in coastal development and of the adjustments compromises and trade-offs that need to be made to assure better coastal planning and management.¹⁵⁴

14.3 The National Policy on Coastal Management

The NPCM is the result of the 2006 and 2008 strategic environmental assessment (known as SEA) reports, the 2010 SEA report, the 2009 Green Paper and the 2010 White Paper developed under the Namibian Coast Conservation and Management (NACOMA) project under the auspices of National Planning Commission. The policy will be evaluated, monitored and implemented by the Ministry of Environment and Tourism. The overarching goal of the NPCM is to ensure a coordinated and integrated approach to coastal governance in Namibia. The NPCM aims to provide a framework to strengthen governance of Namibia's coastal areas to realise long-term national goals defined in Vision 2030 and the more specific targets of National Development Plans, namely sustainable economic growth, employment creation, and reduced inequalities in income.

149 Skov *et al.* (2010).

150 *Ibid.*

151 *Ibid.*

152 *Ibid.*

153 *Ibid.*

154 *Ibid.*

14.4 Defining the Coastal Zone

There is no national definition of the term coastal zone, but the geographical boundary of the coastal zone is commonly known to refer to the interface between the land and sea.¹⁵⁵ Due to the interdependence between land and sea ecosystems, integrated coastal management (ICM) becomes important as an approach to managing and protecting the coastal zone. Furthermore, the plethora of activities taking place at the coastal zone, such as fisheries, mining, transport and tourism, begs for ICM. Although NPCM does not define the coastal zone for the purpose of Namibia, it acknowledges the importance of defining the coastal zone:¹⁵⁶

Delineating the extent of the coastal zone is necessary for administrative purposes and to clarify areas and issues of responsibility of coastal stakeholders. It is useful for developing appropriate management systems to reduce the impact of our activities on the coast. It is also useful to be able to identify and maximise potential opportunities offered by the offshore and inland areas of our coast and ensure that any benefits are shared equitably.

The policy proposes a twofold approach toward defining the coastal zone, namely a broad national definition and a specific definition that considers specific regional and local circumstances which will be undertaken by regional bodies. The policy further states that:¹⁵⁷

Delineating the boundaries of coastal management should therefore consider...terrestrial systems that significantly affect the sea, or are affected by their proximity to the sea, and those marine systems affected by their proximity to the land. This implies boundaries that (a) include those areas and activities within watersheds that significantly affect the coast and (b) may, in certain cases, extend seaward to the edge of the continental shelf or the Exclusive Economic Zone (EEZ).

Defining the coastal zone is important to determine the scope of coastal zone management.

14.4.1 NPCM Land-Use Planning Objectives and Implementation Strategies

Strategies for implementing the NPCM have been identified as follows:

- To ensure meaningful public involvement and participation;
- to improve multiple-use planning and zoning by balance current and multiple future uses of coastal ecosystems and resources so that competing and complementary uses occur in appropriate geographic locations and are harmonised through zoning and planning;
- to ensure that all development and utilisation contribute to environmental sustainability and fall within the acceptable limits of land and resource use.

155 See <http://www.fao.org/3/w8440e/W8440e02.htm>, accessed 18 June 2021.

156 GRN (2012f:9).

157 *Ibid.*, quoting from GESAMP (1996).

Integrate efforts to maintain, and restore the health and productivity of coastal ecosystems and the services they provide;

- to clearly define, justify and communicate the demarcation of areas of ecological importance to the public;
- to establish a central authority for coastal management. This includes the creation of a Coastal Management Authority (CMA), assignment of coastal areas management to an existing planning, budget or coordinating office (such as the National Planning Commission); and
- the designation of an existing line ministry to act as the lead Ministry, and the creation of strategic alliances with a national lead agency.

The steady pace of implementation of the NDG's and other short term action plans requires a continuous and participatory dialogue between Government, stakeholders, public and civil society to identify workable and realistic solutions to address the prevailing spatial challenges.

15 Concluding Remarks and Recommendations

The piecemeal adoption and enactment of policy and legislation relating to land-use planning results in land-use planning policies and legislation which are not harmonised, uncoordinated and conflicting. Coordination is further hampered by the fact that various functionaries administer and implement various policies and legislation relating to land-use planning and the environment; moreover, institutional changes are introduced almost every five years. There is an urgent need for a parallel and coordinated review of existing land-use planning policies and legislation, and a central hub, one-stop centre or an integrated national database that

- informs decision-makers, stakeholders, and the public of formulation of plans and policies impacting environment and land;
- informs decision-makers, stakeholders and the public of development applications and the status of such applications and decisions taken on such applications;
- allows for sharing of information on data submitted in respect of development applications to guide decision-makers to avoid duplication and promote coordination and reduce turnaround time for service delivery; and
- allows timely public access to information that impacts land and the environment.

Chapter 17: Forestry Related Law and Policy

Clemens C.C. von Doderer, Jonathan M. Kamwi and Oliver C. Ruppel

1 Introduction

Namibia's surface area is 824,268 km² with three major categories of land tenure: the so-called commercial farmland with freehold tenure (approximately 44% of the country situated predominantly in the south and centre of Namibia), communal areas which are situated mainly in contiguous blocks in the northern Namibia (approximately 41% of the country), and the state land including conservation areas (approximately 15% of the country).

Namibia is one of the driest countries in sub-Saharan Africa with a mean annual rainfall of approximately 270 mm with wide regional and seasonal variation. Against the backdrop of variation in climate and aridity in the country, it is explainable that the vegetation cover in Namibia is generally low. The main groups of soils in the country are unconsolidated sand (arenosols) and shallow and weakly developed soils on bed-rock (lithosols, xerosols, regosols and yermosols).¹ Owing to very low contents of clay in the soil, the water holding capacity is generally very low. Nonetheless, Namibia has a broad variety of vegetation types including deserts, savannahs (dwarf shrub savannah, various acacia-based tree and shrub savannah associations and the mopane savannah) and dry woodlands. Moreover, Namibia has an abundant dense and diverse mammalian fauna.

To quite some extent, Namibia faces environmental problems that are similar to those experienced in many parts of Africa, including climate change,² water stress, land degradation and soil erosion, and deforestation. Forests provide a wide variety of ecosystem services, which are not only critical for the local environment, but also for the global context. Forests play a critical role in the context of climate change since they are one of the biggest reservoirs of carbon, helping to maintain the carbon cycle and other natural processes. They are key to reducing climate change.

Recent figures assessing global forest resources reveal that in the period from 2010 to 2020, Africa had the highest net loss of forest area.³ Respective figures pertaining to Namibia confirm this assessment. In 2000, more than eight million hectares of Namibia was covered by forests (down from 8.7 million hectares in 1990).⁴ By 2020, the

1 Sweet / Burke (2006).

2 Cf. Niang and Ruppel *et al.* (2014).

3 Cf. FAO (2020a:125).

4 Cf. MAWF (2014b:10).

total forest area has decreased to only 6.6 million ha.⁵ While in 1990, the forest area was at 10.6% of the total land area, it was at only 8.2 in 2018.⁶

Forest resources in Namibia are of essential importance as woodlands stabilise fragile soils and prevent soil erosion, especially in the flood-prone areas along the river streams in the northern part of the country. Moreover, forest areas are the home of parts of Namibia’s rich biological diversity. And forests also play a vital role from a socio-economic perspective, especially in the rural areas of Namibia, as many are directly or indirectly dependent on the availability of forest resources for browsing, building material for homesteads, fuel wood for cooking, light and heating, and medicines amongst others. Forest resources in Namibia are exploited for various uses, including charcoal production and the production of fire blocks from crushed bush for energy production. Moreover, woodlands harbour fruit and nut-bearing tree species such as *Sclerocarya birrea* (marula), *Berchemia discolor* (bird plum), and *Strychnos cocculoides* (monkey orange) are gaining commercial importance, just as medicinal plants such as *Harpagophytum procumbens* (devil’s claw).⁷ Figure 1 shows the trend in forest cover and other wooded land in Namibia, from 1990 to 2020.

Figure 1: Trends in Forest Cover and Other Wooded Land

FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest	8 769.17	8 059.08	7 348.99	6 993.95	6 922.94	6 851.93	6 780.92	6 709.91	6 638.90
Other wooded land	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98

Source: FAO (2020b) noting that the data on forest area is old and not very reliable, but due to lack of more recent and better data it is being used despite other datasets (Hansen, Africover, etc) indicate substantially less area covered by trees.

Official estimates from Namibia’s Directorate of Forestry reported to the FAO⁸ reveal that in 2020, the forest area was 6,638,900 ha (down from 8,769,170 million hectares in 1990) of Namibia (8.06% of the total land surface area). More than 2.5% of the forest area has disappeared since 1990.

Major threats to forests in Namibia include the expansion of land for agriculture; the cutting of wood for fuel and for domestic use; clearing for infrastructure development; uncontrolled wildfires; selective logging through timber concessions, legal and illegal timber harvesting for exporting as logs to international markets and unlicensed

5 Cf. FAO (2020b:9).

6 See World Bank data at <https://data.worldbank.org/indicator/AG.LND.FRST.ZS?locations=NA>, accessed 21 June 2021.

7 Cf. Annexure 2 to the 2015 Forest Regulations: Forest Act, 2001, GG No. 5801, Notice No. 170.

8 See FAO (2020b).

curio carving; climate change and habitat destruction by elephants. As the total land area is fixed, increases in population will control the person to land ratio. The increase of population goes hand in hand with an increase in unsustainable use of timber for fuel, housing, fencing, fire, and poses a severe strain on the environment as deforestation not only leads to the loss of resources used for human activities, it also results in desertification and severe degradation of land.⁹ A Forest Research Strategy for Namibia (2011–15)¹⁰ addressed issues associated with sustainable forest management and the issue of value addition to forest products. The strategy identified forest research areas, including a vegetation (forest and rangeland) monitoring programme; forest products (value added) research; ecological studies; growth and yield studies; silvicultural research; economic, policy and sociological research; and management of information. However, the degree to which these research areas were achieved remains largely unknown.

With its ambitious aim laid down in the INDC¹¹ to achieve “a reduction of about 91% of its GHG emissions at the 2030 time horizon compared to the BAU [Business as Usual] scenario” forest related law and policy moves to the centre of Namibia’s mitigation strategies predominantly in the agriculture, forest and other land use (AFOLU) and the energy sectors. The reduction of the deforestation rate by 75%, reforestation and restoration of grassland will demand a more progressive and effective implementation of existing forest-related law and policy based on the pillars of Namibia’s Constitution. Within the updated NDC submitted to the UNFCCC in 2021, Namibia has identified ambitious measures contributing to climate change mitigation including to reduce the deforestation rate by 75%; to reforest 20,000 ha per year; to plant 10,000 ha of trees per year under agroforestry; to plant 5,000 ha of trees under urban forestry; to restore 15.5 million hectares of grassland; and to increase the share of renewables in electricity production from 33% to 70%.

2 Constitutional Provisions Relevant to Forests

According to Article 1(6) of the Namibian Constitution, the latter is the law above all laws. Therefore, all legislation ought to be consistent with the provisions of the Constitution. The Constitution lays the foundation for all policies and legislation in Namibia and contains three key environmental clauses relevant to sustainable use of natural resources.

9 MET (2006:13).

10 MAWF (2011).

11 Available at https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Namibia%20First/Namibia%27s%20Updated%20NDC_%20FINAL%2025%20July%202021.pdf, last accessed 11 January 2022.

Article 100 of the Constitution vests all natural resources in the state, unless otherwise legally owned. Thus, unless legal ownership of natural resources in a specific locality is proven, such natural resources are owned by the state; the provision implies thus that natural resources can be legally owned as private property.

Article 95(l) stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies, which include “the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians (...)”. Through this particular Article, Namibia is obliged to protect its environment and to promote a sustainable use of its natural resources.

Furthermore, Article 91(c) stipulates that one of the functions of the Ombudsman is “the duty to investigate complaints concerning the over utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.” Further to these environmental key provisions, Article 144 must be pointed out as the constitutional link to international environmental law applicable in Namibia.¹²

3 Relevant Regional Frameworks, Statutory Law and Policy

A sound legal framework protecting Namibia’s forests is of utmost importance. Namibia, since Independence, has placed a strong emphasis on integrating environmental concerns into the post-colonial legal framework. Many legislative steps have been taken, in order to comply with obligations under international law and to ensure the conservation of natural resources by legislative means. A wide number of enactments are pertinent – directly or indirectly – to environmental issues. Environmental framework legislation of cross-sectoral nature such as the Environmental Management Act¹³ or the Nature Conservation Ordinance¹⁴ are rather broad in scope, while sectoral legislation such as the Forest Act No. 12 of 2001 cover specific environmental issues. The main law and policy instruments pertinent to forests in Namibia are the following:

- The 2002 SADC Protocol on Forestry on the regional level;
- the Forest Policy of 1992;
- the Development Forestry Policy for Namibia of 2001;
- the Forest Act No. 12 of 2001 as amended by the Forest Amendment Act No. 13 of 2005;¹⁵

12 Article 144 reads as follows: “Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia.”

13 No. 7 of 2007.

14 No. 4 of 1975.

15 Hereinafter referred to as the Forest Act.

- the Community Forestry Guidelines of 2005;
- the 2015 Forest Regulations to the Forest Act;
- the customary law of traditional communities; and
- the Environmental Management Act No. 7 of 2007.

A variety of provisions within the aforementioned legal instruments deal with the management of forests. The Directorate of Forestry within the Ministry of Environment, Forestry and Tourism (MEFT) is the primary institution responsible for all issues related to forests in Namibia, as one of its functions is to develop, manage and facilitate the economic and sustainable utilisation of forest resources.

3.1 The SADC Protocol on Forestry and the Forestry Strategy

Regional approaches for policy harmonisation and trans-boundary forest conservation and sustainable use concepts are essential mechanisms for the protection and conservation of the environment and its biodiversity, and ultimately, to poverty alleviation. Recognising the essential role which forests play with regard to maintaining the earth's climate, controlling floods and erosion, and as sources of food, wood and other forest products, the 2002 Protocol on Forestry of the Southern African Development Community (SADC), which came into force in 2009, aims to promote the development, conservation, sustainable management and utilisation of all types of forests and forest products in order to alleviate poverty and generate economic opportunities. This overarching framework for forestry collaboration in the SADC region is binding on Namibia and contains a set of rules or principles agreed upon by the SADC member states on how to integrate and cooperate among them in order to commonly conserve and manage the SADC forests and woodlands for the benefit of the SADC people. To this end, the Protocol *inter alia* addresses issues of common concern including deforestation, genetic erosion, climate change, forest fires, pests, diseases, invasive alien species, and law enforcement. States are called upon to facilitate the gathering and monitoring of information, and the sharing and dissemination of information, expertise and technology concerning forests; and to harmonise approaches to sustainable forest management, forest policy, legislation and enforcement, and issues of international concern. The Protocol emphasises that traditional forest-related knowledge must be protected and requires mechanisms to ensure the equitable sharing of benefits from forest resources.

The Protocol recognises the transboundary nature of these forests, the importance of trans-boundary management strategies, the vital role of forests in protecting water catchments particularly of shared water courses and understands that potential harm to these forests is not limited by national boundaries. One of the objectives of the protocol is the effective protection of the environment and the ways listed to achieve the objectives include “harmonising approaches to sustainable forest management, forest

policy, legislation and enforcement (...).¹⁶ The guiding principles include the obligation of member states to “facilitate, promote and continually improve policy and legal frameworks that promote sustainable forest management”.¹⁷ The Protocol provides a definition of “forest” relevant for Namibia, defining forest as “any ecosystem containing trees and which is so defined by national policy or legislation and includes the concepts of ‘forest land’, ‘forest product’, ‘forest resource’ and ‘forest genetic resource’.”¹⁸ The Protocol thus indicates that it is necessary to consult Namibian policy and legislation for a definition of ‘forest’. The SADC Forestry Strategy of 2010¹⁹ aims to revive the forest sector and to identify areas in forestry development of strategic importance to the region. It contains eight strategic programme areas including climate change mitigation and adaptation, the protection of key catchment forests, energy supply and poverty reduction.

3.2 The Forest Policy of 1992

The first post-independence forestry relevant instrument approved by cabinet was the Forest Policy of 1992. This Policy builds the foundation for forest law and policy in Namibia today and provides that existing forest lands be conserved and protected, their productivity increased and new areas to be brought under forests. The policy states that the goal should be to have a minimum of one tenth of the national land area under forest or tree cover. Management of state forests; afforestation; social and farm forestry; rights and concessions; diversion of forest land to non-forest purposes; wildlife conservation; rural communities and forests; damage to forests from fires and grazing; forest-based industries; forest extension; forest education and research; personnel management; forest survey and data base; and legal support and infrastructure are subsections under the 1992 Forest Policy.

3.3 Namibia’s Forestry Strategic Plan of 1996

The 1996 Forestry Strategic Plan²⁰ identifies main national issues in sustainable forestry development with a specific view to production, protection and participation. The issue of ‘production’ focuses on the management of natural forests, the supply of environmental benefits, and the processing of forest products. Protection measures are

16 Article 3(1)(f) of the Protocol.

17 Article 4(4) of the Protocol.

18 Article 1 of the Protocol.

19 Available at https://www.sadc.int/files/4815/9125/6651/SADC_Forestry_Strategy_2010-2020-English.pdf, accessed 18 January 2021.

20 GRN (1996).

put in context with population pressure, forest fires, and deforestation, whereas participation deals with the societal aspiration to have a greater say in how forest resources are managed and how the benefits of a managed forest resource are shared equitably.

3.4 2001 Development Forestry Policy for Namibia

The 2001 Development Forestry Policy for Namibia²¹ aims to reconcile rural development with biodiversity conservation by empowering farmers and local communities to manage forest resources on a sustainable basis. The policy identifies effective property rights; a supportive regulatory framework; good extension services; community forestry; and forest research, education and training as instruments essential to the successful implementation of sustainable forestry management in Namibia. The policy also paves the way for the establishment of community forests and their custodianship by the people most dependent on such resources. The Policy acknowledges shortcomings in Namibia's framework for forest management, by concluding that the implementation of effective property rights, a more supportive regulatory framework, and the strengthening of extension services and the promotion of community forest management is critical for sustainable forest management in Namibia. To some extent, the implementation of the Forest Act No. 12 of 2001 and an increased uptake of community forests have contributed to change this situation.

3.5 *De Lege Lata*: The Forest Act No. 12 of 2001

3.5.1 Overall Scope

Forest management and exploitation in Namibia is primarily governed by the Forest Act No. 12 of 2001. The Forest Act consolidates the laws relating to the use and management of forests and forest produce; it provides for the control of forest fires and creates a Forestry Council. Protection of the environment is found in part IV of the Act. This part of the Act deals with protected areas, protection of natural vegetation and control over afforestation and deforestation.

The Forest Act replaces the Preservation of Trees and Forests Ordinance²² and the 1968 Forest Act.²³ It establishes a regime for authorisation of the harvesting of trees²⁴ in order to combat deforestation and thereby preventing the exacerbation of related

21 GRN (2001d).

22 No. 37 of 1952.

23 No. 72 of 1968.

24 Article 27 of the Forest Act No. 12 of 2001.

natural hazards. The Act is formulated around the tenets of sustainable management of forests, and the purpose for which forest resources are managed and developed. This also includes the planting of trees where necessary, as well as soil conservation, safe-keeping of water resources, maintenance of biological diversity, and the use of “forest produce in a way which is compatible with the forest’s primary role as the protector and enhancer of the natural environment”.²⁵

3.5.2 Definition of the Term ‘Forest’

It should be noted that no single, for Namibia generally applicable explicit definition of ‘forest’ exists. No explicit definition is contained in the Forest Act. Neither exists a distinction among native forest and planted forest, or between managed and unmanaged forests. Neither does the Forest Act draw a distinction between specific sub-definitions of other legal terms like, e.g. ‘open forest’, ‘closed forest’, ‘forest land’, ‘forested area’, ‘woodland’, ‘wooded area’, ‘timberland’, ‘secondary vegetations’, or ‘agroforest area’. However, the Act in its definition section²⁶ contains various definitions closely related to forests. The most relevant definition contained in the Forest Act is probably the definition on, ‘forest produce’, which is defined in very broad terms as anything that “grows or is naturally found in a forest”. The definition on forest produce furthermore specifies that “any living organism or product of it; and any inanimate object of mineral, historical, anthropological or cultural value” are also considered as forest produce.

Further definitions are provided for the following: ‘classified forest’, ‘community forest’, ‘forest management area’, ‘forest reserve’, ‘regional forest reserve’, and ‘state forest reserve’. The Forest Act does not explicitly distinguish between forest and woodland, however, the Directorate of Forestry has identified as one of its core functions to “establish, manage, utilise and conserve forests, including *woodlands*, for human benefit”.²⁷ It is thus evident that the Directorate of Forestry *de facto* draws specific distinctions with regards to forest and woodlands. A report drafted for the MAWF in 2005²⁸ by referring to the FAO definition of forests²⁹ states that the definition of woodlands is much broader than that of a forest and includes “landscapes, which are not forests but where reasonably tall trees are conspicuous.”

25 Section 10 of the Forest Act.

26 Section 1 of the Forest Act.

27 MAWF (2014a), emphasis added.

28 See Mendelsohn / el Obeid (2005).

29 Defining forests as land covered by trees with a canopy cover of more than 10% and higher than five metres. A forest should extend over more than half a hectare, and includes plantations and stands of young indigenous trees that are expected to develop into taller groves, see Food and Agricultural Organization (1998).

Because so far, no explicit definition of ‘forest’ in Namibian statutory law exists, it can be stated that the terminology regarding forests is of rather relative nature. By no means has the legislator once and for all established an absolute definition of ‘forest’ applying equally to all fields of law. The Forest Act does not *de iure* exclude certain categories of forest or forested areas from its scope of application. The type of legal definition of ‘forest’ in Namibia is of a mixed nature. From the perspective of the 2001 Forest Act, one would most probably classify the type of nature as regulation-based (forests are classified on the basis of different legal protection regimes to which the forests are subjected), as the Forest Act provides for a system of classified forests, namely forest reserves, community forests or forest management areas. However, this regulation-based definition is combined with elements of quantity-based definitions³⁰ and list-based definitions.³¹ Elements of list-based definitions are contained in Annexure 2 to the Forest Regulations of 2015 relating to Section 22 of the Forest Act and Regulation 13 of the Forest Regulations of 2015, which lists eighty specific protected plant species and the reasons, why these species have to be protected. In practice, elements of quantity-based definitions play an important role, when it comes to inventory questions as can for example be observed with regard to the National Forest Inventory and also the national classifications as used in Namibia’s Country Report to the 2015 FAO Global Forest Resource Assessment.³² In this assessment, Namibia has applied definitions as summarised in Table 1 below.

Table 1: National Classifications and Definitions Used in the Namibian Country Report for the FAO Global Forest Resources Assessment 2015

National Class	Definition
Dense Forest	70% crown cover, tree height >5m" /> >70% crown cover, tree height >5m
Dense Savannah	70% shrub cover, <2m" /> > 70% shrub cover, <2m
Medium Forest	5m" /> Crown cover 40-70%, tree height > 5m
Medium Savannah	40-70% bush cover, 2-5m
Medium Savannah	< 2m" /> 40-70% shrub cover, < 2m
Open Forest	5m" /> Crown cover 10-40% , tree height >5m
Open Savannah	10-40% bush cover, 2-5m
Open Savannah	<2m" /> 10-40% shrub cover, <2m
Very open Forest	5m" /> Crown cover 2-10%, tree height >5m

Source: MAWF (2014b:7).

30 E.g. spatially based on land cover – that is the physical cover of the earth’s surface observable from aerial or satellite views – expressed in hectares, tree height in meters, percentage of tree canopy cover, etc.; or based on an annual yield capacity per hectare expressed in cubic meters of wood including bark, etc.

31 E.g. by providing lists of tree species given in an annex to the national forestry legislation, or lists of vegetated areas, etc.

32 See MAWF (2014b).

In its *Country Report for the Global Forest Resources Assessment (FRA) of 2020*,³³ Namibia has applied the FRA 2020 categories and definitions,³⁴ providing, among others, definitions on ‘forests’³⁵ and ‘other woodland’.³⁶ For forest inventory purposes, Namibia has applied national classifications. Based on the Namibian National Forest Inventory³⁷ the following rough estimates have been summarised in 2005:³⁸

- Approximately 10% of all plant species in Namibia are trees (woody plants that usually grow to one metre or more in height).
- Less than 10% of the country is covered by trees with a canopy cover of more than 10% and higher than five metres.
- Around 50% of the country are areas of woodland and 40% are desert or shrub land.

Namibian case law has, so far, not played a role in interpreting the term ‘forest’ as stipulated in statutory law. To date, Namibian Courts have not been tasked to deal with interpreting the definition of ‘forest’. Legal doctrine has so far played a minor role in interpreting the term ‘forest’. Where such discussion exists in outline, a flexible approach is preferred.³⁹ However, recent discussions around the lack of a clear definition of the term ‘forest’ have, among other issues, resulted in efforts dealing with a revision of the Forest Act and the Forest Regulations. Highlighting that the Forest Act fails to define the term ‘forest’, an *Alignment Report for the Revision of the Forest Act and Forest Regulations* submitted by the Southern African Institute for Environmental Assessment in 2020⁴⁰ lists as one of the primary objectives of suggested revisions that “[t]he term ‘forest resources’ includes all timber products, all woody biomass products (e.g. bush encroachment products), and non-timber products of plants (e.g. fruits, resin, leaves).” However, for the time being, the Forest Act in its current version remains applicable.

33 See FAO (2020b).

34 See FAO (2020d).

35 “Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.” See FAO (2020d:4).

36 “Land not classified as ‘Forest’ spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of 5-10 percent or trees able to reach these thresholds; or with a combined cover of shrubs bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.” See FAO (2020d:4).

37 The Forest Act in its Section 11 provides that the Director of Forestry has the duty to compile and maintain a national forest inventory. The compilation of such inventory has started in 1999 and resulted in a collection of datasets, maps and reports managed by the Directorate of Forestry in Windhoek, Namibia. The National Forest Inventory organised by regions is an ongoing collection of information about forests countrywide. For more information and selected inventory reports see <http://www.mawf.gov.na/de/inventory-reports> accessed 18 January 2021.

38 See Mendelsohn / el Obeid (2005:21).

39 Ibid:10.

40 SAIEA (2020).

3.5.3 Classifications of Forests

The Forest Act, in part III deals with four different classifications of forests: state forest reserves (Section 13); regional forest reserves (Section 14); community forests (Section 15); and forest management areas (Section 16).

Community forests, related to the most dominant form of forest management in Namibia, are forests where the local community plays a significant role in forest management and land use decision-making. Community forests can be declared on communal land, with the agreement of the Chief or Traditional Authority. An organisation representing the people who traditionally use the community forest is appointed as the forest management authority. The aforementioned authority has the legal rights to use the forest resources and graze animals there, or to rent out these rights to others. The management authority has to look after the forest according to a management plan; to ensure that all community members have equal access to the resources in their forest; and to reinvest the income accrued from the forest to keep protecting the forest, and equitably share what is left over between the community members. As of 2019, Namibia had 43 registered community forests. State forest reserves can be created on state land that is not communal land. A management authority is appointed to manage the state forest reserve in accordance with a management plan. State forest reserves are declared by respective notice in the Government Gazette. In contrast to state forest reserves, regional forest reserves are created on communal land at the request of the Regional Council, which negotiates with the Chief or Traditional Authority and others whose rights are affected and makes recommendations to the Minister. Regional forest reserves can be created provided that the communal land needs to be managed as a classified forest and that effective management cannot be achieved through management of the communal land as a community forest.

Forest management areas can be created by agreement between the owners or legal occupiers of land that is not part of a classified forest and the Minister. Part of such agreement is a management plan, which may set out details for the planting of trees, the management of natural forest and harvesting practices. Furthermore, technical or other assistance from the Ministry may be subject to such agreement.

3.5.4 Protected Areas and Fire Control

The 2001 Forest Act makes provision for any land area to be declared a protected area if it is necessary to “protect the soil, water resources, protected plants and other

elements of biological diversity".⁴¹ For such area, the various stakeholders involved⁴² must reach an agreement on various issues, including the obligations to maintain and protect the forest resources of the protected area. In terms of protection of natural vegetation, the Forest Act provides that all trees and plants within 100 metres of a river, stream or watercourse are protected and may not be cut or destroyed without a licence.⁴³ The same protection is awarded to vegetation growing in dunes or drifting sands or on a gully. The Forest Act furthermore makes provision to declare as a fire management area areas contiguous to or situated near a classified forest.⁴⁴ A fire management plan for such area contains among other things provisions with regard to circumstances in which burning of things may be allowed and on how veld and forest fires are to be prevented, controlled and extinguished. Furthermore, any area can temporarily be declared a fire hazard area under the Forest Act⁴⁵ if this is necessary.

3.5.5 Use of Forests and Forest Produce

As per Section 24(1) of the Forest Act:

Forests and forest produce shall, in Namibia, subject to the permission of the owner of the land or the management authority of a classified forest and to the terms of a licence issued under this Act, be used in accordance with an applicable management plan.

In classified forests, vegetation or harvest forest produce may not be destroyed or damaged, no activity may be carried out for the purpose of mining minerals, no road, building or structure may be built, soil may not be removed or disturbed and no agricultural activities may be carried out, neither may animals be grazed, unless such activity is authorised by a management plan, a forest management agreement or a licence issued under the Forest Act. Section 24 (3) stipulates that owners or legal occupiers of land may harvest without a licence, however, within the limits of the management plan, if applicable. Furthermore, people living near a forest reserve or community forest may harvest forest produce for use as household fuel or for the construction of personal or livestock shelter, subject to a management plan, if applicable. Specific provisions for licensing are contained in Sections 27 to 30 and Section 34 of the Forest Act.

41 Section 21 of the Forest Act.

42 Namely the Minister of Lands, Resettlement and Rehabilitation, the Minister of Agriculture, Water and Rural Development, the owner or occupier of the land in question and in the case of communal land, the chief or traditional authority for that communal land or the authority which is authorised by law to grant rights over that communal land.

43 Section 22 of the Forest Act.

44 Section 36 of the Forest Act.

45 Section 39 of the Forest Act.

3.5.6 Offences

Examples of offences under the Forest Act (see Section 45 for a catalogue of offences) relate to damage or destruction of vegetation in a protected area or the destruction or removal of living trees, bushes or shrubs growing within 100 metres of a river, stream or watercourse. Groups of cases in the Forest Act requiring the involvement of courts are primarily those related to offences and penalties⁴⁶ and those related to the payment of compensation. Cases related to forests heard by community courts within traditional communities particularly deal with the felling of trees without permits and the use of forest resources as only local residents are allowed to use forest resources for domestic use.⁴⁷

3.6 *De Lege Ferenda*

Recent discussions around the lack of a clear definition of the term ‘forest’ have, among other issues, resulted in efforts dealing with a revision of the Forest Act and the Forest Regulations. Highlighting that the Forest Act fails to define the term ‘forest’, the above-mentioned *Alignment Report for the Revision of the Forest Act and Forest Regulations* by the Southern African Institute for Environmental Assessment in 2020⁴⁸ lists as some of the primary objectives of suggested revisions to simplify the Forest Act and to improve existing governance structures:

- The revised legislation should address current and future demands on forest resources. The term ‘forest resources’ should include all timber products, all woody biomass products (e.g. bush encroachment products), and non-timber products of plants (e.g. fruits, resin, leaves).
- The revision should close existing loopholes and ambiguities, so that the laws cannot be interpreted in ways that allow offenders to ‘get off the hook’.
- The resulting Act and Regulations should be free of unnecessary complications so that they are easily understood by government officials and the general public. The revision shall improve control over the unsustainable use of forest resources through robust and user-friendly mechanisms.

46 See e.g. *Tsamkxao Oma v Minister of Land Reform* (HC-MD-CIV-MOT-GEN-2018-00093) [2020] NAHCMD 162 (7 May 2020).

47 See Falk (2008:92). With regards to the Mbunza for example, Falk summarises as follows: “According to customary law, cases are first heard by the headman or headwoman, but defendants can appeal to the Hompa. Those who are unable to pay their fines are supposed to work for the community under the Hompa. Confiscated wood is sold and the proceeds as well as fines are transferred to the account of the Mbunza.”

48 SAIEA (2020).

Adding to the SAIEA's Alignment Report, a benchmarking of the Forest Act against existing regional and international policy and legislative frameworks relevant to forest conservation and management has been conducted in 2020.⁴⁹ Overall, the benchmarking report concluded, that the Forest Act is based on a top-down approach, placing forest authorities and administrative structures at the centre rather than the forests ecosystems themselves. In an environment of a framework with unclear definitions and criteria, a system of prohibitions and licences in combination of a control mechanism is being applied, resulting in exuberant red tape, high risk of mismanagement, a system of dependence and minimised responsibility of stakeholders outside of protected areas.⁵⁰ Albeit the Directorate of Forestry's mission statement,⁵¹ which is "to promote a well organised forestry sector that is socially, environmentally and economically sustainable, while creating significant and equitable wealth and opportunities", current provisions hardly consider and promote sustainable forest management as a mechanism to reveal the benefits of multi-functionality of forests to society, economy and the environment. Less administrative barriers, freedom in decision-making processes within given legislation and regulations, as well as free access to markets are key to implement sustainable forest management, whilst ensuring forest ecosystem protection.

Taking international forest policy and legislative standards and principles into consideration, any alterations *de lege ferenda* should be based on responsibilities and expectations of all stakeholders along the entire value chain, balanced with prohibition and monitoring as steering tools. This should include a strong focus on enabling rights-based land use for communities, private and institutional ownership. However, for the time being, the Forest Act in its current version remains applicable (*de lege lata*).

3.7 The 2015 Forest Regulations to the Forest Act

Illegal harvesting is a major problem throughout Namibia, especially in the north-eastern regions where the forest cover is relatively thicker. The Forest Regulations of 2015⁵² provide a detailed legal framework for the prevention of illegal harvesting. The Regulations expand on the foundations laid out by the 2001 Forest Act and regulate matters including the marking of forest produce; measures to be taken for forest protection; and permitting, licencing and other documents required for the harvesting,

49 Klein von Wisenberg (2021).

50 Ibid.

51 Available at <https://www.met.gov.na/about-meft/forestry/273/>, accessed 12 January 2022.

52 Forest Regulations: Forest Act 2001, Government Notice number 170 on the Forest Regulations: Forest Act 2001, Government Gazette number 5801 of 2015.

transportation, processing, sale, importation, transit, and exportation of forest produce. The Regulations also set out a detailed list of protected plant species.⁵³

The Regulations, together with the provisions of the Forest Act, provide that a person is not authorised to harvest, transport, sell, market, transit, export or import forest produce without a licence for harvesting or permit for transport, marketing, transit, export or import. The Regulations refer to prescribed application forms (e.g. for harvesting licenses) and specify documentation to accompany applications such as a written permission from the landowner.

3.8 The Community Forestry Guidelines of 2005

Much effort has been made since the preparation of the 1992 Forest Policy to establish a forestry related effective institutional, legal and policy framework. One focus has been on community-based management to preserve indigenous forests and to ensure a sustainable use of woodland resources for the benefit of local communities. In 2005, the Ministry of Agriculture, Water and Forestry's Directorate of Forestry introduced the Community Forestry Guidelines.⁵⁴ The main objective of these guidelines is to provide all stakeholders with a standard for establishing and managing community forests, by describing the legal procedures involved in setting up a community forest; describing the organisational arrangements and administrative procedures necessary for the sustainable management of community forests; and by specifying the respective roles of Government forestry officials, communities and other stakeholders involved.⁵⁵

3.9 The Customary Law of Traditional Communities

Before the arrival of colonists, indigenous populations have lived for generations according to their own distinctive laws and despite the legal influence of colonial and post-colonial powers, a large number of Namibians still live under customary law.

Article 66 of the Namibian Constitution lays the foundation for the constitutional recognition of customary law. It states that both the customary law and the common law of Namibia in force on the date of Independence shall remain valid to the extent that such customary or common law does not conflict with the Constitution or any other statutory law. Section 3 of the Traditional Authorities Act⁵⁶ gives certain powers, duties and functions to traditional authorities and members thereof. It is the overall

53 See Annexure 2 of the Forest Regulations: Forest Act 2001, Government Notice number 170 on the Forest Regulations: Forest Act 2001, Government Gazette number 5801 of 2015.

54 GRN (2005a).

55 Ibid.

56 No. 25 of 2000.

responsibility of traditional authorities to supervise and ensure the observance of the customary law of that community by its members. As to nature conservation it is one of the duties of a traditional authority to ensure that members of the traditional community use the natural resources at their disposal on a sustainable basis and in a manner that keeps the environment and maintains the ecosystem for the benefit of all Namibians. Customary law plays an important role in the sustainable development of natural resources and the protection of biological diversity as it incorporates a broad knowledge of ecosystems relationships.⁵⁷ This is particularly true for the protection and management of forest resources.⁵⁸ Many of the customary laws contain specific provisions for the protection of plants, trees and forests. One example⁵⁹ is Section 12 of the Laws of Ombalantu on the protection of forests, providing that “forests shall be protected and shall not be cut down, because this can lead to deforestation (...). No one shall cut down a tree, which bears fruit. The fine for this is a payment of two heads of cattle”.

3.10 The Environmental Management Act No. 7 of 2007

The Environmental Management Act (EMA) consolidates the laws relating to the management of the environment by promoting the sustainable management of the environment and the use of natural resources through the establishment of principles for decision making on matters affecting the environment; to establish the Sustainable Development Advisory Council; to provide for the appointment of the Environmental Commissioner and environmental officers; to provide for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental matters.

As per Section 27 of the EMA, the Minister may list, by notice in the Government Gazette, activities which may not be undertaken without an environmental clearance. To this end the Minister has published a list of activities that may not be undertaken without environmental clearance,⁶⁰ including energy generation, transmission and storage activities, mining and quarrying, forestry activities, tourism development, agriculture and aquaculture activities, water resource development, infrastructure, hazardous substance treatment and land use and development activities. With regard to forests, it is specified that an environmental clearance is required for the “clearance of

57 Hinz / Ruppel (2008a:57).

58 Muhongo (2008); on the ownership of forests see also Mapaure (2012).

59 Further relevant customary law provisions are contained for example in Section 5.2 of the Laws of Ombadja, Section 16 of the Laws of Ongandjera; Section 8.1 of the Laws of Uukwaluudhi; Section 16.1 of the Laws of Uukwambi; the Sections on Deforestation and Gathering of Firewood of the Laws of the Mashi; or Section 10.3 of the Laws of the Mayeyi.

60 Government Gazette No. 4878, Government Notice No. 29.

forest areas, deforestation, afforestation, timber harvesting or any other related activity that requires authorisation in term of the Forest Act, 2001 (Act No. 12 of 2001) or any other law”.

4 Concluding Remarks

Namibia has a relatively young history of forest management under the Forest Act No. 12 of 2001 with its system of classified forests under which the community forests have been gazetted. However, it is generally acknowledged that it is important to preserve existing and develop new forest resources, aimed at combating climate change and at maintaining ecosystem services. This includes protecting biological diversity and ensuring that socio-economic values of forests are maintained for the benefit of the people living in Namibia, especially those in rural areas who are directly or indirectly dependent on the availability of forest resources.

The fact that existing statutory law in Namibia lacks a clear definition of ‘forests’ can be seen as a deficiency, which in practice is compensated on the one hand by referring to the terminology as used under the system of the FAO and on the other by providing specific definitions on forest-related terms such as on ‘forest produce’. A further point of reference is the system of classified forests, namely forest reserves, community forests and forest management areas. The body of cases giving practical meaning to the Forest Act by courts is still relatively limited.

Given that until about 2015 forest resources were used predominately within the borders of Namibia, meeting the domestic demand, it was commonly accepted, that in general terms, a solid legal and policy framework existed in Namibia to protect forests from threats like deforestation to obtain land for agriculture; the cutting of wood for fuel and for domestic use; clearing for infrastructure development; uncontrolled wild fires; selective logging through timber concessions and unlicensed curio carving; and habitat destruction by elephants.

However, the dynamic development of the forest sector in Namibia due to an increased bush encroachment on traditionally open, semi-dry savannah land, a growing economic subsector for bush-based biomass products as well as a national concern of possible overexploitation of forests in the north-eastern region of the country has disclosed loopholes and ambiguities of the current legislative framework. This prompted efforts dealing with a revision of the Forest Act and the Forest Regulations.

Addressing the current and future demands on forest resources, revised legislation should provide a clear definition of a number of key terms (e.g. forest) and processes and should close existing loopholes and ambiguities. Revealing the benefits of multi-functionality of forests to society, economy and the environment, the revision should also be based on the globally accepted principle of sustainable forest management,

placing the active management, utilisation and protection of the forest ecosystem as well as the responsibilities and expectations of all stakeholders at the centre.

However, any good intentions to revise the forestry legislation will be futile, if they are not accompanied by efforts to strengthen the executive and the judiciary in terms of technical, financial and human resources, as well as know-how, aimed at ensuring that the principles anchored within the field of Namibian law on forests are implemented in due consideration of all aspects of good governance, including transparency, reliability, accountability, predictability and the rule of law.⁶¹

61 Ruppel (2008d); Ruppel / Ambunda (2011).

PART VII:

MINING AND ENERGY

Chapter 18: Mining Law and Policy in Namibia

Meyer van den Berg and Peter Koep

Mineral and petroleum exploitation inevitably result in pollution and environmental degradation.¹ The environmental aspects of mineral and petroleum exploitation are therefore important components of any regulatory framework for mineral and petroleum resources. The environmental aspects of the mining and energy sectors in Namibia are dealt with in terms of various pieces of legislation. The relevant Acts regulating specific resources – the Minerals (Prospecting and Mining) Act No. 33 of 1992 ('Minerals Act') in respect of minerals and the Petroleum (Exploration and Production) Act No. 2 of 1991 ('Petroleum Act') in respect of petroleum – deal to some extent with environmental obligations in respect of minerals and petroleum. However, in February 2012 the Environmental Management Act No. 7 of 2007 came into operation and now provides for a general framework for environmental authorisations.

1 The Environmental Management Act

The Environmental Management Act No. 7 of 2007 (EMA) has a significant impact on the mining and energy sectors in Namibia. Because the EMA came into operation after the Minerals Act and the Petroleum Act, the latter two Acts do not contain any reference to the EMA. Similarly, the EMA does not contain any reference to either the Minerals Act or the Petroleum Act. The link between these three pieces of legislation may, however, be found in 'listed activities'.²

In terms of Section 27(1) of the EMA, the Minister of Environment and Tourism ('Minister') may list certain activities that may not be undertaken without an environmental clearance certificate. This list was published by the Minister on 6 February 2012.³ The listed activities are quite comprehensive and include activities in respect of energy generation, transmission and storage⁴ and mining and quarrying activities.⁵ More specifically, the following activities may not be conducted without an environmental clearance certificate:

1 Glazewski (2005:455); Van den Berg (2015:165-167) with reference to petroleum.
2 See also Van den Berg (2015:183).
3 GN 29 in GG 4878 of 6 February 2012.
4 Item 1 of GN 29 in GG 4878 of 6 February 2012.
5 Item 3 of GN 29 in GG 4878 of 6 February 2012.

- The construction of facilities for the generation of electricity,⁶ the transmission⁷ and supply⁸ of electricity, the refining of gas, oil and petroleum products and nuclear reaction (including production, enrichments, processing, reprocessing, storage or disposal of nuclear fuels, radioactive products and waste).⁹
- The construction of facilities for any process or activities which requires a licence, right or other form of authorisation (including renewal of such a licence, right or authorisation) in terms of the Minerals Act.¹⁰ This is a reference to the construction of accessory works¹¹ in terms of the Minerals Act, for which the holder of a licence or claim requires additional consent from the Mining Commissioner.¹² The reference to the construction of facilities requiring authorisation in terms of the Minerals Act is, incidentally, the only reference to the Minerals Act in the listed activities.
- Other forms of mining or extraction of any natural resources, whether regulated by law or not,¹³ and resource extraction, manipulation, conservation and related activities.¹⁴

These two broad listed activities are the strongest link between the EMA, the Minerals Act and the Petroleum Act, even though the latter two Acts are not specifically mentioned here. Two important aspects of these two listed activities require further examination. First, it is unclear whether prospecting and exploration activities are included. The Minerals Act and the Petroleum Act deal with the upstream mineral and petroleum industries, in other words the searching for and extraction of minerals and petroleum. ‘Mining’, ‘extraction of resources’ and ‘resource extraction’ clearly refer to those

6 Generation of electricity means the production of electricity by way of natural or artificial processes. See Section 1 of GN 29 of GG 4878 of 6 February 2012.

7 Transmission of electricity means the conveyance of electricity by means of a transmission system, which consists wholly or mainly of high voltage networks and electrical plan, from an energy source or system to a customer. See Section 1 of GN 29 of GG 4878 of 6 February 2012.

8 Supply of electricity means the delivery of electricity to a customer as a commodity. See Section 1 of GN 29 of GG 4878 of 6 February 2012.

9 Item 1 of GN 29 of GG 4878 of 6 February 2012.

10 Item 3.1 of GN 29 of GG 4878 of 6 February 2012.

11 In terms of Section 1 of the Minerals Act, ‘accessory works’ means “any building, plant or other structure required for purposes of reconnaissance operations, prospecting operations or mining operations or for the disposal of any mineral or group of minerals won or mined in the course of any such operations, or is connected with such operations or disposal, including (a) any power plant, transmission line or substation; (b) any water borehole, well, pipe-line, drilling rig, pump station, tank or dam; (c) any airfield, helicopter landing-pad, road, gate, rail or railway siding; (d) any workshop, hangar, store or office; (e) any explosives magazine; (f) any sampling plant, processing plant, smelter or refinery, whether erected on land or constructed on any vehicle or vessel; (g) any waste disposal site; or (h) any camp site or temporary or permanent residential area.”

12 See Sections 31(3)(a), 58(2)(a), 67(3)(a), 77(3)(a) and 90(2)(a) of the Minerals Act.

13 Item 3.2 of GN 29 of GG 4878 of 6 February 2012.

14 Item 3.3 of GN 29 of GG 4878 of 6 February 2012.

activities regulated by the Minerals Act and the Petroleum Act as well. However, exploration activities in respect of petroleum and prospecting activities in respect of minerals generally only involve the searching for the resource and not the extraction of the resource. Both, holders of exploration licences and prospecting licences may extract samples for purposes of testing.¹⁵ One may argue that the possibility of resource extraction, even for testing purposes only, is sufficient to trigger one of these listed activities. Reconnaissance operations, on the other hand, which involves remote sensing, will not require an environmental clearance certificate as these operations do not include physical disturbances of the land.¹⁶ The second issue that warrants discussion in respect of these two listed activities is the extraction of resources beyond the scope of the Minerals Act and the Petroleum Act. In terms of these listed activities, the extraction of natural resources requires an environmental clearance certificate, whether the extraction is regulated by law or not. The Minerals Act and Petroleum Act, on the other hand, only apply in respect of resources that fall under the definition of ‘mineral’ or ‘petroleum’.¹⁷ These two concepts are defined broadly,¹⁸ but the definitions do make provision for certain exceptions. Resources falling either within these exceptions or that generally do not comply with the definitions, will not be regulated by the Minerals Act or Petroleum Act, but extraction thereof will require an environmental clearance certificate. For example, the extraction of soil, sand, clay, gravel or stone *bona fide* required for building works will not require a mining licence in terms of the Minerals Act, as these resources are excluded from the definition of ‘mineral’. A person who

15 See Sections 67(1)(b) and 67(1)(c) of the Minerals Act in respect of prospecting licences for minerals and Section 29 read with the definition of ‘exploration operations’ in Section 1 of the Petroleum Act in respect of exploration licences for petroleum. See also Van den Berg (2015:185). Petroleum exploration activities are discussed by Van den Berg (2015:42-45).

16 See also Van den Berg (2015:185).

17 See for example *Finbro Furnishers (Pty) Ltd v Registrar of Deeds, Bloemfontein* 1985 (4) SA 773 (A) at 784; *Badenhorst / Mostert* (2014:6-1).

18 In Section 1 of the Minerals Act, ‘mineral’ is defined as “any substance, whether in solid, liquid or gaseous form, occurring naturally in, on or under any land and having been formed by, or subjected to, a geological process, excluding (a) water, not being water taken from land or from the sea for the extraction therefrom of a mineral or a group of minerals; (b) petroleum, as defined in section 1 of the Petroleum (Exploration and Production Act), 1991 (Act 2 of 1991); or (c) subject to the provisions of subsection (2), soil, sand, clay, gravel or stone (other than rock material specified in Part 2 of Schedule 1) if they are bona fide required for purposes of (i) agriculture, building works, fencing or road making; (ii) the manufacture of bricks and tiles; (iii) the construction of sportsfields, airfields, railways, bridges, dams, reservoirs, weirs, canals or other irrigation works; or (iv) any other purpose defined by the Minister by notice in the Gazette.” Section 1 of the Petroleum Act defines ‘petroleum’ as “any liquid or solid hydrocarbon or combustible gas existing in a natural condition in the earth’s crust and includes any such liquid or solid hydrocarbon or combustible gas which has in any manner been returned to such natural condition, but shall not include coal, bituminous shales or other stratified deposits from which oil can be obtained by destructive distillation, or gas arising from marsh or other surface deposits.”

wishes to conduct these activities must, however, apply for an environmental clearance certificate, as these are listed activities:

- The extraction of peat.¹⁹ Peat is an organic soil or deposit, consisting of partly decayed plant remains in a wet environment and containing more than 50% carbon.²⁰ As peat is a soil, it will fall outside the definition of ‘mineral’ if it is *bona fide* required for agriculture, building works, fencing or road making, the manufacture of bricks and tiles or the construction of sportsfields, airfields, railways, bridges, dams, reservoirs, weirs, canals or other irrigation works.²¹ A mining licence will therefore not be required, but the person who intends to extract the peat must apply for and be granted an environmental clearance certificate.
- The extraction or processing of gas from natural and non-natural sources, including gas from landfill sites.²² The extraction of gas from natural sources require a production licence in terms of the Petroleum Act, as the definition of petroleum in this Act includes combustible gas existing in a natural condition in the earth’s crust.²³ Production of gas from any source other than its natural source, or production of non-combustible gas, will not require a production licence in terms of the Petroleum Act but will require an environmental clearance certificate.²⁴ The same applies to gas arising from marsh or other surface deposits – a production licence is not require to extract this gas, but an environmental clearance certificate will be required.

The listed activities may not be undertaken without an environmental clearance certificate issued in terms of the EMA.²⁵ If any person undertakes a listed activity without the necessary environmental clearance certificate, that person commits an offence and if found guilty, may be liable to a maximum fine of N\$ 500,000 or to imprisonment for a maximum period of 25 years, or to both such fine and imprisonment.²⁶

An organ of state responsible, under any law, for granting or refusing an authorisation, (referred to as a ‘competent authority’) may not issue an authorisation unless the person proposing to undertake the listed activity (‘proponent’) has obtained an environmental clearance certificate in terms of the EMA.²⁷ This includes the Minister of Mines and Energy responsible for granting authorisations in respect of mineral and petroleum. Therefore, the Minister of Mines and Energy (or a designated official) may

19 Item 3.5 of GN 29 of GG 4878 of 6 February 2012.

20 Jones (2010:140) and Allaby (2008:424).

21 See Section 1 of the Minerals Act, under the definition of ‘mineral’.

22 Item 3.4 of GN 29 of GG 4878 of 6 February 2012.

23 Section 1 of the Petroleum Act.

24 See also Van den Berg (2015:112-117).

25 Section 27(3) of the EMA.

26 Section 27(4) of the EMA.

27 Section 31(1) of the EMA.

not *issue* a licence or claim in respect of minerals before the proponent has obtained an environmental clearance certificate. It should be noted that the prohibition only refers to the *issuing* of authorisations. Therefore, application may still be made for a licence or claim in respect of minerals, and the application may be *granted*, but the licence or claim may not be *issued* to the proponent until the proponent has obtained an environmental clearance certificate.

The process for applying for an environmental clearance certificate is discussed elsewhere in this publication.²⁸ Of note is that the process involves consultation with all interested and affected parties. Their input has to be included in the application to the Environmental Commissioner. Consultation with interested and affected parties is a vital component of any regulatory framework for mineral and petroleum resources, as the exploitation of these resources results in serious inroads into the rights of private landowners.²⁹ Neither the Minerals Act nor the Petroleum Act requires an applicant for a licence to search for and extract minerals or petroleum to consult with interested and affected parties. The introduction of a consultation process under the EMA is therefore an important step towards ensuring a transparent and accountable regulatory framework for mineral and petroleum exploitation.

After receipt of the application for an environmental clearance certificate and all supporting documents and information, the Environmental Commissioner has to decide whether an environmental impact assessment is required or not; if an impact assessment is not required, the Environmental Commissioner will merely issue a clearance certificate.³⁰ In the Minerals Act, however, an impact assessment is in any event required, regardless of whether the Environmental Commissioner deems it necessary.³¹ Similarly, the Minister of Mines and Energy may require an applicant for a petroleum licence to carry out an impact assessment.³² In terms of regulation 11 of the Environmental Impact Assessment Regulations,³³ if an assessment is required in terms of any other law or policy and that other law or policy requires that information must be submitted or processes must be carried out that are substantially similar to information or processes required in terms of the Environmental Impact Assessment Regulations, the Minister of Environment and Tourism must take steps to enter into a written agreement with the authority responsible for administering the law or policy in respect of the coordination of the requirements of the law, policy and these regulations to avoid duplication in the submission of such information or the carrying out of such

28 See Chapter 8.

29 See *Meepo v Kotze and Others* 2008 (1) SA 104 (NC) at 13.1; *Bengwenyama Minerals (Pty) Ltd and Others v Genorah Resources (Pty) Ltd and Others* 2011 (4) SA 113 (CC) at 66.

30 Section 33(1) of the EMA.

31 Section 50(f)(i) of the Minerals Act.

32 Section 12(2)(b)(i) of the Petroleum Act.

33 The Regulations published in GN 30 of GG 4878 of 6 February 2012.

processes.³⁴ To date, no such agreement has been entered into between the Minister of Environment, Forestry and Tourism and the Minister of Mines and Energy.

2 Mining Laws and Policy

The Minerals Act contains various provisions aimed at protecting the environment. Apart from the Minerals Act, the Minerals Policy for Namibia ('Policy') and the SADC Protocol on Mining ('Protocol') also contain provisions aimed at protecting the environment.

2.1 The Minerals (Prospecting and Mining) Act³⁵

The Act came into force in 1994 and provides in general for reconnaissance, prospecting and mining for, disposal of, and the exercise of control over, minerals in Namibia and related matters. The Act provides for environmental protection at all stages of the mineral exploitation process. The Minerals Act also authorises the Minister, by notice in the Government Gazette, to declare that prospecting and mining operations within a specific area may only be carried on with special permission from the Minister and subject to such conditions as the Minister may impose, if the Minister deems it necessary or expedient for the protection of the environment or prevention of pollution.³⁶

2.1.1 Application for Claims and Licences

When applying for an exclusive prospecting licence, mining licence, mineral deposit retention licence (collectively referred to as 'mineral licence') or the registration of a mining claim, the applicant must provide particulars of the condition of, and any existing damage to, the environment in the area to which the application relates. The applicant must further provide an estimate of the effect which the proposed prospecting and /or mining operations may have on the environment and the proposed steps to be taken in order to minimise or prevent any such effect.³⁷ The same applies to an application for the renewal of a mineral licence or the registration of a mining claim.³⁸

34 Regulation 11 of the EIA Regulations.

35 No. 33 of 1992.

36 Section 122(2)(b) of the Minerals Act.

37 Sections 33(2)(c)(vi), 68(f), 79(f) and 91(f).

38 Section 38(1) read with Section 33(2)(c)(vi), Section 72(1) read with Section 68(f.), Section 84(1) read with Section 79(f) and Section 96(1) read with Section 91(f).

The same does not apply to applications for non-exclusive prospecting licences or reconnaissance licences. The reason for this insofar as it relates to reconnaissance licences is probably that it is not necessary, since reconnaissance operations are non-invasive operations involving remote sensing. The reason why the same does not apply to non-exclusive prospecting operations, which entails the same activities as exclusive prospecting licences, is uncertain. This is probably an oversight by the legislature. It is submitted, however, that application for non-exclusive prospecting licences or the renewal of these licences should include particulars of the condition of, and any existing damage to, the environment in the area to which the application relates, as well as an estimate of the effect which the proposed prospecting operations may have on the environment and the proposed steps to be taken in order to minimise or prevent any such effect. This is in line with the general tenor of the Act, as well as international standards.

2.1.2 Granting of Mining Claims and Mining Licences

The Minerals Act imposes additional environmental obligations on the Mining Commissioner and the Minister of Mines and Energy in respect of the granting of mining claims and mining licences. These additional obligations in respect of mining are justified in the light of the nature of mining operations, which are generally more invasive than prospecting operations. The Mining Commissioner may not grant the application for the registration of a mining claim unless the Commissioner is on reasonable grounds satisfied that in the course of any such mining operations or any prospecting operations which may be carried on in lieu of such mining operations, appropriate measures will be taken to minimise or prevent any pollution of the environment.³⁹ Similarly, the Minister may not grant an application for a mining licence unless the Minister is on reasonable grounds satisfied that the proposed programme of mining operations to be carried out and the expenditure to be incurred will ensure *inter alia* adequate protection of the environment.⁴⁰

2.1.3 Exercising Rights in Terms of Claims and Licences

It is a term and condition of the registration of a mining claim that the holder of such mining claim shall take all reasonable steps necessary to prevent or minimise any pollution of the environment.⁴¹ The same applies to holders of exclusive prospecting

39 See Section 35(e)(iii).

40 Section 92(2)(c)(ii)(bb) of the Minerals Act.

41 Section 41(1)(e) of the Minerals Act.

licences, mineral deposit retention licences and mining licences as well,⁴² but not holders of non-exclusive prospecting licences and reconnaissance licences. As discussed above,⁴³ the exclusion of holders of reconnaissance licences from this obligation makes sense with reference to the nature of reconnaissance operations. The exclusion of holders of non-exclusive prospecting licences does not, however, make sense and may be an oversight.

It is furthermore a term and condition of every mineral licence (but not mining claims or non-exclusive prospecting licences) that the holder must prepare an environmental impact assessment indicating the extent of any pollution of the environment before any prospecting operations or mining operations are being carried out. The holder must also provide an estimate of any pollution, if any, likely to be caused by such prospecting operations or mining operations.⁴⁴ If any pollution is likely to be so caused, an environmental management plan indicating the proposed steps is to be prepared in order to minimise or prevent to the satisfaction of the Commissioner any pollution of the environment and consequence of any prospecting operations or mining operations carried on by virtue of such mineral licence.⁴⁵ Furthermore, the holder must from time to time as circumstances change revise such an environmental management plan either out of his/her own motion or as required by the Commissioner.⁴⁶ The application of these obligations to reconnaissance licences but not non-exclusive prospecting licences or mining claims is nonsensical. It is submitted that this is probably an oversight.

When in the course of any reconnaissance, prospecting and mining operations carried on under any non-exclusive prospecting licence, a mining claim or a mineral licence, any mineral or group of minerals is spilled or land or water is polluted or any plant or animal life is endangered or destroyed or any damage or loss is caused to any person (including the state) by such spilling or pollution, the holder of the licence or mining claim must immediately report such spilling, pollution, loss or damage to the Minister of Mines and Energy. The holder must then take at his or her own costs all such steps as may be necessary in accordance with good reconnaissance, prospecting or mining practices or otherwise as may be necessary to remedy such spilling, pollution, loss or damage.⁴⁷ If the holder fails to comply with these provisions within such period as the Minister may deem in the circumstances to be reasonable, the Minister may direct the holder by notice to take the necessary steps (as stated in the notice) within the necessary period (also stated in the notice) to remedy the spilling, pollution or damage or loss. The notice must be in writing addressed and delivered to the holder.

42 Section 41(1)(e) read with Sections 74, 86 and 98 of the Minerals Act.

43 At 2.1.1.

44 See Section 50(f)(i) of the Minerals Act.

45 See Section 50(f)(ii) of the Minerals Act.

46 See Section 50(g) of the Minerals Act.

47 Section 130(1) of the Minerals Act.

The Minister may, if the holder fails to comply with such directions to the satisfaction of the Minister within the period specified in such notice or such further period as the Minister may on good cause shown allow in writing, cause such steps to be taken as may be necessary to remedy such spilling, pollution or damage or loss and recover in a competent court the costs incurred thereby from such holder.⁴⁸ This section does not apply to holders of exclusive prospecting licences. It is submitted that this is an oversight by the legislature, as the activities authorised by a non-exclusive prospecting licence and an exclusive prospecting licence are the same.

2.1.4 Mine Closure and Rehabilitation

If a mining claim or reconnaissance, prospecting, retention or mining area is abandoned, the holder of the claim or licence to which such area relates must take all such steps as may be necessary to remedy to the reasonable satisfaction of the Minister any damage caused by any prospecting operations and mining operations carried on by such holder to the surface of, and the environment on, the land in the area in question.⁴⁹ The Minister may, with due regard to good reconnaissance, prospecting or mining practices by notice in writing addressed and delivered to the holder, give directions to such holder in relation to the protection of the environment.⁵⁰

If a non-exclusive prospecting licence, mining claim or mineral licence has been cancelled or has expired, the Minister may by notice direct such person to take all such steps as may be necessary to remedy to the satisfaction of the Minister any damage caused by any prospecting operations and mining operations carried on by such holder to the surface of, and the environment in, such area. The notice must be in writing addressed and delivered to the person who was the holder of such licence or mining claim. The same applies if any area to which such licence or mining claim relates has been abandoned or has for any reason ceased to be part of the area to which such licence relates.⁵¹ If the person fails to comply with a direction given in the notice, the Minister may cause such steps to be taken and recover the costs thereof from that person.⁵²

48 Section 130(2) of the Minerals Act.

49 Sections 43(2)(c) and 54(2)(b) of the Minerals Act.

50 Section 57(1)(b) of the Minerals Act.

51 Section 128(1)(b) of the Minerals Act.

52 Section 128(2)(a) of the Minerals Act.

2.2 The Minerals Policy

In 2002, the Ministry of Minerals and Energy published a Minerals Policy for Namibia ('Policy'). This Policy states, in its foreword, that the Government recognises the importance of the mining industry in the social and economic development of Namibia. The vision of the policy is

to achieve a high level of responsible development of national resources in which Namibia becomes a significant producer of mineral products while ensuring maximum sustainable contribution to the socio-economic development of the country [and] [t]o further attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation and marketing.⁵³

The mission of the policy is stated as follows:⁵⁴

The Ministry of Mines and Energy (MME), as the custodian of Namibia's rich endowment of mineral and energy resources, facilitates and regulates the responsible development and sustainable utilisation of these resources for the benefit of all Namibians.

The Policy recognises the effect that mining has on the environment and the need for appropriate legislation to regulate the environment in mining. It furthermore recognises that there is little effective environmental management within the Namibian mining industry.⁵⁵ The Minerals Policy attributes this to inadequate co-ordination between the Ministry of Mining and Energy and the Ministry of Environment, Forestry and Tourism in relation to environmental legislation; a lack of public awareness, capacity weaknesses and education programmes focused on environmental issues; the absence of an environmental budget, and the public antagonism towards mining activities because of its negative effects on the environment.⁵⁶

The Policy further calls for clear funding mechanisms for environmental rehabilitation, management and control, which will be achieved through the development and implementation of internationally benchmarked Environmental Trust Funds or Bonds, and the implementation of industry good practices in respect of waste management.⁵⁷

The Government's policies with regard to the mining industry and the environment are summed up as follows:

- Government will ensure that the development of Namibia's mining industry proceeds on an environmentally sustainable basis.
- Government will enact exploration and mining legislation benchmarked against environmental global best practice.

53 Para. 1.2 of the Policy.

54 Para. 1.2 of the Policy.

55 GRN (2002e:26).

56 Para. 5.2. of the Policy.

57 Paras 5.3. and 5.4. of the Policy.

- Government will ensure compliance during rehabilitation with national policies and guidelines, and where appropriate and applicable, with global best practice.
- Government, with relevant stakeholders, will investigate the establishment of financial mechanisms for environmental rehabilitation and aftercare.
- Government, in consultation with the mining industry, will develop waste management standards and guidelines for Namibia.

Although the Policy is not binding, it does reflect the Ministry's attitude towards mining and the environment.

2.3 The SADC Protocol on Mining

The SADC Protocol on Mining ('Protocol on Mining') states that member states must promote sustainable development by ensuring that a balance between mineral development and environmental protection is attained.⁵⁸ Member states must encourage a regional approach in conducting environmental impact assessments especially in relation to shared systems and cross-border environmental effects.⁵⁹ Member states must collaborate in the development of programmes to train environmental scientists in fields related to the mining sector.⁶⁰ Through the Protocol on Mining, member states undertake to share information on environmental protection and environmental rehabilitation.

58 Article 8(1).

59 Article 8(2).

60 Article 8(3).

Chapter 19: Energy Law and Policy in Namibia

Detlof von Oertzen

1 Introduction to Namibia's Energy Industry

Namibia's energy industry comprises of formalised and regulated downstream liquid fuels and electricity subsectors, as well as upstream oil and gas subsectors. Less developed downstream gas and thermal energy subsectors exist as well. The electricity and thermal energy sectors are increasingly benefitting from the country's considerable renewable energy endowments.¹

1.1 The Liquid Fuels Sector

Namibia imports all liquid fuels. The liquid fuels sector comprises of the upstream (i.e. exploration), midstream (i.e. storage and transportation) and downstream (i.e. distribution and supply) subsectors. Downstream, the liquid fuels sector is dominated by large multi-national entities, noting that the state-owned National Petroleum Corporation of Namibia (Namcor) is gradually increasing its share in the liquid fuels distribution business.²

1.2 The Electricity Sector

The electricity sector has a well-developed legal and regulatory framework that is implemented by the country's electricity regulatory authority, i.e. the Electricity Control Board.³

The state-owned electricity utility NamPower owns and operates the country's transmission networks, which connects various regional markets to Namibia and facilitates the active trade of electricity.⁴ In mid-2020, NamPower's total installed generating capacity amounts to 489.5 MW, as well as an interconnection capacity to regional suppliers of 300 MW.⁵

1 von Oertzen (2019).

2 See <http://namcor.com.na>, accessed 1 July 2020.

3 See <https://www.ecb.org.na/>, accessed 1 July 2020.

4 See <https://www.nampower.com.na/>, accessed 1 July 2020.

5 See <https://bit.ly/3313gRg>, accessed 15 February 2022.

Three Regional Electricity Distribution companies (REDs), local and regional authorities and other entities distribute and supply electricity to end-users. Since 2015, Independent Power Producers commenced operations, and more are to enter the electricity sector in future.⁶ Chapter 20 summarises the key features that characterise the country's electricity sector.

1.3 The Upstream Oil and Gas Sectors

Over the past years, upstream oil and gas exploration have resulted in considerable geological data and information.⁷ However, in mid-2020, the only commercially exploitable discovery remains the Kudu gas field, located some 170 km off the country's south-western coast.⁸

1.4 The Renewable Energy Sector

Namibia's indigenous renewable energy resources, including solar, wind and biomass (specifically in the form of encroacher bush species) are available in abundance.⁹ In addition, the Kunene River on the northern border with Angola, and to a lesser degree the Okavango River and the Orange River that forms the country's southern border with South Africa, offer additional hydropower potentials.¹⁰ Regional imports, in addition to hydropower from Ruacana in the Kunene River and solar photovoltaic generation, and some minor wind power, feed the country's electricity sector.¹¹ The use of biomass as required to meet select thermal energy requirements of domestic end-users, for charcoal production, power production,¹² as animal fodder and the replacement of liquid fossil fuels, is steadily increasing.¹³

Intermittent renewable energies, i.e. those that are non-continuous or only occur at certain times of the day or in a given year, are already in use and are expected to further contribute to the country's electricity supply side.¹⁴ Examples include the hydropower resources in the country's perennial yet highly variable rivers, most notably the

6 von Oertzen (2019).

7 See <http://www.mme.gov.na/petroleum/upstream/>, accessed 1 July 2020.

8 von Oertzen (2009).

9 von Oertzen (2015).

10 von Oertzen (2019).

11 von Oertzen (2014c).

12 Hager *et al.* (2007).

13 von Oertzen (2014a).

14 von Oertzen (2018b).

Kunene River, as well as the solar and wind resources, all of which are not permanently available to generate electricity.¹⁵

2 Energy-related Regional and International Developments

2.1 Energy Security

Energy is the foundation of many of the most important economic activities and is a prerequisite for national development. Energy consumption data gathered over the past decades show that a steady increase of energy supplies is needed to sustain growing populations and secure lifestyles. This realisation implies that energy security is essential and of critical importance to all nations.¹⁶

The International Energy Agency (IEA) defines energy security as “the uninterrupted availability of energy sources at an affordable price”.¹⁷ The IEA further states that energy security has long-term implications that relate to “timely investments to supply energy in line with economic developments and environmental needs. On the other hand, short-term energy security focuses on the ability of the energy system to react promptly to sudden changes in the supply-demand balance”.¹⁸

Energy security plays an important role at the crossroads of national security, economic security and environmental security. For this reason, energy security is high on the agenda of most national and international actors and entities and is considered to be one of the principal means to overcome poverty and establish a more sustainable economic future for all.

The need for energy security and the near-continuous growth of energy over the past decades is associated with a variety of manifestations and impacts. Increasingly, there is consensus on the negative impacts associated with an ever-expanding energy industry. The negative impacts associated with the exploitation and degradation of ecosystem services, especially those derived from the land, water and air, and the energy sector’s growing footprint on the global environment, is a major international challenge. Indeed, the scale, scope and use of finite resources associated with the energy industry are increasingly affecting the availability of arable land, potable water, and fresh air, and their long-term productive potentials. Of particular concern is the unfettered consumption of fossil fuels and its multitude of negative environmental impacts, including those associated with global particulate and gaseous emissions, the degradation of land, displacement of people and many others.

15 von Oertzen (2015).

16 See Ruppel / Althusmann (2016).

17 International Energy Agency, see <http://www.iea.org/topics/energysecurity/>, accessed 22 August 2020.

18 Ibid.

2.2 Energy and Climate Change

In light of the adverse impacts on the environment brought about by the energy industry, including energy-related carbon dioxide, methane and particulate emissions from the use of fossil fuels, it is broadly acknowledged that future energy supplies must be substantially decarbonised. Indeed, the international debate about climate change now places the fundamental link between establishing clean energy supplies and economic development into centre-stage.¹⁹

There is broad consensus that climate change is one of the most significant challenges of the 21st century. Climate change poses risks to man-made and natural systems, imposing pressure on ecosystems and ecosystem services that all life depends on.²⁰ The risks and impacts associated with climate change can be reduced in parts by advancing adaptation and mitigation measures.

Energy technologies play a particularly important role in mitigating climate change. Greenhouse gas (GHG) emissions resulting from the provision of energy services are significantly contributing to the steady increase of atmospheric GHG concentrations. Indeed, global anthropogenic GHG emissions are significantly attributable to the use of fossil fuels. Options for lowering GHG emissions from the use of energy, while continuing to satisfy the global demand for energy, include the deployment of energy efficiency measures and technologies, switching from fossil fuelled energy systems to clean energy systems, by carbon capture and storage and the use of low-GHG emitting energy supplies powered by renewable energies. The nexus between climate change and energy security has been a focus of Intergovernmental Panel on Climate Change (IPCC), suggesting that²¹

most climate policies intersect with other societal goals, either positively or negatively, creating the possibility of 'co-benefits' or 'adverse side-effects'. Since the publication of AR4 a substantial literature has emerged looking at how countries that engage in mitigation also address other goals, such as local environmental protection or energy security, as a 'co-benefit' and conversely. This multi-objective perspective is important because it helps to identify areas where political, administrative, stakeholder, and other support for policies that advance multiple goals will be robust. Moreover, in many societies the presence of multiple objectives may make it easier for governments to sustain the political support needed for mitigation. Measuring the net effect on social welfare requires examining the interaction between climate policies and pre-existing other policies.

The driving forces towards the formulation and enactment of climate policy are not singularly based on the concern about climate change. This can be seen from the efforts of many governments that address the issue of climate change in the context of other national objectives, such as the alleviation of poverty, national development and the achievement of energy security. A common strategy for countries wanting to reduce

19 Ruppel (2011b).

20 Adger *et al.* (2014:760).

21 Stocker *et al.* (2013).

their dependence on fossil fuels is to bolster their climate-related efforts by promoting renewable energy supply systems and the uptake of energy efficiency technologies. In Namibia too, an overview of how this effort could be structured has been the topic of intense debate.²²

Most international actors recognise that the deployment of renewable energies is an important means to mitigate the impacts of climate change.²³ While fossil fuels remain the principal ingredient used by the global economy's engine today,²⁴ renewable energy systems are increasingly recognised to be the guarantors to future-proof energy supplies while also limiting global climate change. Of note are renewable energy supply systems utilising wind power, solar energy, hydropower, geothermal energy, biomass and wave energy, all of which can contribute to mitigate climate change.

The IPCC's views on the deployment of renewable energy supplies include the following:²⁵

On a global basis, it is estimated that renewable energies (RE) accounted for 12.9% of the total 492 EJ of primary energy supply in 2008. The largest RE contributor was biomass (10.2%), with the majority (roughly 60%) of the biomass fuel used in traditional cooking and heating applications in developing countries but with rapidly increasing use of modern biomass as well. Hydropower represented 2.3%, whereas other RE sources accounted for 0.4%. In 2008, RE contributed approximately 19% of global electricity supply (16% hydropower, 3% other RE), biofuels contributed 2% of global road transport fuel supply, and traditional biomass (17%), modern biomass (8%), solar thermal and geothermal energy (2%) together fuelled 27% of the total global demand for heat. The contribution of RE to primary energy supply varies substantially by country and region. Scenarios of future low greenhouse gas futures consider RE and RE in combination with nuclear, and coal and natural gas with carbon capture and storage.

While the RE share of global energy consumption is still relatively small, deployment of RE has been increasing rapidly in recent years. Of the approximately 300 GW of new electricity generating capacity added globally over the two-year period from 2008 to 2009, 140 GW came from RE additions. Collectively, developing countries hosted 53% of global RE power generation capacity in 2009. Under most conditions, increasing the share of RE in the energy mix will require policies to stimulate changes in the energy system. Government policy, the declining cost of many RE technologies, changes in the prices of fossil fuels and other factors have supported the continuing increase in the use of RE. These developments suggest the possibility that RE could play a much more prominent role in both developed and developing countries over the coming decades.

22 von Oertzen (2014b); von Oertzen (2015).

23 UNFCCC (2014); Former Executive Secretary of the UNFCCC, Christiana Figueres, on the occasion of the Investor Summit on Climate Risk in January 2014, urging investors to consider green investments.

24 REN21 (2020).

25 IPCC (2011:9).

2.3 International Regulatory Framework

Energy security is critical to keep economies competitive, to enhance sustainable development, to power national development and reduce poverty. In light of these imperatives it is surprising to note that a global energy security system does not exist. This is likely a reflection of many of the disjoint international efforts on a variety of topics, including sustainable development, environmental protection, trade, investment and many others. The global energy governance regime is fragmented, and many of its intrinsic components are separately and individually managed, often in a disjointed manner. Many instances of inter-state cooperation interrelate and create a normative patchwork of practices, with adverse implications for the global energy economy and associated energy security. Often, this is directly attributable to the singular pursuit of national interests, as well as the plurality of institutions and agreements.²⁶

Many international organisations are operating in the energy arena, including the International Energy Agency (IEA), the Organization of the Petroleum Exporting Countries (OPEC), the Gas Exporting Countries Forum (GECF), the International Energy Forum (IEF), the World Trade Organization (WTO), and the International Renewable Energy Agency (IRENA).

A large number of international agreements promote the accelerated deployment and uptake of renewable energy supplies that form an important ingredient of designing a sustainable energy framework for the future. Among them are the Sustainable Development Goals (SDGs) and the United Nations Sustainable Energy for All Initiative. The latter aims to ensure universal access to modern energy services (over one billion people worldwide lack access to electricity), to double energy efficiency (global energy-related carbon dioxide emissions could rise 20% by 2035; equipment maintenance, thermostat settings, and upgrades to reduce emissions by up to 50%), and to double the renewable energy share in the overall global energy mix by 2030 (global energy demand will grow up to 33% from 2010 to 2035).²⁷

Relevant legal instruments include the UN Charter, setting out a foundation for international agreements of relevance to energy-related matters by providing, for example, for the preservation of sovereignty over domestic matters, including the management of natural resources and especially of energy-related resources.²⁸ In addition, there are many other international agreements, such as the Energy Charter Treaty (i.e. a multilateral framework for energy cooperation)²⁹ and the legal regime put forward by the World Trade Organisation.³⁰

26 Ibid.

27 Sustainable Energy for All; see <http://www.se4all.org>, accessed 25 August 2020.

28 See <http://www.energycharter.org/>, accessed 25 August 2020.

29 See <https://www.energycharter.org/process/energy-charter-treaty-1994/energy-charter-treaty/>, accessed 20 August 2020.

30 Bougette *et al.* (2014).

The United Nations Framework Convention on Climate Change (UNFCCC) aims to prevent dangerous human interference with the world's climate system, thus working at the coalface between climate change and energy.³¹ The UNFCCC, as adopted in 1992, recognises that for developing countries to progress towards sustainable social and economic development,³²

their energy consumption will need to grow taking into account the possibilities for achieving greater energy efficiency and for controlling greenhouse gas emissions in general, including through the application of new technologies on terms which make such an application economically and socially beneficial.

Within the framework of the Kyoto Protocol, the enhancement of energy efficiency has been stipulated as a means for countries to achieve tangible limitations and a steady reduction of national GHG emissions. Amongst others, this highlights the need for further research, promotion, development and the increased use of renewable energies.³³ Today, many of the activities advanced by the UNFCCC are intimately related to renewable energies and the upscaling of the deployment of renewable energy and energy efficient technologies to address climate change mitigation.³⁴

In this context it is of importance to mention the global SDGs that were adopted by 193 United Nations members in September 2015. Goal 7 of the seventeen individual SDGs addresses the topic of energy. The pronouncement of Goal 7 states: "Ensure access to affordable, reliable, sustainable, and modern energy for all", and proposing the following energy-related targets:³⁵

- 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services
- 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
- 7.3 By 2030, double the global rate of improvement in energy efficiency
- 7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
- 7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.

31 United Nations Framework Convention on Climate Change; see <https://unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change>, accessed 20 August 2020.

32 Preamble of the UNFCCC.

33 Kyoto Protocol, Article 2; see https://unfccc.int/kyoto_protocol, accessed 20 August 2020.

34 IPCC; <https://www.ipcc.ch/reports/>, accessed 20 August 2020.

35 See <https://www.un.org/sustainabledevelopment/energy/>, accessed 20 August 2020.

2.4 Regional Regulatory Framework – the SADC Region

The Southern African Development Community (SADC) recognises that energy-related challenges cannot be resolved by national government alone and require a regional emphasis as well. Regional integration is a key driver to further expand opportunities for renewable energies as well as energy efficient technologies.

The SADC region's main energy-related challenges include:³⁶

- 32% of rural areas in the region have access to energy;
- some 50% of the region's residents have access to electricity;
- electricity shortages continue to strain the region, and power projects intended to address these shortages lag behind their implementation deadlines, often due to a lack of funding;
- the migration to cost reflective tariffs is slow;
- an absence of regulatory frameworks required to attract international investments and promote financing in the energy sector;
- coal-fired electricity provides some 62% of the total electricity requirement in Southern Africa, thereby being a contributing factor to global warming;
- Infrastructure development efforts remain weak, and foreign commitments continue to inhibit the use of the region's considerable fossil fuel resources; and
- pricing and infrastructure hurdles such as grid connections, manufacturing, and quality testing impede development of the region's renewable energy potential.

Adverse environmental and health impacts due to the continued use of fossil fuels are widespread. On the other hand, the region is abundantly endowed with renewable energy resources, but these are not yet a major contributor to the total electricity needs, except for hydropower that accounts for about one-fifth of the SADC's total energy generation.³⁷

The African Development Bank suggests that the SADC region has the potential to become a "gold mine" for renewable energy, due to abundant solar and wind resources.³⁸ However, the presence of a resource does not imply that it is put to use, and to date, many challenges remain:³⁹

- High upfront costs of most renewable energy systems;

36 Southern African Development Community; see <https://www.sadc.int/themes/infrastructure/>, accessed 25 August 2020.

37 Ibid.

38 Ngwawi (2015).

39 See <http://www.sadc.int/themes/infrastructure/en/hydropower/>, accessed 25 August 2020.

- high percentage of imported renewable energy equipment, implying that these technologies remain critically exposed to the whims of foreign currency fluctuations;
- limited local manufacturing capacity for renewable energy technologies exist;
- limited capacity to connect intermittent renewable energy projects to the grid;
- lack of appropriate renewable energy testing facilities and limited standards;
- research, development, and the production of renewable energy technologies do not yet benefit from targeted localisation strategies;
- guidelines for assessing the impacts and benefits of incentives targeting renewable energy projects remain absent;
- the procurement of renewable energy systems remains largely non-standardised; and
- reliable data on the uptake and use of renewable energy technologies is scarce, further inhibiting progress and fact-based decision-making.

SADC has emphasised the need to enhance energy security, amongst others by developing and implementing targeted renewable energy policies based on the SADC's legal and institutional frameworks. Generally, the implementation of energy-related policies has been slow. However, some advances have been made, particularly in the electricity sector. To date, nine member states are interconnected to the Southern African Power Pool, thereby contributing to the gradual establishment of a more competitive common market for electricity across the region.⁴⁰ In addition, SADC has established the Regional Electricity Regulatory Association of Southern Africa that aims to further harmonise the region's electricity-related policies and regulatory frameworks.⁴¹

2.4.1 Regional Indicative Strategic Development Plan

The SADC Regional Indicative Strategic Development Plan (RISDP) was originally adopted in 2003, setting infrastructure development targets (including for energy) for the period from 2004 to 2018. RISDP envisaged six energy related targets, including that 70% of rural communities within southern Africa should have access to modern forms of energy supplies by 2018.⁴²

Between 2014 and 2015, a task force comprising the SADC Secretariat, all member states and key stakeholders developed and finalised the Revised RISDP 2015-2020 and its Implementation Framework and Indicative Costs. In 2015, the SADC Summit

40 Southern African Power Pool; see <http://www.sapp.co.zw>, accessed 25 August 2020.

41 Regional Electricity Regulatory Association of Southern Africa; see <http://icer-regulators.net/icer-members/regional-electricity-regulators-association-of-southern-africa/>, accessed 22 August 2020.

42 SADC (2003:68).

approved the Revised RISDP and Implementation Framework for the period between 2015 and 2020.⁴³

2.4.2 Regional Energy Access Strategy and Action Plan

In 2010, the Regional Energy Access Strategy and Action Plan (REASAP)⁴⁴ was approved, setting goals for improving access to modern forms of energy. The REASAP envisages the development of a Renewable Energy and Action Plan (RESAP), suggesting a number of targets for renewable energy for the period 2020-2030, including for 175 MW of biomass power and 500 MW of solar power by 2020.⁴⁵ In mid-2020 it must be noted that these targets were not met.

The SADC Renewable Energy Strategy and Action Plan 2015 to 2020 (RESAP I) aimed to encourage the region to achieve a renewable energy mix of at least 32% by 2020, which should rise to 35% by 2030.⁴⁶ It is noted that the targets fell short of those that select SADC countries had set for themselves. In 2015, the establishment of the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) was approved by SADC energy ministers, and the Centre has since been operationalised with Namibia being the host country.

2.4.3 SADC Energy Sector Plan

In 2012, the Energy Sector Plan⁴⁷ was developed as part of the SADC Regional Infrastructure Development Master Plan (RIDMP). The RIDMP aims to lay down regional infrastructure requirements and conditions to facilitate the realisation of key infrastructure developments in the energy, water, transport, tourism, meteorology and telecommunications sectors by 2027. The RIDMP proposes that “additional capacity beyond 2027 should be based on a combination of hydro, wind and solar. Apart from hydro-power, SADC estimates that the major renewable energy capacity addition will be from wind energy, followed by solar PV, CSP and biomass.”⁴⁸

43 See <http://www.gov.za/speeches/34th-meeting-sadc-energy-ministers-24-jul-2015-0000>, accessed 21 August 2020.

44 See http://www.sadc.int/files/5713/5791/7436/EUEI_PDF_SADC_Regional_Energy_Access_Strategy_Mar_2010_EN.pdf, accessed 25 August 2020.

45 REN21 (2020).

46 See <https://www.sadc.int/themes/infrastructure/>, accessed 25 August 2020.

47 See http://www.sadc.int/files/5413/5293/3528/Regional_Infrastructure_Development_Master_Plan_Energy_Sector_Plan.pdf, accessed 25 August 2020.

48 REN21 (2020).

2.5 Support Mechanisms for the Deployment of Renewable Energies

Many countries have established support mechanisms for the further development of their renewable energy resources. However, a common characteristic is that their success remains critically dependent on the political will to implement these, and the sustained commitment to provide tangible support to such endeavours.⁴⁹

A variety of approaches are used to support the deployment and use of renewable energy systems. Amongst others, the following main support mechanisms are currently favoured:

- Targeted legislation and associated regulatory support mechanisms;
- support funding, tariffs and tax incentives. Financial support to renewables may include capital grants, subsidies for preferential purchase prices, targeted low-interest loans and others. Tariff mechanisms include preferential feed-in tariffs,⁵⁰ premiums on electricity prices and tariff-related premiums applied as part of the bidding process;
- power purchase agreements with supporting clauses for renewables;
- capacity-driven approaches, including bidding processes and quota systems;⁵¹
- reserving specific market shares for renewables by declaring (voluntary or mandatory) renewable energy targets;
- removing subsidies from non-renewable fuels, payments by polluters and the institution of emission caps; as well as
- various indirect support measures, including research funding, training and others.

A selection of these support measures is further elaborated below.

2.5.1 Targeted Legislation and Regulatory Support

Legislation and regulatory effort are required to ensure that relevant renewable energy support mechanisms are in place. These must be developed with due care and necessitate a special focus to ensure that measures do not undermine the viability of electricity supply industry actors while ensuring that end-user electricity prices are not adversely affected.

49 Lüdemann (2012:315).

50 UNEP (2012:14).

51 Ibid:10.

2.5.2 Feed-in Tariffs

Feed-in tariffs are a common support mechanism used in many developing countries.⁵² They are a tariff-based incentive that obliges entities to procure electricity at a fixed purchase price for a fixed term.⁵³ These tariffs are usually based on the specific cost of supply, thereby taking the technology used to generate the supplies into account and may also include components such as technology-related incentives and consumer incentives.⁵⁴

Feed-in tariffs are used to set the price at which electricity exporters sell their outputs. A criticism of such tariffs is that the fixed price level is not determined by market forces but is essentially established and guaranteed by law. This constitutes a deliberate interference with the market and may lead to the promotion of supply systems that would possibly not be competitive. Despite such reservations, feed-in tariffs are considered to be a reasonably efficient and effective support mechanism to promote the uptake and development of renewable energy supply systems.⁵⁵ This is particularly evident where tariffs are underpinned by a legal framework that speaks to ensuring that investments are incentivised, and that investment certainty is guaranteed.

Feed-in tariffs have the advantage that they create certainty from the perspective of investors, by allowing a guaranteed payment for electricity from renewable sources that are fed into the grid. Certainty promotes investments and enhances the appetite to consider generation projects. Economists often argue that feed-in tariff are the most efficient and effective support scheme to incentivise investments, including in renewable energy technologies. This is manifested by the number of countries that use feed-in tariffs, particularly driving investments in global wind and photovoltaic capacity.⁵⁶

Namibia's Renewable Energy Feed-in Tariff has seen the operationalisation of 13 photovoltaic and one wind power project with a capacity of 5 MW each. Feed-in tariffs are technology-specific, i.e. different for electricity generated by solar, wind and biomass.⁵⁷

2.5.3 Power Purchase Agreements

Power Purchase Agreements (PPAs) are used to codify the agreement between the party offering a supply and the party taking supplies. Amongst others, PPAs specify the price of electricity, price escalations, minimum and maximum capacity to be added

52 Ruppel / Ruppel-Schlichting (2015:90).

53 Bjork *et al.* (2011:36).

54 Ibid:28.

55 See <https://www.eurosolar.de/en/>, accessed 21 August 2020.

56 *Etango* (2013:21).

57 Ngatjiheue (2015b).

to the grid and many other details. Often, PPAs include targeted incentive designs, such as time-of-use feed-in tariffs as set (or agreed to) by the regulatory authority. PPAs may also define the framework of agreements between parties using procurement mechanisms other than direct negotiations or competitive bidding. In such cases, the regulator approves the framework contract and issues standard model agreements for use by the parties.⁵⁸ A common challenge of PPAs is that power producers may – in time – be faced by changing market conditions while having to remain bound by the contract conditions as stipulated in the PPA.⁵⁹ Utilities may find themselves in the same situation: for example, tariff escalations that are tied to the consumer price index may no longer be considered realistic in the medium or long term, resulting in excessive year-on-year tariff escalations.

2.5.4 Capacity-driven Approaches

Capacity-driven approaches depend on the establishment and operation of an electricity market and include bidding processes and tradable quotas.⁶⁰ These approaches aim to oblige electricity suppliers to provide a given quantity of electrical energy generated by renewable energy systems.

2.5.4.1 Competitive Bidding

Competitive renewable energy bidding entails auctions amongst electricity producers using renewable energy supply systems. These auctions imply the supply of a specified quota of electrical energy generated from renewable energy power systems, with the provider of the lowest asking price being the contract recipient. For example, the European Commission Guidelines present auctions as a standard procedure used to allocate and support renewable energy systems when receiving state support funding for environmental protection and energy.⁶¹

Competitive bidding has established a good record of delivering electricity from renewable energy systems to the grid, noting that such bidding is often accompanied by intense competition to achieve the lowest prices. Challenges associated with competitive bidding include that not all projects that are selected will eventually be implemented, as the rate of project realisation is almost always below the initial target. For participants in competitive bids, the associated risks are higher than is the case in open

58 Bjork *et al.* (2011:42).

59 Roedern (2012:2).

60 Lüdemann (2012).

61 EC (2014).

feed-in schemes, because a proposed project may not be selected, and bidders may incur costs or face penalties when they are unable to implement a project that has been selected. Also, a sufficient number of bidders must participate, otherwise an auction will not produce a competitive result. In addition, auctions may incentivise market players to game the system, which may result in driving up costs. This is especially true for market players that can exercise some market power, which is of particular relevance for large market players that are better established and hold a more favourable position than their smaller competitors.⁶²

2.5.4.2 Tradable Quotas

In tradable quota approaches, a given percentage of energy is generated from renewable energy supply systems. Quotas are usually set by government and allocated to select operators. Operators decide whether or not to fulfil a given quota or whether to trade the quota by paying another entity to supply the allocated amount of energy.⁶³ The rationale of the tradable quota approach is that the cost of supply (by way of a renewable energy supply system) is kept low, which in turn minimises the price of electricity that is paid by end-users. However, tradable quota systems have been criticised for mainly favouring the deployment of least-cost supply options rather than a mix of supply options required to achieve maximally resilient energy supplies.

3 Energy-related Laws and Policies in Namibia

This section provides a brief overview to Namibia's main energy-related laws and policies.

3.1 The Petroleum Products and Energy Act (1990)

The Petroleum Products and Energy Act No. 13 of 1990, and its various subsequent amendments,⁶⁴ regulate the country's downstream petroleum industry. The Act states that the Minister of Mines and Energy may make regulations relating to the conducting of business in respect of petroleum products application of health, hygiene, safety and environmental standards.⁶⁵ In 1991, regulations relating to the purchase, sale, supply,

62 De Vos / Klessman (2014).

63 Ringel (2006:8).

64 see <https://bit.ly/3xzV7Sx>, accessed 20 June 2021.

65 Section 2A(b)(ii) of the Petroleum Products and Energy Act.

acquisition, storage, transportation, recovery and re-refinement of used mineral oil were published.⁶⁶ Amongst others, the Regulations prohibit the disposal, contamination, usage and possession, storage and transportation in certain containers, of used mineral oil without the necessary authorisation.⁶⁷

3.2 The Petroleum Exploration and Production Act (1991)

The Petroleum Exploration and Production Act No. 2 of 1991 regulates the country's upstream petroleum industry. The Act provides for the reconnaissance, exploration, production, disposal of, and the exercise of control over, petroleum and provides for matters incidental thereto.⁶⁸

3.2.1 License Application

An application for a reconnaissance or exploration licence, or the renewal of such a licence, must set out an estimate of the effect which the proposed operations may have on the environment.⁶⁹ Applications for production licences require an estimation of the likely impact that the production operations will have on the environment, and must also set out how the applicant intends to control or limit the potential effect of the production operations on the environment.⁷⁰

Upon receipt of an application for, or the renewal or transfer of, petroleum licences, the Minister may require the applicant to carry out or cause to be carried out such environmental impact studies as may be specified in such notice and to furnish the Minister, within such period as may be specified in the notice, with such proposals, by way of alteration to or in addition to proposals set out in the application, as may be so specified.⁷¹ The same also applies to applications for the approval for the granting, cession or assignment of interest in a petroleum licence, or an application to be joined as a joint holder of the licence.

66 General Notice 112 in Government Gazette 281 of 21 October 1991.

67 Ibid: Regulation 3.

68 Section 1 of the Act defines *petroleum* as “any liquid or solid hydrocarbon or combustible gas existing in a natural condition in the earth's crust and includes any such liquid or solid hydrocarbon or combustible gas which has in any manner been returned to such natural condition, but shall not include coal, bituminous shales or other stratified deposits from which oil can be obtained by destructive distillation, or gas arising from marsh or other surface deposits.”

69 Sections 24(1)(c)(iii), 25(1)(c)(iii), 32(1)(c)(iii) and 33(1)(c)(iii) of the Petroleum Exploration and Production Act.

70 Ibid: Section 46(2)(i)(vii).

71 Ibid: Section 12(2)(b).

The Minister may refuse to grant an application for a petroleum licence, for example if the application indicates that the operations to be undertaken will have adverse effects on the environment. An applicant is only required to estimate impacts on the environment, even if they are substantial, and the legislation makes provision that a licence may still be granted.

The Act regulates the obligations of holders of petroleum licences in respect of the environment in some detail. The Minister of Mines and Energy may, having due regard to good practices, give directions to the holder of a licence in respect of the prevention of the spillage of substances (including water and drilling fluid) extracted from a well drilled for purposes or in connection with reconnaissance operations, exploration operations or production operations, or substances used in relation to the drilling of such a well.⁷²

3.2.2 Environmental Obligations

The Act imposes various obligations relating to the environment on the holder of exploration and production licences. Such a holder has an obligation to carry out exploration and production operations in the exploration or production area in accordance with good oilfield practices.⁷³ The holder must also control the flow and prevent the waste, escape or spilling in the exploration area of petroleum, water or any gas.⁷⁴ Further, the holder must prevent the waste or spilling in the exploration or production area of substance (including water and drilling fluid) extracted from a well drilled for purposes of or in connection with exploration or production operations or used in relation to the drilling of such a well.⁷⁵ The holder must prevent damage to petroleum-bearing strata in any area outside the exploration area⁷⁶ and prevent petroleum reservoirs in the exploration and production area or water sources from being connected with each other.⁷⁷

The holder of an exploration or production licence must prevent water or any other substance entering any petroleum reservoir through the wells in the exploration area, except if required by, and in accordance with, good oilfield practices.⁷⁸ The holder must also prevent the pollution of any aquifer, estuary, harbour, lake, reservoir, river,

72 Ibid: Section 21(1)(d).

73 Ibid: Section 38(1)(a).

74 Ibid: Section 38(2)(a).

75 Ibid: Section 38(2)(b).

76 Ibid: Section 38(2)(c).

77 Ibid: Section 38(2)(d).

78 Ibid: Section 38(2)(e).

spring, stream, borehole and all other areas of water by the spilling of petroleum, drilling fluid, chemical additive, any gas or any waste product or effluent.⁷⁹

Prior to the drilling of any well, the holder must furnish the Petroleum Commissioner with a report containing particulars of the technique to be employed, an estimate of the time to be taken, the material to be used and the safety measures to be employed in the drilling of such well.⁸⁰ The holder may not flare any combustible gas, except for purposes of testing such gas, or for operational reasons, or with the approval of the Minister and in accordance with such terms and conditions as may be determined by the Minister.⁸¹ Finally, a holder may not abandon, close or plug a well without the approval of the Minister.⁸²

The Minister may, in consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment, Forestry and Tourism, exempt holders of exploration or production licences from above provisions.⁸³ The Minister may determine the period for which and the conditions subject to which the exemption is granted.⁸⁴

When in the course of production operations carried out under a production licence any petroleum or other substances are spilled or any pollution is caused, the holder of such production licence must report it to the Minister of Mines and Energy. This must be done as soon as possible, and the holder must take, at its own costs, all such steps as may be necessary in accordance with good oilfield practices or otherwise as may be necessary to remedy it.⁸⁵ If the holder fails to do so, the Minister may order the holder to take such necessary steps to remedy the spilling, pollution or damage or loss. This must be done by means of written notice addressed to the holder. If the holder fails to comply with the directions of the Minister, the Minister may cause the necessary steps to be taken to remedy such spilling, pollution or damage or loss. All costs incurred by the Minister must be recovered from the holder by the Minister through a competent court.⁸⁶

3.2.3 Environmental Impact Assessment

If the Minister has reason to believe that any works or installations erected by the company or any operations carried out by the company are endangering or may

79 Ibid: Section 38(2)(f).

80 Ibid: Section 38(2)(g).

81 Ibid: Section 38(2)(h).

82 Ibid: Section 38(2)(i).

83 Ibid: Section 38(2A)(a).

84 Ibid: Section 38(2A)(a).

85 Ibid: Section 71(1).

86 Ibid: Section 71(2).

endanger persons or any property of any other person or is causing pollution or is harming wildlife or the environment to a degree which the Minister deems unacceptable, the Minister may require the company to take reasonable remedial measures within such reasonable period as may be determined by the Minister and to take reasonable and appropriate steps to repair any damage to the environment. If deemed necessary, the Minister may require the company to discontinue or amend operations.

The company must cause a person or persons, approved by the Minister on account of their special knowledge of environmental matters, to carry out two environmental impact assessment studies. These studies must be carried out to determine the prevailing situation relating to the environment, human beings, wildlife or marine life in the licence area and in the adjoining or neighbouring areas at the time of the studies.⁸⁷

3.2.4 Health and Safety

In 1999, regulations relating to the health, safety and welfare of persons employed, and protection of other persons, property, the environment and natural resources in, at or in the vicinity of exploration and production areas ('Petroleum Regulations') were published.⁸⁸ These Regulations were made by the Minister of Mines and Energy, acting in consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment, Forestry and Tourism. The Petroleum Regulations regulate, *inter alia*, electricity, fires and explosions, transport (including transport of hazardous substances), subsea operations, emergency preparedness (including pollution by spilling of petroleum) and safety zones.

If the Minister has reason to believe that any works or installations erected by the company or any operations carried out by the company are endangering or may endanger persons or any property of any other person, the Minister may require the company to take reasonable remedial measures within such reasonable period as may be determined by the Minister. The Minister may furthermore require the holder to take reasonable and appropriate steps to repair any damage to the environment. This also applies in respect of any works, installations or operations which the Minister has reason to believe is causing pollution or is harming wildlife or the environment. If the Minister deems it necessary, he or she may require the company to discontinue petroleum operations in whole or in part until the company has taken such remedial measures or has repaired any damage.

87 Clause 11.7(a) of the Model Petroleum Agreement.

88 GN 190 of GG 2188 of 23 September 1999.

3.2.5 Closure, Decommissioning and Rehabilitation

Closure, decommissioning, and rehabilitation are dealt with primarily under the Petroleum Act and the petroleum agreement. An application for a production licence must, apart from what has been stated above, contain a proposed programme of production operations and of the processing of petroleum in question. This program must include separate decommissioning plans⁸⁹ in respect of the production area and any area outside such production area where activities in connection with the production operations in such production area are being carried out. More specifically, it must set out to the satisfaction of the Minister (acting in consultation with the Minister of Environment, Forestry and Tourism, the Minister of Fisheries and Marine Resources and the Minister of Finance), the measures proposed to be taken after cessation of such production operations to remove or otherwise deal with all installations, equipment, pipelines and other facilities, whether on-shore or off-shore, erected or used for purposes of such operations and to rehabilitate land disturbed by way of such operations.⁹⁰

The holder of a production licence must review, and if necessary, revise the decommissioning plan. This must be done one year before the estimated date on which 50% of the estimated recoverable reserves of petroleum in the production area would have been produced. The Minister may, in consultation with the Minister of Environment, Forestry and Tourism, the Minister of Fisheries and Marine Resources and the Minister of Finance, approve the reviewed or revised decommissioning plan or refer it back to the holder of the production licence concerned to make such amendments as the Minister may deem necessary.⁹¹

Other than the general provisions in the Petroleum Act, it is also a term and condition of an exploration licence that the holder thereof remove from the exploration area, or otherwise deal with, as directed by the Minister in consultation with the Minister of Environment, Forestry and Tourism, the Minister of Fisheries and Marine Resources and the Minister of Finance, all installations, equipment, pipelines and other facilities, whether on-shore or off-shore, not used or intended to be used in connection with such exploration operations.⁹² The same condition is not listed for the holder of a production licence.

89 The Model Petroleum Agreement defines ‘decommissioning plan’ as “the package of measures proposed by the Company pursuant to s.46(2)(viA) of the Petroleum Act to be taken after cessation of production operations to remove or otherwise deal with all installations, equipment, pipelines and other facilities, whether on shore or off shore, erected or used for purposes of such operations and to rehabilitate land disturbed by way of such operations, reviewed pursuant to s.68A(1) and either approved or revised by the Minister pursuant to s.68A(2) or 68A(3) of the Petroleum Act”. See Clause 1.1(n) of the Model Petroleum Agreement.

90 Section 42(2)(i)(vi) of the Petroleum Exploration and Production Act.

91 Ibid: Section 68A(2).

92 Ibid: Section 38(1)(d).

3.2.6 Petroleum Agreement between the Parties

The Act also requires that, before an exploration licence is issued, an applicant must enter into a Petroleum Agreement with the state.⁹³ A Model Petroleum Agreement was first published in 1998 and has since been updated several times.⁹⁴ The Petroleum Agreement is entered into between the applicant and the Minister of Mines and Energy. While the aforementioned Agreement provides a framework for a typical Petroleum Agreement that is entered into by the parties, the terms of each Petroleum Agreement depend on negotiations between the parties.

Clause 11 of the Model Petroleum Agreement deals with environmental protection. In terms of this clause, the company must conduct its petroleum operations in a manner likely to conserve the natural resources of Namibia and protect the environment.⁹⁵ The company must employ the best available techniques in accordance with good oilfield practices⁹⁶ for the prevention of environmental damage⁹⁷ to which its petroleum operations might contribute and for the minimisation of the effect of such operations on adjoining or neighbouring lands.⁹⁸ The company must also implement the proposals contained in its development plan regarding the prevention of pollution, the treatment of wastes, the safeguarding of natural resources and the progressive reclamation and rehabilitation of lands disturbed by petroleum operations.⁹⁹

The company undertakes, for purposes of the Model Petroleum Agreement, to take all reasonable, necessary and adequate steps in accordance with good oilfield practices to minimise environmental damage to the licence area and adjoining or neighbouring lands.¹⁰⁰ If the company fails to comply with this provision, or contravenes any law on the prevention of environmental damage, and such failure or contravention results in environmental damage, the company must take all necessary and reasonable measures to remedy such failure or contravention and the effects thereof.¹⁰¹ These measures and methods must be determined in timely consultation with the Minister upon the commencement of petroleum operations or whenever there is a significant change in the scope or method of carrying out petroleum operations. Also, the company must notify the Minister in writing of the nature of the measures and methods finally determined

93 Ibid: Section 13.

94 See GRN (2007c).

95 Ibid: Clause 11.2(a).

96 'Good oilfield practices' means "any practices which are generally applied by persons involved in the exploration or production of petroleum in other countries of the world as good, safe, efficient and necessary in the carrying out of exploration operations or production operations", see Clause 1 of the Model Petroleum Agreement and Section 1 of the Petroleum Act.

97 'Environmental damage' includes "any damage or injury to, or destruction of, soil or water or any plant or animal life, whether in the sea or in any other water or on, in or under land."

98 Clause 11.2(b) of the Petroleum Model Agreement.

99 Ibid: Clause 11.2(c).

100 Ibid: Clause 11.3.

101 Ibid: Clause 11.4.

by the company and must cause such measures and methods to be reviewed from time to time in view of prevailing circumstances.¹⁰²

Environmental impact studies are to be carried out in order to establish what the effect will be on the environment in consequence of the petroleum operations to be made under the Model Petroleum Agreement.¹⁰³ The procedure applicable to environmental impact studies, including the phases in which these are to be carried out, are described in the Model Petroleum Agreement.¹⁰⁴

Furthermore, the company's obligations in respect of the environment in every phase of its operations are determined in the Model Petroleum Agreement, including the company's duty to report to the Minister of Mines and Energy at various stages of its operations and the company's duty to establish a trust fund for purpose of decommissioning.¹⁰⁵ The company must also ensure that

- petroleum operations are carried out in an environmentally acceptable and safe manner consistent with good oilfield practices and that such operations are properly monitored;
- the pertinent completed environmental impact assessment studies are made available to its employees and contractors to develop adequate awareness of the measures and methods of environmental protection to be used as part of the operations;¹⁰⁶ and
- any agreement entered into between the company and its contractors relating to its petroleum operations shall include the terms set out in the Model Petroleum Agreement and any established measures and methods for the implementation of the company's obligations in relation to the environment under the Model Petroleum Agreement.¹⁰⁷

3.3 The White Paper on Energy Policy (1998)

In May 1998, the Ministry of Mines and Energy's Energy Policy Committee released the White Paper on Energy Policy of Namibia.¹⁰⁸ The Policy's principal goals are effective governance; security of supply; social upliftment; investment and growth; economic competitiveness and efficiency; and sustainability. The Policy comprises of four parts, namely: Part 1 describes the broader context in which the Policy was developed; Part 2 focuses on the country's energy demand, with special emphasis on the needs of

102 Ibid: Clause 11.6.

103 Ibid: Clause 11.7(b).

104 Ibid: Clause 11.8 to clause 11.10.

105 Ibid: Clause 11.12 to Clause 11.17.

106 GRN (1995b).

107 Ibid: Clause 11.11.

108 GRN (1998a).

urban, rural and peri-urban households; Part 3 spells out the policies relating to the supply of energy, and Part 4 deals with cross-cutting issues. In 2017, Cabinet promulgated the National Energy Policy,¹⁰⁹ which replaces the White Paper on Energy Policy.

3.4 The Atomic Energy and Radiation Protection Act (2005)

The Atomic Energy and Radiation Protection Act No. 5 of 2005 was passed by Parliament in May 2005.¹¹⁰ The Act came into operation on 16 January 2012 and is intended to

provide for adequate protection of the environment and of people in current and future generations against harmful effects of radiation by controlling and regulating the production, processing, handling, use, holding, storage, transport and disposal of radiation sources and radioactive materials, and controlling and regulating prescribed non-ionising radiation sources.

The Act also establishes the Atomic Energy Board as well as the National Radiation Protection Authority. In 2012, the Radiation Protection and Waste Disposal Regulations were released, thereby guiding the National Radiation Protection Authority, which is headed by the Director-General, and operates under the Ministry of Health and Social Services.¹¹¹

In 2009, the Atomic Energy Board, as envisaged in the Act, was established, and today serves as national advisory body on all matters relating to radiation protection. As the secretariat to the Board, the National Radiation Protection Authority – amongst others – informs the Board about the extent of radiation exposure in the country; inspects any radiation source or nuclear material to assess radiation safety conditions; and to establish and maintain a register of radioactive materials in Namibia.

Licences are generally required for the possession, import and disposal of radiation sources or nuclear material, and every radiation source must be registered. The application process for such licencing follows a prescribed procedure. As part of the application process, an applicant must include the results of all assessments, including environmental impact assessments, and studies that have been carried out in respect of the practice concerned, as well as reports of those assessments and studies when the application is for disposal of radioactive waste or storage of radioactive sources for long periods. Before issuing a licence, the Director-General must consider the need to protect the environment and to conserve natural resources.

109 See Section 8 in this Chapter below for further details.

110 See Introduction to the Atomic Energy and Radiation Protection Act at <http://extwprlegs1.fao.org/docs/pdf/nam78312.pdf>, accessed 2 July 2020.

111 See <http://www.mhss.gov.na/atomic>, accessed 2 July 2020.

Licence holders have several duties regarding the environment.¹¹² A holder must, for example, keep records and compile reports relating to radiation protection or radiation safety standards required to be observed under the Act. A holder must also prepare in consultation with the Board, radiation safety rules and within a practice or for the use, handling, storage, transportation, or disposal of radiation sources or nuclear material produced or prepared by the licence holder. Also, a licence holder is primarily responsible for the safety and security of radiation sources and nuclear materials. The Act authorises the Director-General to take immediate action to discontinue activities if he or she is satisfied that the holder is not complying with any condition of an authorisation, and where immediate action is required to prevent irreversible damage to animal or plant life or the environment. If the holder fails to do so, the Director-General may take the necessary steps at the cost of the holder.

The Act makes it an offence for any person to intentionally or negligently operate, store, transport, dispose of or abandon any radiation source in such a manner that any human being may be subject to a dangerous amount of radiation or that a substantial amount of radiation or radioactive material may be released into the environment. On conviction, a person may be liable to a maximum fine of N\$ 200,000 or to imprisonment for a maximum period of ten years or both such fine and imprisonment.

3.5 The SADC Protocol on Energy (2006)

The Southern African Development Community (SADC) Protocol on Energy of 2006¹¹³ states, as one of its general principles, that member states must ensure that the development and use of energy is environmentally sound.¹¹⁴ Various guidelines for cooperation between member states are set forth in an annexure to the Protocol, emphasising the sustainable development of energy. However, despite the more than two decades that the Protocol has been in place, very little has been achieved in giving effect to the Protocol's objectives. The Protocol entered into force in April 1996, primarily to develop a coordinated approach towards the development of energy and energy pooling, to ensure security and reliability of energy supply and the minimisation of costs. According to the general principles, SADC member states are encouraged to:¹¹⁵

112 Sections 29(2), 30, 31 and 32 of the Atomic Energy and Radiation Protection Act. Section 30 obliges a licensee to appoint a Radiation Safety Officer. Section 31 obliges a licensee to provide notice of intended termination of operations, while Section 32 obliges a licensee to give notice of accidents.

113 SADC (2006).

114 Ibid: Article 2(8).

115 Ibid: Article 2.

1. Use energy to support economic growth and development, alleviation of poverty and the improvement of the standard and quality of life throughout the Region.
2. Use energy to promote collective self-reliance among member states.
3. Ensure that the development and use of energy takes cognisance of the gender realities of the Region.
4. Encourage the development and transfer of science and technology related to energy through the promotion of research and development and the evolution and use of comparable methods and standards.
5. Fully accept the responsibility to share the costs associated with institutional mechanisms created for the effective implementation of this Protocol.
6. Settle all disputes peacefully, amicably and in accordance with procedures set forth hereunder in Article 12.
7. Promote and encourage the direct participation of citizens and communities in the development and use of energy.
8. Ensure that the development and use of energy is environmentally sound.
9. Create a conducive environment for the private sector to participate fully in energy development in the Region.
10. Ensure that sectoral and sub-sectoral regional energy policies and programmes shall be in harmony with the overall policies and programmes of SADC and with the strategies and programmes of other SADC sectors.

The Protocol includes a set of objectives for the energy cooperation within SADC:¹¹⁶

1. Strive to harmonise national and regional energy policies, strategies and programmes on matters of common interest based on equity, balance and mutual benefit.
2. Co-operate in the development of energy and energy pooling to ensure security and reliability of energy supply and the minimisation of costs.
3. Co-operate in the development and utilisation of energy in the Region in the following sub-sectors: wood fuel, petroleum and natural gas, electricity, coal, new and renewable energy sources, energy efficiency and conservation and other cross-cutting themes of interest to Member States.
4. Strive to ensure the provision of reliable, continued and sustainable energy services in the most efficient and cost-effective manner.
5. Promote joint development of human resources and organisational capacity building in the energy sector.
6. Co-operate in the research, development, adaptation, dissemination and transfer of low-cost energy technologies.
7. Strive to achieve standardisation in appropriate energy development and application including the use of common methods and other techniques.

Annex 1 of the Protocol sets forth guidelines for cooperation for promoting renewable energy production and use.¹¹⁷ Substantive provisions are made with regard to specific subsectors, including electricity, wood fuel, renewable energy and energy efficiency. Strategies include developing financing mechanisms, enhancing tax regimes, reducing

116 Ibid: Article 3.

117 Ibid: Article 3; and Article 10.

the energy intensity in industry, and involving utilities in energy efficiency schemes. However, while the Protocol and its Annex provide a guide for programming, they do not specify implementation mechanisms, nor do they set quantitative targets or establish how achievements are to be monitored.¹¹⁸

3.6 The Draft Gas Bill (2001)

The Ministry of Mines and Energy drafted the Gas Bill of 2001¹¹⁹ to

promote the establishment of a gas transportation and distribution network in Namibia for the purposes of domestic supply and for export; to establish a framework of licensing for the gas industry and a national gas regulator to monitor the performance of licence conditions and promote reliability of service; to ensure safety, efficiency and environmental responsibility in the transportation and distribution of natural gas; to facilitate investment in pipeline infrastructure by private, public, municipal and mixed owned enterprises; to promote a competitive market in gas in the long term, and to stimulate cross-border trade in gas between Namibia and its neighbours.

The Bill recognises the importance of environmental protection in that it states that:¹²⁰

- (1) All infrastructure facilities established and operated in connection with a gas supply network shall operate in accordance with the applicable laws with respect to the protection of the environment.
- (2) No pipeline infrastructure shall be laid without an environmental impact assessment first taking place and the results assessed, in accordance with the Environmental Management Act 1998, the Pollution Control and Waste Management Act and the Parks and Wildlife Management Act, where appropriate, including the Petroleum (Exploration and Production) Act, 1991: Regulations relating to the health, safety and welfare of persons employed, and protection of other persons, property, the environment and natural resources, in at or in the vicinity of exploration and production areas.
- (3) Provision shall be made for the proper restoration of the operating environment to its natural condition, with plans for pipeline decommissioning being submitted according to the environmental laws and the appropriate regulations.

The Energy Bill envisages that the to-be-established Energy Regulatory Authority will also be the regulator of the gas sector.¹²¹ Once this Bill is finalised and enacted, the newly created Energy Regulator will be responsible to make recommendations to the Minister of Mines and Energy, to *inter alia*,

- grant licences for gas transportation, storage, distribution and marketing;
- monitor and approve of gas transportation, storage and distribution tariffs and charges;
- approve tariffs and charges to gas distributors and customers who do not have choice of suppliers;

118 REN21 (2020).

119 GRN (2001g).

120 Ibid: Section 38.

121 GRN (2018b).

- assist the Minister of Mines and Energy in the preparation of gas supply regulations;
- monitor the operation of the gas system; and
- settle disputes at the request of a licensee or any interested party.

As the Draft Bill dates back to June 2001, it seems unlikely that it is yet to be promulgated.

3.7 Vision 2030 (2004)

Namibia's national development goals and ambitions are guided by Vision 2030,¹²² as adopted in 2004. Vision 2030 foresees the provision of secure and affordable energy to the country's developing economy and its people; it provides the overall long-term development goals for the country; and it subscribes to the principle of sustainable development. Specifically, for the year 2030, Vision 2030 envisages "a prosperous and industrialised Namibia, developed by her human resources, enjoying peace, harmony and political stability."¹²³

Relating to energy, Vision 2030 envisages Namibia to be "largely self-sufficient with reliable and competitively priced energy, meeting industry demands, plus some export of energy."¹²⁴ Relating to access to electricity, Vision 2030 states that all schools are to be provided with "electricity where the necessary infrastructure will be supplied by 2006."¹²⁵

3.8 The Electricity Act (2007)

The Electricity Act No. 4 of 2007 provides for the establishment of the Electricity Control Board, and details the Board's roles and responsibilities, and the conditions and requirements for licenced activities taking place in the country's electricity sector. Electricity may only be generated, transmitted, traded or distributed in compliance with the requirements of any other law, in particular those relating to health, safety and the environment.¹²⁶

When considering an application for the issue, renewal or amendment of a licence, the Electricity Control Board in making its recommendations to the Minister of Mines and Energy, must give due consideration to matters or activities that may adversely

122 GRN (2004a).

123 *Ibid*: 38.

124 *Ibid*: 86.

125 *Ibid*: 91.

126 Section 18(4)(b) of the Electricity Act.

affect, or result in damage to the environment.¹²⁷ To this end, the Minister of Mines and Energy may request an applicant to submit an environmental impact assessment indicating the extent of any potential damage to or pollution of the environment, as well as the steps proposed to be taken by the applicant to prevent or minimise such damage or pollution, and to restore the environment generally and in terms of existing environmental legislation.¹²⁸

All installations for the provision of electricity, including any alterations or extensions thereto, and all other electricity practices and activities by licensees, customers and other persons, must be conducted with due compliance with the requirements of applicable laws, in particular laws relating to health, safety and environmental standards.¹²⁹

The Act establishes the Electricity Control Board as a juristic person, as the electricity sector's regulatory authority, with the following responsibilities:

- Control and regulate the provisions, use and consumption of electricity;
- oversee the functioning and development of the electricity industry and security of supply;
- ensure the efficient provision of electricity;
- ensure a competitive environment in the country's electricity industry with such restrictions as may be necessary for the security of supply and public interest; and
- promote private sector investments in the electricity industry.

The Act stipulates that the above activities are to be undertaken in accordance with Government policy. The Act lays the foundation for the licensing of electricity-related activities, including for the generation, trading, transmission, supply, distribution, import and export of electricity which necessitate separate licences. Exemptions apply when using plant with a capacity of less than 500 kilovolt-ampere (kVA), as a standby supply for own use, or the distribution of electricity for own use (if the demand is less than 500 kVA).

Of critical importance are the Electricity Control Board's responsibilities vis-à-vis recommending the issue, transfer, amendment, renewal, suspension and cancellation of licences, and the approval of the conditions on which electricity may be provided by licensees, for consideration and the ultimate approval/rejection by the Minister of Mines and Energy.

The Electricity Control Board, with prior approval of the Minister of Mines and Energy, may also develop rules/codes relating to the establishment, operation and administration of the electricity market, as well as those of licensed entities and otherwise affected persons. These include, amongst others, safety and grid codes, system security

127 Ibid: Section 21(1).

128 Ibid: Section 21(2)(a).

129 Ibid: Section 33(1)(a).

and network connection rules and those governing the pricing and metering of electricity. The Electricity Control Board is funded through the ‘ECB Levy’, which is imposed on every kWh of electrical energy “provided or consumed at any point in Namibia or upon any licensee.”

The Electricity Act is expected to be repealed once the Namibia Energy Regulatory Authority Act¹³⁰ is promulgated.

3.9 National Connection Charge Policy (2014)

The National Connection Charge Policy of 2014¹³¹ establishes a standardised approach to dealing with power network connections and connection charges for customers and generators. The Policy provides guidance to network licensees on the development of connection agreements and aims to ensure the integration of the licensees’ regulated revenue requirements and connection agreements.

The Policy rests on the principles of equality, efficiency and simplicity. Its objectives include identifying relevant parties to whom the Policy applies; establishing connection charge principles; describing how new connections or upgrades to existing supply arrangements are to be made; identifying the costs that are to be recovered via connection charges; formulating a standard methodology for determining connection charges; and defining a governance structure to deal with network connection matters.

4 Nuclear Fuel Cycle Policy (2014)

The Nuclear Fuel Cycle Policy of 2014¹³² expresses the Government’s aspiration to investigate the multiple potential benefits associated with the conversion and use of the country’s uranium resources. The Policy covers the complete nuclear fuel cycle, from the exploration of uranium resources, mining, ore processing, mine closure and rehabilitation, conversion, enrichment, fuel fabrication, nuclear power generation, radioactive waste and spent fuel management. Activities associated with these separate value chain elements include transportation, handling, possession, transfers, storage, import and export of nuclear or radioactive materials, as well as the temporary cessation of activities and the decommissioning of facilities used in the nuclear fuel cycle, all of which are associated with considerable changes to the natural environment.

130 See Section 12 in this Chapter below for further details.

131 GRN (2014f).

132 GRN (2014g).

5 Net Metering Rules (2016)

The Net Metering Rules¹³³ were developed under the Electricity Act of 2007,¹³⁴ and promulgated in 2016. The Rules aim to

- foster the generation of additional power for grid feed-in to reduce investment requirements of licensees and Independent Power Producers;
- allow end-users to reduce their electricity imports from distribution networks by way of self-generation and to provide for electricity exports to distribution networks (up to the level of imports from the network); and
- promote sustainable renewable energy sources, small scale investments, value addition and electricity market development, and contribute to reduce unemployment.

The Rules stipulate that all distribution licensees must offer net metering to customer-generators, subject to applicable laws, regulations, and rules. It is noted that all renewable energy technologies are, in principle, eligible for net metering. In addition, all distribution customers are allowed to install net metered facilities, subject to the provisions of the Electricity Act of 2007 and the various rules, regulations, and stipulations under the Act. Net metered consumers are not required to obtain a generation licence, and the generation capacities of net metered facilities are limited by the rating of the electricity connection when converted to kVA, and they must be less than or equal to 500 kVA. Distribution licensees must connect net metered consumers on a first-come first-serve basis until network-specific limits are reached. Licensees must provide electricity services at rates and charges identical to those of similar end-users. No monetary compensation is paid for electrical energy fed into a distribution network. Instead, electricity exports are credited at the distributor's avoided electrical energy cost and are used to offset future electricity imports by the net metered customer.

The Rules enable grid-connected electricity users to legally feed electrical energy into the distribution grid. In this way, prosumers (end-users who are both producers and consumers of electricity) can inject excess electrical energy into the grid and draw from the grid when own supplies are insufficient. This enables electricity end-users to generate some of their own electricity requirements, using their own generation plant, for example a roof-mounted solar photovoltaic generator, and use grid supplies when self-supply capacities are insufficient.

133 ECB (2016).

134 See Section 3.8 in this Chapter above.

6 Fifth National Development Plan (2017)

Namibia's Fifth National Development Plan (NDP 5)¹³⁵ is the country's national development plan for the period 2017/18 to 2021/22. The topic of energy is introduced under the header "expansion and modernisation of physical infrastructure" and focuses on electricity-related aspects only. The Plan envisages that by 2022, Namibia has a sustainable mix of locally generated energy capacity of 755 MW to support household and industry development.

Regarding Namibia's electrification rate, the NDP 5 suggests that national electrification is to be increased from the baseline value of 34% in 2015 to 50% by 2021/22. It is noted that this goal will be unattainable, given the limited amount of funds made available for electrification efforts and the slow pace of implementation. The NDP 5 identifies four distinct electricity-related strategies, namely

- expand bulk transmission and distribution infrastructure;
- harness indigenous resources for generating energy;
- promote the entrance of Independent Power Producers; and
- reform the current power market structure;

all of which have contributed to further development in the country's electricity sector since.

7 Harambee Prosperity Plan (2016)

The Harambee Prosperity Plan¹³⁶ is an action plan towards prosperity for all. The Plan aims to accelerate development in clearly defined priority areas, thereby complementing the 5-yearly National Development Plans. Relating to electricity, the Plan sets the following goals:

- Increase local electricity generating capacity from 400 MW to 600 MW;
- provide electricity to all schools and health facilities by 2020; and
- increase the rural electrification rate from 34% in 2015 to 50% by 2020.

The Plan identifies the following electricity-related strategies:

- Update the White Paper on Energy Policy (1998) and finalise the National Integrated Resource Plan before 2016;
- review the single buyer model by the end of 2016;
- increase emphasis on renewable energy solutions;
- promote short-term diesel generation project;
- continue the rural electrification drive during the Harambee period to increase the rural electrification rate from 34% in 2015 to 50% by 2020;

135 GRN (2017a).

136 GRN (2016a).

- ensure that all schools and health facilities will be electrified in the Harambee period;
- benefit from a 300 MW standby arrangement with Eskom;
- promote electricity savings and offer energy audits to industry and households; and
- focus on long-term electricity security of supply, including by concluding feasibility studies on Kudu and the Baynes hydropower project, which were envisaged to be finalised by March 2017.

8 National Energy Policy (2017)

The National Energy Policy of 2017¹³⁷ defines Government's strategic intent relating to the energy industry. The Policy recognises the pivotal role that energy plays in national development and its essential roles as driver and lubricant of continued socio-economic upliftment, in line with the country's international climate-related commitments, including the Intended Nationally Determined Contributions to the United Nations Framework Convention on Climate Change.¹³⁸

The Policy emphasises the critical role that the discovery, development and beneficial use of Namibia's plentiful indigenous energy resources play. The Policy identifies the following national energy subsectors: the formalised electricity, upstream oil and gas and downstream liquid fuels subsectors and the less formalised downstream gas and thermal energy subsectors. The Policy recognises that the country's energy sector is dominated by liquid fossil fuels, accounting for some 58% of all energy consumed in Namibia in 2014, while the use of electricity and biomass accounted for some 20% of the country's total energy use each, with the remainder in the form of coal and liquid petroleum gas.

The Policy quantifies the growth of the country's energy consumption in the decade prior to its compilation: the energy sector as a whole grew by some 3% per annum, while electricity consumption increased by an average annual rate of some 4.1% during the same period. In contrast, the economy grew by an average of 5.5% per annum prior to 2017.

As an expression of the Government's energy-related intent, the Policy is to "ensure the development of Namibia's natural capital and its sustainable use for the benefit of the country's social, economic and environmental wellbeing." The Policy's principal goals, in relation to all forms of energy, are to a) ensure the security of all relevant energy supplies to the country; b) create cost-effective, affordable, reliable and equitable access to energy for all Namibians; c) promote the efficient use of all forms of

137 GRN (2017b).

138 GRN (2015b).

energy; and d) incentivise the discovery, development and productive use of diverse energy resources.

In relation to the electricity sector, the Policy's main objectives are to:

- Enhance security of supply through effective and economic use of locally available energy resources while also leveraging regional opportunities;
- develop the transmission infrastructure so that capability and coverage are improved, growing demand can be met, and regional trade of electricity is enhanced;
- assure the continued economic viability and cost effectiveness of the distribution grid and its associated sector;
- support economically efficient levels of imports and exports of electricity, and to maximise the opportunities offered by regional protocols and organisations;
- consistently apply fair and transparent regulation to provide a firm, predictable and transparent regulatory framework for the country's electricity sector;
- align the Namibian electricity market model to best serve prevailing needs;
- apply demand side and energy efficiency measures systematically and consistently throughout the country's electricity supply chain; and to
- prepare for the integration of energy storage technologies into the electricity system.

9 National Renewable Energy Policy (2017)

The National Renewable Energy Policy of 2017¹³⁹ is the Government's guide to the development of the country's renewable energy sector. Central to the Policy is the intent to scale up the use and contributions derived from local renewable energy sources, noting that Namibia's greenhouse gas mitigation actions are – amongst others – dependant on the future of the country's energy industry.¹⁴⁰

Amongst others, the Policy is to “enable access to modern, clean, environmentally sustainable, and affordable energy services for all Namibian inhabitants”, to meet Namibia's “short-term and long-term national development goals, and to assist Namibians climb the development ladder, empowered by access to energy at levels that facilitate engagement in productive activity.” The Policy puts forward the following goals:

- Enhance energy security by leveraging renewable resources;
- optimise the renewable energy contribution to the country's electricity mix;
- increase access to affordable energy services for income generation and poverty reduction;

139 GRN (2017d).

140 von Oertzen (2008).

- ensure transparency of regulatory mechanisms and governance;
- promote grid-connected and off-grid renewable energy development;
- prioritise renewable energy development beyond the electricity sector;
- pursue climate-resilient energy sector development through renewable energy; and
- accelerate the development and deployment of energy storage to facilitate renewable energy expansion; and
- ensure that renewable energies support the country's accelerated industrial growth and competitiveness.

The Policy applies to on- and off-grid energy supplies in urban and rural areas, recognising:

- The renewable energy procurement mechanism that differentiates electricity supply systems by their generating capacity, and the application of the Net Metering Rules for installations with a capacity that is less or equal to 500 kVA;
- the Renewable Energy Feed-in Tariff (REFIT) for electricity supplies with a generating capacity above 500 kVA and smaller than 5 MW, including from solar photovoltaic, wind, biomass and concentrating solar power plant; as well as
- the competitive auctions for electricity projects that have a capacity of more than 5 MW.

The Policy stipulates that projects resulting in grid-connected assets are to be governed by the provisions of the National Independent Power Producer Policy,¹⁴¹ while off-grid projects are to be undertaken based on the framework introduced in the Policy. The Policy also suggests that the modified single buyer market framework is to “enable off-grid solutions”, while updates of the National Integrated Resource Plan are to “include guidance on off-grid solutions”.¹⁴²

10 National Independent Power Producer Policy (2018)

The National Independent Power Producer Policy of 2018¹⁴³ expresses Government's intent and commitment to broaden private-sector participation in the electricity sector. The Policy builds on an initial Independent Power Producer market framework that was developed in the early 2000's, aiming at investments in new electricity generation capacity.¹⁴⁴

141 See Section 10 in this Chapter below.

142 GRN (2016b).

143 GRN (2018d).

144 See <https://bit.ly/3GSyhK5>, accessed 15 February 2022.

The Policy's departure point is the realisation that even modest economic growth necessitates significant additional electricity-related investments. The National Integrated Resource Plan of 2016 quantified these investment requirements to be in the range between N\$ 90 and 97 billion in the period 2016 to 2035, which are needed to meet the future demand for electrical energy.¹⁴⁵ Investments of such an order of magnitude in a single sector of the economy can evidently not be funded by the Government alone. This implies that private investors are the Policy's intended target group for investments in both the grid-connected and off-grid electricity markets.

The Policy includes the following overarching policy themes:

- Creating an enabling environment for Independent Power Producer deployment;
- developing a market framework for the introduction of competition in the Namibian electricity supply industry;
- streamlining the process and requirements for entry of Independent Power Producers;
- ensuring financial viability and sustainability of the Independent Power Producers; and
- ensuring equitable energy resource use and efficient and sustainable power sector development.

Of note is the pronouncement made in policy statement 1, namely that:

All Independent Power Producers shall be afforded equal access to the Namibian power generation market under a clear policy framework and a market structure and shall operate under the same fair and transparent rules and regulations.

The Policy distinguishes and classifies Independent Power Producer projects into small-scale projects (less than 5 MW); medium-sized undertakings (greater 5 MW and up to 100 MW), and large projects having a generation capacity exceeding 100 MW.

11 Draft Electricity Bill (2018)

In mid-2020, the Draft Electricity Bill of 2018¹⁴⁶ was close to being finalised. The Bill is the draft version of the to-be-promulgated new Electricity Act, and is the result of the Ministry of Mines and Energy's desire to split the current Electricity Act No. 4 of 2007 into two separate parts, namely an updated Electricity Act to replace the erstwhile Electricity Act of 2007,¹⁴⁷ and the Namibia Energy Regulatory Authority Act, which is to define the basis of the to-be-established national energy regulatory authority.¹⁴⁸

145 GRN (2016b).

146 GRN (2018e).

147 See Section 3.8 in this Chapter above.

148 See Section 12 in this Chapter below.

The Bill is the draft version of an updated and yet to-be-promulgated Electricity Act. It also confirms and strengthens the role of the regulatory authority by

- establishing a national regulatory framework for the country's electricity industry;
- establishing a licensing system for the generation, transmission, distribution, supply, trading, storage, import and export of electricity as well as requiring licences for system operators and market operators (including the issue, renewal, transfer, amendment, cancellation and suspension of licences);
- providing for the powers and obligations of licensees; and
- regulating tariffs and providing for incidental matters.

The Bill also stipulates that the Minister of Mines and Energy, in consultation with the regulatory authority, is to ensure the preparation and implementation of the National Integrated Resource Plan that expresses the Government's long-term ambition in terms of the optimal resource mix to be used to ensure that the electricity supply is efficient, cost-effective and secure.¹⁴⁹

Also, the Bill states that the Minister of the Ministry of Mines and Energy may, in accordance with the National Energy Policy, the National Renewable Energy Policy and the National Integrated Resource Plan, determine the manner and procedures in which new capacity, including ancillary services, are to be sourced and allocated to entities such as the state-owned power utility NamPower and Independent Power Producers.

The Bill stipulates that authorising licences are required to generate, transmit, distribute and supply electricity, for trading, storage, import and export of electricity, and the market operator.

Separate licences are required for each of the above activities, however excluding

- electricity generation where a connection to the transmission or distribution system is not available, and where the plant has an installed capacity of less than or equal to 500 kVA or such higher or lower installed capacity as may be notified by the regulator, and the electricity is exclusively used for own consumption or by others occupying residential accommodation on the same premises;
- standby supplies for own use provided the plant is not connected to the transmission/distribution system;
- electricity generation from renewable energy sources where such plant is connected to a distribution system and has an installed capacity of less than or equal to 500 kVA or such higher or lower installed capacity as notified by the regulator in the Gazette;

149 GRN (2016b).

- for low-voltage distribution and supply by a person in residential accommodation;
- certain high-density residential housing developments; and
- by those controlling certain types of shopping centres, industrial developments or business complexes;
- or when exempted by the regulatory authority.

Importantly, the additions to the Bill relate to the following specific circumstances

- the transfer of assets and liabilities between licensees in the event of changes of a licensee or through restructuring;
- local government charges on the sale of electricity, i.e. surcharges;
- electricity support levies; and
- ministerial oversight of critical decisions that are to be taken by the regulator.

12 Draft Namibia Energy Regulatory Authority Bill (2018)

In mid-2020, the Draft Namibia Energy Regulatory Authority Bill of 2018¹⁵⁰ was almost complete and is the draft version of the to-be-promulgated Namibia Energy Regulatory Authority Act. The Bill's main purpose is the establishment of the Namibia Energy Regulatory Authority. This to-be-established entity is to be the regulatory authority for the country's energy sector. The Bill describes the regulator's functions and duties, and makes provision for related incidental matters. It extends the Electricity Control Board's current mandate and authority to beyond the electricity sector, to include downstream gas and petroleum, including pipelines and storage facilities, renewable energies and energy efficiency.

The Bill envisages the to-be-established regulatory functions to include

- exercising regulatory supervision over the energy sectors;
- administering licencing, regulating tariffs and other charges;
- promoting energy sources and access to energy;
- enforcing compliance with the Act and its stipulations;
- promoting the efficient functioning and development of the sector and security of supply, including the making of rules;
- promoting private sector investments; and
- advising the Minister on any matter relating to energy and carrying out such investigations as may be necessary.

In addition to defining the authority's constitution, mandate, function and related administrative matters, the Bill also includes the following important aspects:

- It authorises the to-be-established Authority to impose a regulatory levy;

150 GRN (2018f).

- it details an enforcement regime that includes directives, enforceable undertakings and administrative penalties;
- it provides the basis for the establishment of an energy tribunal; and
- it endows the to-be-established Authority with effective powers to initiate and execute investigations.

13 Draft Off-Grid Electrification Policy (2019)

The departure point of the Draft Off-Grid Electrification Policy of 2019¹⁵¹ is the realisation that, since Namibia's Independence in 1990, most efforts to increase access to electricity have focused on the expansion of the existing electricity distribution grid. However, despite the considerable efforts to enhance access to electricity, more than half of the country's households remain without access to electrical energy. While most larger localities have access to grid electricity, those areas that remain without access to modern electricity services are characterised by low population densities and often low energy consumption rates. These aspects reduce the cost effectiveness of grid expansions, and thereby render the provision of new grid services unattractive to electricity distribution companies.

Yet, numerous contemporary off-grid electrification methods offer opportunities to provide access to electricity services in areas where it is not economically justifiable to extend the grid. This is the Off-Grid Electrification Policy's trigger point: it spells out the Government's intent, direction, and undertakings regarding the adoption of off-grid electricity access options which are to be undertaken as part of ongoing national electrification efforts. Specifically, the Policy spells out that Government will adopt minimum standards for the supply of modern electricity services. Only if these minimum standards are met will households and institutions be considered to have access to electricity

- for domestic users, this minimum standard provides for lighting, the use of small appliance and the ability to operate a small refrigerator; and
- for schools, clinics and Government offices not connected to the grid, a minimum off-grid electricity service standard ensures that basic entity-relevant services can be provided.

The Policy envisions to contribute to the creation of universal access to electricity services throughout Namibia. It is to create enabling conditions for existing and new electricity service providers to enhance access to electricity by providing off-grid electrification services to end-users. The Policy's main goals are to

151 GRN (2019a).

- promote off-grid access to electricity as an important and economically efficient method to complement efforts to provide access to grid electricity;
- create cost-effective, affordable, reliable and equitable access to electricity for all Namibians; and
- create an environment that enables and facilitates private sector participation in future electrification endeavours.

The Policy is built on seven main pillars, i.e.:

- Foundational aspects regarding the provision of off-grid electricity services;
- identifying the key enabling conditions and mechanism;
- pronouncing itself on off-grid electrification businesses and business models;
- recognising funding, incentives and investor-friendly conditions as key requirements to initiate off-grid electrification efforts in the country;
- addressing the institutional, governance and ownership considerations of off-grid electrification;
- spelling out the principles underpinning tariffs, cost recovery and subsidies for off-grid electrification; and
- recognising that grid encroachment and the compatibility of grid and off-grid systems are of importance in future national electrification efforts.

14 Draft Smart Grid Policy (2019)

The Draft Smart Grid Policy of 2019¹⁵² is based on the rationale that Namibia has significant potentials to further increase the generation of electricity, especially from its world-class solar and wind resources. However, both these resources are intermittent in nature, which implies that challenges may arise when further scaling up their integration into the national power system. Integration can be achieved by smartening and modernising the grid, which (amongst others) will also increase its capacity to absorb additional intermittent generators, both at utility scale as well as at the scale of individual electricity consumers.

The Policy spells out the Government's intent, direction and undertakings regarding the promotion and facilitation of smartening the national grid. It envisions the grid to better support local, decentralised generation and the use of storage options, regional integration and to retain electricity end-users by offering efficient, cost-effective and reliable grid services. The Policy's main goals are to

- provide an enabling framework for smart grid activities;
- develop new value propositions for grid users;

152 GRN (2019b).

- improve the management, control, communication and reporting capabilities of the national grid; and
- ensure that smart grid investments minimise the cost of grid services and ensure its continued viability.

The Policy is constructed around six main themes, focusing on

- smart grid planning, prioritisation and coordination;
- funding, pilot projects, research and resource allocation to promote the smart grid;
- enabling smart grid communication while ensuring data and cyber-security for the grid;
- the empowerment of grid users to ensure that the benefits are shared as widely as possible;
- smart grid asset ownership, licensing and operation; and
- the regulatory treatment of the smart grid and its applications.

15 Draft National Electrification Policy (2020)

In mid-2020, a first draft version of the National Electrification Policy¹⁵³ has been compiled and is being discussed with stakeholders. The Policy renews the Government of Namibia's commitment to actively lead, support and promote the country's continued electrification.¹⁵⁴

To date, having access to electricity is understood to mean being provided with grid or grid-equivalent services. However, in view of the rapid emergence of off-grid power supply options, a focus on grid-delivered electricity services is no longer considered adequate, noting that a large variety of grid-independent power supply options exist that may provide access to electricity.¹⁵⁵

The Policy is centred around a set of key Government ambitions, namely that

- electrification approaches providing services in urban and rural areas are harmonised;
- the Government commits to actively lead, support, and promote national electrification;
- electrification efforts are tangible, specific, and guided by realism, and align with national development ambitions, goals and priorities; and
- broadening access to electricity services by innovative funding and delivery.

153 At the time of writing, the National Electrification Policy is being developed. This implies that the content of this subsection is subject to additions and amendments as the Draft Policy is discussed with stakeholders.

154 GRN (2020).

155 von Oertzen (2019).

The Policy recognises that continued electrification efforts must follow a principle-centred approach, underpinned by holistic planning, funding and implementation. It furthermore emphasises the importance of such efforts being important for Namibia to achieve national developmental objectives, and be appropriate, fit-for-purpose and meet minimum service standards at lowest life cycle cost. The Policy recognises that cost recovery plays a vital role in determining the best possible electrification funding option, and supporting low-income consumers as well as productive uses of electricity. It also states that cross-subsidisation must be economically justified, and be prioritised to ensure that the economic benefit associated with electrification is maximised.

The Policy objectives are to

- affirm the Government's commitment to create universal access to electricity;
 - support existing and new role players to enhance access to electricity for all;
 - establish a development-focused planning and prioritisation framework for all national electrification efforts that minimises costs while reaching the maximum number of end-users in the shortest possible time;
 - support the development of a responsive institutional framework to implement programmes and projects through which universal access to electricity can be achieved;
 - strengthen the regulatory framework for electrification undertakings by developing and implementing legal and institutional changes for the implementation of light-handed, cost-effective and principle-centred regulations, licensing, tariffs and standards;
 - align national development objectives with tariff structures, incentives, and subsidies;
 - ensure socially acceptable electricity service tariffs and charges that balance the upfront and on-going costs of providing services with the end-users' ability to pay;
 - create new opportunities to optimise service delivery through a multi-stakeholder approach to the provision of electrification services, including increasing the involvement of the private sector;
 - support the widening of existing and new funding approaches for electrification;
 - foster long-term investment certainty, predictability and sector-wide growth, underpinned by needs, aspirations, capabilities and local resource endowments;
 - facilitate and support existing and new business models to enhance electrification;
 - ensure technology neutrality in all electrification programmes and projects;
- and

- ensure that existing and new electrification initiatives are effectively communicated, follow transparency of process, and are readily and speedily implemented.

The Draft Policy contains eleven principal themes, framed as a policy statement on the commitment to electrification; institutional anchoring and private sector participation; electrification planning and prioritisation; funding; tariffs, charges and subsidies; minimum standards; off-grid electrification; customer awareness, communication and expectation management; capacity development; data collection and reporting; and other essential matters.

The Policy was expected to be finalised during 2021 and its implementation to be enabled by a National Electrification Funding Portfolio, developed in parallel with the Policy.¹⁵⁶

156 GRN (2020d).

Chapter 20: Namibia's Electricity Sector

Detlof von Oertzen

1 Introduction

This chapter provides a summary of the key features characterising Namibia's electricity sector.

2 Supply Entities

In mid-2020, Namibia's electricity requirements are sourced from 20 local electrical energy generation plant as well as supplies from various entities located in neighbouring countries; these exclude the various embedded, behind-the-meter and off-grid generation plant.¹ The local installed generating capacity amounts to 526 megawatt (MW), which excludes the capacity of all embedded, off-grid and behind-the-meter electricity generating assets.²

3 Independent Power Producers

In mid-2020, seventeen Independent Power Producers operate a total installed generating capacity of 126.5 MW, which excludes all embedded and behind-the-meter as well as off-grid plant.³ Except for the Ombepo wind farm at Lüderitzbucht, all other Independent Power Producers operating in mid-2020 use solar photovoltaic (PV) electricity generating plant.⁴

4 Embedded Generators

In addition to the Independent Power Producers identified in Section 3 above, several distributors and commercial operations procure electricity directly from Independent Power Producers that operate embedded generating plant. These include HopSol's 5 MW PV plant near Otjiwarongo that sells to CENORED, OLC Arandis' 3 MW PV

1 von Oertzen (2019).

2 Ibid:42.

3 Ibid:43.

4 Ibid:42.

plant selling to Erongo RED, and SunEQ's 5 MW PV plant supplying Ohorongo Cement.⁵

5 Distributed Generating Capacity

An estimated 55 MW of grid-connected distributed generating plant is operational in mid-2020. Some are for own use only, including Windhoek's Grove Mall which operates a 2.8 MW_p PV plant, Maerua Mall's 2 MW PV plant, Wernhil Park's 2.1 MW PV plant, and Namibia Breweries 1 MW roof-mounted solar PV plant and others.⁶ Many smaller capacity generating plants, including roof-top mounted solar PV systems operating as behind-the-meter generators, benefit from the Net Metering Rules,⁷ and often have feed-in arrangements with a local electricity distributor.⁸

6 Emergency and Backup Generating Capacity

A large number and variety of backup generators are used throughout the country. Most mining operations have such generating plant on site. Examples include Ohorongo Cement's 7 MW diesel plant, Rössing's 6.3 MW diesel plant, Langer Heinrich Mine's 16.5 MW diesel-powered plant, the on-site generating plant at the Husab Mine, and many others.⁹

7 Off-grid Generating Capacity

Numerous off-grid generating plant, i.e. generating plant not connected to the national grid, are in operation. Prominent examples include B2Gold's 24 MW heavy fuel oil generating plant and its 7 MW solar PV plant, the off-grid installations at Tsumkwe, Gam and Gobabeb, as well as those on farms and small settlements that are not connected to the electricity grid.¹⁰

5 Ibid:43.

6 Ibid:43.

7 See Section 5 in the previous Chapter on energy in this publication.

8 Ibid:43.

9 Ibid:43.

10 Ibid:44.

8 Electricity Demand

In mid-2020, the nationally installed generating capacity neither meets the country's peak demand requirements, nor the demand for electrical energy. This is well-illustrated by the figures for the financial year 2018/19, during which Namibia sourced some 71% of total electrical energy units into the system from suppliers in neighbouring countries, which amounts to some 64% of the total local demand in that year.¹¹

In the financial year 2018/2019, some 4.4 TWh of electrical energy was injected into Namibia's transmission system, including just over 1.0 TWh from NamPower's own generating assets. In the same period, a system maximum demand of 633 MW was recorded and excludes the Skorpion Zinc Mine, and some 684 MW when including Skorpion's demand.¹²

In 2018/19, NamPower sold some 3.5 TWh to local customers, excluding Skorpion and the Orange River projects. Of this, the main distributors procured some 2.8 TWh, while NamPower's transmission customers – other than the distributors – procured some 0.7 TWh. In that year, electricity distributors sold some 2.4 TWh to end-users. Of this, about 1.0 TWh was sold to domestic customers, and about the same amount to large power users, while some 0.4 TWh was sold to commercial customers. In 2018/19, electricity sales were highest in central Namibia, amounting to almost 1 TWh, followed by Erongo RED's sales of almost 0.5 TWh, NORED's sales of almost 0.4 TWh, and southern Namibia's sales of almost 0.2 TWh.¹³

9 Electricity Distributors

Some 83% of all grid-connected electricity customers are served by the three Regional Electricity Distribution companies and the City of Windhoek. NORED served some 30% of all electricity customers, followed by central Namibia which served some 27%, and about 14% (11%) by Erongo RED (CENORED). Some 37% of total electricity sales by distributors were made in central Namibia, followed by 19% by Erongo RED, and some 16% (8%) by NORED (CENORED).¹⁴

11 Ibid.

12 Ibid.

13 Ibid:44 and 45.

14 Ibid:45.

10 Revenues Generated

In 2018/19, NamPower generated revenues of almost N\$ 6.6 billion, with average revenues generated per kWh of electrical energy sold amounting to some N\$ 1.59/kWh. In the same year, the main distributors generated revenues of almost N\$ 6.2 billion at an average of N\$ 2.54/kWh sold. In the same year, sales to large power users other than distributors generated revenues of some N\$ 2.7 billion, followed by revenues from sales to domestic customers amounting to some N\$ 2.1 billion, some N\$ 1.2 billion from commercial entities, and about N\$ 0.3 billion from institutional customers.¹⁵

11 Electricity Price

The average price per unit of electrical energy is determined by dividing revenues by the total number of units sold. NamPower's average local price per unit of electricity sold increased to some N\$ 1.75/kWh, from some N\$ 1.67/kWh in 2017/18. In 2018/19, the distribution industry's average electricity price amounted to approx. N\$ 2.46/kWh, thus increasing from some N\$ 2.31/kWh in 2017/18.¹⁶

12 Key Electricity Sector Stakeholders

12.1 Electricity End-Users

The Namibian electricity sector served some 275,000 electricity customers. Of these, some 251,000 are domestic and 20,000 are commercial customers, with some 2,500 large power users and approximately 1,000 institutional users.¹⁷ An estimated 71% of all urban households have access to electricity, while the associated access figure in rural areas is estimated at some 19%. This implies that the national electrification rate stands at approximately 45%.¹⁸ Almost 99.7% of the total number of customers served by the country's electricity sector are private end-users, including domestic customers (91.5% of total customers served), commercial end-users (7.3%) and large power users (0.9%).¹⁹

15 Ibid.

16 Ibid:46.

17 Ibid:45.

18 Ibid:77.

19 Ibid:60.

12.2 Ministry of Mines and Energy

The Ministry of Mines and Energy is the principal custodian of Namibia's energy sector, and therefore by implication, the country's electricity sector.²⁰ The Ministry's mandate, as per the Ministry's strategic plan for 2017/18 to 2021/22, states that:²¹

The Ministry of Mines and Energy was constitutionally established to take custody of the diverse geological, mineral and energy resources, and to ensure their contribution to the country's socio-economic development.

Among others, the Ministry's responsibilities vis-à-vis the country's electricity sector include policy development, ensuring energy security by, amongst others, identifying suitable procurement and off-take responsibilities for new electricity generation projects, approving electricity-related licences (the prerogative of the Minister of Mines and Energy) as well as planning, funding and implementing rural electrification programmes and projects and administering the solar revolving fund.²²

12.3 Electricity Control Board

The Electricity Control Board is Namibia's regulatory authority responsible for the country's electricity sector.²³ Established under the Electricity Act No. 2 of 2000 as repealed by the updated Electricity Act No. 4 of 2007, the Electricity Control Board's principal responsibility is the regulation of the sector and related technical and economic matters. Specifically, this regulator administers the licensing regime throughout the sector, and makes recommendations to the Minister of Mines and Energy regarding the issuance of licences. It also acts as mediator and advisory body to all entities operating in the country's electricity supply industry and electricity distribution industry.

12.4 Namibia Power Corporation

The Namibia Power Corporation (NamPower) is the country's state-owned electricity utility.²⁴ Under the country's Companies Act, NamPower is a private limited liability company, with the Government of Namibia being its sole shareholder.

NamPower operates generation, transmission and distribution assets, and is responsible for trading, importing and exporting electricity. The utility owns and operates three of the country's major power stations, i.e. Ruacana, Van Eck and Anixas, as well

20 See <http://www.mme.gov.na/>, accessed 13 July 2020.

21 See <https://bit.ly/3BtNWyn>, accessed 15 February 2022.

22 Jones *et al.* (2009).

23 See <https://www.ecb.org.na/>, accessed 13 July 2020.

24 See <https://www.nampower.com.na/>, accessed 13 July 2020.

as all transmission infrastructure. The utility also remains involved in the distribution of electricity in areas that are not served by other distribution entities. As the single buyer of electricity, NamPower procures electricity from the power plant established as part of the Interim Renewable Energy Feed-in Tariff (REFIT) programme, as well as from all Independent Power Producers, except those that are embedded in the networks of distribution entities or large power users.²⁵

In April 2019, Cabinet approved the modified single buyer market model, which replaces the erstwhile single buyer model. This implies that, once the new electricity market model is implemented, which is expected to take place from 2020, NamPower's role as single buyer changes, and the national utility assumes the responsibilities of Namibia's modified single buyer entity, as is further elaborated in section 13.2 below.

12.5 Electricity Distribution and Supply Entities

Electricity distributors are licensed to distribute and supply electricity to end-users. The prominent distribution and supply entities are the City of Windhoek,²⁶ the three Regional Electricity Distributors (REDs), i.e. NORED,²⁷ CENORED²⁸ and Erongo RED,²⁹ Oshakati Premier Electric³⁰ and NamPower Distribution.³¹

In addition, select local authorities and regional councils in the Omaheke, Hardap and //Karas Regions are responsible for the distribution and supply of electricity to end-users. Several private electricity distribution schemes exist, including farmers' cooperative schemes and entities distributing electricity to specific end-users.³²

12.6 Private Sector Entities

Various private sector entities have commenced operations in Namibia's electricity supply and distribution sectors.³³ These include Independent Power Producers selling to NamPower, as well as a number of embedded Independent Power Producers that sell directly to select REDs. In addition, private electricity distributors have

25 See <https://www.nampower.com.na/refit>, accessed 14 July 2020.

26 See http://www.windhoekcc.org.na/depa_electricity.php, accessed 15 July 2020.

27 See <http://www.nored.com.na/>, accessed 13 July 2020.

28 See <https://www.cenored.com.na/>, accessed 13 July 2020.

29 See <https://www.erongored.com/>, accessed 13 July 2020.

30 See <http://www.opc.com.na/>, accessed 13 July 2020.

31 See <https://www.nampower.com.na/Page.aspx?p=149>, accessed 15 July 2020.

32 See <https://www.ecb.org.na/index.php/documents2/regional-electricity-distributors>, accessed 13 July 2020.

33 von Oertzen (2019).

commenced operations, including those operating estates and various farmer electricity supply schemes. In addition, the private sector is the principal technology and service provider to most electricity entities active in the country.

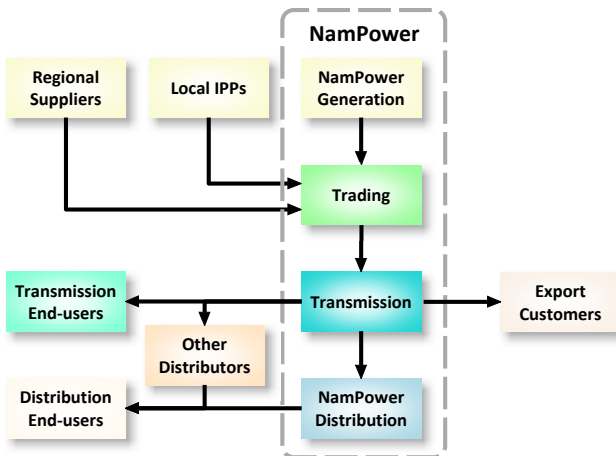
13 Namibia's Electricity Market Model

13.1 The Single Buyer Market Model (2000 to 2019)

In November 2000, Cabinet approved the single buyer electricity sector market model for the restructuring of the country's electricity supply industry.³⁴ This electricity market model required the establishment of a 'single buyer', which became NamPower's responsibility as the national electricity utility. At the time, the single buyer market model was seen to be sufficiently practicable to ensure the orderly management and administration of electricity trading arrangements, while also increasing investments in electricity generation in the country.

The implementation of the single buyer model implied that all entities wishing to supply electricity to or within the country were required to sell to NamPower, as illustrated in Figure 1. NamPower, in turn, supplied bulk power to distributors and select large power users, while also distributing electricity in areas where other distribution entities did not provide services.

Figure 1: Schematic Diagram of the Single Buyer Electricity Market Model



Source: von Oertzen (2019:61).

34 GRN (2000c).

While select investments in new electricity generation assets took place, these were limited to those undertaken by NamPower. For example, the 22.5 MW heavy fuel oil-fired Anixas power plant at Walvis Bay was commissioned in 2011, and a fourth turbine adding 90 MW of generating capacity was installed at the Ruacana hydro-electric plant in 2012.³⁵

From 2010 onwards, REDs and other distribution entities started investigating the modalities of procuring power from entities other than from NamPower. Numerous potential Independent Power Producers introduced themselves but found it difficult to negotiate tangible supply conditions with third-party off-takers.³⁶

It became evident that the development of the power market remained unnecessarily constrained, and many saw NamPower as an entity that was protecting its monopoly position.³⁷ Various industry players lobbied for the change of the existing market model, amongst others to eliminate NamPower's alleged conflict of interest in its dual roles as single buyer and principal supply entity. In addition, a new market dispensation would also seek to introduce competition in the electricity supply sector, enhance the electricity sector's economic impact on the country's economy through a focused uptake and use of renewable energy technologies,³⁸ while enabling an accelerated entry of Independent Power Producers as well as the provision of other essential electricity services.³⁹ It was realised that the single buyer market model, with its relatively simple trading arrangements, held advantages for Namibia's small economy. However, even the most ardent supporters of this market model recognised the lack of investments in the country's generation capacity. In addition, NamPower's slow pace of implementation, and near-absolute domination of the electricity industry, could also not readily be argued away.⁴⁰

The status quo started changing in 2015, when InnoSun established the first commercial Independent Power Producer at Omburu, near the town of Omaruru. Thereafter, embedded plant began operations in CENORED's and Erongo RED's supply areas, while others started supplying select large power users. These developments signalled the end of the single buyer market model as had originally been envisaged. Electricity supply industry stakeholders wanted the market model to be revised, to formally enable the entry of Independent Power Producers, which then led to the conceptualisation of the modified single buyer market model.⁴¹

35 von Oertzen (2015).

36 von Oertzen (2010).

37 von Oertzen (2014b).

38 von Oertzen (2018b).

39 von Oertzen (2018c).

40 von Oertzen (2019:62).

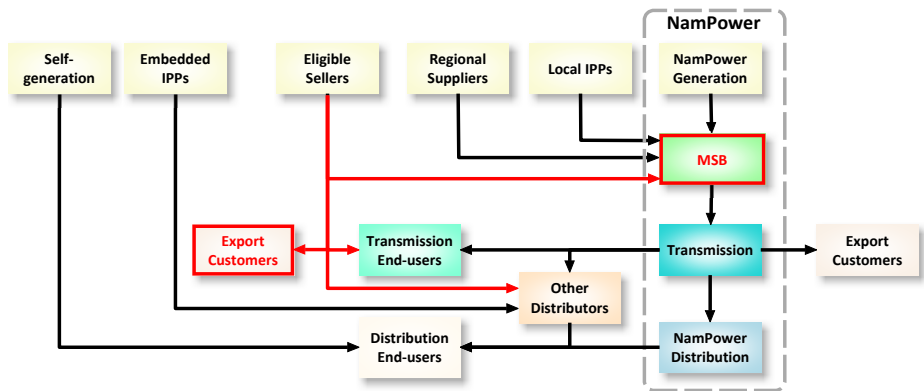
41 Ibid.

13.2 The Modified Single Buyer Market Model (from 2020)

Based on numerous inputs from stakeholders, including from potential Independent Power Producers, and an assessment of international best practices, the new market model that was to replace the single buyer was developed. A so-called 'modified single buyer market model' was designed and workshopped with electricity supply industry stakeholders from 2018 onwards.⁴²

As is suggested by its name, the 'modified single buyer market model' is a modification of the erstwhile single buyer market model as described in the previous Section, and aims at enabling Independent Power Producers to supply electricity to select customers without having to involve third-party entities such as the single buyer, as illustrated in Figure 2.⁴³

Figure 2: Schematic Diagram of the Modified Single Buyer Market Model



Source: von Oertzen (2019:63).

The modified single buyer also allows private generators to build generation capacity which are to be used to export electricity into the southern African region. As such, the introduction of the modified single buyer market model thereby deliberately opens Namibia's electricity market, providing a step-by-step liberalisation of the previous single buyer rules of engagement throughout the sector. In this way, the modified single buyer market will also create opportunities for both established and new Independent Power Producers, as well as eligible off-takers.⁴⁴

The modified single buyer market model also changes some of NamPower's erstwhile roles and responsibilities. While this national utility will continue to own and operate select electricity generation plant, the transmission system and parts of the

42 ECB (2019a).

43 ECB (2019b).

44 Ibid.

country's distribution system, NamPower will also have to manage the market and system operations needed for the modified single buyer. In addition, NamPower will become the supplier of last resort, which implies that it will be responsible to supply customers who are unable to procure electricity from other providers. On the other hand, NamPower's exclusivity as the electricity sector's sole trader disappears, with this functionality being replaced by multiple trading relationships between eligible suppliers and contestable customers.⁴⁵

The modified single buyer market model creates a new basis on which transactions involving the supply of electricity will take place in Namibia in future. Specifically, this new market model implies the creation of a formal platform on which bilateral trade takes place and paves the way for additional investments in local generation capacity, while creating the framework conditions for large-scale investments in generation plant specifically earmarked for the export of electricity to neighbouring countries. Such arrangements are of particular interest to those wishing to monetise Namibia's world-class solar resource, and the good to excellent wind regime along the country's south-western coastal areas, amongst others.⁴⁶

14 Private Sector Participation in the Electricity Industry

Private sector participation in Namibia's electricity industry commenced in 1996, when a private electricity distribution company, i.e. Northern Electricity, was established. The utility was to trial the concept of a privately-held entity tasked with the distribution and supply of electricity using assets belonging to the Government of Namibia. Although regarded as a model for further private sector participation in the country's electricity industry, this contract agreement came to an end in 2002, and the responsibility for the distribution and supply of electricity in northern Namibia was taken over by the newly formed Northern RED company.

In 2014, Omburu solar photovoltaic (PV) project reached financial close. It demonstrated that appropriately sized generation projects could be viable and be operationalised without a sovereign guarantee. In 2016, fourteen Renewable Energy Feed-in Tariff (REFIT) projects of 5 MW each, were commissioned. Two projects by Greenam, i.e. a 10 MW solar PV project near Mariental as well as one near Keetmanshoop, were commissioned in 2018, following a drawn-out directly negotiated procurement process. In contrast, the Alten 37 MW solar PV capacity⁴⁷ was the result of a competitive bidding process, and also commenced operations in 2019.⁴⁸

45 Ibid.

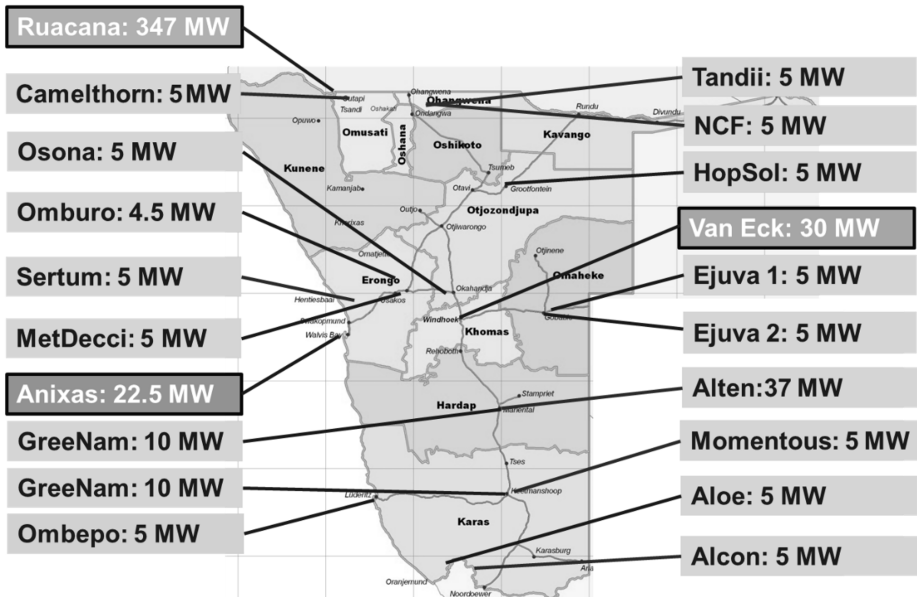
46 Ibid:64.

47 Alten Renewable Energy, see <http://alten-energy.com/developing/namibia/>, accessed 25 August 2020.

48 Kruger *et al.* (2019).

In mid-2020, the country's electricity requirements were sourced from 20 local electrical energy generation plant, not including embedded, behind-the-meter and off-grid generation plant, as well as imports from neighbouring countries. The local generating capacity amounted to 526 MW, excluding embedded, off-grid and behind-the-meter generating capacities. Figure 3 shows NamPower's generation assets (in lined boxes) as well as 17 Independent Power Producers (IPPs), excluding the capacities associated with embedded, off-grid and behind-the-meter electricity generating plant.

Figure 3: Namibia's Electricity Generating Capacity in Mid-2020



Source: von Oertzen (2019:55).

The seventeen IPPs operate a total installed generating capacity of 126.5 MW, these exclude all embedded and behind-the-meter as well as off-grid plant. Except for Ombepo, which is a wind farm, all other IPPs operating in mid-2020 use of solar PV technology. Several distributors and commercial operations procure electricity directly from IPPs that operate embedded generating plant. These include HopSol's 5 MW PV plant near Otjiwarongo that sells to CENORED, OLC Arandis' 3 MW PV plant selling to Erongo RED, and SunEQ's 5 MW PV plant supplying Ohorongo Cement.⁴⁹

An estimated 55 MW of grid-connected distributed generating plant is operational in mid-2020. Some are for own use only, including Windhoek's Grove Mall which operates a 2.8 MW_p PV plant, Maerua Mall's 2 MW PV plant, Wernhil Park's 2.1 MW

49 von Oertzen (2019:43).

PV plant, and Namibia Breweries 1 MW roof-mounted solar PV plant and others. Many smaller plant, including roof-top solar PV systems operating as behind-the-meter generators, benefit from Namibia's net metering rules, and often have feed-in arrangements with a local electricity distributor.⁵⁰ A large number and variety of backup generators are used throughout the country. Most mining operations have such generating plant on site. Examples include Langer Heinrich Mine's 16.5 MW diesel-powered plant, Ohorongo Cement's 7 MW diesel plant, Rössing Mine's 6.3 MW diesel plant, and many others.⁵¹

Numerous off-grid generating plant, i.e. plant not connected to the national grid, are in operation. Prominent examples include B2Gold's 24 MW heavy fuel oil generating plant and its 7 MW solar PV plant, the off-grid installations at Tsumkwe, Gam and Gobabeb, as well as those on farms and small settlements that are not connected to the electricity grid.⁵²

15 Procurement of Additional Generating Capacity

Namibia's National Energy Policy, National Renewable Energy Policy and National Independent Power Producer's Policy spell out the Government's intent, direction and undertakings regarding the development and future of the Namibian energy sector. Critical to the implementation of the aforementioned policies is how additional capacity is to be procured.

Namibia's Public Procurement Act No. 15 of 2015, regulates the procurement of goods, works and services of public entities, such as NamPower.⁵³ The use of appropriate procurement mechanisms is key to ensure that capacity is available when required. Internationally, several procurement approaches and instruments have been successfully applied. These have resulted in important lessons that will hopefully inform the corresponding processes that are to be applied in Namibia, specifically for the procurement of new renewable energy generating capacity.

15.1 Direct Negotiations

Many countries in sub-Saharan Africa continue to use direct negotiations to procure additional capacity in electricity markets, which outnumbers the competitive bidding

50 Ibid.

51 Ibid.

52 Ibid:44.

53 GRN (2015b); see https://laws.parliament.na/cms_documents/public-procurement-3ff4b6e324.pdf, accessed 25 August 2020.

taking place in the Region.⁵⁴ Direct negotiations are usually started following the receipt of an unsolicited proposal that is submitted by an investor. An advantage of direct negotiations is that they allow utilities to rapidly identify and enact the appointment of suppliers.⁵⁵ However, while negotiated projects may offer a quick response to addressing capacity gaps, they are often poorly coordinated, inadequately embedded and part of a country's national development imperatives and lack the strategic focus that characterise initiatives undertaken as part of well-considered integrated resource plans.⁵⁶

As is happening in the SADC Region, direct negotiations can readily pave the way for corrupt dealings, driven by well-connected individuals. They also lead to higher energy prices, and deter investments, as politically – or otherwise connected individuals steer the process to meet their own requirements.⁵⁷

15.2 Competitive Bidding and Tendering

International reforms of electricity markets that started in the 1990's led to the development of tendering procedures that were specifically aimed at adding new renewable energy capacity to the energy mix. This procurement approach entailed the use of competitive bidding, specifically with the aim to ensure greater transparency, enhance efficiency and lower the cost of capacity additions brought about by the pressures inherent in competitive market approaches.⁵⁸

In the SADC region, South Africa is leading the competitive bidding process. Between 2011 and 2015, the country conducted four renewable energy auctions, leading to private investments amounting to some N\$ 19 billion, and resulting in 92 projects adding some 6.3 GW of new generating capacity.⁵⁹

Broadly speaking, the South African competitive bidding process includes the following: Following the announcement of a bid, and submission of bids by interested parties, the bidding evaluation follows a two-step evaluation process. Bidders must satisfy specific minimum threshold requirements, including environmental, land, commercial and legal, economic development, financial and technical.⁶⁰ Bids that satisfy

54 Eberhard *et al.* 2014.

55 See <http://www.fao.org/3/Y1398E/y1398e09.htm>, accessed 21 August 2020.

56 Kruger *et al.* (2019).

57 World Bank Group, see <https://openknowledge.worldbank.org/handle/10986/19784>, accessed 19 August 2020.

58 Kruger *et al.* (2019).

59 *Ibid.*

60 The environmental review examined approvals, while the land review looked at tenure, lease registration, and proof of land use applications. Commercial considerations included the project structure and the bidders' acceptance of the Power Purchase Agreement. The financial review included standard templates used for data collection that were linked to a financial model used

the requirements proceed to the second evaluation step where the actual bid price weighs 70% of the total score and 30% is allocated to criteria including job creation, local content, ownership, management control, preferential procurement, enterprise development and socio-economic development. Bidders must provide two prices, i.e. a fully indexed for inflation and the other partially indexed, with the bidders initially allowed to determine the proportion that would be indexed while in subsequent rounds, floors and caps were instituted for the proportion that could be indexed. Bids were then evaluated using a standard financial model.⁶¹

Tendering entails the participation of project developers through a competitive bidding process. Generally, the capacity to be added and (in some cases) a specification of the technology that is to be used, are specified. Criteria for the evaluation of bids are set before each bidding round.⁶² Bidding is often accompanied by an obligation on the part of electricity utilities to purchase a certain amount of electricity from renewable sources at a given price.⁶³ Once a producer has secured a long-term contract, a penalty is incurred if they cannot deliver or in case they withdraw from their initial offer.⁶⁴

Tendering procedures require clear processes for application, approval of proposed projects and monitoring performance. From a regulatory perspective, it is important to develop transparent rules to minimise corruption, ensure the adequacy of information that is disseminated to bidders and to level the playing field.⁶⁵ This demands significant organisational efforts from the Government and good cooperation between the parties involved, including the entity tasked with monitoring and verification.⁶⁶

15.2.1 Quota Systems and Green Certificates

A quota system implies that the Government specifies the percentage or an amount of energy, usually on an annual basis, that is to be procured from specific generators, for example from renewable energy power plant, while allowing the marketplace to set the price at which a given quantum is made available.⁶⁷

by the evaluators. The technical specifications were set for each of the technologies. For example, wind developers were required to provide 12 months of wind data for the designated site and an independently verified generation forecast. The economic development requirements, in particular, were complex and generated some confusion among bidders.

61 Eberhard *et al.*, 2014.

62 Bjork *et al.* (2011: 41).

63 *Ibid*:42.

64 Ndhlukula (2010:14).

65 Bjork *et al.* (2011:42).

66 Hellman *et al.* (2000)

67 Bjork *et al.* (2011:40).

The departure point of a quota system rests on the concept that the Government specifies the quantity of energy that is to be procured from specific plant and allowing the market to competitively decide how to most cost-competitively deliver such supplies. The economic underpinning rests on the assertion that competition will drive down the cost of supply which will then be of benefit to the end-user.⁶⁸ Quota systems involve the issuance of certificates to supply electrical energy. These certificates guide the market in terms of the overall quantity of electricity to supply, and for trading between suppliers to meet the quota requirements while maximising profits.⁶⁹ Such quota systems have the advantage that they are efficient, and that they are effective in ensuring energy security.⁷⁰ In addition, as quota systems usually involve little or no subsidisation, the aggregate cost of supply is minimised, provided that suppliers remain independent from one another.⁷¹

A common downside of a quota system is that they incentivise the development of supply options that are considered to be the least-cost supply option. This feature implies that longer-term strategic considerations, for example the overall resilience of the energy mix, are often not adequately catered for as supply options that offer cost advantages over the short-term are usually favoured in quota systems. In practice this implies that technologies that offer cheap and quick-to-market supplies are incentivised over others that may hold advantages over the medium or long term.⁷²

Of note is that quota systems are usually an effective approach to procure supplies if the market is well developed and deep. This implies that quota systems are often less useful in small markets and those that are less developed, as is the case in many a developing nation, including in Namibia.⁷³

16 Reflections on Namibia's Electricity Future

Namibia is blessed with world-class renewable energy resources, well-developed energy policies, solid regulatory provisions, a well-functioning national electricity utility and cost reflective electricity tariffs. In addition, considerable private sector investments in new electricity generating capacity have been secured since 2016.⁷⁴ Based on these strengths one could readily assume that Namibia's electricity future is bright. However, a variety of challenges continue to strain the country's electricity supply industry. Amongst the more important impediments are the country's continued

68 Ibid.

69 Bjork *et al.* (2011:40).

70 Ndhlukula (2010:15).

71 Bjork *et al.* (2011:41).

72 Ibid.

73 Bjork *et al.* (2011:40).

74 von Oertzen (2019).

dependence on imports. Also, despite considerable efforts since Independence, less than one-half of the population has access to electricity. And, in the past decade, year-on-year electricity price escalations have been substantial, thereby negatively affecting the affordability of electricity, driving inflation and weakening the country's regional competitiveness.⁷⁵

Central to most of the electricity-related challenges faced by Namibia in 2020 is the lack of appreciation of what a substantial energy-related position could imply for Namibia's development, and the deep disconnect between lofty policy ambitions and the ability to actually implement them. Actions to strengthen Namibia's energy security on the one hand, and the political rhetoric on the upliftment of living standards on the other hand appear to take place in entirely disjoint universes. Economically, voices advocating a rapid move towards improved access to affordable modern energy remain quaint at best. However, it must also be acknowledged that a general appreciation exists that secure, adequate, accessible and affordable electricity supplies are essential pre-requisites to a more competitive and inclusive economy.

Internationally, there is broad consensus that access to modern energy unfolds multiple positive socio-economic impacts.⁷⁶ Generally, it is recognised that access to electricity is important to improve the conditions that underpin national development.⁷⁷ Consequently, many nations refocus their national development objectives to include pronouncements on energy security and electrification as these are recognised as fundamental drivers of other development-related objectives, including becoming more resilient to the impacts of a changing climate.⁷⁸

Given the nexus between energy, climate and development, the remainder of this section reflects on the steps towards a future-oriented electricity future in Namibia.⁷⁹ The departure point centres around the practical question on how a secure, resilient and competitive electricity future can be brought about. The focus will be on the key short-term imperatives, i.e. those to be undertaken between 2021 and 2025, and on medium- to long-term imperatives beyond 2025.

16.1 Short-term Imperatives – 2021 to 2025

Namibia's National Integrated Resource Plan (NIRP) elaborates how the national demand for electricity is to be met in future, noting that the NIRP has a 20-year horizon.⁸⁰

75 Ibid.

76 See for example Sustainable Energy for All; see <https://www.seforall.org/>, accessed 29 August 2020.

77 von Oertzen (2016).

78 IRENA (2019).

79 von Oertzen (2009).

80 See <https://bit.ly/2TlrHmx>, accessed 26 August 2020.

In mid-2020, the NIRP of 2016 is being reviewed and updated. This is essential as the rapid pace of developments, particularly in the solar energy and electrical energy storage space, implies that cost and roll-out requirements are changing as well.

In order to strengthen the country's security of electricity supplies, and cognisant that the current national demand cannot be met from local supplies only, the Minister of Mines and Energy as the country's principle custodian of energy, must be informed by a balanced and up-to-date generation capacity plan to pronounce him/herself on how such capacity is to be developed. The NIRP update is expected to be finalised by 2021 at the latest and will identify those least-cost supply options that are to be procured in future.

Upon allocation of new generation capacity by the Minister of Mines and Energy, procurement of such capacity commences. This may entail an allocation to the state-owned electricity utility NamPower, as well as capacity allocations that are to be brought online by Independent Power Producers. Also, the concept of private-public partnerships (PPPs) exists in Namibia and has been applied in other spheres before, based on the provisions of Namibia's Private Public Partnership Act No. 4 of 2017. However, PPPs have not yet found their way into the country's electricity industry, although a variety of unsolicited proposals were received by the Ministry of Mines and Energy, NamPower and the PPP Unit in the Ministry of Finance.⁸¹ A further option to procure future supplies is by way of regional partnerships, as well as bilateral supply agreements. The latter has been practiced for decades and entails securing supplies from neighbouring power utilities such as South Africa's Eskom,⁸² Zambia's ZESCO Limited,⁸³ the Zimbabwe Power Company (ZPC)⁸⁴ and others.

In the short term, the electrification of schools, clinics and essential infrastructure that is used to provide services by the Government is of critical importance. The Covid-19 pandemic has highlighted that teaching and learning must continue as the development of children may not be interrupted. Here, the use of modern information and communication technologies and the internet are indispensable. However, without access to electricity, these critical needs can simply not be met. The same applies to the continuous operation of hospitals and clinics that rely on the maintenance of a permanent cold chain and operation of refrigeration facilities. It is therefore imperative that schools, clinics and remote Government offices are electrified as a matter of national urgency.

Another short-term activity must include the development of the new National Electrification Master Plan,⁸⁵ which is to be a key pillar on which the process to achieve universal access to electricity is to be built. The Master Plan is to treat on- and off-grid

81 See <https://mof.gov.na/public-private-partnerships>, accessed 28 August 2020.

82 See <https://www.eskom.co.za/Pages/Landing.aspx>, accessed 28 August 2020.

83 See <https://www.zesco.co.zm/home>, accessed 28 August 2020.

84 See <http://www.zpc.co.zw/>, accessed 28 August 2020.

85 See <http://www.mme.gov.na/energy/electricity/>, accessed 28 August 2020.

electricity supply options on an equal footing, irrespective of whether electrification is to take place in underserved peri-urban or rural localities. It is expected that the Master Plan is commissioned in 2021, and likely be finalised during 2022.

In mid-2020, a National Electrification Policy and associated National Electrification Funding Portfolio is being developed, as has been described in Section 15 above. These instruments are to pave the way towards achieving universal access to electricity services in Namibia. The Policy is expected to be completed in 2021 and will result in a harmonised and more focused approach to create access to electricity services for all, funded by way of a portfolio that includes contributions by the Government, electricity distribution entities as well as a broad mix of contributions from regional and international grant and loan facilities.

Several demand side management programmes have been undertaken in the past, including by NamPower, distributing one million light emitting diode (LED) lights to end-users,⁸⁶ as well as a public awareness campaign, i.e. ‘Power of Knowing’, to advocate the benefits of energy saving measures. However, many related initiatives remain to be implemented, including a campaign to replace electric water heaters by solar water heaters,⁸⁷ complementing the national generation capacity by utilising virtual power stations,⁸⁸ and the concerted drive to reduce the demand for electricity. It is also considered important that the benefits associated with energy efficiency technologies and associated behavioural measures, as well as demand side measures, are re-invigorated, as the electrical energy that is not demanded by end-users does not have to be generated in the first place.⁸⁹

16.2 Medium- to Long-term Imperatives – beyond 2025

Namibia’s electricity imperatives in the medium- to long-term would best be centred on supporting national development actions that strengthen the resilience of the economy, enhance local productivity and diversify and broaden the economy. Central to such initiatives is that the country’s electricity security is further strengthened by investments in local generating plant, that accessibility is rapidly extended and that electricity prices remain as affordable as possible.

Generation capacities must be extended, as projected in the National Integrated Resource Plan. This may include the Baynes hydropower project in the Kunene River, with a capacity of 600 MW that is to be shared between Namibia and Angola.⁹⁰ The governments of both countries have agreed to develop the Baynes option following

86 See <https://www.nampower.com.na/ledmicrosite/>, accessed 27 August 2020.

87 See <https://www.nampower.com.na/Page.aspx?p=206>, accessed 27 August 2020.

88 See <https://bit.ly/3rPjFqv>, accessed 15 February 2022.

89 von Oertzen (2015).

90 See <https://www.nampower.com.na/Page.aspx?p=222>, accessed 27 August 2020.

studies showing that the site would be less disruptive to the life of the indigenous Himba communities, and would have fewer environmental impacts than the Epupa site that had been considered before.⁹¹ Current estimates suggest that Baynes will cost some USD 1.2 billion, which is considered optimistic.⁹² If commissioned at all, Baynes will not likely come on stream before the end of 2028 or early 2029.⁹³ It is noted that the Baynes project will raise regional security concerns as the site is located on the international border between Namibia and Angola, and the source of water lies beyond Namibia's control.⁹⁴

The SADC's long-term power generation vision rests on the ZiZaBoNa project, which is envisaged to be a joint electricity transmission interconnector project linking the power networks of Zimbabwe, Zambia, Botswana and Namibia.⁹⁵ ZiZaBoNa also aims to establish a second transmission corridor besides the existing central transmission pathway from Zambia through Zimbabwe, Botswana into South Africa.⁹⁶

Other large-scale projects are mooted as well. For example, in March 2017, the Southern Africa Energy Program was launched by the United States Agency for International Development (USAID) in collaboration with several southern African governments.⁹⁷ The initiative provided technical assistance to various public and private stakeholders, including the regulatory authority, NamPower and the Ministry of Mines and Energy. In mid-2020, the USAID's Power Africa initiative has commenced with an investigation of the feasibility of adding some 5,000 MW of new solar energy capacity in Namibia and Botswana.⁹⁸ Such capacity would clearly necessitate power exports into the SADC region, which would require substantial investments in additional transmission capacities to effectively wheel these supplies to regional off-takers. However, while the assessment has not been completed, the viability of such mega-projects in small countries such as Namibia and Botswana remain highly questionable, especially in view of the multitude of constraints that characterise the region's economies.

A strategy that promises tangible step-by-step additions to the existing generation capacity is based on steadily increasing the contributions of small- and medium-scale renewable generation projects in the Namibian electricity mix.⁹⁹ The benefit of adding

91 See for example https://www.lac.org.na/projects/grap/Pdf/epupa_debate.pdf, accessed 27 August 2020.

92 *The Namibian*, at <https://www.namibian.com.na/200244/archive-read/Baynes-power-plant-construction-slated-for-2023>, accessed 27 August 2020.

93 Ibid.

94 See https://www.lac.org.na/projects/grap/Pdf/epupa_debate.pdf, accessed 27 August 2020.

95 See for example <https://www.sardc.net/en/southern-african-news-features/sadc-lures-investors-for-zizabona-energy-project/>, accessed 28 August 2020.

96 See <https://bit.ly/3Bkv1WC>, accessed 15 February 2022.

97 See https://pdf.usaid.gov/pdf_docs/PA00TCZ5.pdf, accessed 26 August 2020.

98 See <https://bit.ly/3rPtvsp>, 15 February 2022.

99 von Oertzen (2016).

appropriately sized capacity is that these can be funded more readily, including from private sector investments, as has been successful in Namibia.¹⁰⁰ For larger-scale investments, as would for example be the case for concentrated solar power projects, partnerships between the national utility on the one hand and external investors on the other are likely to be useful.

Namibia's small electricity industry must guard against overextending itself in programmes and initiatives that mainly serve the interests of parties beyond the borders. This is not to mean that Namibia should not expand its generation capacities to serve regional markets. Indeed, the country's vast solar and wind resources should actively be unlocked to supply southern African markets, which is considered realistic and achievable in view of Namibia's renewable endowments and the cost competitiveness of these clean energy supplies.¹⁰¹

On the demand side, the medium- to long-term future is expected to see the increased uptake of mini-grids supplying remote areas.¹⁰² The days where grid-connected electricity supplies were the only means to establish access to electricity are over, noting that the cost of building and operating conventional distribution grids to low-density areas is high.¹⁰³ As Namibia is moving closer to realising universal access to electricity, small-scale stand-alone supply options powered by renewables are likely to be deployed as well, both in sparsely populated rural areas as well as in select peri-urban areas.¹⁰⁴ This expansion necessitates the development and roll-out of innovative business models for the decentralised supply of electricity, which is expected to unlock private sector participation in the electricity sector.¹⁰⁵ These and related developments are expected to create new jobs, contribute to the upliftment of communities and power the nation's economy into the future.¹⁰⁶

17 Concluding Remarks

Energy is an integral ingredient of any modern economy. Key development drivers, including human capital, water, food, health, education, and others, depend on the availability, accessibility, affordability and adequacy of energy supplies.

Electrical energy is one of the key contributors to Namibia's total energy mix. Electricity is a most versatile form of energy and is indispensable in the provision of most goods and services that a modern society relies on. There is strong evidence that

100 von Oertzen (2019).

101 GRN (2017b); GRN (2017d).

102 GRN (2020).

103 See <https://bit.ly/3oPpMcA>, accessed 15 February 2022.

104 Ibid.

105 GRN (2020).

106 von Oertzen (2018a).

access to reliable and affordable electricity supplies is of fundamental importance for socio-economic development, which is an insight that is of pivotal importance to Namibia.

Strengthening the security of national electricity supplies necessitates that the right choices are made, and projects are diligently implemented. In the recent past, the Namibian electricity sector has witnessed a considerable number of investments in small, medium- and large-scale electricity generation technologies, utilising local renewable energy resources. These developments benefit from Namibia's rich renewable energy endowments, which are abundant, readily accessible, available, safe, and clean, and will remain so in future.

The uptake of technologies that add value to the country's natural resource endowments is also benefitting from international trends and initiatives that promote cleaner, more sustainable, and climate-friendly energy choices. With a focus on creating local value, such initiatives are expected to promote local social, environmental, and economic benefits by leveraging Namibia's endowments to energise development in all its facets.

PART VIII:
CLIMATE CHANGE

Chapter 21: Review of the Climate Change Situation in Namibia: Projected Trends, Vulnerability and Impacts

Isaac Mapaure

1 Introduction

Climate change is one of the biggest challenges and threats that humanity has ever faced. It has been acknowledged as “one of the greatest challenges of our time” by many organisations including the United Nations. The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”.¹ This definition slightly differs from the definition of the Intergovernmental Panel on Climate Change (IPCC), which refers to climate change as “a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer”.² The IPCC’s definition therefore refers to any change in climate over time, irrespective of the causes, whether due to natural variability or anthropogenic causes.

Climate change has largely resulted from anthropogenic influences on the climate system. In 2014, the IPCC reported that human influence on the climate system is clear, and that recent anthropogenic emissions of greenhouse gases are the highest in history. The IPCC³ estimated that human activities have caused approximately 1.0°C of global warming above pre-industrial levels, and is likely to reach 1.5°C between 2030 and 2052 if it continues at current rate. These influences have had widespread impacts on human and natural systems. These impacts necessitate global actions to mitigate its causes, adapt to, and cope with the impact thereof. Actions to do the above are being taken through commitments to international instruments such as the United Nations Framework Convention on Climate Change and the Paris Agreement.⁴ It has been acknowledged that a certain amount of climate change is apparently unavoidable, regardless of reductions in emissions, thus necessitating adaptation.⁵ Human adaptation to a changing environment has been going on for millennia, but the current scenario calls for the need to up-scale and accelerate multi-level and cross-sectoral climate

1 UN (1992).
2 IPCC (2007d).
3 IPCC (2018).
4 UN (2015).
5 IPCC (2007c).

change mitigation strategies and transformational adaptation.⁶ Namibia ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1995 as a Non-Annex I Party. Namibia therefore has an obligation to submit information in accordance with Article 4, paragraph 1 of the UNFCCC. Such Reports include the National inventory of anthropogenic greenhouse gas (GHG) emissions by sources and removals by sinks GHGs, National Communications to the Convention, and Biennial Update Reports (BURs). Namibia's Initial National Communication to the Conference of Parties of the UNFCCC was submitted in 2002⁷ in accordance with decisions taken at various COPs to the UNFCCC. The Second National Communication was submitted in 2010.⁸ The Third National Communication was submitted in 2015⁹ while the Fourth National Communication was submitted in 2020.¹⁰ However, with the adoption of the Cancun Agreements at COP16 in 2011 held in Mexico, the reporting by non-Annex I Parties in national communications, including national GHG inventories should also include information on mitigation actions, their effects and support received. Such Parties should also submit Biennial Update Reports (BURs). Thus, Namibia submitted its first BUR in 2014,¹¹ the second BUR in 2016¹² and the third BUR in 2018.¹³ According to the requirements, BURs should contain updates on national GHG inventories, information on mitigation actions, needs and support received and institutional arrangements done by the Party and should be submitted every two years. Namibia also submitted its Intended Nationally Determined Contributions (INDC) in 2015¹⁴ and an updated Nationally Determined Contribution in 2021¹⁵ in readiness for COP26 which was held in November 2021 in Glasgow, Scotland. The Ministry of Environment, Forestry and Tourism (MEFT) through the Directorate of Environmental Affairs (DEA), Division of Multilateral Environmental Agreements, is responsible for overseeing the coordination of climate change issues in Namibia.

Despite its insignificant contributions to greenhouse gas emissions, southern Africa is very susceptible to the impacts of climate change, including sea level rise, increased frequency and intensity of extreme weather events such as floods and droughts. Most of southern Africa is already largely water-stressed, with high frequencies of drought. Climate change is exacerbating this problem, considering that the region's susceptibility in the agricultural sector is rooted in its widespread rain-fed agriculture.¹⁶ The

6 IPCC (2018).

7 GRN (2002d).

8 GRN (2011a).

9 GRN (2015a).

10 GRN (2020).

11 GRN (2014a).

12 GRN (2016c).

13 GRN (2018g).

14 GRN (2015a).

15 GRN (2021a).

16 CEEPA (2006); IPCC (1997); Hulme (1996).

vulnerability of the region's agricultural sector to climate change has been well documented over the last two decades in the respective National Communications to the UNFCCC of several southern African countries. Moreover, scientific modelling suggests that southern Africa will be hit harder by climate change than most regions of the globe, becoming hotter and drier.¹⁷

In many countries of the southern African region, close to 70% of the population lives in rural areas where their direct dependence on the natural ecosystems with their goods and services is high. The impacts of climate change are more pronounced in these rural communities, who are often poor and marginalised. Their livelihoods are largely dependent on agriculture, a sector which is very sensitive to climate change. Studies have identified several sectors where Namibia is most vulnerable to climate change. These include water resources, fisheries and marine resources, agriculture, biodiversity and ecosystems, coastal zones and systems, health, and energy. Therefore, Namibia has to continue taking measures and actions designed to mitigate climate change and to capacitate communities to cope with and adapt to the effects of climate change.

This Chapter highlights the projected changes in climate in southern Africa, with particular focus on Namibia. The vulnerability of Namibia to climate change and the impacts of climate change on various sectors of the economy and on biodiversity are also reviewed. Some of the measures taken by the Namibian Government and other stakeholders to deal with the challenges of climate change are also summarised.

2 Namibia's Contribution to Greenhouse Gas (GHG) Emissions

Parties to the United Nations Framework Convention on Climate Change (UNFCCC) are categorised into three main groups according to differing commitments. Thus, certain groups of developing countries are recognised as being especially vulnerable to adverse impacts of climate change, including countries with low-lying coastal areas and those prone to desertification and drought. These are classified as non-Annex 1 countries, and most developing countries including Namibia belong to this group. According to the UNFCCC process, the baseline values for greenhouse gas (GHG) emissions for non-Annex 1 countries are pegged at 1994 as the base year. The IPCC Guidelines¹⁸ require that GHG emission estimates should be compiled for the sectors of Energy, Industrial Processes and Product Use (IPPU), Agriculture, Forestry, and Other Land Use (AFOLU) and Waste.

A wealth of scientific literature indicates clear evidence that global climate has changed and will continue to change over the next century, both globally and locally

17 IPCC (2007c and 2018).

18 IPCC (2006).

due to increased GHG concentrations in the atmosphere. These increases are mainly due to human activities, most notably the use of fossil fuels. Africa's contribution to greenhouse gas emissions is insignificant at only 3.8% compared to the largest emitters China (23%), United States of America (19%), and the European Union (13%) of global emissions.¹⁹ Just like many other countries in southern Africa, except South Africa, Namibia's contribution to greenhouse gas emissions is insignificant.²⁰ Globally, Agriculture, Forestry and Other Land Use (AFOLU) activities accounted for around 13% of CO₂, 44% of methane (CH₄), and 81% of nitrous oxide (N₂O) emissions from human activities during 2007-2016, representing 23% of total net anthropogenic emissions of GHGs.²¹

Namibia neither produces fossil fuels of its own, nor refines any fossil fuels though explorations have been taking place. Currently there are oil and gas explorations in Kavango Region and in southern Namibia by ReconAfrica and Shell, respectively. Therefore, only fossil fuel consumed and combusted in the country was used to estimate emissions in the energy sector under Fuel Combustion Activities.²² The Namibian economy is not energy-intensive, as it relies primarily on agriculture, fisheries and mining without much secondary processing.²³ A greenhouse gas emissions inventory of Namibia has been performed in 1994²⁴ and compared and reviewed comprehensively in 2000.²⁵ Stand-alone GHG Inventory Reports are also available.²⁶ However, estimates in these and other documents tend to vary somewhat but those given in the Third Biennial Report (BUR3) are the latest and best estimates of emissions in light of available data and information.²⁷

Namibia's Fifth National Development Plan (NDP5) aims to expedite the implementation of the country's development strategy, including environmental sustainability. To this end, tackling climate change is high on the country's agenda. The country is committed to complement the international efforts in curbing GHG emissions in accordance with the UNFCCC provisions. Namibia has compiled and submitted GHG inventories in accordance with Article 4.1(a) of the Convention. The country has recorded an increase of 12.1% in emissions from 1994 to 2014.²⁸ The Agriculture, Forestry and Other Land Use (AFOLU) sector remained the leading emitter throughout this period (91.7% in 1994 to 81.5% in 2014) followed by Energy, which increased from 1,464 Gg CO₂eq (7.8% in 1994) to 3,234 Gg CO₂eq (15.3%) in 2014. Emissions

19 Sy (2015).

20 GRN (2002d); Hartz / Smith (2008).

21 IPCC (2020).

22 GRN (2014a).

23 GRN (2002d).

24 Du Plessis (1999a).

25 Hartz / Smith (2008).

26 GRN (2015c; 2016d; 2018h).

27 GRN (2018g).

28 Ibid.

from the AFOLU sector increased from 17,328 Gg CO₂eq in 1994 to 19,275 Gg CO₂eq in 2012 before declining to 17,271 in 2014 (a 0.3% decrease from the 1994 to 2014). Hence, the main target is to reduce deforestation rate and achieve a decrease in CO₂eq by over 13.5Mt by 2030.²⁹ The Industrial Processes and Product Use (IPPU) became the third emitter from 2003. Emissions from the IPPU sector increased from 22 Gg CO₂eq in 1994 to 522 Gg CO₂eq in 2014, a very sharp increase accounted for by the commencement of Zinc production in 2003 and cement production in 2011.³⁰ Emissions from Waste doubled between 1994 and 2014 (from 75 Gg CO₂eq in 1994 to 153 Gg CO₂eq in 2014). Despite the increases in emissions stated above, the country has remained a net sink of GHG over the period 1994 to 2014 whereby removals exceeded emissions. The net removal of CO₂ increased by 26.3% from 1994 to 2014 (increase of 20,484 Gg CO₂eq from 77,770 Gg CO₂eq in 1994 to 98,254 Gg CO₂eq in 2014). Trends in emissions and removals are summarised in the Table below (NB: 1994 is the base year).

Table 1: GHG Emissions by Sector and Removals from 1994 to 2014

YEAR	EMISSIONS (Gg CO ₂ eq)					REMOVALS (Gg CO ₂ eq)	
	Energy	IPPU	AFOLU	Waste	TOTAL	AFOLU	Net
1994	1,464	22	17,328	75	18,889	-96,659	-77,770
2000	1,934	25	16,637	88	18,684	-108,067	-89,383
2002	2,163	27	16,073	91	18,353	-112,687	-94,333
2004	2,521	237	15,879	103	18,742	-114,949	-96,208
2006	2,823	255	17,003	112	20,194	-109,119	-88,925
2008	2,752	291	16,256	117	19,416	-114,977	-95,561
2010	2,923	301	17,365	131	20,720	-107,364	-86,644
2012	3,003	515	19,875	149	23,542	-104,485	-80,943
2014	3,234	522	17,271	153	21,180	-119,434	-98,254

Source: Table compiled by the author based on figures from GRN (2018g).

Emissions analysis by respective gases did not change during the period 1994 to 2014. CO₂ has remained the main contributor, followed by CH₄ and N₂O. The share of CO₂ increased while that of CH₄ and N₂O declined between 1994 and 2014. In 2014 the contributions were 63.44% CO₂, 23.98% CH₄ and 12.58% N₂O.³¹ Emissions of indirect GHGs (CO, NO_x and Non-methane volatile organic compounds (NMVOC)) and SO₂ showed varied trends: nitrogen oxides (NO_x) decreased from 48.4 Gg in 1994 to 38.2 Gg in 2014; Carbon monoxide (CO) decreased from 2198 Gg in 1994 to 939 Gg

29 GRN (2021a).

30 Ibid.

31 GRN (2018g).

in 2014; NMVOC increased from 15.9 Gg in 1994 to 24.5 Gg in 2014; Sulphur dioxide (SO₂) varied between 1.9 Gg and 4.2 Gg (2.6 in 1994 and 2.7 in 2014).³²

Namibia aimed for a reduction of 89% of its GHG emissions by 2030 compared to the BAU scenario, meaning that the projected GHG emissions to be avoided in 2030 is of the order of 20000 Gg CO₂eq (inclusive of sequestration in the AFOLU sector) compared to the 'Business as Usual' (BAU) scenario of 24.167 MtCO₂eq.³³ However, this target was recently revised to aim at a reduction of 91%.³⁴ This revised target has been viewed by some quarters as being ambitious due to the lack of clarity on where the necessary funding would come from.³⁵ The estimated amount for both adaptation and mitigation is about USD 5.33 billion.³⁶ With reference to the AFOLU sector, it is important to note that vegetation growth captures CO₂ thereby acting as a sink. The clearing of vegetation has the opposite effect. Namibia has a significant land area that is bush-encroached by species such as *Senegalia mellifera*, *Terminalia sericea*, and *Dichrostachys cinerea*. Bush encroachment largely results from poor rangeland management practices which lead to overgrazing and upsetting the natural balance between woody plants and grasses such that the woody component proliferates. Though agriculturally undesirable, the impact of bush encroachment is highly significant for Namibia's greenhouse gas emissions profile because bush-encroached areas serve as huge sinks for CO₂. It remains to be seen how the on-going de-bushing programmes and commercial charcoal production will impact this profile in future.

3 Climate Trends and Projections

Future trends in climate are predicted using modelling approaches based on past and present patterns. There are several climate models used worldwide to provide the basis for projections of future climate change scenarios, the most used being General Circulation Models (GCMs). The IPCC's Fourth Assessment Report³⁷ discussed and evaluated these models at length while the IPCC Fifth Assessment Report³⁸ highlighted the current situation and future trends in global climate. The heterogeneity in the new generation of climate models and an increasing emphasis on estimates of uncertainty in the projections raise questions about how best to evaluate and combine model results in order to improve the reliability of projections.³⁹ GCMs work on a spatial scale of

32 Ibid.

33 GRN (2015b).

34 GRN (2021a).

35 Odendaal (2021).

36 GRN (2021a).

37 IPCC (2007c).

38 IPCC (2014a).

39 IPCC (2010).

200-300 km, therefore this limits their projections for changes at a local scale.⁴⁰ Nevertheless, GCMs remain a fundamental tool used for assessing the patterns in past change and projecting changes in the future.

There is undisputed evidence for climate change at global scale, much of which is attributed to anthropogenic activities. However, understanding how global climate change may manifest itself at the local level is still a challenge.⁴¹ At a global scale, it is widely recognised that there has been a detectable rise in temperature over the last few decades. This rise in temperatures cannot be explained unless human influence is taken into account.⁴² In fact, human activities are estimated to have caused about 1.0°C of the recorded global warming above pre-industrial levels and warming likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.⁴³ The regional distribution of temperature increases is not uniform; some regions have experienced greater change than others.⁴⁴ Globally, the rate of average temperature increase has been quicker during the latter half of the 20th century than before. This increase in the rate of change is expected to continue, potentially resulting in more rapid changes of climate in the future.⁴⁵ Surface temperature is projected to rise over the 21st century under all assessed emission scenarios in GCMs.⁴⁶ Rising temperatures will result in more frequent heat waves which will last longer, and that extreme precipitation events will become more intense and frequent in many regions of the world. The ocean will continue to warm and acidify, and global mean sea level will rise. In fact, the IPCC warns that continued anthropogenic emissions of GHGs will cause further warming and long-lasting changes in all components of the climate system which would increase the likelihood of severe and irreversible impacts on people and ecosystems.⁴⁷

There is greater variability in global rainfall, therefore changes in rainfall are harder to detect, both spatially and temporally. Changes in global rainfall patterns have been detected in many parts of the globe. In southern Africa, there have been moderate decreases in annual rainfall and there have also been detectable increases in the number of heavy rainfall events. Trends also indicate an increase in the length of the dry season and increases in average rainfall intensity,⁴⁸ suggesting a shorter but more intense rainfall season. Other aspects of global change are increases in intensity and spatial extent of droughts since the mid-1970s; increases in the duration of heat waves during the latter half of the 20th century; shrinking of arctic ice caps since 1978; widespread shrinking of glaciers, especially mountain glaciers in the tropics; increase in upper

40 DRFN / CSAG (2010).

41 Ibid.

42 IPCC (2001).

43 IPCC (2018); Singh *et al.* (2018).

44 DRFN / CSAG (2010).

45 Ibid.

46 IPCC (2014a).

47 Ibid.

48 New *et al.* (2002).

ocean heat content; increases in sea level at a rate of 1.8 mm per year between 1961 and 2003, with a faster rate of 3.1 mm per year between 1993 and 2003.⁴⁹ The IPCC⁵⁰ predicted that by 2100 the global mean sea level rise will continue well beyond 2100, the magnitude and rate of which will depend on future emission pathways.

There are few studies detailing historical climate trends of Namibia. Due to the arid nature of the country, natural variability is extremely high and is complicated by decadal variability. There is evidence that changes in temperatures in Namibia have followed global trends as described above. There has been a tendency for warmer temperatures in the latter half of the 20th century, which is generally 1-1.2°C warmer than at the beginning of that century. Namibia experienced significant increases in temperature over the past century, with greater increases in winter than in summer, and the largest increases of up to 0.5°C were recorded in the northeast.⁵¹ Namibia's average annual temperature has been increasing at a rate of 0.0123°C annually over the period 1901 to 2016.⁵² Maximum temperatures have been getting hotter over the past few decades with significant increases in the frequency of days exceeding 35°C and declines in the frequencies of days with temperatures below 5°C, suggesting an overall warming.⁵³ This magnitude of warming in Namibia is greater than the global mean temperature change,⁵⁴ which is worrisome for Namibia. An increase of 1°C generally implies an increase in evaporation of 5%. For a country with already high evaporation rates (reaching more than 2,660 mm per annum in some areas) this has serious negative consequences, as will be discussed in a separate section below.

Meteorological data for 25 years from the Namibia Meteorological Services indicate that there have been consistent increases in daily maximum temperatures at seven stations (Lüderitz, Keetmanshoop, Windhoek, Hosea Kutako International Airport, Sitrusdal, Grootfontein and Okaukuejo).⁵⁵ Long-term temperature and rainfall records from 15 weather stations that had data with durations of between 25 and 60 years in Namibia and the Northern Cape (South Africa) have been examined, and 53% of the stations showed significant increases in temperature over their recording period, while none showed a significant decline.⁵⁶ Generally, it is predicted that Namibia will become hotter with predicted increases in temperatures of between 1°C and 3.5°C in summer and 1°C to 4°C in winter over the period 2046 to 2065.⁵⁷

Rainfall patterns are a bit difficult to decipher compared to temperatures. The long-term rainfall records for Namibia (1915 to 1997) suggest an overall national mean of

49 IPCC (2007c).

50 IPCC (2018).

51 Spear *et al.* (2018).

52 GRN (2020a).

53 GRN (2011a).

54 Midgley *et al.* (2005).

55 DRFN / CSAG (2010).

56 Midgley *et al.* (2005).

57 GRN (2011a).

272 mm. In the period from 1981 to 1996 only two of the 16 years had rainfall above this mean.⁵⁸ The variation in rainfall year-to-year is extremely high (in excess of 30% everywhere in the country, rising to 70% in southern Namibia and 100% in the Namib Desert). DRFN and CSAG⁵⁹ reported that there are no obvious trends in rainfall patterns over a 100-year period, between 1901 and 2000 in Namibia. However, there have been significant increases in the length of the dry season and decreases in the number of consecutive wet days in some areas. The onset of the rainy season is delayed in the north and the end of the rains is earlier than before.⁶⁰ Recent experiences by local communities combined with meteorological data confirm real changes in climate patterns over the last few decades in Namibia. Delayed on-set of the rainy season and the shortening of the growing season have been reported. Using different climate modelling scenarios, for the winter period, the lower estimates of change suggest a drying in the south and wetting in the north, whilst upper estimates of change suggest a wetting over most of the country except in the far southwest where reduced rainfall is projected.⁶¹ During summer, the lower estimate of change suggests drying over most of the country except for an increase in rainfall over the coastal regions.

There have been unbearably hot summer temperatures and more frequent droughts. Communities in the northern and north-eastern parts of the country have experienced more severe flooding which has caused significant suffering among local communities. A study conducted in Ohangwena reveals that communities reported variability in rainfall patterns characterised by high intensity of rainfall over a shorter period of time, late coming of the rain, quick disappearance of surface water, less cold winters than before and much stronger and hotter summer sun.⁶² These trends in rainfall and temperature patterns, observed by communities in northern Namibia, were confirmed through trend analysis⁶³ of the period 1900 to 2000. Droughts have also become more frequent, with a very devastating drought during 2018/2019 season throughout the whole country. In Africa, dryland areas (such as Namibia) are also expected to become more vulnerable to desertification caused by climate change.⁶⁴

58 GRN (2002d).

59 DRFN / CSAG (2010).

60 Ibid.

61 Ibid.

62 Nunes *et al.* (2010).

63 Mitchell *et al.* (2004) in Midgley *et al.* (2005).

64 CDKN (2019).

4 Potential and Actual Impacts of Climate Change

4.1 Climate Situation and Vulnerability

Arid environments are areas that receive 100 mm to 250 mm of rain per annum, semi-arid environments receive between 250 mm and 500 mm and hyper-arid environments receive less than 100 mm per annum. In Namibia, annual rainfall is low and highly variable between years, ranging from an average of 25 mm in the southwest to 700 mm in the northeast. Thus, the greatest proportion of the Namibian environment is arid to semi-arid. The coefficient of variation of rainfall is also very high, ranging from 25% in the northeast to more than 80% along the coast in the west.⁶⁵ Not only does Namibia receive little rain, it also experiences high rates of evaporation due to high solar radiation, low humidity and high diurnal summer temperatures. This makes the arid nature of the country even worse because the availability of water to plants, animals and humans is limited. It is estimated that only about 1% of rainfall ends up replenishing the groundwater aquifers.⁶⁶ This makes the Namibian environment 'harsh' for most organisms, including people. This aridness of the country is caused by weather patterns prevailing in regions with oceanic cold currents – the cold Benguela Current that flows north along the west coast – and situated between 20° and 30° North and South, where dry air of the Hadley Cells descends resulting in persistent high pressure off the coastline.

Global climate change has resulted in changes to the normal patterns of weather and climate in Namibia, causing significant stress on various economic sectors of the country. Overall, it is predicted that there will be a 10% decrease in rainfall in the northern and southern regions of Namibia, and a 20% decrease in the central regions by 2050, and that these figures will worsen to 20% and 30% respectively by 2080.⁶⁷ The natural conditions described above make Namibia very susceptible to the effects of climate change because it is already a stressed environment. In general, countries in southern Africa are vulnerable to effects of climate change to varying degrees depending on their local conditions. The likelihood that an individual or group of people will be exposed to, and will be adversely affected by new climatic circumstances depends on the characteristics of the individuals or groups of people in terms of their capacity to anticipate, cope with, resist and recover from the impacts of environmental change.⁶⁸ The capacity to adapt to climate change varies among countries and socio-economic groups in the sense that those with the least capacity to adapt are generally the most vulnerable. This also depends on the resources available for mitigation and adaptation.

65 Mendelsohn *et al.* (2002).

66 GRN (2002d).

67 GRN (2010b).

68 Galvin *et al.* (2004).

Africa is, and will continue to be negatively affected by climate change, more so because of the poor socio-economic conditions which exacerbate the vulnerability of the continent's population. This is particularly so because vulnerability to environmental change does not only depend on changes in frequency or duration of climatic conditions but also on the capacity to respond adequately to those changes as stated above.⁶⁹ Poverty and prevailing levels of income disparities influence the resource base of households and this determines the resilience of households to deal with impacts of climate change. Africa's capacity to respond is severely hampered by lack of resources. Given the above situation, there is no doubt that climate change will affect the attainment of most of the United Nations Sustainable Development Goals (SDGs). Namibia's situation is not very different from neighbouring southern African countries. If anything, the local environmental conditions make Namibia even more vulnerable to the effects of climate change. Namibia is an upper middle-income country with a per capita GDP of N\$ 74 489 in 2017 and among the highest inequalities in the world of 0.59 Gini coefficient⁷⁰ with about 17.4% of the population living in poverty.⁷¹ There are considerable income disparities as reflected by the Gini-coefficient stated above. Being a country that is highly dependent on its natural resource base of minerals, fisheries, agriculture and wildlife, coupled with variable rainfall, frequent droughts and heavy reliance on subsistence agriculture, Namibia is highly vulnerable to climate change.

In Namibia, human vulnerability to climate change is mainly driven by social, political, economic and structural factors – factors which have huge influence on their livelihoods.⁷² The vulnerability of Namibia to the effects of climate change have also been reviewed by comparing two contrasting Regions, the Zambezi and Karas Regions, in the northeast and south, respectively.⁷³ These two regions differ in their average climatic conditions and livelihood systems. Zambezi receives higher rainfall than Karas. Livelihood systems in Zambezi are based on subsistence-oriented maize cultivation, which is combined with a small number of goats and cattle for domestic purposes, approximately supporting 12,000 farming households.⁷⁴ Livelihoods in Zambezi used to be flexibly organised around seasonal movement of water but nowadays the region is considered vulnerable to flooding of wetlands. In Zambezi natural shocks such as floods for those living in low-lying wetlands, droughts and climate change, livestock diseases and pests are factors that make people vulnerable. In 2009, close to 700,000 people were either directly or indirectly affected by floods in the north

69 Ibid.

70 NSA (2019).

71 Ibid.

72 Some of these factors have discussed by a number of authors, including van Wyk (2015), the EIF (2019) Lendelvo *et al.* (2018) and Spear *et al.* (2018), among others.

73 DRFN / CSAG (2010).

74 Ibid.

and north-eastern parts of Namibia which cost an estimated N\$ 1.7 billion (1% of GDP) worth of damages and losses, both public and private.⁷⁵ On the other hand, natural conditions and livelihood systems in southern Namibia are very different from Zambezi. Rural production is dominated by raising small stock such as goats and sheep. In the Karas Region, vulnerability is related to loss of employment, disability and sickness (including HIV and AIDS), having many dependents and orphans.⁷⁶

A number of sectors of the Namibian economy were identified as being particularly vulnerable to the effects of climate change, namely agriculture, biodiversity, ecosystems and tourism, coastal zone, human health and well-being, fisheries and marine resources, energy and water resources. These are discussed below.

4.2 Agriculture

Agricultural production is closely linked to climate, especially precipitation and temperature. IPCC⁷⁷ reported that climate change has already affected food security due to warming, changing precipitation patterns, and greater frequency of some extreme events such as floods and droughts. The Namibian climate is characterised by semi-arid and hyper-arid conditions and highly variable rainfall (though about 8% of the country is classified as semi-humid or sub-tropical). These conditions alone pose a great challenge to agricultural production in the country. The sector contributed 7.19% to GDP in 2018⁷⁸ and supports over 70% of the population.⁷⁹ However, the contribution of this sector has declined from 8.58% in 2010 to a lowest of 5.9% in 2015 before the recent slight rise noted above. Much of this can be attributed to the impacts of climate change. Climate change events have mostly manifested themselves in the forms of droughts, floods and heat waves. About 56.7% of Namibians live in rural areas and the main basis for their livelihoods is subsistence agriculture. Farming is an important source of livelihood for the majority of Namibians living in rural areas.⁸⁰ It is estimated that 70% of Namibians are directly dependent on agriculture for their daily livelihoods.⁸¹ Some urban dwellers are also full-time, part-time or weekend farmers. Crop production plays an important role in household food security, particularly in the northern parts of the country where pearl millet (mahangu) is a subsistence dry-land crop and a major staple food. However, mahangu harvests have been affected by

75 GRN (2009).

76 DRFN / CSAG (2010).

77 IPCC (2020).

78 Plecher (2020).

79 GRN (2011b:3).

80 Lendelvo *et al.* (2018).

81 Uebelhoer *et al.* (2015).

extensive flooding and poor yields in the last few years,⁸² an indication of possible impacts of climate change on crop production. Maize, wheat, rice and other grains and horticultural crops are also produced. Livestock production (especially cattle, goats and sheep) is the driver of the agricultural economy, with meat being a major export of Namibia, particularly to Europe. Less than 10% of the land surface is used for crop production while livestock production takes place on about 75% of the land.⁸³

There have been attempts to model the potential impacts of climate change on agricultural production,⁸⁴ but such attempts have been constrained by the lack of reliable data (in some cases) as well as the inherent uncertainties within the General Circulation Models (GCMs) themselves when applied to local scales such as farms. A modelling attempt for Rundu, in the Kavango East Region has indicated that the number of days exceeding 34°C during the six hottest months of the year will increase from 67 to 118 between 2046 and 2065.⁸⁵ This means that even a hardy crop such as mahangu will struggle to withstand such prolonged dry periods. Models were developed by the Africa Adaptation Project Namibia⁸⁶ to determine potential yields and planting windows for the middle of the 21st century for maize and millet production but the models were inconclusive. Current climatic trends suggest a shorter growing season with a late onset of the rains and an early cessation of the rains. This is already being witnessed in some areas with significant negative impacts on agricultural production.

During the 2008/9 season, the Agronomic Board of Namibia commented that “floods and droughts can easily occur simultaneously and even within close geographic proximity, as we have seen for the past few years”.⁸⁷ They contended that grain production, especially millet surplus production, could seriously be hampered if solutions in terms of crop insurance, production methods, cultivars, alternative crops, and financing schemes are not found. These are not encouraging signs as climate projections indicate that the growing season will start later than usual in the northeast, with onset of rains delayed by about half a day per year (meaning that currently the season starts about 20 days later than during the last century). This indicates early cessation of the growing season and significant negative impacts on the agriculture sector.

The livestock subsector is also currently suffering the effects of climate change and will further be negatively affected. Grazing rangelands are affected by alterations in precipitation regimes, temperature and atmospheric concentrations of CO₂. All these factors affect net above-ground primary productivity (NPP). There is likely going to be shifts in ratios of C3/C4 species of grasslands, changes in evapotranspiration and

82 NAB (2006).

83 GRN (2021a).

84 Dirx *et al.* (2008).

85 *Ibid.*

86 UNDP (undated).

87 NAB (2009).

run-off and changes in forage quality. If the quantity and quality of NPP is reduced as predicted, then cattle production will also decline. The 2018/19 season experienced one of the worst climate change-induced droughts in recent times throughout Namibia. There was wide-spread deficit of forage and water resulting in over 88,000 livestock deaths.⁸⁸ Changes in climate will lead to alterations in the boundaries between rangelands and other biomes such as deserts and woodlands through shifts in species composition and indirectly through changes in wildfire regimes and opportunistic cultivation. Modelling analysis projected significant changes in vegetation structure and function in several areas of Namibia by 2080, where arid vegetation types will increase in cover by almost 20% by 2050, and up to 43% by 2080 in the absence of CO₂ fertilisation effect.⁸⁹

Heat and water stress on livestock will lead to decreases in feed intake, milk production and rates of reproduction.⁹⁰ The 2018 IPCC Special Report⁹¹ paints dire potential consequences a 1.5°C warming would have on agriculture. Fewer areas would be viable for livestock production but this requires more data to be certain. Risks to food security will intensify due changes in crop nutrient content, yield reduction, increase in pests and price escalation. These negative impacts will have major implications for hunger and poverty eradication and overall attainment of the SGDs. Higher average temperatures have been reported to reduce conception rates in cattle, largely due to the positive correlation between high rectal temperatures and lower fertility rates, and partly as a consequence of appetite-suppressing tendencies of heat stress.⁹² Changes in climate may affect the distribution of livestock diseases as well as the timing of their outbreaks or their intensity. For vector-borne diseases, the distribution patterns of the vectors may be altered by changes in temperature and rainfall, thus influencing potential distribution of diseases. It is reported that climate appears to be more frequently associated with the seasonal occurrence of non-vector borne diseases than their spatial distribution.⁹³ The changes that may be necessary in Namibian farming systems to enable adaptation to climate change were discussed by various authors.⁹⁴

4.3 Biodiversity, Ecosystems and Tourism

Despite the harsh arid climatic conditions described above, the Namibian landscape supports remarkable biodiversity, especially its plant and animal species. More than

88 Hartman (2020).

89 Midgley *et al.* (2005).

90 DRFN / CSAG (2010).

91 IPCC (2018)

92 Newsham / Thomas (2009).

93 *Ibid.*

94 E.g. by Wilhelm (2012); Kuvare *et al.* (2009) and Van Wyk (2015).

4,500 plant taxa have been recorded,⁹⁵ almost 700 of which are endemic to the country, and a further 275 of which are Namib Desert endemics shared with southern Angola.⁹⁶ The endemism of plant species is concentrated in five centres, namely the Kaokoveld in the northwest, the Otavi highland in the Kalahari basin in the east, the Kavango regions in the northeast, the Auas Mountains on the western edge of the central plateau, and the succulent-rich southern Namib.⁹⁷ These landscapes and biodiversity are important tourist attractions for the country. The mammal fauna of Namibia comprises 250 species, representing about 75% of the southern Africa's species richness, of which 14 are endemic.⁹⁸ Most of the endemic mammals occur in the Namib Desert, pro-Namib transition zone and the adjoining escarpment. Close to 14% of Namibia is set aside as State protected areas while 86 registered communal conservancies constitute 20.2% of the country's land area. All these areas support amazing landscapes and significant biodiversity which attract a lot of tourists.

However, the natural ecosystems are vulnerable to climate change. Before the 2005 assessment,⁹⁹ there had been no previous quantified assessments of vulnerability of plant biodiversity to climate change in Namibia. Projections for warming and drying are harsh for central and western parts of southern Africa, with extreme warming centred on Botswana. Terrestrial areas that are particularly vulnerable to climate change are the western escarpment and the south-western succulent Karoo.¹⁰⁰ A dynamic global vegetation model (DGVM) has been used¹⁰¹ to explore the effects of climate change on ecosystem structure, function and dominance of plant functional types in Namibian ecosystems. The main plant functional types they analysed were broad categories such as C4 grasses, deciduous trees and C3 herbaceous and shrub types. Elevated CO₂ levels that may result from anthropogenic causes potentially increase the water-use and nutrient-use efficiency of plants that use the C3 photosynthetic pathway,¹⁰² and this will favour woody plants with a high degree of investment in carbon-rich support tissue (such as trees) relative to herbaceous species.¹⁰³ Seven vegetation structural classes are defined as occurring in Namibia under the current and future conditions by the DGVM, namely desert, arid shrub land/grassland, grassy savanna, mixed savanna, woody savanna, mixed shrub land/grassland and C3 shrub land/grassland. Projections of impacts on total vegetation cover were monitored through analyses of changes in bare ground and leaf area index (LAI).

95 Barnard (1998).

96 Maggs *et al.* (1998).

97 Maggs *et al.* (1994).

98 Griffin (1998).

99 Midgley *et al.* (2005).

100 GRN (2010b).

101 Midgley *et al.* (2005).

102 Drake *et al.* (1997).

103 Bond / Midgley (2000); Bond *et al.* (2003).

Results of projections of the impacts of climate change on biodiversity indicated a reduction in vegetation cover over the central highlands by 2050, with further reductions to 2080. The greatest absolute cover reductions are projected for the Kaokoveld region in the extreme northwest, and in the Kalahari basin in the southeast, with less significant reductions recorded at higher altitudes in the central highlands. It has also been shown that direct effects of rising atmospheric CO₂ on total cover were not significant and projected changes in LAI were more diverse, indicating significant reductions in areas of highest decrease in vegetation cover as expected.¹⁰⁴ However, such areas are of limited spatial extent, and much of the country is projected to experience LAI changes of between +10% and -10%. There will be an expansion of the two most arid vegetation types, desert and arid shrub land/grassland, mainly at the expense of grassy savanna and mixed savanna vegetation types. The arid vegetation types are projected to increase by almost 20% by 2050, and up to 43% by 2080, in the absence of a CO₂ fertilisation effect, but with CO₂ amelioration, the expansion of desert in 2080 is reduced from 43% to just less than 30%.¹⁰⁵

The current grassy savanna vegetation of Namibia is projected to decline substantially by 2050, with significant cover and biomass reductions in the central highlands and north-eastern plains, a scenario which will be exacerbated by effects of elevated CO₂ by 2080. The effect of elevated CO₂ is by facilitating the increase of currently relatively scarce C3-dominated vegetation types, woody savanna, mixed grassland, and C3 grassland/shrub land. This means that currently uncommon vegetation types will become widespread in the north-eastern part of the country, suggesting a strong potential for bush encroachment in these regions. In addition, the potential fire frequency is predicted to increase somewhat in the northeast region under the elevated CO₂ scenarios only. The distribution of deciduous trees will also decline in extent – they will suffer a reduction in both biomass and cover throughout their current range, showing a general retreat towards the north-eastern Kalahari. Projections also suggest that NPP will be significantly reduced by between 0.5 and 1 t/ha in the central-north-western regions and by up to 0.5 t/ha in the north-eastern Kalahari.¹⁰⁶ Overall, the SDGVM projections reveal a significant negative impact of climate change on ecosystem NPP, vegetation structure and cover, and the distribution of dominant plant functional types. These effects are strongest in the central/northwest regions and the north-eastern parts.

Impacts of climate change at species level will lead to high species losses, with mean species loss of between 40% and 50% by 2050 and between 50% and 60% by 2080.¹⁰⁷ However, these patterns of species loss and turnover will vary markedly in

104 Midgley *et al.* (2005).

105 *Ibid.*

106 *Ibid.*

107 *Ibid.*

space. There will also be significant changes in plant community composition resulting from these species losses. Changes in habitat composition and structure will result in changes in the faunal complement of these habitats. Species turnover ranges of between 40% and 70% were projected, with much of the change to occur under climate regimes projected for 2050. Projected local extinctions at the pixel scale, assuming that there are no species migrations, are in excess of 80% in the north-eastern and northern Kalahari, dropping to below 20% from the edge of the escarpment into the coastal desert zone.¹⁰⁸ There will be high species turnover in the north-eastern parts of the country, with an overall trend of a reduction in turnover from northeast to west and south-west. The majority of species will suffer declining range size while a minority will experience significant increases in range size. This finding suggests that future climate change may be an advantage to a small subset of species that might be able to capitalise on the novel climatic conditions expected in this country, but that this will depend strongly on their migration capacity.¹⁰⁹ Endemic species will have overall lower susceptibility to climate change (19% and 12% will be classified extinct and critically endangered, respectively by 2080) than non-endemic species. This is largely due to the fact that endemics are both arid-adapted and located in regions of lower projected climate change. The above predicted changes may also be affected by, and have synergistic effects with other processes such as desertification, deforestation and overall land-use changes.

The tourism sector contributes significantly to the Namibia economy, either directly or indirectly. It is the third largest contributor to the country's Gross Domestic Product (GDP) and contributed 20.5% in 2012¹¹⁰ but declined to 10.2% in 2015 and 10.5% in 2016, with an estimated 11.7% in 2020.¹¹¹ However, the corona virus disease (COVID-19) pandemic and associated worldwide lockdowns have hit the tourism sector hard in 2020. In Namibia, an estimated zero tourist arrivals were expected in the country between March and August and possibly for the entire 2020.¹¹² Government used the Tourism Climate Index (TCI) for the period 2035 to 2065 as a proxy for the suitability of the climate of an area for outdoor tourism activities and showed that Regions which will have high exposure to future climate stressor are Otjozondjupa, Oshana, Oshikoto, Omaheke and Ohangwena while Hardap, Omusati, Kunene, Erongo and Khomas will be least exposed.¹¹³

The effects of climate change on ecosystems and biodiversity described above will also negatively impact on tourism. Projected declines in vegetation cover in most parts of the country, and significant changes in vegetation structure with associated changes

108 Ibid.

109 Ibid.

110 MET (2016).

111 NTB (2016).

112 Shifeta (2020).

113 GRN (2015a).

in fauna will negatively impact on tourism. Livelihoods of rural communities will be negatively affected since a significant number rely on tourism ventures within communal conservancies. Increasing temperatures due to climate change will increase operational costs associated with the cooling of tourist accommodation facilities. Floods can damage infrastructure and affect accessibility to tourist destinations and facilities and may also lead to increases in incidences of vector-borne diseases.¹¹⁴ One of the biggest drawcards of Namibia as a tourist destination is the political stability.¹¹⁵ However, climate change has potential to increase risk of political or other conflict as reported by IPCC.¹¹⁶ Such a situation will damage the tourism industry if it happens in Namibia.

4.4 Coastal Zone

Worldwide, coastal areas are very important economic zones which provide many goods and services to humanity. About 40% of the world's population lives within 100 km of a coastal area. These human communities who are in close connection with coastal environments are exposed to changes in the ocean and cryosphere. One of the impacts of climate change is a rising sea level due to melting glaciers and ice caps of the Arctic and Antarctica (i.e. widespread shrinking of the cryosphere). The IPCC¹¹⁷ indicated that globally, the sea level rose at a rate of 1.8 mm per year between 1961 and 2003, with a faster rate of 3.1mm per year between 1993 and 2003. Sea level is projected to rise by between 30 cm and 100 cm by the year 2100, relative to the 1990 level. The rate of rise is projected to be relatively steady, accelerating slightly over time, although storm surges are expected to be the main source of damage to coastal infrastructure. Coasts will be exposed to increasing risks of coastal erosion and by 2080 more millions of people than today will experience floods every year due to sea level rise. The most affected people will be those in low-lying, densely-populated mega deltas of Asia and Africa.¹¹⁸ The global ocean has warmed since 1970 and it has taken up more than 90% of the excess heat in the climate system, resulting in increases in marine heat-related events.¹¹⁹ Namibia will not be spared from some of these effects. However, compared to other countries in the region, the Namibian coastline is relatively invulnerable to climate change impacts.¹²⁰

114 Spear *et al.* (2018).

115 GRN (2015a).

116 IPCC (2020).

117 IPCC (2007c).

118 IPCC (2007b).

119 IPCC (2019).

120 Theron / Rossouw (2008).

Namibia's coastline stretches some 1,800 km long and consists of 78% sandy beaches, 16% rocky shores and 4% mixed sandy and rocky shores, with only 2% of the shore backed by lagoons. The coastline is very important for tourism and recreation activities, which contribute significantly to the Namibian economy. Four major towns are situated along the coast, namely Lüderitz, Walvis Bay, Swakopmund and Henties Bay. Walvis Bay is located between one and three metres above sea level, in a semi-sheltered bay surrounded by an erodible coastline. The coastal aquifers which supply water to the town are susceptible to salt intrusion which would be further exacerbated by sea level rise. A sea level rise of 0.3 m, now regarded as virtually certain, will flood significant areas, and a 1 m rise would inundate most of the town during high tide.¹²¹ The other three towns, Swakopmund, Henties Bay and Lüderitz, are less vulnerable to rising sea levels due to their relatively safe topographic positions. It was reported that in the near future, most of Namibia's coastal towns would be able to deal with impacts of severe weather conditions but in the long-term they need to carefully plan adaptation strategies to deal with the effects of climate change.¹²² Walvis Bay was cited as particularly vulnerable and should safeguard its continued economic activity by properly planning for future effects. The vulnerability of Walvis Bay to rising sea levels was already reported way back,¹²³ and potential increased coastal erosion, inundation, increased saline intrusion, raised water tables and reduced protection from extreme events have been highlighted. Some of these effects are already being experienced.¹²⁴ Overall, coastal areas will experience increased incidence of flooding and inundation. Potential increased storminess due to climate change may increase the difficulty of coastal diamond mining in certain areas of the Namibian coast.¹²⁵

4.5 Energy

There is an intrinsic link between energy and development.¹²⁶ This makes the impact of climate change on the energy sector an important one since a number of economic sectors are dependent on various types of energy. The demand for energy is increasing partly due to the increase in human population. Poverty and lack of adaptive capacity and limited coping strategies of most rural communities in Namibia exacerbate the situation. The most dominant energy source in Namibia is imported liquid fuel which accounts for about 63% of total energy consumption (mainly in the transport sector), followed by electricity (17%), coal (5%) and other sources such as solar, wood and

121 GRN (2002d).

122 Consulting Services Africa *et al.* (2009).

123 Hughes *et al.* (1992).

124 Rowswell / Fairhurst (2011).

125 Theron and Rossouw (2008).

126 Bradley-Cook (2008).

wind (15%).¹²⁷ While contributing between 8% and 16% to the GDP, the mining sector is also a major consumer of energy. Namibia imports most of its electricity but has limited local generation at the Van Eck coal-fired power station in Windhoek, the Paratus and Anixas diesel power stations at the coast and the Ruacana hydro-electric power station on the Kunene River. Recent droughts have severely reduced electricity generation from the Ruacana plant. Given the projected decline in rainfall and more frequent droughts that are likely to result from climate change, hydro-electric power generation will be severely curtailed. In areas where rainfall is anticipated to increase in the tropical regions of southern Africa including the catchments of the Kunene River in Angola, there may be potential for increased generation of hydro-electricity during some seasons. Energy consumption is projected to increase and high fuel prices will directly affect accessibility of transport, price of goods and services and the cost of living in general.

With plenty of sunshine most of the year, Namibia has great potential to develop solar-powered electricity. This is an option worth serious consideration given the looming energy crisis, not just in Namibia but in the whole southern African sub-region. It has been projected that bush encroachment may increase in some parts of the country as a result of climate change.¹²⁸ Encroacher bushes may provide more firewood to local communities, and in urban areas where charcoal is also sold. Charcoal production from encroacher bushes (mainly *Senegalia mellifera*) is on the increase, and some of the charcoal is exported overseas.¹²⁹ However, care must be taken not to reduce the carbon sink through excessive de-bushing and at the same time increasing greenhouse gas emissions through biomass burning and charcoal production.

4.6 Human Health and Well-Being

Human health, well-being and livelihoods are strongly dependent upon the state of global ecological and biophysical systems. Climate change is one of the global change factors which have adverse effects on human health. Changes in temperature, precipitation and other factors may lead to short-, medium- and long-term changes in the physical environment, many of which may have direct and/or indirect impacts on human health.¹³⁰ This may be through its impacts on aspects such as water quality and availability, nutrition status of humans, and distribution and abundance of vector organisms due to changing temperatures and rainfall patterns. The impact of climate change on human health has increasingly attracted attention after it was highlighted in

127 GRN (2018g).

128 Midgley *et al.* (2005).

129 Namibia Charcoal Association (2018).

130 DRFN (2009).

the IPCC's First¹³¹ and Second¹³² Assessment Reports. In its Fourth and Fifth Assessment Reports, the IPCC projected that globally there will be increased malnutrition, diarrhoea, cardio-respiratory and infectious diseases; increased morbidity and mortality from heat waves, floods and droughts, changes in distribution of some vectors and substantial burden on health services.¹³³ Existing knowledge on the impacts of climate change on health in the SADC region has been reviewed and the review suggested that that there have been no substantial studies assessing the association between climate change and health in the SADC region, and where research has been done it focused only on infectious diseases (particularly malaria).¹³⁴ As discussed above, drought negatively impacts food security, particularly in rural populations, at the same it reduces the availability of clean water. Limited food supply during prolonged droughts and the absence of safe drinking water can result in poor nutritional and mental status.¹³⁵ Heat waves are likely to increase mortality among the elderly, infants and people whose health is already weak.

Namibia's health system is decentralised to enable it to be responsive to the needs of the population. Thus, the public healthcare system is organised into directorates at the national and regional levels. The Government has invested tremendously in the healthcare system since Independence. Despite this, general life expectancy has not improved, partly because of the HIV/AIDS pandemic.¹³⁶ About 15% of the population aged 15 to 49 is living with HIV/AIDS, but the infection level appears to have stabilised, 7% of which are under the age of 15 and 60% are women.¹³⁷ The main causes of adult mortality are HIV and AIDS, tuberculosis (TB) and malaria. High incidence of TB is fuelled by the HIV/AIDS epidemic (38% of TB patients are also HIV-positive) and this has reduced life expectancy from 62 years in 1991 to 49 years currently.¹³⁸ Recently, the COVID-19 pandemic has also claimed significant numbers of adults. Infant mortality is higher in rural areas and in the wetter north, compared to urban areas and the more arid south, with main causes of death being diarrhoea (42%), malnutrition (40%), malaria (32%) and acute respiratory infections (30%).¹³⁹ These causes of death have a strong link to environmental influences, especially climatic factors. For instance, drought decreases the nutritional status of humans and reduces availability of clean water rendering the population vulnerable and susceptible to attacks by various infections.

131 IPCC (1990).

132 IPCC (1995).

133 IPCC (2007c and 2014).

134 Young *et al.* (2010).

135 UNDP (undated).

136 DRFN (2009).

137 GRN (2020a).

138 *Ibid.*

139 GRN (2002d).

About 60% of the Namibian population lives in areas where malaria is prevalent. These areas are predicted to expand southwards into the central inland.¹⁴⁰ Such shifts may already be occurring with the warming effects. Namibia aims to eliminate malaria by 2022. However, recent successes in controlling the disease have been punctuated by occasional increases in the disease over the past few years.¹⁴¹ Increased flood risk also increases the risk of the spread of other serious waterborne diseases such as cholera and bilharzia. This gives an indication of the magnitude of the impacts of changing temperature on the range of the *Anopheles* mosquito, the vector for the malaria parasite. Indeed, it has been reported that rising temperatures are likely going to lead to increased frequency, greater spread and increased transmission rates of vector borne diseases.¹⁴² Sleeping sickness, carried by the tsetse fly (*Glossina morsitans*), is currently not present in Namibia although the cattle version (nagana) occurs in eastern Zambezi.¹⁴³ Both these forms of disease are projected to decrease under future climate projections because of a reduction in habitat availability for the tsetse fly. Government also predicts the possibility of incursion of lymphatic filariasis (elephantiasis), dengue fever and yellow fever from countries to the north with changes in climatic conditions.¹⁴⁴

Therefore, major impacts of climate change on health will result from decreasing crop yields and food insecurity, increasing water scarcity in some areas, extreme weather events (floods, droughts, heat waves, etc.), and changes in the distribution patterns and abundance of parasites and disease vectors. In the final analysis, the effects of climate change on Namibia will increase the pressure on human health and other health-related aspects of the economy and may lead to an increase in disease burden and poverty in communities.

4.7 Fisheries and Marine Resources

The fisheries sector contributed only 2.8% to GDP in 2014, which is a decline from 4.6% in 2009.¹⁴⁵ Namibia's fisheries sector is largely dependent upon the highly productive marine ecosystem driven by the upwelling of the cold, nutrient-rich Benguela Current in the Benguela Current Large Marine Ecosystem (BCLME) while comparatively limited production is from inland fisheries. The upwelling in the BCLME is caused by the interaction of south-easterly winds with the north-flowing current and the topography of the seabed. Currently there are no reliable scientific projections to

140 UNDP (undated).

141 Jacobson *et al.* (2019).

142 Husain / Chaudhary (2008).

143 GRN (2002d).

144 *Ibid.*

145 GRN (2018g).

suggest either an increase or a decrease in the Benguela fisheries yield as a result of climate change.¹⁴⁶ Links between environmental variability and fisheries dynamics are also poorly understood and large environmental anomalies or extreme events, such as the Benguela Niño, have negative impacts.¹⁴⁷ Because the BCLME upwelling-driven, it is naturally highly variable and complex, making it difficult to predict long-term climate change-related trends apart from the warming of the surface water at the northern and southern boundaries and the cooling of inshore waters.¹⁴⁸ Recent studies have shown that sea surface temperatures over the northern Benguela region appear to have become persistently warmer since 1993, consistent with global predictions of rising surface water temperature. It is possible that observed reductions in pilchard stocks since 1993 could be partially explained by warmer seas.¹⁴⁹

Any changes in the distribution and intensity of winds would affect the fisheries sector as it has direct impact on the upwelling dynamics of the Benguela system. Four possible scenarios that could result from climate change have been described.¹⁵⁰ The first is a possible reduction in coastal upwelling intensity through a slackening of the south Atlantic trade wind circulation. This would reduce the productivity of the ecosystem and the species that characterise the Benguela system could suffer major reductions in stock size and distribution. The second would be an increase in average summer wind stress and coastal upwelling intensity which would enhance enrichment and potential primary production. This could benefit some pelagic species and their predators due to increased productivity. However, it has been commented that, contrary to a popular assumption, there is little evidence to suggest that there have been large-scale inter-annual changes in primary production in response to changing wind fields.¹⁵¹ The third is that the frequency and severity of Benguela Niño events would increase, with a direct risk of large-scale population fluctuations, particularly of pelagic species; the Benguela Niños have the most obvious consequences for marine life in the northern Benguela, and intrusions of warm, nutrient-poor water from southern Angola has affected a wide range of species from small pelagic fish to top predators.¹⁵² These events have led to increased reduction in oxygen in Namibian shelf waters. The distribution of hake, and possibly other demersal species, could be substantially altered as a result, making the fish less available to trawl and long-line fleets. This has serious negative consequences on the economy and livelihoods of fishing communities. The fourth is a possible best-case scenario but probably the least possible where there would be low amplitude gradual affects that would lead to a succession of rapid regime

146 GRN (2002d).

147 Reid *et al.* (2007).

148 Hampton (2012).

149 *Ibid*; MFMR (2002).

150 Roux (2003).

151 *Ibid.*

152 *Ibid.*

shifts between semi-stable states of the system. These regime shifts would affect primarily the dominant pelagic species, which would in turn, induce large changes in the entire system.¹⁵³

4.8 Water Resources

Predictions are that southern Africa will receive 10% to 20% less rainfall by 2050. Such reductions in areas with rainfall regimes of 400-1,000 mm per annum may lead to a drop in perennial surface drainage of 75% and 25%, respectively by 2050.¹⁵⁴ The magnitude of surface water shortage may even be higher in drier areas of Namibia, which actually form the bigger proportion of the country. Even in the absence of climate change, water is an extremely scarce resource in Namibia.¹⁵⁵ The agriculture sector is the major user of water in Namibia, consuming close to 75% of water in the country.¹⁵⁶ Several other sectors such as mining (3.3%), services (2.9%) manufacturing (2.4%) and domestic (12.2%) sectors also have significant demands for water. Any changes that result in a decline in water supply will have serious repercussions on human livelihoods and the economy of the country in general.

Increases in temperature will have a marked increase in evaporation. It is estimated that for every degree of temperature rise, evaporation increases 5%. Therefore, there will be less water available for recharge and storage with increased atmospheric warming. The length of inundation of seasonally flooded terrestrial wetlands will therefore decrease due to increased evaporation. In some instances, this may lead to increased salt content of pans and pools and make them less suitable for human and animal consumption. Increased temperatures will also lead to increases in evaporation from plants, which will mean that plants will pump out more ground water, further depleting underground water. All this will lead to a reduction in the size and productivity of many wetlands,¹⁵⁷ negatively affecting human livelihoods that are critically dependent on these wetlands particularly in the north and north-eastern parts of the country.

It is predicted that rainfall over the Angolan catchments of the Zambezi, Kavango, Cuvelai and Kunene rivers will decrease by 10-20% between 2045 and 2065 leading to a 25% reduction in run-off and drainage into these river systems.¹⁵⁸ Of all the rain that falls in Namibia, less than 1% recharges groundwater and only 2% remains as surface water storage while the rest evaporates.¹⁵⁹ Groundwater recharge is predicted

153 Reid *et al.* (2007).

154 Ibid.

155 Spear *et al.* (2018).

156 GRN (2002d).

157 DRFN / CSAG (2010).

158 GRN (2011a:6).

159 GRN (2002d).

to suffer a reduction of 30-70% across the country.¹⁶⁰ The whole of Namibia experiences a net water deficit, meaning that evaporation exceeds rainfall throughout Namibia, with average water deficit being highest in the southeast (-2,300 mm/year) and lowest in Zambezi (-1,300 mm/year).¹⁶¹ Recent estimates put these deficits at -4000 mm/year in the south-east and -1600 mm/year in the north-east.¹⁶² Water deficit in southern areas result in most terrestrial wetlands being ephemeral.

An estimated 60% of Namibia's population lives near the major wetlands, with the highest population density along the perennial Kavango River.¹⁶³ Most of these communities are largely poor and highly dependent on the river and floodplains for water and other resources. The projections outlined above therefore spell gloomy prospects for these people, who were identified as being extremely vulnerable to environmental change. The above situation will further be worsened by increased demand from a growing population in general - demand for irrigation and demand in urban areas in response to projected heat stress.¹⁶⁴

5 Compliance, Mitigation and Adaptation to Climate Change: Summary of Selected Actions Taken

The above account has highlighted the vulnerability of Namibia to climate change and the effects this may have on the environment, the economy and human livelihoods. The country is experiencing an increase in frequency and severity of disasters such as floods, droughts and heat waves. The potential losses due to disasters is set to increase as the impacts of climate change continue to unfold.¹⁶⁵ The IPCC warns that many aspects of climate change and associated impacts will continue for centuries, even after anthropogenic emissions of greenhouse gases have been stopped.¹⁶⁶ It is therefore important that the country takes steps to mitigate climate change and capacitate communities to adapt to these effects. Under the UNFCCC and other international instruments, Parties to these conventions and treaties have obligations to introduce measures in order to mitigate further environmental deterioration and to reduce the effects these changes have on humanity and the environment. As a party to the UNFCCC and the Paris Agreement Namibia is obliged to put in place structures, policies and measures that meet the above objectives.

160 Spear *et al.* (2018).

161 DRFN / CSAG (2010).

162 GRN (2021a).

163 Heyns *et al.* (1998).

164 GRN (2015a).

165 GRN (2011c).

166 IPCC (2014a).

Available literature highlights why climate change adaptation and mitigation are critical issues not only for Namibia and southern Africa, but the world over. It is conceded though, that a certain amount of climate change is unavoidable regardless of reductions in greenhouse gas emissions.¹⁶⁷ It must be noted that effects of climate change will act in combination with other drivers of ecosystem degradation, for instance, communities in the region already face high levels of vulnerability and numerous stresses due to poverty, HIV/AIDS, food insecurity, and political instability.¹⁶⁸ Hence measures put in place must take cognisance of these interactive effects and approach them in a holistic manner.

Namibia established the Namibian Climate Change Committee (NCCC) in 2001 with the main function of advising and making recommendations to Government on climate change including how to meet its obligations to the UNFCCC. The NCCC is hosted by the Directorate of Environmental Affairs in the Ministry of Environment, Forestry and Tourism. Its membership is drawn from representatives of various Government ministries, NGOs, parastatals and the private sector. Thereafter, Cabinet approved the first National Policy on Climate Change (NPCC) in 2011¹⁶⁹ and the National Climate Change Strategy and Action Plan (NCCSAP): 2013-2020 in 2014¹⁷⁰ to aid in the implementation of the Policy on Climate Change by setting out the country's direction towards addressing climate change mitigation.

Thus, Namibia has taken several steps in addressing the issue of climate change and other global change challenges. In addition to the formation of the NCCC, other important steps under the obligations of the UNFCCC include (but are not limited to) the following:

- National policies and laws related to global change challenges and environmental management and protection are in place, including the Namibian Constitution, Vision 2030, National Development Plans, Environmental Management Act No. 7 of 2007, various sector policies and Cabinet directives. These policies are discussed in various Chapters of this Book. This includes the development of the National Policy on Climate Change for Namibia, development of the National Climate Change Strategy and Action Plan stated above;
- Initial National Communication to the UNFCCC in 2002;
- Second National Communication to the UNFCCC in 2010;
- Third National Communication to the UNFCCC in 2015;
- Fourth National Communication to the UNFCCC in 2020;
- Intended Nationally Determined Contributions (INDC) to the UNFCCC in 2015;

167 IPCC (2007c).

168 Shackleton *et al.* (2008); Ziervogel *et al.* (2006a).

169 GRN (2011b).

170 GRN (2014b).

- Intended Nationally Determined Contributions (INDC) to the UNFCCC in 2021;
- First Biennial Update Report (BUR1) to the UNFCCC in 2014;
- Second Biennial Update Report (BUR2) to the UNFCCC in 2016;
- Third Biennial Update Report (BUR3) to the UNFCCC in 2018;
- First National GHG Inventory Report (NIR1) in 2015;
- Second National GHG Inventory Report (NIR2) in 2016;
- Third National GHG Inventory Report (NIR3) in 2018;
- Assessment of capacity needs required to implement Article 6 of the UNFCCC was completed in 2005;
- A Directorate of Disaster Risk Management is operational in the Office of the Prime Minister. A National Disaster Risk Management Plan was developed;¹⁷¹
- A National Drought Policy and Strategy was developed in 1997;
- Continuous reviews and updates of national circumstances concerning impacts of climate change on various sectors are done;
- A Technology Needs Assessment was conducted in 2005 to identify requisite financial and research needs;
- Local-level activities are on-going for communities to adapt to climate change through improvement of traditional crops and livestock farming in several regions; and enhancing the adaptive capacities of farmers, pastoralists and natural resource managers to climate change in agricultural and pastoral systems in the country; a number of projects have been, and are being implemented across the country;
- Efforts are being made to increase access to climate change information and improved access to alternative resources by local communities, farmers and other stakeholders in the country;
- Namibia has integrated climate change issues in its development plans and has implemented numerous mitigation measures in various economic activities to curb emissions; the mitigation actions are summarised in the various Biennial Update Reports listed above; and
- The Environmental Investment Fund (EIF) was established in 2001 with the objective of mobilising funds to support activities and projects which promote sustainable use and efficient management of natural resources. To-date, the EIF has funded numerous projects on community resilience, capacity building, adaptation, mitigation etc. which have made a significant improvement of community livelihoods.

171 GRN (2011c).

6 Concluding Remarks

Climate change continues to be one of the greatest challenges of all time as it is cross-cutting all sectors of the economy. Namibia is very vulnerable to the effects of climate change due to the arid nature of the country, limited capacity to deal with its effects and inadequate technical and financial capacity for adaptation, given that there is a myriad of other challenges (e.g. poverty, HIV and AIDS, malaria, unemployment, and the COVID-19 pandemic) that need to be dealt with in addition to climate change. The evidence of climate change in Namibia are very clear, manifested by more intense flooding, shortening of the growing season, more frequent droughts, rising average summer and winter temperatures, frequent heat waves, among many other effects. These conform to predictions from General Circulation Models (GCMs) that paint a gloomy picture of rising temperatures and declining rainfall in most areas, though the applicability of GCMs remains limited at local spatial scales. There will be an accelerated decrease in biodiversity (particularly in the originally less arid areas), increasing evaporation leading to water scarcity, low crop yields leading to food shortages and insecurity, declining marine productivity due to sea warming and predicted declining oxygen levels in the continental shelf, flooding and erosion of coastal areas and changes in the distribution of disease patterns and their vectors. As a signatory to the UNFCCC and other related international instruments, Namibia is taking concrete steps to minimise the impacts of climate change on the people and the economy by putting in place relevant policies, structures and institutions for dealing with climate change and enhancing adaptive and mitigation capacity. With assistance from national and international partners and stakeholders, Namibia has implemented a significant number of interventions in order to achieve the above. Namibia's greenhouse gas emissions are insignificant, and the country has remained a net sink for CO₂ as far as the latest (2018) analyses show. Hence, efforts should be less on cutting down current emissions but more on curbing any potential increases in GHG emissions, adaptation, coping strategies, and disaster preparedness and management.

Chapter 22: Climate Change *de Facto* and *de Jure*: Legal and Regulatory Aspects Relevant to Namibia

Oliver C. Ruppel

1 Introduction

Namibia's development is guided by its 5-year periods National Development Plans within its long-term National Policy Framework, Vision 2030, and the Harambee Prosperity Plan (HPP). The country is currently in its Fifth (2017/18 – 2021/22) National Development Plan (NDP5)¹ that *inter alia* outlines a development strategy aiming at improving the living conditions of every Namibian through sustainable development and a low carbon economy.²

Namibia is one of the driest countries in southern Africa. The cold Benguela current along the west coast and Namibia's location traversing the subtropical high-pressure belt greatly influences the main features of the climate. The climate of Namibia is characterised by high variability. Namibia is very vulnerable due to the arid nature of the country, limited capacity to deal with the effects and inadequate technical and financial capacity for adaptation, given that there is a myriad of other challenges (e.g. poverty, HIV and AIDS, unemployment) that need to be dealt with in addition to climate change.

Climate change in Namibia has an impact on access to water and sanitation, health, agriculture, fisheries and marine ecosystems, forestry, energy, and human settlements.³ The combined impact of climate change is expected to reduce livelihood opportunities even further, to reduce biodiversity and food security; the prevalence of drought and flooding will increase. Impacts associated with temperature increases include a further rise in sea levels, changes in precipitation patterns, and the resultant threat to food security and sustainable development in general, with more people being caught up in the poverty trap. Limited adaptive management puts Namibia's population and its natural resources at risk. Thus, integrating adaption and mitigation strategies into the legal framework is essential.

During the past centuries the world's population increased rapidly and a global population of 9.7 billion people is projected for the year 2050.⁴ The expansion of mankind, both in numbers and per capita exploitation of the earth's resources, has been

1 GRN (2017a).

2 GRN (2020a:1).

3 Karuaihe *et al.* (2007:34).

4 See <https://bit.ly/3HLkPJf>, accessed 15 February 2022.

astounding. In an age primarily shaped by people, the so-called *Anthropocene*,⁵ the depletion of natural resources, the transformation of land surface by human action, and the increase in atmospheric concentrations of carbon dioxide are some of the impacts of human activity on Earth and atmosphere. The consequences of human activity are inseparably linked with observed changes in climate and mankind is faced with enormous challenges posed by the effects of climate change,⁶ *de facto* and *de iure*.⁷

2 *De Facto*: Aspects of Human Vulnerability

With the increasing possibility, through science, of predicting foreseeable events, such as extreme weather, increasing obligations rest on governments to perform duties to guard their citizens against harm. The science base is provided by the Intergovernmental Panel on Climate Change (IPCC), which was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO) in 1988. It is the ultimate role of the IPCC to assess – on a comprehensive, objective, open and transparent basis – the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation. The IPCC provides rigorous and balanced scientific information to decision-makers, and by endorsing the IPCC reports, governments acknowledge the authority of their scientific content. The work of the IPCC is meant to be policy-relevant and yet policy-neutral, never policy-prescriptive.⁸ The 2021/2022 publication of the IPCC's Sixth Assessment

5 The term has initially been coined in 2000 by the famous atmospheric chemist and Dutch Nobel Prize winner Paul Crutzen and has ancient Greek roots: *anthropo* meaning *human* and *cene* meaning *new*. In 2000 Crutzen realised that we live in an age primarily shaped by people and that anthropogenic drivers have become major factors regarding the changes of our planet Earth. Crutzen suggested this age be called *Anthropocene* – “the age of man”. See Crutzen / Stoermer (2000).

6 According to the IPCC (2014b:1758), climate change refers to “a change in the state of the climate that can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcing’s such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”. The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes.”

7 See Ruppel (2013:29).

8 See <http://www.ipcc.ch/organization/organization.shtml#.URelrmhpyos>, accessed 17 February 2021.

Report (AR6) will update scientific findings that provide further guidance for policy-makers.

In its 5th *Assessment Report (AR5) on Climate Change*,⁹ the IPCC has again most rigorously reviewed and assessed the most recent scientific, technical and socioeconomic information produced worldwide relevant to the understanding of climate change. IPCC reports are of great relevance with regard to all aspects of climate change and contain a solid base for further debate on this important topic. A general message from the report can be summarised as follows: there is no doubt that we live in a world which is altered by climate change, one of the greatest challenges of the 21st century. Climate change poses risks to human and natural systems and has the potential to impose additional pressures on the various aspects of human security.¹⁰ The risks and impacts related to climate change can be reduced by improving society to decrease vulnerability and hand down the overall risk level (adaptation)¹¹ and by reducing the amount of climate change that occurs, particularly by decreasing emissions (mitigation).¹²

Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.¹³

Evidence shows that the atmosphere and ocean have warmed, the amounts of snow and ice have diminished and sea level has risen and there is no doubt that human influence has been the dominant cause of the warming observed since 1950.¹⁴ Climate change has caused widespread and consequential impacts on all continents and across the oceans and poses a broad range of future risks for human and natural systems.¹⁵ The IPCC's analysis of observed climate trends and future projections reveals that that it is very likely that mean annual temperature has increased over the past century over most of the African continent,¹⁶ and that temperatures on the continent will rise faster than the global average increase during the 21st century.

9 Report available from <http://www.ipcc.ch/report/ar5/>, accessed 8 May 2021.

10 Adger *et al.* (2014).

11 Adaptation is defined as “The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.” See IPCC (2014b:1758).

12 Mitigation of climate change is defined as “a human intervention to reduce the sources or enhance the sinks of greenhouse gases.” See IPCC (2014b:1769).

13 See IPCC (2014a:2).

14 *Ibid.*

15 *Ibid.*:6.

16 With the exception of areas of the interior of the continent, where the data coverage has been determined to be insufficient. See Niang / Ruppel (2014:1206).

Box: Selected Executive Summary Statements of the IPCC AR5 Africa Chapter¹⁷
Evidence of warming over land regions across Africa, consistent with anthropogenic climate change, has increased (high confidence). Decadal analyses of temperatures strongly point to an increased warming trend across the continent over the last 50 to 100 years.

Mean annual temperature rise over Africa, relative to the late 20th century mean annual temperature, is likely to exceed 2°C in the Special Report on Emissions Scenarios (SRES) A1B and A2 scenarios by the end of this century (medium confidence). Warming projections under medium scenarios indicate that extensive areas of Africa will exceed 2°C by the last 2 decades of this century relative to the late 20th century mean annual temperature and all of Africa under high emission scenarios.

A reduction in precipitation is likely over Northern Africa and the southwestern parts of South Africa by the end of the 21st century under the SRES A1B and A2 scenarios (medium to high confidence). Projected rainfall change over sub-Saharan Africa in the mid- and late 21st century is uncertain.

African ecosystems are already being affected by climate change, and future impacts are expected to be substantial (high confidence). There is emerging evidence on shifting ranges of some species and ecosystems due to elevated carbon dioxide (CO₂) and climate change, beyond the effects of land use change and other non-climate stressors (high confidence). Ocean ecosystems, in particular coral reefs, will be affected by ocean acidification and warming as well as changes in ocean upwellings, thus negatively affecting economic sectors such as fisheries (medium confidence).

Climate change will amplify existing stress on water availability in Africa (high confidence). Water resources are subjected to high hydro-climatic variability over space and time, and are a key constraint on the continent's continued economic development. The impacts of climate change will be superimposed onto already water-stressed catchments with complex land uses, engineered water systems, and a strong historical sociopolitical and economic footprint. Strategies that integrate land and water management, and disaster risk reduction, within a framework of emerging climate change risks would bolster resilient development in the face of projected impacts of climate change.

Climate change will interact with non-climate drivers and stressors to exacerbate vulnerability of agricultural systems, particularly in semi-arid areas (high confidence). Increasing temperatures and changes in precipitation are very likely to reduce cereal crop productivity. This will have strong adverse effects on food security.

Climate change may increase the burden of a range of climate-relevant health outcomes (medium confidence). Climate change is a multiplier of existing health vulnerabilities (high confidence), including insufficient access to safe water and improved sanitation, food insecurity, and limited access to health care and education. Climate change is projected to increase the burden of malnutrition (medium confidence), with the highest toll expected in children.

17 Taken from Niang / Ruppel (2014:1202).

In all regions of the continent, national governments are initiating governance systems for adaptation and responding to climate change but evolving institutional frameworks cannot yet effectively coordinate the range of adaptation initiatives being implemented (high confidence). Progress on national and subnational policies and strategies has initiated the mainstreaming of adaptation into sectoral planning. However, incomplete, under-resourced, and fragmented institutional frameworks and overall low levels of adaptive capacity, especially competency at local Government levels, to manage complex socio-ecological change translate into a largely ad hoc and project-level approach, which is often donor driven. Overall adaptive capacity is considered to be low. Disaster risk reduction, social protection, technological and infrastructural adaptation, ecosystem-based approaches, and livelihood diversification are reducing vulnerability, but largely in isolated initiatives. Most adaptations remain autonomous and reactive to short-term motivations.

Growing understanding of the multiple interlinked constraints on increasing adaptive capacity is beginning to indicate potential limits to adaptation in Africa (medium confidence). Climate change combined with other external changes (environmental, social, political, technological) may overwhelm the ability of people to cope and adapt, especially if the root causes of poverty and vulnerability are not addressed.

There is increased evidence of the significant financial resources, technological support, and investment in institutional and capacity development needed to address climate risk, build adaptive capacity, and implement robust adaptation strategies (high confidence). Funding and technology transfer and support is needed to both address Africa's current adaptation deficit and to protect rural and urban livelihoods, societies, and economies from climate change impacts at different local scales. Strengthening institutional capacities and governance mechanisms to enhance the ability of national governments and scientific institutions in Africa to absorb and effectively manage large amounts of funds allocated for adaptation will help to ensure the effectiveness of adaptation initiatives (medium confidence).

Climate change and climate variability have the potential to exacerbate or multiply existing threats to human security including food, health, and economic insecurity, all being of particular concern for Africa (medium confidence). Many of these threats are known drivers of conflict (high confidence). Causality between climate change and violent conflict is difficult to establish owing to the presence of these and other interconnected causes, including country-specific socio-political, economic, and cultural factors. For example, the degradation of natural resources as a result of both overexploitation and climate change will contribute to increased conflicts over the distribution of these resources. Many of the interacting social, demographic, and economic drivers of observed urbanization and migration in Africa are sensitive to climate change impacts.

2.1 Impacts of Climate Change

AR5 presented strong evidence that the impacts¹⁸ of climate change in Africa are already being felt across various sectors. Climate change poses challenges to economic growth and sustainable development and to the various facets of human security. Although detection of and attribution to climate change are often difficult given the role of drivers other than climate change, there are substantially more impacts in recent decades now attributed to climate change.¹⁹ Various examples show, however, that climate change exerts extensive pressure on different ecosystems such as terrestrial, freshwater, and coastal/ocean ecosystems.²⁰ The health, livelihoods and food security of people in Africa are all affected by climate change. And as “Africa as a whole is one of the most vulnerable continents due to its high exposure and low adaptive capacity”,²¹ innovation and technology, smart policy making, high levels of Government attention, effective diplomacy, and international cooperation are required to effectively address the current and future challenges related to climate change.

The African Union draft climate strategy makes explicit and relevant reference to the issue of change governance, which²²

refers to the exercise of power and authority by formal institutions of governments with a view to minimize the impacts of climate change on communities, ecosystems, and the wider environment in general. It entails development of legislation, policies, institutional and management frameworks, at continental, regional and national levels. Further, it is to deal with governance of sectoral, cross sectoral and regional issues; and harmonization across sectors and levels of governance. Climate change governance in the continent should also deal with matters of compliance and mutual accountability on global, regional and national levels. (...) Addressing the challenges of climate change require active involvement of multi-disciplinary, multi-national, and stakeholders actions from global to local levels. African Union needs to deal with various issues of governance, including engagements with global climate change governance, mutual accountability on climate change commitments, enforcement and compliance with agreements, mechanisms of monitoring and reporting of climate change programmes; and building capacities of member states to access climate change funds. This thematic area is to ensure that the African Union (AU) continues providing the required leadership in climate change governance in Africa to promote and defend the continent’s interest in all areas including issues related to environment, disaster risk reduction and climate change, among other challenges. Such leadership roles should

18 Impacts of climate change are the “effects on natural and human systems of extreme weather and climate events and of climate change. Impacts generally refer to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services, and infrastructure due to the interaction of climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system. Impacts are also referred to as consequences and outcomes. The impacts of climate change on geophysical systems, including floods, droughts, and sea level rise, are a subset of impacts called physical impacts.” IPCC (2014c:5).

19 IPCC (2014a:7).

20 See Niang / Ruppel (2014:1214).

21 Ibid:1205.

22 AMCEN-15-REF-11.

also be undertaken in close partnerships with the international community, Regional Economic Communities (RECs) and African Member States as well as other stakeholders.

2.2 Future Risks and Opportunities

Climate change will amplify existing risks and create new risks for natural and human systems. Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development.²³

Risk is “the potential for consequences where something of value is at stake and where the outcome is uncertain, recognizing the diversity of values.”²⁴ Risk results from the interaction of vulnerability, exposure, and hazard. Risks from a changing climate in general come from a lack of preparedness making people vulnerable and the exposure of people or assets to harm, overlapping with triggering climate events (hazards). Key risks are potentially severe impacts of climate change and are considered ‘key’ due to the high intensity of hazard or the high vulnerability of societies and systems exposed, or both. One major finding of AR5 is that the higher the increase in warming is, the higher is the risk.²⁵

Particular challenges for less developed countries and vulnerable communities, given their limited ability to cope are the key risks as identified in AR5 as risks with high confidence, spanning sectors and regions, including but not limited to the following:²⁶

- Risk of death, injury, ill-health, or disrupted livelihoods in low-lying coastal zones and small island developing states and other small islands, due to storm surges, coastal flooding, and sea-level rise;
- risk of severe ill-health and disrupted livelihoods for large urban populations due to inland flooding in some regions;
- systemic risks due to extreme weather events leading to breakdown of infrastructure networks and critical services such as electricity, water supply, and health and emergency services;
- risk of mortality and morbidity during periods of extreme heat, particularly for vulnerable urban populations and those working outdoors in urban or rural areas;
- risk of food insecurity and the breakdown of food systems linked to warming, drought, flooding, and precipitation variability and extremes, particularly for poorer populations in urban and rural settings;

23 IPCC (2014c:13).

24 Ibid:5.

25 Niang / Ruppel (2014:1238).

26 IPCC (2014c:13).

- risk of loss of rural livelihoods and income due to insufficient access to drinking and irrigation water and reduced agricultural productivity, particularly for farmers and pastoralists with minimal capital in semi-arid regions;
- risk of loss of marine and coastal ecosystems, terrestrial and inland water ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for livelihoods.

For Africa in particular, the following key risks have been highlighted:²⁷ Risks of stress on water resources, sea level rise and extreme weather events, shifts in biome distribution, degradation of coral reefs, reduced crop productivity, adverse effects on livestock, vector- and water-borne diseases, under nutrition, and migration.

The risks associated with climate change need to be reduced by limiting the rate and magnitude of climate change. AR5 reveals that risks are reduced substantially under the assessed scenario with the lowest temperature projections. Furthermore, reducing climate change can also reduce the scale of adaptation that might be required.

In order to manage the risks of climate change, various approaches for adaptation come into consideration. Risk reduction strategies used in African countries to offset the impacts of natural hazards on individual households, communities, and the wider economy include early warning systems, emerging risk transfer schemes, social safety nets, disaster risk contingency funds and budgeting, livelihood diversification, and migration. Various adaptation approaches can be overlapping and are often pursued simultaneously. Most national governments in Africa are initiating governance systems for adaptation. Efforts to reduce vulnerability include disaster risk management, adjustments in technologies and infrastructure, ecosystem-based approaches, basic public health measures, or livelihood diversification.

Building more resilient societies is another means to cope with the challenges associated with climate change. Climate change, along with land-use change, degradation of ecosystems, poverty and inequality is one of the stressors that impinge on resilience. Climate resilient pathways must be identified by decision-makers that lead to a more resilient world, *inter alia* through adaptive learning, increasing scientific knowledge, effective adaptation and mitigation measures, and other choices that reduce risks.

Changes in Africa's climate have been observed during the past decades and impacts are occurring across a variety of sectors such as ecosystems, human health, livelihoods and food security. Climate change will generate new risks and amplify existing risks for society and the environment. Africa must prepare for future changes in climate as even under low-emission scenarios, warming will continue at least until around the middle of this century. The impacts of climate change can be reduced through adaptation actions moderating the harm of climate risks and exploring new opportunities. Risk management must be in the focus of decision-making to cope with the impacts and risks related to climate change. On the positive side it should be noted that the

27 See Niang / Ruppel (2014:1237).

experience of adaptation measures on the African continent is growing as governments are increasingly developing National Adaptation Plans of Action and other national adaptation policies. Furthermore, opportunities for low-carbon, climate-resilient development are increasingly being explored and realised. It is clear that required global emissions reductions will mean that countries have to transform themselves into low-carbon economies over the long run. This will require efforts at various levels, including substantial changes in lifestyle.²⁸ From a behavioural science perspective, this mandates that we limit ourselves as individuals and nations for a more global common good. The constraints we are being asked to accept are experienced in the present, while the impacts of our negligence may only be felt in the future. This is why the law plays an increasingly important role.

Box: Green Hydrogen from Namibia?

Green Hydrogen, Climate Neutrality and Regulatory Challenges

President Geingob already announced during the launch of the country's second Harambee development plan early in 2021, that the government already worked hard to establish a green hydrogen production industry. "Given our world class renewable energy resources, Namibia will develop a national strategy for developing green hydrogen and ammonia. As we pursue this strategy, we have the opportunity to become the first country in Africa to achieve carbon neutrality and utilise the African Continental Free Trade Area (AfCFTA) to export clean energy to our neighbours," he said. In turn, the director general of the National Planning Commission (NBC), Obeth Kandjoze, announced the establishment of the Green Hydrogen Council of Namibia, which has been set up in the meantime with eight members, supported by a 15-member technical committee. The economic advisor to President Geingob, James Mnyupe has been appointed as Namibia's Green Hydrogen Commissioner.²⁹

Green hydrogen is hydrogen that is produced using an electrolyser, powered by renewable energy, such as wind, solar, hydraulic or biomass plant. From an electrochemical reaction, the electrolyser will split water into dihydrogen and dioxygen and produce hydrogen. Until now, green hydrogen has been far more expensive than versions produced using fossil fuel, including the dominant "grey" hydrogen that relies on natural gas. But high gas prices due to strong demand and lower stocks have driven up the cost of making the carbon-emitting version, meaning the cleaner technology can start to compete.³⁰ Opponents of the hydrogen drive say it is inefficient because to

28 Ohlendorf/ Gerstetter (2009).

29 Cf. <https://bit.ly/3LxYYXX>, accessed 15 February 2022.

30 Available at <https://www.euractiv.com/section/energy/news/lets-reach-for-the-stars-eu-aims-for-green-hydrogen-below-e2-kg-by-2030/>, accessed 28 December 2021.

scale up, it will require vast amounts of clean energy production and future cost reductions are uncertain. Yet, hydrogen is expected to play a key role in a future climate-neutral economy, enabling emission-free transport, heating and industrial processes as well as inter-seasonal energy storage. Clean hydrogen produced with renewable electricity is a zero-emission energy carrier but is not yet as cost-competitive as hydrogen produced from natural gas.³¹

The EU hydrogen strategy, adopted in July 2020, aims to accelerate the development of clean hydrogen, ensuring its role as a cornerstone of a climate-neutral energy system by 2050. To reach this goal, the strategy envisions a gradual trajectory, initially including blue hydrogen projects. Several key actions are to be implemented over the course of three strategic phases between 2020 and 2050. The strategy points to the existing status quo, concluding that hydrogen (and in particular renewable hydrogen) plays only a minor role in the overall energy supply today, with challenges in terms of cost-competitiveness, scale of production, infrastructure needs and perceived safety.³²

The European Union's Hydrogen Strategy sets development of renewable hydrogen as a priority for the region, while recognizing that low-carbon hydrogen (nuclear and fossil-based hydrogen with carbon capture) will be necessary in the short and medium term to rapidly decrease GHG emissions of existing hydrogen production facilities and accelerate infrastructure development.³³

In 2020, the Commission adopted a new dedicated strategy on hydrogen in Europe. It will bring together different strands of action – from research and innovation via production and infrastructure to the international dimension. The strategy explores how producing and using renewable hydrogen can help decarbonise the EU economy in a cost-effective way, in line with the European Green Deal (and also helping the post-COVID-19 economic recovery).³⁴

According to the European Commission, cooperation across the entire supply-chain and across the public and the private sector is essential to delivering an enabling regulatory framework and the critical mass in hydrogen research and deployment investments, deemed necessary to ensure the scale-up.³⁵

With the launch of the European Clean Hydrogen Alliance, a forum has been established, bringing together industry, public authorities and civil society, to coordinate investments for scaling up production and increasing demand. The strategy has a clear focus on ensuring the appropriate priority and proper access to finance for clean

31 From [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/689332/EPRS_BRI\(2021\)689332_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/689332/EPRS_BRI(2021)689332_EN.pdf), accessed 28 December 2021.

32 Ibid.

33 With further references <https://sdg.iisd.org/commentary/guest-articles/making-green-hydrogen-a-global-trade-commodity-for-enhanced-climate-ambition/>, accessed 28 December 2021.

34 Cf. https://ec.europa.eu/energy/topics/energy-system-integration/hydrogen_en, accessed 28 December 2021.

35 Cf. <https://bit.ly/3uVaHtN>, accessed 15 February 2022.

hydrogen projects. The alliance is expected to deliver an investment pipeline and ensure adequate policy coordination.³⁶

Germany in particular has put strong emphasis on the role of hydrogen in the country's decarbonisation programme. Germany signaled to only count on fossil-free hydrogen to meet the climate policy goals, and target state support only to green hydrogen technologies. The German national hydrogen strategy has a goal of 5GW production capacity by 2030 and 10 GW by 2040. Significant funding has been earmarked for research and technology transfer from lab to market, including separate funding for industry. Recognising the limitations to producing the hydrogen needed within Germany, a budget of €2 billion has been proposed for fostering international partnerships.³⁷

In this light, Germany also sealed off a deal with Namibia rendering a helping hand and €40 million to boost its green hydrogen production, in return for a future cheap supply of the gas. "There is already a race around the world for the best hydrogen technologies and the best locations for hydrogen production. From our point of view, Namibia has particularly good chances in this competition. To produce clean hydrogen, electricity is needed from a renewable source to split water into oxygen and hydrogen. The resulting hydrogen is carbon-free and can be used to decarbonise industries such as steelmaking and aviation that rely on fossil fuels. Hydrogen is seen as a key energy source that will play a major role in helping countries become carbon neutral. Germany wants to lead the way, becoming a world-leading clean hydrogen economy, but has few of the renewable energy sources that are needed for this."³⁸

For Namibia, the new partnership means investment, jobs and potential leadership in the future market.³⁹ In Africa, Namibia wants to lead the charge. The cooperation of Namibia and Germany also shows that historical relations might have a positive influence on energy cooperation.⁴⁰ Desalination will be a major focus of the partnership, with the lessons learned then available for use in other arid regions, boosting clean hydrogen production globally.⁴¹

Climate Neutrality and COP 26

To comply with the Paris Agreement on climate change, a growing number of countries are setting ambitious greenhouse gas (GHG) emissions reduction targets for the coming decades to achieve climate neutrality.⁴² While mid- and long-term climate commitments have become more ambitious in many parts of the world, policymakers

36 Ibid.

37 See <https://bit.ly/3uVaHtN>, accessed 15 February 2022.

38 See <https://bit.ly/3JsyhSH> 15 February 2022.

39 Ibid.

40 Ibid.

41 Ibid.

42 Cf. <https://bit.ly/3h3usaF>, accessed 15 February 2022.

are searching for policies and technologies to deliver on announced pledges. The versatility of hydrogen as chemical storage, energy carrier, and feedstock for industrial production is compelling for politicians and business. Increased hydrogen use can substantially reduce GHG emissions in hard-to-abate sectors, particularly steel and cement production, heavy-duty transportation, shipping, and aviation, help to address challenges in balancing intermittent renewables, and reduce air pollution.⁴³

As world leaders have come under growing pressure to tackle climate change, green hydrogen is gaining traction as an important part of the solution. The potential of this carbon neutral energy source to meet up to 25 percent of global power demand made it a key topic of debate at the United Nations Climate Change Conference (COP26) in Glasgow in November 2021.⁴⁴

In light of COP 26 Namibia also submitted its Nationally Determined Contribution (NDC) that sets out its goals for tackling climate change during the next five years.⁴⁵ In this global context, Namibia considers its contribution to the fight against climate change a ‘strategic bet’. President Hage Geingob and the Namibian government understand that Namibia has a once-in-a-generation opportunity to significantly reduce its emissions - and that of its neighbours - by leveraging its natural endowments to attract much-needed foreign direct investment.⁴⁶

In the Statement by his Excellency Dr Hage Geingob on the Occasion of the High-Level Segment of COP 26 on 2 November 2021 it is explicitly mentioned that:⁴⁷ “Namibia has amplified its 2015 pledge in the Nationally Determined Contributions, we now aspire to reduce our emissions by 91% before the end of this decade. The estimated investment required to achieve this target is approximately USD 5.3 billion, 10% of which is unconditional. These ambitions are matched by the highest levels of political commitment. The green and blue economy, including a green hydrogen industry, are cornerstones of the Second Harambee Prosperity Plan (HPP-II) launched in March this year. Green economy initiatives such as our Southern Corridor Development Initiative will drive a more sustainable, post-COVID recovery. (...) We will announce how Namibia is unlocking over 5,700 square kilometers in our Karas region for the potential development of green hydrogen and ammonia assets, expected to double the region’s employment and triple the installed renewable energy generation capacity for the entire country. We are taking these bold steps to enhance our energy security, decarbonize our country, assist our regional and global peers to reduce their emissions and build a more resilient economy.”

43 Ibid.

44 Available at <https://www.dw.com/en/hydrogen-whats-the-big-deal/a-59076741>, accessed 28 December 2021.

45 With further references <https://conservationnamibia.com/blog/b2021-climate-change-pt3.php>, accessed 28 December 2021.

46 Cf. <https://bit.ly/3uPE1lr>, accessed 15 February 2022.

47 Available at <https://bit.ly/3HTRHPZ>, accessed 15 February 2022.

Green hydrogen and Namibian development are intrinsically linked. In November 2021, a Letter of Intent between the Ministry of Economic Affairs and Climate Policy of the Netherlands and the National Planning Commission of Namibia was concluded on cooperation in the field of energy resources, recognising a common interest in the energy sector, specifically in green hydrogen, sourced from renewable energy, as an energy carrier to decarbonise the economy and meet each country's emission reduction policy goals and commitments adopted under the Paris Agreement; and the benefits of working together in supporting the creation of an international market, the development of technologies, the deployment of infrastructure, and the setting up of export-import corridors for green hydrogen between Namibia and the Netherlands, as a gateway to Europe.

Moreover, Namibia's port operator, the Namibian Port Authority (NAMPORT), signed a memorandum of understanding (MOU) with Europe's largest port operator, the Port of Rotterdam, to build the necessary infrastructure to transport these clean fuels to Europe. By doing so, Namibia is meaningfully contributing to a just and equitable energy transition in Southern Africa and beyond.⁴⁸ When looking at land availability Namibia is uniquely gifted. Given its territory of more than 824,000 km², population of just 2.5 million people, Namibia posts an energy-demand density score of three megawatt-hours per square kilometre every year. Land availability, is not a constraint to developing large scale renewable energy systems.⁴⁹

Hydrogen Regulation Challenges to be Addressed Tailor-made

So far, Namibia has no law that directly speaks to the implementation of green hydrogen projects, which emphasises a need for government to fast track a governance framework. A guideline on how the government is going to regulate this industry would thus be useful for a start. The Namibian green hydrogen industry is new with unique components that are not included in the existing laws, which adequately ensure protection, growth and diversification of such industry to guarantee that every Namibian benefits from the renewable resources.⁵⁰ Moreover, hydrogen is an explosive and flammable gas, which also applied to its production, storage and transport, which should become subject to strict regulatory requirements, impact assessment and classified installations for the optimal protection of Namibia's environment. Same applies in regard to use and emergency management measures, all of which are necessary procedures to protect public health, safety and the environment. A number of international standards are also relevant to hydrogen production, storage, transport, hydrogen-powered equipment and the safety of hydrogen systems. Various elements of hydrogen

48 Cf. <https://bit.ly/3uPE1lr>, accessed 15 February 2022.

49 Ibid.

50 From <https://bit.ly/3BuEJ9a>, accessed 15 February 2022.

production, transport, storage and distribution process fall within the remit of different sectors, while other aspects remain without clear regulation.

Germany, for example, is one of the jurisdictions to have already passed dedicated legislation by updating its Energy Act to provide for regulation of hydrogen networks.⁵¹ This example could be relevant to look at in Namibia, while the country needs to investigate its legislative needs and also search for best practices. A sound legal and political framework is important. Technical regulations for hydrogen, transmission fees and regulation for customs regulations should also be addressed therein. This is a multisectoral exercise that should accompany a proper planning scheme for green hydrogen development in Namibia to overcome existing regulatory gaps and uncertainties. The latter is no doubt deterrent to investors.

While the International Energy Agency (IRENA) estimates that global energy demand will increase by up to 30% by 2040,⁵² the emergence of a clean hydrogen economy depends on sound policies, predictable regulation and a secure hydrogen infrastructure. A fully functional hydrogen economy needs to be tailor-made. In fact, such hydrogen economy is an international project, where cross-border cooperation is key. Europe is likely to import more and more green hydrogen from Africa. Green hydrogen has the highest potential to fuel train, cars, planes and industrial parks worldwide with zero emissions. At the same time, it can help Namibia to contribute towards de-risking the climate and the environment yet elevating the economic status.⁵³

3 *De Jure*: Legal and Regulatory Aspects of Climate Change in Namibia

Science and law need to be brought together to make a significant and timely difference to humanity in the face of climate change, especially to those most severely affected. As demonstrated above, AR5 already presented strong evidence that the impacts⁵⁴ of climate change, especially in Africa are being felt across various sectors,

51 On the national level in Germany, “green hydrogen” is defined in the Ordinance on the Implementation of the RES Act 2021 and in the Amendment of other Energy Regulations (“Ordinance on the Implementation of the Erneuerbare-Energien-Gesetz, “EEG 2021”) of the Federal Government (Bundesregierung) dated 19 May 2021. The regulation of green hydrogen in Germany is focused not only on hydrogen production, but also on infrastructure issues for transportation of green hydrogen. In particular, on 25 June 2021, the German Industry Act (Energiewirtschaftsgesetz, “EnWG”) was amended with regard to the hydrogen network regulation. Cf. Hritsyshyna / Hutarevych (2021).

52 From <https://bit.ly/3BuEJ9a>, accessed 15 February 2022.

53 See <https://www.namibianewsdigest.com/kandjoze-calls-for-implementation-of-law-in-green-hydrogen-project/>, accessed 28 December 2021.

54 Impacts of climate change are the “effects on natural and human systems of extreme weather and climate events and of climate change. Impacts generally refer to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services, and infrastructure due to the

posing challenges to economic growth, sustainable development and to the various facets of human security. AR6 has become even clearer. Although detection of and attribution to climate change are often difficult given the role of drivers other than climate change, there are substantially more impacts in recent decades now attributed to climate change.⁵⁵

The 2015 Sustainable Development Goals (SDGs), provide a universally accepted framework to foster global collaboration with a strong emphasis on the rule of law and human rights. While Agenda 2030 is aimed at fostering and renewing multilateralism and international cooperation on the global but common challenges, the SDGs include economic and social development goals that potentially involve trade-offs with environmental sustainability. SDG 13 commits Namibia to act against climate change, and the effects that greenhouse gas emissions.⁵⁶ Namibia has embarked on the implementation of all SDGs, within the context of existing regional and national strategic plans - such as the African Union's Agenda 2063 and the country's National Development Plan (NDP) 2030. Not only does Agenda 2063 articulate a Pan-African vision of integration, solidarity, and unity on a continental level, but it also calls for coordination and cooperation in mutually beneficial partnerships between regions and continents to enable the realisation of this African vision. By adopting the 2030 Agenda, Namibia is committed 'to leave no one behind' in the implementation of the SDGs. This means that the specific vulnerability needs must be addressed for sustained, inclusive, and sustainable economic growth and social progress.⁵⁷ The consecutive sections in this chapter aim to first introduce (certain aspects of) Namibia's legal position in relation to climate change on the national level, while also highlighting international law obligations.

3.1 Legal Climate Change Action?

Changes in climate are most often analysed in terms of their impacts and adaptation and mitigation strategies. Relatively undiscussed are the general questions of how climate change may affect current law-giving and its implementation. For instance, human-induced (that is human-made) climate change raises the question whether and to what extent previously termed 'Acts of God', may be used as an actual or implied

interaction of climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system. Impacts are also referred to as consequences and outcomes. The impacts of climate change on geophysical systems, including floods, droughts, and sea level rise, are a subset of impacts called physical impacts." IPCC (2014c:5).

55 IPCC (2014a:7).

56 Lofts *et al.* (2017:185).

57 Cf. <https://bit.ly/3HLniU1>, accessed 15 February 2022.

defence in a legal process. If an ‘Act of God’ is defined as an unforeseeable natural phenomenon, due to natural causes and which could not have been prevented via human planning and foresight, then it would seem that climate change falls foul of all these conditions. The fact is, (1) climate change is increasingly foreseeable, (2) it is only partly a natural phenomenon and (3) it can be prevented, at least partially, by appropriate action or actions via mitigation.

Where climatic changes become increasingly foreseeable, courts will need to determine the delimitations of the ‘Act of God’ defence justification. And in order to avoid negligence politicians should become ‘climate active’ and start getting ready to apply due diligence and reasonable precautionary measures in good time. In face of this and despite the fact that climate change action goes beyond the capacity of national governments, it seems most likely that challenges at the national level will be the preferred to deal with climate change inaction. Climate change law has the potential to shake the foundations of previously held ideas of the grounds for litigation by groups, regions or governments given environmental damage caused by climate change.⁵⁸

3.2 Constitutional Aspects of Climate Change

In Namibia, climate change is not explicitly enshrined in the Constitution. However, as climate change is and will continue to be one of the major environmental challenges for Namibia, the Constitution needs to be interpreted and applied in a manner that meets the requirements of effective mitigation and adaptation. And, in fact, the Constitution offers various mechanisms to do so as will be shown in the following.

International law and its application through Article 144 of the Constitution plays a significant role with regard to climate change. Namibia is a state party to a large number of Multilateral Environmental Agreements (MEAs). This emphasises Namibia’s strong environmental commitment. Every membership of a MEA brings about benefits as well as obligations for Namibia. The relevance of international relations and cooperation has been highlighted in the recently launched Government’s action plan towards prosperity for all titled Harambee Prosperity Plan 2016/17 – 2019/20,⁵⁹ in which climate change and biodiversity conservation are explicitly mentioned as areas for envisaged actions and strategies within international cooperation.

As a member of the United Nations (UN), the African Union (AU) and the Southern African Development Community (SADC), Namibia has signed many international agreements relevant for environmental protection and environmental covenants,

58 Ruppel *et al.* (2020).

59 GRN (2016a).

treaties, conventions and protocols and is, therefore, obliged to conform to their climate related objectives and obligations.⁶⁰

As a party to the United Nations Convention on Climate Change (UNFCCC) and other international instruments. Namibia is a Non-Annex I Party (group of Parties mostly developing countries) to the UNFCCC. To date, Namibia has submitted four national communications under the UNFCCC, with the last one in 2020.⁶¹ In Namibia's initial communication to the United Nations Framework Convention on Climate Change (UNFCCC) in 2002,⁶² it is stated that trends in climate change predict that temperature will increase, specifically in central inland areas, rainfall will be variable and the rainy season is predicted to be shorter. Furthermore, an increase of potential evaporation at a rate about 5% per degree of warming and a sea level rise of up to 30 cm was predicted. Namibia's second national communication to the UNFCCC dated 2011 reveals that:⁶³

The projected temperature increases will result in evaporation and evapotranspiration increases in the range of 5-15%, further reducing water resource availability and dam yields. It is predicted that, even without the additional stresses of climate change on the water resources, demand will have surpassed the installed abstraction capacity by 2015.

The UNFCCC is of course not implemented in isolation of other global environmental frameworks that include among others⁶⁴ the Convention on Biological Diversity (CBD), the Convention to Combat Desertification and Land Degradation (UNCCD) and the 2015 Sustainable Development Goals (SDGs).

At the continental level, the African Climate Change Strategy has four thematic pillars, i.e climate change governance; promotion of research, education, awareness raising and advocacy; mainstreaming and integrating climate change imperatives in planning, budgeting, and development processes; and promotion of national, regional, and international cooperation. Implementation of the strategy will be through African Union (AU) the Committee of African Heads of State and Government on Climate Change (CAHOSSC) and the African Ministerial Conference on the Environment (AMCEN). The Southern African Development Community (SADC) Climate Change Strategy and Action Plan aims to provide a broad outline for harmonized and coordinated regional and national actions to address and respond to the impacts of climate change in line with global and continental objectives. The strategy takes cognisance for the need of enhanced adaptation to the impacts of climate change bearing in mind the diverse and gender differentiated levels of vulnerabilities that are more pressing for the region. However, it also aims to trigger and support nationally and regionally

60 Ruppel (2015).

61 GRN (2020a:1).

62 GRN (2002d).

63 GRN (2011a:6).

64 For relevant developments in other regimes, e.g. under the Montreal Protocol, International Maritime Law or International Aviation Law, see Mayer (2018:51-65).

appropriate mitigation actions given mitigations' potential opportunities for sustainable development. It shall guide the implementation of the SADC climate change programme over a fifteen-year period (2015 - 2030) and provide a short, medium to long term framework for implementing elaborate and concrete climate change adaptation and mitigation programmes and projects. The strategy is divided into 3 categories: adaptation, mitigation, and means of implementation, monitoring and evaluation. It complements several existing sectoral protocols, policies, plans and regulations as found in the Chapter on SADC environmental law in this volume.⁶⁵

Namibia's first Nationally Appropriate Mitigation Action (NAMA) and National Adaptation Plan (NAP) were developed with the objective to "better guide the country on its way to mitigate and adapt to climate change."⁶⁶ Furthermore, Namibia has submitted its (Intended) Nationally Determined Contribution ((I)NDC) in September 2015 and its Updated Nationally Determined Contribution in 2021.⁶⁷ Within the NDC, Namibia has stated that it "aims at a reduction of about 89% of its GHG emissions at the 2030 time horizon compared to the BAU scenario."⁶⁸ The NDC covers four sectors, namely energy; industrial production and product use; agriculture forestry and other land use (AFOLU) changes; and waste. Identified measures contributing to climate change mitigation with the highest amount of GHG include: to reduce the deforestation rate by 75%; to reforest 20,000ha per year; to restore 15 M ha of grassland; and to increase the share of renewables in electricity production from 33% to 70%.

Namibia's NDC is "fair, equitable, ambitious and adequate", given Namibia's development status and national circumstances.⁶⁹ Namibia's President Hage Geingob, signed the Paris Agreement at the UN head Quarters in New York on 22 April 2016. Namibia ratified the Paris Agreement on Climate Change on 21 September 2016. The Paris Agreement is an agreement under international law. It is an agreement between states under the Vienna Convention on the Law of Treaties of 1969. For the first time in human history, the international community has agreed under international law to a quantified climate protection goal in Article 2.1 (a). These concrete terms are to be reached above all through Nationally Determined Contributions (NDCs). It is now the time to fill out the Paris Agreement with national measures. It is now the responsibility of national policy makers to ensure that the necessary legal response measures are in place. Namibia has committed itself in the NDCs to ensure political stability, good governance, an independent efficient judicial system, appropriate legislation, provision of incentives, and implementation of robust awareness campaigns as prerequisites for a successful and quick implementation of the NDCs.

65 SADC (2015:9-12).

66 GRN (2015b:5).

67 GRN (2015b and 2021a).

68 See GRN (2015b:2); BAU is the abbreviation for business as usual.

69 See GRN (2015b:4).

3.3 Implementing Article 44 of the Constitution: Legislation Relevant for Climate Change

According to Article 44

the legislative power of Namibia shall be vested in the National Assembly with the power to pass laws with the assent of the President as provided in this Constitution subject, where applicable, to the powers and functions of the National Council as set out in this Constitution.

It can be argued that although Namibian environmental legislation does not explicitly address climate change, many relevant general concepts and principles applicable to climate change are contained in the legal environmental framework. This is true for framework legislation such as the Environmental Management Act No. 7 of 2007, which promotes the sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment. One of these principles, which is relevant for climate change is that “renewable resources must be used on a sustainable basis for the benefit of present and future generations”.⁷⁰ A further example is the principle that “damage to the environment must be prevented and activities which cause such damage must be reduced, limited or controlled”.⁷¹ Climate change can thus be considered in various ways in decision-making processes. But also, sectoral legislation can be applicable to climate change. The Forest Act No. 12 of 2001, which provides for the protection of the environment and the control and management of forest fires, and the Disaster Risk Management Act No. 10 of 2012, which provides “for an integrated and coordinated disaster management approach that focuses on preventing or reducing the risk of disasters, mitigating the severity of disasters, emergency preparedness, rapid and effective response to disasters and post-disaster recovery” are prominent examples of national legislation pertinent to climate change. However, Government has also recognised that “there is an urgency to review existing legislation, regulations and norms to frame these in accordance with climate change concerns.”⁷² Several topics have been identified as priority areas of law and/or regulation to be subject to review and update.⁷³

- Feed-in tariffs for the general public and other organisations to supply the grid with electricity;
- finalise Power Purchase Agreements rapidly following the delivery and signature of IPP licences;
- implement regulations on energy efficiency, particularly energy audits in the industrial sector that are heavy consumers of energy;

70 See Section 3(2)(a).

71 See Section 3(2)(l).

72 See GRN (2015b:17).

73 Ibid.

- implement the DSM strategy and set regulations to ensure import of energy efficient appliances;
- review the taxation policy and legislation to promote the update of cleaner technologies and promote energy savings;
- strengthen the enforcement of legislation and regulations;
- review the legislations regulating forest exploitation to fit them to the new agenda; and
- implement land policy reforms to promote reforestation and afforestation by the different landowner groups.

3.4 Implementing Article 95(I) of the Constitution: Namibia's Climate Change Policy

The State's mandate to promote the welfare of the people by adopting policies aimed to maintain ecosystems, essential ecological processes and biological diversity of Namibia and to utilise living natural resources on a sustainable basis for the benefit of all Namibians, both present and future as enshrined in Article 95(I) of the Constitution is the principle foundation for Namibia's commitment to address the challenges related to climate change, which stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies, which include

the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory.

Article 95(I) is a Principle of State Policy in line with Article 101, which states that the Principles of State Policy are not legally enforceable but serve as societal goals in making and applying laws to give effect to the fundamental objectives of the different principles. The principles must also be employed in the interpretation of Namibian law and guide the state in its decision-making processes. Constitutional principles of state policy serve as a stimulus for new initiatives or endeavours – especially where existing policy, law or programmes seem inadequate to attain the principles' objectives.⁷⁴ The principles must similarly be employed as direction indicators in setting Government priorities. Also, the judiciary should apply the principles of state policy in constitutional interpretation and use them to fill gaps in the legislative framework when and where necessary. These generic features of constitutional principles of state policy arguably also apply to Namibia's obligation to protect its environment and to promote a sustainable use of its natural resources as spelled out in Article 95(I), which in turn has resulted in a variety of policies.

74 Du Plessis (2008:177).

To this end, Namibia's National Policy on Climate Change has been prepared and officially launched by the Ministry of Environment and Tourism in October 2011. The general aim of the Policy is to contribute to the attainment of sustainable development in line with Namibia's Vision 2030 through strengthening of national capacities to reduce climate change risk and build resilience for any climate change shocks.⁷⁵

4 Climate Law

When it comes to climate change, the law is the major instrument by which mature societies consolidate their internal and external relationships. And without legal rules, the life of a society becomes unpredictable and aleatory in the climate crisis we are facing.⁷⁶ Subsuming climate change under any such legal structure is a challenging task due to the endless ramifications of climate change and particularly due to its complexity, interdisciplinary nature and impacts on various – if not all - segments of our planet and society. This is why climate change can – if at all - only be tackled through a combination of political but particularly legal and natural science tools.

When climate change is looked at from a legal perspective, it has, of course, given rise to the evolution of various principles and concepts of international law, including the notion of common concern of humankind and the need for protection of the most vulnerable.⁷⁷ Climate law is both international and domestic in nature and includes complementary dimensions, procedural and substantive.⁷⁸

4.1 International Climate Law

In a wider sense, the intersections of international climate change law and multiple overlapping regulatory bodies reflect the fragmentation of global climate change governance. This comprises different climate change (related) regimes, which can be observed in various United Nations conventions, the international human rights regime, the world trade order under the World Trade Organisation (WTO), multilateral environmental agreements (MEAs) and other international legal instruments that (directly or indirectly) deal with climate change, such as the Vienna Convention on Ozone Depletion, the Montreal Protocol,⁷⁹ the Convention on Biodiversity, the London

75 See 4.2. in this Chapter below for further details on the Climate Change Policy.

76 Tomuschat (2012:1283).

77 Schrijver (2011:1285).

78 For further details see Rayfuse / Scott (2012).

79 The 1987 Montreal Protocol introduced a series of effective steps to phase out the global production and consumption of ozone-depleting substances in the 1980s. The Protocol and

Dumping Convention, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the RAMSAR Convention on Wetlands of International Importance and the Convention on the Conservation of Migratory Species of Wild Animals, among others. Same applies for geo-engineering, nuclear technology, intellectual property, international investment, and finance regimes.⁸⁰

In a narrower sense, international climate change law focuses on four basic issues: (1) mitigation of climate change – that is, limiting it or preventing it from happening; (2) adaptation to climate change, in order to limit its harmful effects; (3) financial and other means of support for mitigation and adaptation; and (4) international oversight to promote effectiveness, compliance, and implementation.⁸¹

International climate law consists of multilateral agreements on the global, regional and sub-regional level, bilateral (and unilateral) agreements, general principles of law, customary international law, case law, and other instruments such as declarations, agendas are authoritative sources of climate law. Reference is therefore made to the chapter on international law and its domestic application (Article 144 of the Constitution) in Namibia.

It has been stated with regard to climate change and transboundary harm that:⁸²

States must ensure that activities conducted under their jurisdiction do not result in significant transboundary harm. To promote compliance, international negotiations have led to successive international climate agreements which adopted collective objectives and defined national commitments. Objectives and commitments have also been adopted under other regimes. States have resorted to a variety of methods to reduce GHG emissions under their jurisdiction, including not only classical command and control regulation, but also price-based incentives and measures of economic, scientific and cultural leadership. Although national commitments and measures of implementation have certainly had a non-negligible result, these efforts remain insufficient to fulfil the obligation of States not to cause significant transboundary harm.

International climate law is still a relatively young field of law that is developing primarily out of public international law. The most relevant international climate treaties consist of the 1992 United Nations Framework Convention on Climate Change (UNFCCC), the 1997 Kyoto Protocol and the 2015 Paris Agreement. Each party to the

successor agreements are not only regarded as highly successful examples of international environmental regulatory cooperation, there are also lessons to be learned from the ozone layer experience in dealing with climate change. The Montreal Protocol has made a substantial commitment to climate goals, and there are substantial proposals on the way to increase this. Having phased out 97% of almost 100 ozone-depleting substances (ODSs) it placed the ozone layer on a path to recovery. “Because many ODSs are also potent greenhouse gases (GHGs), their phase-out under the Montreal Protocol has provided an often overlooked bonus for climate mitigation: by the end of the decade, the Montreal Protocol will have done more to mitigate climate change than the initial Kyoto Protocol reduction target, reducing emissions in terms of carbon dioxide (CO₂), equivalent to 135 billion tonnes between 1990 and 2010 and delayed climate impacts – including abrupt and irreversible impacts – by about 12 years”. See <http://www.igsd.org/montreal/index.php> (also for further references), accessed 16 May 2021.

80 Ruppel (2013).

81 Bodansky *et al.* (2017:11).

82 Mayer (2018:131).

UNFCCC is expected to be bound to individually, in spite of the collective nature of damage and the adverse effect of climate change. Article 4 of the UNFCCC imposes an obligation on all parties to take measures to mediate climate change by addressing anthropogenic GHG emissions. Article 4.2 provides a more stringent obligation for the state parties listed under Annex I (developed countries) to limit their anthropogenic emissions of GHG, which reflects the common but differentiated responsibility under Article 3.

This obligation to reduce emissions is spelled out in concrete terms by the Kyoto Protocol, which specifies the quantified target for emissions limitations under a defined timeframe. Article 3 of the Kyoto Protocol specifies the content of the obligation under Article 4 of UNFCCC. The Kyoto Protocol thus framed the obligation of reducing emissions (mitigation) in the form of an individually allocated carbon budget (or the level of emissions reduction) for Annex I state parties, which changed in the post-Kyoto scheme under the Paris Agreement.

The Paris Agreement, as part of the UNFCCC regime, in its Preamble includes the explicit acknowledgement “that climate change is a common concern of humankind” and that “Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights”. As such the agreement binds its parties regarding activities on their respective territories and under their control.

The Paris Agreement supplements the UNFCCC and the Kyoto Protocol by incorporating existing elements of this regime. According to Article 2, the Paris Agreement’s overarching objective is to keep the increase in global temperature well below 2°C, or even 1.5°C. Parties are required to prepare and present individual climate plans (Nationally Determined Contributions - NDCs) every five years that set out how the party intends to contribute to the collective objectives.

The Paris Agreement expects the NDCs to reflect a more nuanced classification according to respective national circumstances for all member states. As such, Article 4(2) of the Paris Agreement states that each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Thus, it is the primary obligation under the Paris Agreement to respect the parties’ respective domestic policy choices in defining individual routes and scenarios in GHG reduction.

Namibia signed and ratified the UNFCCC. The UNFCCC is a treaty in terms of international law and Article 2(1)(a) of the Vienna Convention on the Law of Treaties. It acceded to the Kyoto Protocol and ratified the Paris Agreement respectively. As such Namibia is obliged to report certain elements of information in accordance with Article 4, paragraph 1 of the UNFCCC. In order to meet its reporting obligations, Namibia has submitted four national communications (NCs). Parties to the Paris Agreement have expressed their domestic intentions to address climate change in the form of Nationally Determined Contributions (NDCs); and, before the end of 2020, renew or revise their

NDCs reflecting increased ambition to be communicated to the UNFCCC. Namibia has submitted its updated NDC in 2021.⁸³

What is worthwhile mentioning is that Namibia's multi-sectoral National Climate Change Committee (NCCC) is chaired by the Ministry of Environment, Forestry and Tourism (MEFT) with the Climate Change Unit (CCU) being under the Department of Environmental Affairs (DEA) of the MEFT. The Cabinet of Namibia is the Government entity entrusted with the overall responsibility for the development of Policies, including those on the NCCC, comprising representatives of the various ministries and other stakeholders. It was established as early as 1999 by a Cabinet directive to advise Cabinet on climate change issues, including reporting obligations. MEFT, the official government agency acting as national focal point of the UNFCCC, is responsible for coordinating and implementing climate change activities, including the preparation of National Reports to enable the country meets its reporting obligations.⁸⁴

4.2 Domestic Climate Policy

Owing to the fact that climate change is multi-disciplinary in nature, no definite legal or policy framework related to climate change exists in Namibia. As in the case of all matters generally related to the environment, climate change issues span over a broad framework of national policy, legislation, strategies and action plans. However, developments in the past years reflect that climate change is playing a more dominant role, especially in the field of policy making and national planning. Based on local and national commitment and efforts to deal with the risks and challenges related to climate change and on international cooperation, a broad variety projects in the field of climate change have been and are being initialised and emphasise the importance of climate change mitigation and adaptation.

Namibia's 2011 National Policy on Climate Change (NPCC) formulates its rationale as follows:⁸⁵

The policy seeks to outline a coherent, transparent and inclusive framework on climate risk management in accordance with Namibia's national development agenda, legal framework, and in recognition of environmental constraints and vulnerability. Similarly, the policy takes cognizance of Namibia comparative advantages with regard to the abundant potential for renewable energy exploitation. The goal of the National Policy on Climate Change is to contribute to the attainment of sustainable development in line with Namibia's Vision 2030 through strengthening of national capacities to reduce climate change risk and build resilience for any climate change shocks.

83 GRN (2021a).

84 GRN (2020a:1).

85 See GRN (2011b:iii).

The policy also serves to guide “Government on the development and enactment of climate-specific legislation to establish appropriate legal mechanisms for policy implementation.”⁸⁶ The policy identifies five objectives, sets out a set of guiding principles and proposes a framework for sectoral strategies to address the impacts of climate change:

- To develop and implement appropriate adaptation strategies and actions that will lower the vulnerability of Namibians and various sectors to the impacts of climate change;
- to develop action and strategies for climate change mitigation;
- to integrate climate change effectively into policies, institutional and development frameworks in recognition of the cross-cutting nature of climate change;
- to enhance capacities and synergies at local, regional and national levels and at individual, institutional and systemic levels to ensure successful implementation of climate change response activities; and
- to provide secure and adequate funding resources for effective adaptation and mitigation investments on climate change and associated activities.

Namibia’s current adaptation priorities are identified in the NPCC and the National Climate Change Strategy and Action Plan (NCCSAP).⁸⁷ The NCCSAP was approved by Parliament in 2014. Its priorities are aligned with those sectors identified as being particularly vulnerable to climate change. The NCCSAP contains guiding principles relating to climate change, identifies priority action areas for adaptation and mitigation and pinpoints various funding mechanisms.

A total of 32 programmes and projects were identified. Most of the current climate change adaptation projects, and programs in Namibia are directed in the areas of agriculture, fisheries, sustainable land management, government, climate information and research, ecosystems and biodiversity, forestry and energy. The projects tend to focus on capacity building, knowledge communication, field implementation, and policy formation and integration, with all nationally implemented projects supporting community-based adaptation.⁸⁸

Government recognizes that many of its sectoral policies were developed before climate change emerged as a key issue for the country, and as such, these policies must be revised to better integrate climate change considerations. However, despite on-going efforts, climate change issues are not yet adequately mainstreamed into key national policies and sectoral strategies. A rapid review of national policies and sectoral strategies in key vulnerable sectors such as agriculture, water resources, tourism, and health, shows that climate change issues, although recognized, have not always been mainstreamed (...). For instance, the National Water Policy (2008), National Health Policy Framework (2015), and National Agriculture Policy (2015), among others,

86 Ibid:iv.

87 GRN (2014b).

88 GRN (2020a:9 and 129).

recognize climate change as a potential risk/threat, but do not include concrete actions to mitigate climate change risks.

In terms of mitigation, Namibia has embarked on various projects and activities aiming at curbing GHG emissions and increasing its sink capacity. Sinks policies generally relate to land use, land-use change, and forestry (LULUCF), and include measures to reduce emissions from deforestation and forest degradation (REDD+) and to encourage afforestation. Other mitigation policies serve to reduce emissions and inter alia include energy efficiency standards, subsidies for renewable energies, a carbon tax, emissions trading systems, transport, technology, research and development.

Recognising that sustainable development and ensuring environmental sustainability can contribute significantly to climate change adaptation and mitigation, the policy outlines the roles and responsibilities of stakeholders including the general public; the private sector; NGOs and faith and community-based organisations; training and research institutions; the media; and international development partners.

Although the Policy has been criticised for being “in conflict with existing sectoral policy instruments and even sectoral national development aspirations”⁸⁹ – it is an important instrument to further Namibia’s commitment to addressing the multi-faceted challenges related to climate change. It is founded in the multidisciplinary nature of climate change that conflicts or overlaps with other policy instruments and strategies arise. This also applies to the question of institutional responsibility for issues related to climate change. Although it could be argued that virtually every ministry is somehow concerned with issues related to climate change, the Ministry of Environment and Tourism is the key responsible line ministry for climate change.⁹⁰

With its ambitious aim laid down in the NDC⁹¹ to achieve “a reduction of about 89% of its GHG emissions at the 2030-time horizon compared to the BAU [Business as Usual] scenario” climate related law and policy moves to the centre of Namibia’s mitigation strategies as the ambitious aim is to be achieved by way of mitigation predominantly in the agriculture, forest and other land use (AFOLU) and the energy sectors. The reduction of the deforestation rate by 75%, reforestation and restoration of grassland will demand a progressive and effective implementation of existing forest related law and policy based on the pillars of Namibia’s Constitution.

4.3 Domestic Climate Law

In terms of national law, it consists of constitutional law, statutory law, common law, case law, customary law, policies, strategies and action plans and other relevant

89 Zeidler *et al.* (2014:23).

90 *Ibid*:22.

91 At <http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Namibia/1/INDC%20of%20Namibia%20Final%20pdf.pdf>, accessed 7 May 2021.

instruments. And then there is the demarcation between ‘hard’ and ‘soft’ law. While some of the sources of national and international law are obligatory, others are of non-binding nature. Ultimately, climate law consists of the sum of legal provisions protecting the climate itself and those that protect the climate and society from the negative effects of climate change. In this light, sound law making is not possible without scientific results providing the necessary guidance.

To date, no specific climate-change legislation is on the radar in Namibia. However, the domestic dimension of climate change law is far reaching and incorporates among others constitutional law, administrative law, environmental law, water law, criminal law, the law of nuisance, the law of delict, insurance law and even tax law. This scale ranges from environmental law (with its multiple sub-branches such as biodiversity law, environmentally relevant provisions within the law of the sea, outer space law, energy and mining law, and specific legal instruments relating to climate change, etc.) to human rights law, humanitarian law, trade and investment law, the law on the use of force, criminal law, and liability law among others.⁹²

It can be argued that although Namibian environmental legislation does not explicitly address climate change, many relevant general concepts and principles applicable to climate change are contained in the legal environmental framework. This is true for framework legislation such as the Environmental Management Act No. 7 of 2007, which promotes the sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment. One of these principles, which is relevant for climate change is that “renewable resources must be used on a sustainable basis for the benefit of present and future generations”.⁹³ A further example is the principle that “damage to the environment must be prevented and activities which cause such damage must be reduced, limited or controlled”.⁹⁴ Climate change can thus be considered in various ways in decision-making processes. But also sectoral legislation can be applicable to climate change. The Forest Act No. 12 of 2001, which provides for the protection of the environment and the control and management of forest fires, and the Disaster Risk Management Act No. 10 of 2012, which provides “for an integrated and coordinated disaster management approach that focuses on preventing or reducing the risk of disasters, mitigating the severity of disasters, emergency preparedness, rapid and effective response to disasters and post-disaster recovery” are prominent examples of national legislation pertinent to climate change. However, Government has also recognised that “there is an urgency to review existing legislation, regulations and norms to frame

92 See with further references Ruppel (2013).

93 See Section 3(2)(a).

94 See Section 3(2)(l).

these in accordance with climate change concerns.”⁹⁵ Several topics have been identified as priority areas of law and/or regulation to be subject to review and update.⁹⁶

For the purpose of national legislation and regulation, it can be stated that the larger and more certain the body of evidence is that confirms, for instance, the effects of GHG emissions, the better. The most important projects in many Nationally Determined Contributions (NDC’s) are aimed at reducing the consumption of fossil fuels. This requires legislative efforts informed by science at the national level that – for example - guarantee internationally agreed standards for international trade and the certification of emissions.

Lastly, Namibia and other countries in southern Africa⁹⁷ are made up of a melting pot of cultures, religions and community practices that make up the complex and all-encompassing nature of the legal system.⁹⁸ This plurality of laws not only makes the Namibian legal system an object of fascination to comparative lawyers as well as to legal ethnologists and sociologists. This plurality including customary law and indigenous knowledge into climate change policies is likely to contribute to the development of more effective adaptation strategies that are cost-effective, participatory and sustainable. After all, indigenous people have always been tasked to develop flexible mechanisms to cope with climatic conditions and their vulnerability.⁹⁹

Climate change poses a threat to indigenous peoples in Namibia, who often live in marginal lands and fragile ecosystems, which are particularly sensitive to changes in weather.¹⁰⁰ Climate change could become a driver of migration and population displacement and it is acknowledged that indigenous people living in dry-lands are among the most vulnerable communities, as a result of water scarcity. Indigenous peoples have been voicing their concerns about the impacts of climate change on their rights as distinct peoples, and the importance of giving them a voice in policymaking on climate change at both national and international levels; further, to take into account and to build on their traditional knowledge. Customary law¹⁰¹ and indigenous knowledge should therefore be incorporated into climate change policies in order to foster the development of cost-effective, participatory and sustainable adaptation strategies.¹⁰²

Populations whose rights are poorly protected are likely to be less well-equipped to understand or prepare for climate change; they would be less able to lobby effectively for Government or international action; and are more likely to lack the resources

95 See GRN (2015b:17).

96 Ibid.

97 Ruppel / Ruppel-Schlichting (2011).

98 Du Plessis (2019:15).

99 Ruppel (2011b:200).

100 Cf. studies on Biodiversity Hinz / Ruppel (2008a).

101 Ruppel (2010c).

102 Cf. Mfuno at al. (2009a and b).

needed to adapt to expected change in their environment and economic situation. The efforts that have been made so far to place rights at the centre of any future climate change-mitigating dispensation have not been human rights focused. However, human rights impacts are a relevant concern. To mobilise the policy value, and indeed the legal force, of human rights in the construction of a climate change mitigating dispensation, requires the assessment of likely human rights impacts and outcomes of climate change. The specific rights potentially affected by climate change, such as rights to food, water, shelter, and health or rights associated with gender, children and indigenous peoples, must be addressed in context. Each of the human rights¹⁰³ affected by climate change need to be identified and addressed in order to infuse relevance into on-going consultations, political negotiations, global cooperation discussions and other actions, whether internationally, regionally and nationally.

Rights and responsibilities regarding the utilisation of environmental resources need to be distributed with greater equity among communities, both globally and nationally. In this context, political participation, access to information and broad public involvement are just as important to the realisation of human rights as the development of quality climate change related education and interdisciplinary research of high standard.¹⁰⁴

4.4 Private Law Litigation

Courts have an important role to play in climate change litigation. This includes providing judicial legitimacy; developing relevant legal principles; considering numerous factors that contribute to the state of climate change liability; increasing statutory enactments regulating climate change issues; establishing precedent and enforcing environmental rights.¹⁰⁵ Disputes can be concerned with different aspects of climate laws and policies, including mitigation, adaptation and response measures. They can inter alia consist in private law litigation on tort or “extra-contractual” responsibility.¹⁰⁶

4.4.1 The Law of Delict

As a point of departure, it can be stated here, that ‘duty of care’ is imposed under Section 3(1)(j) of the Environmental Management Act No. 7 of 2007, where it is stipulated that

103 Ruppel (2008a).

104 Ruppel (2010a).

105 Rumble / Summers (2016).

106 Mayer (2018:244).

a person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage.

While this chapter will not deal with criminal law aspects, it should at least be mentioned here that EMA explicitly refers to the Criminal Procedure Act 1977 No. 51 of 1977, which provides for (private) environmental prosecution.

In terms of private law climate litigation, it is available to litigants who wish to seek redress for particular climate change losses suffered at the hands of identified corporations or entities. Private law climate change actions, in terms of the laws of delict consist of parties spanning from citizens and corporations to NGO's.¹⁰⁷

In Namibian jurisprudence, relevant climate private law litigation for damages could be founded on delictual actions under the law of delict. Delictual actions provide parties with a legal mechanism to seek redress or other relief for losses or harm caused by climate change impact.¹⁰⁸ The advantage of utilising delictual remedies is the possibility of obtaining compensation for wrongful conduct. However, a disadvantage in utilising delictual remedies is the high cost in determining the wrongful conduct and liable party. There are three actions that can be taken in terms of delictual claims, namely the Aquilian action (*actio legis aquiliae*) for patrimonial loss; the action for pain and suffering for compensation for actual pain and suffering from the conduct; and the *actio iniuriarum* for harm to personality interests.¹⁰⁹ To better understand the use of delictual claims in climate change liability it is best to look at the Aquilian action for patrimonial loss, where climate related damages can be measurable in monetary terms. The primary object of an award for damages is to compensate the person who has suffered harm.¹¹⁰

The purpose of pursuing delictual actions is to receive compensation for damages suffered, as such it is essential to determine the extent and impact of such damages (both non-patrimonial and patrimonial in nature). Patrimonial damages are easier to identify given the strictly financial nature of the damage suffered such making it quantifiable. For example, property damage, in terms of climate change liability, may include coastal land, buildings, structures, infrastructures, and agriculture, which defendants should consider in claims presented and based on the present costs of preventing future harm.¹¹¹ This also highlights a general duty by defendants to ensure that future harm, as a result of climate change, is minimal and that they do everything reasonably possible to prevent damages.

107 Baudoin / Ziervogel (2017:692).

108 Rumble / Summers (2016:6-18); Glazewski / Collier (2012:333).

109 Du Bois (2009:1093).

110 Neethling *et al.* (2015:3-17).

111 Thorpe (2008).

4.4.2 Omissions and Negligence

In respect of a claim in terms of the Aquilian action, its aim is to restore the plaintiff's patrimony and, as far as possible, to place him/her in the position he/she would have occupied in had the delict not been committed. In order to succeed with a delictual claim a plaintiff must demonstrate conduct by the defendant that was negligent (fault) and wrongful, thus causing patrimonial loss.¹¹² Conduct, in terms of delictual action, can take the form of a positive act (physical activity or statement)¹¹³ or an omission (failure to act).¹¹⁴ Positive acts are easier to prove than omissions, however, climate change liability will mostly rely on a failure to act or to take reasonable preventive measures, namely to exercise the duty of care.¹¹⁵

Liability for omissions in climate change cases, requires consideration of a number of factors, namely preceding positive conduct, which has created a source of danger; control of a dangerous object or situation; existence of a special relationship between the parties; an obligation to act in terms of common law or statute; and obligations which arise out of a particular office.¹¹⁶

The weakest standard of culpability is negligence.¹¹⁷ The 'negligence enquiry' on the one hand requires looking to the state of mind of the defendant in assessing the conduct against that of a reasonable person in the same situation, thereby determining fault.¹¹⁸ Negligence arises if a reasonable person 'would have foreseen the reasonable possibility of such conduct injuring another person and causing harm; would have taken reasonable steps to guard against such occurrence; and that the defendant failed to take such steps'.¹¹⁹ In other words, if the defendant failed to act in a manner that a reasonable person would have in the given situation, then the defendant is at fault. The 'wrongfulness enquiry' on the other hand looks at the harmful conduct and whether policy and the legal convictions of the community, also from a constitutional point of view, regard it as acceptable. I.e. is it reasonable to impose liability on a defendant for the damages flowing from the specific conduct? Judicial determinisation in this regard also depends on public and legal policy in accordance with constitutional norms.¹²⁰

112 Ahmed (2019:5).

113 Loubser (2004).

114 Van der Walt / Midgley (2016:92); Loubser *et al.* (2018:95); Burchell (1993:37).

115 Glazewski / Collier (2012:333).

116 *Ibid*:336.

117 Posner / Sunstein (2008:1598).

118 Loubser (2004:98-99).

119 See the 'negligence enquiry' at *Kruger v Coetzee* 1966 (2) SA 428 (A) 430E-F.

120 See with further references Rumble / Summers (2016:6-18, 6-21).

4.4.3 Fault and Wrongfulness

Fault associated with climate change liability often takes the form of negligence, which is more difficult to prove. When looking at climate liability an important consideration with fault is the 'foreseeability of harm' and whether the actions taken were 'reasonable in response to the harm' in question. Foreseeability can be an easier element to tackle due to strong arguments and reports providing scientific evidence, explaining the climate change related harm that is to be expected from, for instance, greenhouse gas emitting activities. However, determining the reasonableness of conduct in terms of climate change liability is a strenuous task given the scientific considerations of climate change determinations.

In the South African case of *Kruger v Coetzee*,¹²¹ a clear definition and criteria for negligence was established:

For the purposes of liability *culpa* arises if a *diligens paterfamilias* [a reasonable person] in the position of the defendant - would foresee the reasonable possibility of his conduct injuring another in his person or property and causing him patrimonial loss and would take reasonable steps to guard against such occurrence and the defendant failed to take such steps.

A reasonable person, for the purpose of establishing liability, 'is not an exceptionally gifted, careful or developed person; neither is he underdeveloped, nor someone who recklessly takes chances or who has no prudence'.¹²² The reasonable person is the 'normal citizen', who does not necessarily contain expert knowledge.¹²³

It is essential under delictual action to provide the unreasonable nature of the defendant's conduct in order to meet the delictual requirements. South African (and arguably Namibian) common law requires unreasonableness to be weighed up against usefulness (or social utility) of the defendant's conduct.¹²⁴ If it is found that essential services, though creating climate change related harm, have acted reasonably to provide social utility then such conduct may be seen as appropriate under the given circumstances. In weighing up social utility and unreasonableness courts must consider the cost of abatement, available technologies, available resources and functionality, and time constraints. Reasonableness can be better determined when conduct is compared with established regulations or legislation. In the context of climate change litigation, it is likely that most defendants have some knowledge of the possible negative consequences that may arise from their actions although they may not have the direct intention to cause harm through global warming.¹²⁵

121 1966 (2) SA 428 (A) 430E-F.

122 Neethling *et al.* (2015:135).

123 Glazewski / Collier (2012:338).

124 Rumble / Summers (2016:6-24).

125 Glazewski / Collier (2012:339).

Liability for harm caused depends greatly on proving that the conduct in question was in fact wrongful.¹²⁶ Wrongfulness ‘concerns whether it would be reasonable to impose liability on a defendant for damages flowing from specific harmful conduct.’¹²⁷ It is established based on legal convictions of the community, political, social and economic concerns with imposing liability.¹²⁸ This element is particularly essential in deterring hazardous unreasonable conduct by a defendant, especially where climate change concerns are not effectively regulated by statute.

Infringing rights or breach of a duty, i.e. a duty of care, can result in the establishment of wrongfulness. However, where no clear duty or right has been breached or infringed, determining wrongfulness may be more difficult to determine.¹²⁹ With the adoption and the implementation of relevant legislation, Namibian courts may rely on clearer provisions in apportioning wrongfulness in terms of climate change liability.¹³⁰

4.4.4 Causation

The challenging element of climate change liability is establishing the causal link between the harm suffered by the plaintiff and the conduct of the defendant.¹³¹ One is required, under any delictual action, to establish that there was both legal and factual causation. Factual causation speaks to whether the conduct of the defendant caused the harm that establishes the claim, which is determined using the *conditio sine qua non* test.¹³² Legal causation speaks to whether there is a sufficiently close link between the conduct and the harm and based on this whether it would be reasonable to impose liability.

It is the factual and legal causal link that can be particularly difficult to establish climate change liability due to insufficient scientific or supporting evidence.¹³³ Such constraints are maintained by demanding certainty where perhaps only certain degrees of likelihood can be provided in an environment consisting of concurrent causes.¹³⁴ It is, however, important to note that despite these constraints, courts in some jurisdictions have reflected willingness to play their part in developing stricter precedent regarding climate change liability.¹³⁵

126 Ibid:335.

127 Rumble / Summers (2016:6-26).

128 Neethling (2006:210).

129 Stevens (2017:22).

130 Glazewski / Collier (2012:335).

131 Rumble / Summers (2016:6-26).

132 Glazewski / Collier (2012:340).

133 Rumble / Summers (2016:6-27).

134 Minnerop / Otto (2020).

135 Rumble / Summers (2016:6-27).

4.5 Neighbour Law and Nuisance Claims

While a neighbour law dispute is private, nuisance claims can either be public or private, depending how the nuisance was constituted. While a basic underlying principle is related to the Latin maxim *sic utere tuo ut alienum non laedas*, meaning to use one's property as not to injure another's property, the law of neighbours consists of a mix of common law, Roman and Roman-Dutch law principles with claims that 'may give rise to an interplay of principles of property law and the law of delict'.¹³⁶ Public or private nuisance claims are actions that can be sought within the umbrella of common law claims. Such claims can be aimed at for instance stopping greenhouse gas emissions.¹³⁷

Public nuisance is considered 'an act or omission or state of affairs that impedes, offends, endangers or inconveniences the public at large'.¹³⁸ It can be suppressed or stopped by an interdict or abatement order.¹³⁹ The adverse impacts of climate change on the environment and communities may be sufficient to show damage or inconvenience to health and safety, in both short term and long-term considerations. There is already established scientific evidence that can support such claims in making it easier to bring forward a public nuisance argument, since the elements to prove public nuisance are less than that of a purely delictual claim. A perpetrator's action is unlawful if he/she is found guilty of causing injury, damage or inconvenience to the health and safety of the general public. Moreover, the preparator's action is unlawful if it is found to be in conflict with certain statutory regulations.¹⁴⁰

4.6 Public Climate Litigation

Most domestic climate litigation cases around the world have been brought against governments, but there is also a rise in lawsuits brought directly against companies. These actions and the nature thereof are subject to developments in national legislation and regulations addressing climate change concerns.¹⁴¹ In fact, judicial findings offer enormous potential for enhancing public understanding of climate science with an educating effect.¹⁴²

Litigation has repeatedly sought to promote climate change mitigation. Climate change has thus been invoked a in a host of disputes on projects ranging from the construction of pipelines to that of power plants or airports. The cases which have had the greatest influence on the conduct of

136 Glazewski / Collier (2012:343).

137 See Flatt / Zerbe (2019).

138 Samuels (2015).

139 Prest (1996).

140 Also see Spier (2014:1).

141 Rumble / Summers (2016:6-1, 6-4).

142 Cf. Ruppel *et al.* (2020).

States, however, concerned more generally the national laws and policies on climate change mitigation and their implementation.¹⁴³

Such for instance, in the South African case *Earthlife Africa Johannesburg v Minister of Environmental Affairs And Others*¹⁴⁴ the Gauteng High Court handed down a judgment on 8 March 2017.¹⁴⁵ The applicant was Earthlife Africa, while the Minister of Environmental Affairs, the Chief Director of Integrated Environmental Authorisations Department of Environmental Affairs (DEA), the Director of Appeals and Legal Review Department of Environmental Affairs and the Thabametsi Power Project (Pty) Ltd were the respondents.¹⁴⁶ In this matter, the court was required to deal with two issues, namely a review of the decision of the Minister of Environmental Affairs relating to the granting of environmental authorisation for the construction of a coal-fired power plant, and the obligation of the Minister to reconsider conducting a climate change impact assessment report for the proposed coal-fired power station.¹⁴⁷ The decision illustrates the role of South Africa's courts in affirming the country's international climate change obligations and the duty and responsibility of the state to limit the unfavorable impacts of climate change in the context of socio-economic development activities.¹⁴⁸ The case concerns the proposed construction of a 1200 MW coal-fired power station in the Limpopo Province that will be in operation until 2061.¹⁴⁹ The project intends to address the serious energy challenges that hinder South Africa's socio-economic development.¹⁵⁰ In 2015 the Chief Director of the DEA granted an environmental authorisation to Thabametsi for the construction of the said proposed coal-fired power station.¹⁵¹ It is estimated that during the forty year period of the power station's activity, that it would emit greenhouse gas that will have a negative impact of climate change and result in consequences for not only the area in Limpopo, but also the rest of the country.¹⁵² The authorisation application was made and considered in terms of the Environmental Impact Assessments (EIA) Regulations of the National Environmental Management Act that provides the procedures to be followed in conducting EIAs.¹⁵³ The applicant argued that the climate change impacts of the proposed station were significant factors that the Chief Director should have considered when

143 Mayer (2018:244).

144 [2017] ZAGPPHC 58 (2017) 65662/16.

145 This was arguably the first climate litigation case on the African continent; cf. Conference Presentation on the 'Thabametsi Case' at the International Conference on Climate Change, Responsibility and Liability, Faculty of Law, University of Graz, Austria on 8.11.2018; Ruppel (forthcoming 2022).

146 Ashukem (2017).

147 Ibid.

148 Ibid.

149 Ibid.

150 Ibid.

151 Ibid.

152 Ibid.

153 Ibid.

formulating his decision to allow the construction of the station.¹⁵⁴ The respondents proceeded to reject this claim and argued that there is no domestic legislation and no regulations or policies that explicitly stipulate a requirement to conduct a climate change impact assessment prior to the granting of an environmental authorisation.¹⁵⁵ The only obligation for South Africa is to reduce its greenhouse gas emissions, which is broadly framed without prescribing particular measures of how this should be accomplished or measured.¹⁵⁶ In response, the respondents argued that measures to reduce greenhouse gas emissions are discretionary and that the South African government, in exercising this discretion, has taken suitable steps and measures, including the development of a complicated set of mitigations procedures, to address climate change impacts in the context of socio-economic development activities in the form of the National White Paper on Climate Change of 2011.¹⁵⁷ They further argued that although coal-fired power stations are substantial emitters of greenhouse gases, the applicant failed to consider the broader development context in recognising South Africa's energy crisis, and that the government was taking measures such as the construction of a coal-fired plant to address said energy crisis.¹⁵⁸

After a long deliberation of both parties arguments and an analysis of both views, the court came to the conclusion that it would suspended the grant of the environmental authorisation until a full investigation and consideration of the climate change impacts assessment report of the proposed coal-fired power station had been conducted.¹⁵⁹ This instance saw success for the consideration of climate change. This case was one of the first of its kind with regards to climate change litigation in South Africa. Following the case, there came an appeal as to its findings. The judge in the appeal case considered the judgement of the North Gauteng High Court of 8 March 2017, relevant material information contained in the relevant project file, the final Climate Change Impact Assessment Report, of 1 June 2017, the comments receive on the final Climate Change Impact Assessment Report of 31 July 2017 and the recommendations by the EOH Coastal and Environmental Services.¹⁶⁰ It was decided that the judge would confirm the Environmental Assessment issued for the establishment of the power station.

In another recent case, the German Federal Constitutional Court partially upheld complaints by several young activists. The legislator must regulate the reduction of greenhouse gas emissions for the period after 2030 in more detail by the end of next year, the Federal Constitutional Court in Karlsruhe declared.¹⁶¹ The young people's

154 Ibid:38.

155 Ibid.

156 Ibid.

157 Ibid.

158 Ibid.

159 Ibid:41.

160 Appeal decision of [2017] ZAGPPHC 58 (2017) 65662/16 3.

161 BVerfG, Press Release No. 31/2021 of 29 April 2021. Order of 24 March 2021: 1 BvR 2656/18, 1 BvR 96/20, 1 BvR 78/20, 1 BvR 288/20, 1 BvR 96/20, 1 BvR 78/20.

basic rights were violated by provisions of the German Climate Protection Act (*Klimaschutzgesetz*). It also follows from the German Constitution (the Basic Law) that greenhouse gas emissions must be reduced, the judges explained.¹⁶² The provisions of the Climate Protection Act, however, irreversibly postpone high burdens for the reduction of emissions to the time after 2030. In order to achieve the limitation of the temperature increase stipulated in the Paris Climate Agreement, the reductions that would then still be necessary would have to be implemented more urgently and at shorter notice. Practically most basic rights and freedoms (to which all humans are considered to be entitled, often held to include the rights to life, liberty, equality, and a fair trial, freedom from slavery and torture, and freedom of thought and expression etc.) are potentially affected by these obligations, because almost all areas of life are connected with the emission of greenhouse gases. The court was of the opinion, that the legislator should therefore have taken precautions to mitigate these burdens. Extensive consumption of the CO₂ budget already by 2030 would exacerbate the risk of infringement of basic rights. One generation should not be allowed to consume large parts of the budget under comparatively mild reduction burdens if this would comprehensively restrict the freedom of subsequent generations. The German Climate Protection Act was only passed at the end of 2019. It stipulates how much carbon dioxide individual sectors such as the energy industry or transport may still emit in the coming years. Emissions of climate-damaging greenhouse gases are to be reduced by 55% by 2030, compared to 1990 levels.

In many foreign climate law suits, especially in the United States, the entry point is anchored in air pollution. In *Asghar Leghari v Federation of Pakistan* – the Lahore High Court claimed that the government’s inaction in implementing the policies to address the consequences of climate change offended fundamental rights (life, a healthy and clean environment, human dignity, property and the information), which are to be read with the constitutional principles of democracy, equality, social, justice, and the international principles of sustainable development, the precautionary principle, environmental impact assessment, inter- and intra-generational equity and the public trust doctrine. In its judgement the Court said: “For Pakistan, climate change is no longer a distant threat we are already feeling and experiencing its impacts across the country and the region.”

162 The protection of life and physical integrity according to Art. 2 para. 2 sentence 1 GG includes protection against impairments of fundamental rights by environmental pollution, no matter by whom and through what circumstances they are threatened. The rights deriving from Art. 2.2 sentence 1 of the Basic Law also includes the obligation to protect life and health from the dangers of climate change. and health from the dangers of climate change. It can also justify an obligation to protect under objective law with regard to future generations. Article 20a of the Basic Law obliges the state to protect the climate. This also aims at the achievement of climate neutrality.

In November 2020, for the first time, the highest administrative court in France, the Conseil d'État does not consider climate change a question of politics that would not fall under the control of the judiciary, because the judiciary controls government's action set under French and European law. It further stated that the Paris Agreement must "be taken into consideration in the interpretation of the provisions of national law", putting the state under the obligation to make the climate a priority.¹⁶³

Many more cases could be mentioned here as "climate cases have nearly doubled over the last three years and are increasingly pushing governments and corporations to implement climate commitments, while setting the bar higher for more ambitious climate change mitigation and adaptation."¹⁶⁴

4.7 International Climate Litigation

Climate litigation has come to play a growing role in the development of the international law in recent years brought before international jurisdictions.¹⁶⁵ Yet, access to international jurisdictions is often barred by various procedural or political obstacles, which is why domestic courts have generally played more prominent role. There are multiple courts and tribunals addressing international disputes, although many of them have limited jurisdiction.¹⁶⁶

The International Court of Justice (ICJ) would be the most obvious forum for adjudicating cases regarding the obligations of States in response to climate change. Alternatively, cases could be brought before the International Tribunal for the Law of the Sea (ITLOS), established under the United Nations Convention on the Law of the Sea (UNCLOS).¹⁶⁷ Both, the UNFCCC as well as the Kyoto Protocol provide for dispute settlement before the International Court of Justice. Article 14(2)(a) UNFCCC refers disputes concerning the interpretation or application of the Convention to the ICJ. In turn, both Article 19 of the Kyoto Protocol and Article 24 of the Paris Agreement refer to Article 14 UNFCCC, which shall apply *mutatis mutandis*. So far, no case concerning a climate change issue has been referred to the ICJ, nor to the ITLOS despite many previous cases ITLOS related to the protection of the marine environment.

Proceedings before international courts or tribunals could contentious or advisory in nature. A contentious case relates to a dispute between two States: an applicant and

163 Conseil d'État Decision N° 427301, at <https://www.conseil-etat.fr/fr/arianeweb/CE/decision/2020-11-19/427301>, accessed 7 July 2021.

164 Cf. UNEP (2020) providing an overview of the current state of climate change litigation globally, as well as an assessment of global climate change litigation trends. It finds that a rapid increase in climate litigation has occurred around the world. The growing tidal wave of climate cases is driving much-needed change.

165 Verheyen / Zengerlin (2013).

166 Mayer (2018:244).

167 *Ibid.*

a defendant. By contrast, advisory proceedings could be brought by an international institution or through a multilateral agreement on any legal question, whether related to a concrete situation or not. Contentious and advisory proceedings would face a series of legal and political obstacles. If successful, however, any such proceedings could be instrumental to the development of a better understanding of States' obligations under general international law.¹⁶⁸

The Dispute Settlement Body (DSB) and the Appellate Body under the World Trade Organisation (WTO) Dispute Settlement Understanding (DSU), provide another forum for disputes involving national climate policies that implicate trade law. The DSB can only intervene insofar as the dispute involves two or more Members of the WTO and has a trade-related dimension.¹⁶⁹ WTO reform to better accommodate climate change measures is an increasingly urgent issue. Such reform could entail legal changes, namely amending the WTO agreements to accommodate climate change measures; introducing a waiver that temporarily relieves WTO members from their legal obligations under the WTO agreements when pursuing climate action; adopting an authoritative interpretation clarifying the scope of WTO rules in relation to climate policies; and introducing a time-limited peace clause pursuant to which WTO members will not challenge the climate policies of other members. Such changes would, however, involve complex political processes that – for a variety of reasons – would be difficult to implement in practice. In the meantime, existing flexibilities under current WTO law should be utilised to advance climate action, while it is not unlikely that conflicts between the trade and climate regimes will sooner or later surface in the WTO's dispute settlement system. WTO waivers would require WTO members to for instance agree on a new legal interpretation of existing rules on for instance border tax adjustments.¹⁷⁰

Under the International Centre for the Settlement of Investment Disputes (ICSID) several cases have arisen that tangentially relate to climate change, involving the issuance of permits for coal fired plants. Claims might *inter alia* also be possible challenging subsidies for renewable energy.¹⁷¹

168 Ibid.

169 Maljean-Dubois (2019:para. 40).

170 Ruppel (2021a:523).

171 Bodansky *et al.* (2017:289).

And as we see more human rights climate litigation action¹⁷² beyond and across national borders,¹⁷³ technical and procedural barriers also often constrain international

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- 172 Relevant but by no means conclusive case law: 0907346 [2009] RRTA 1168 (10 December 2009). Refugee Review Tribunal of Australia. *Advocate Padam Bahadur Shrestha v The office of the Prime Minister and Council of Ministers, Singhadurbar, Kathmandu and others*, Decision no. 10210, NKP, Part 61, Vol. 3. *Armando Ferrão Carvalho and Others v The European Parliament and the Council* T-330/18. “The People’s Climate Case” – Order of the General Court of the European Union, dated 15 May 2019. A Request for an Advisory Opinion from the Inter-American Court of Human Rights Concerning the Interpretation of Article 1(1), 4(1) and 5(1) of the American Convention on Human Rights OC-23/17. Advisory Opinion of the Inter-American Court of Human Rights, dated 15 November 2017. *Court on its own Motion v State of Himachal Pradesh and Others and Abhimanyu Rathor v State of Himachal Pradesh and Others* 237 (THC)/2013 (CWPIIL No.15 of 2010). Petition by the Court on its own motion before the National Green Tribunal Principal Bench, New Delhi. *Environnement Jeunesse c. Procureur Général du Canada*, 2019 QCCS 2885. Decision before the Canadian Superior Court, dated 11 July 2019. *Family Farmers and Greenpeace Germany v Germany* 00271/17/R /SP. Application and Complaint filed on 25 October 2018. *Family Farmers and Greenpeace Germany v Germany* VG 10 K 412.18. Draft judgment dated 31 October 2019. *Friends of the Earth Germany, Association of Solar Supporters, and Others v Germany* 64S/18 FH-sk. Complaint filed on 22 November 2018. Friends of the Irish Environment CLG and The Government of Ireland, Ireland and the Attorney General [2020] IESCDET 13. Neutral Citation. *Future Generations v Ministry of the Environment and Others* STC4360-2018 Radicación No. 11001 22 03 000 2018 00319 00. “Demanda Generaciones Futuras v. Minambiente”. *Föreningen Greenpeace Norden and Others v The Government of Norway through the Ministry of Petroleum and Energy* 16-166674TVI-OTIR/06. *Föreningen Greenpeace Norden and Others v The Government of Norway through the Ministry of Petroleum and Energy* 18-060499ASD-BORG/03. Appeal. *Greenpeace and Others v Austria* G 144- 145/2020-13, V 332/2020-13 30.09.2020. *Gbemre v Shell Petroleum Development Company of Nigeria Ltd. and Others* FHC/B/CS/53/05. Ruling of the Federal Court of Nigeria dated 30 November 2005. In re: AD (Tuvalu) [2014] NZIPT 501370-371. Immigration and Protection Tribunal of New Zealand, decision dated 4 June 2014. *Ioane Teitiota v The Chief Executive of the Ministry of Business, Innovation and Employment* [2015] NZSC 107. Decision of the New Zealand Supreme Court. *La Rose and Others v Her Majesty the Queen in Right of Canada and the Attorney General of Canada* 2020 FC 1008. Decisions of the Federal Court of Canada, dated 27 October 2020. *Leghari v. Federation of Pakistan* (2015) W.P. No. 25501/201. Decision of the Lahore Court Green Bench. *Maria Khan et al. v Federation of Pakistan et al.* No. 8960 of 2019. Order of the Lahore High Court, dated 15 February 2019. *Neuzelle Agricultural Cooperative v Head of Administrative Services of Oder-Spree rural district authority* [2013] EU ECJ C-545/11. *Agrargenossenschaft Neuzelle eG v. Landrat des Landkreises Oder-Spree* Decision of the European Court of Justice, dated 14 March 2013. *Notre Affaire à Tous and Others v France* 1904698. Brief Juridique submitted to the Administrative Court of Paris on March 14, 2019. *Plan B Earth and Others v The Secretary of State for Business, Energy, and Industrial Strategy* [2018] EWHC 1892 (Admin). Neutral Citation, Decisions of the High Court of Justice Queens Bench Division, Administrative Court. *Plan B Earth and Others v The Secretary of State for Transport* [2020] EWCA Civ 214. *The United Kingdom Court of Appeal. Sabo and Others v European Parliament and Council of the European Union* T-141/19. *EU Biomass Plaintiffs v European Union* Order of the General Court of the European Union, dated 6 May 2020. *Verein KlimaSeniorinnen Schweiz et al. v Federal Department of the Environment, Transport, Energy and Communications (DETEC)* 1C_37/2019. *Union of Swiss Senior Women for Climate Protection v Swiss Federal Council and Others* Federal Supreme Court [of Switzerland], Public Law Division I, Appeal against the

jurisdiction. An increase in climate complaints to the United Nations Human Rights Committee is noticeable: Such in the 2019 case of *Torres Strait Islanders v Australia*, a group brought a complaint against Australia over its inaction on climate change, as their home, low-lying islands is affected by sea-level rise – which endangers them becoming displaced in violation of fundamental human rights under the International Covenant on Civil and Political Rights (ICCPR) Article 27 (the right to culture), Article 17 (the right to be free from arbitrary interference with privacy, family and home), and Article 6 (the right to life). On similar grounds in 2015 an individual seeking asylum from the effects of climate change, launched an unsuccessful complaint in the Kiribati climate change refugees case against New Zealand. In 2019 the United Nations Committee on the Rights of the Child received a petition on behalf of 16 children from across the world against Argentina, Brazil, France, Germany and Turkey seeking relief in that climate change is a children’s rights crisis, recklessly perpetuated by respondent states in violation of children’s rights to life, health and prioritisation of the child’s best interests, as well as the right of indigenous children to their culture. The children also wanted the respondent states to review and amend their national laws to accelerate mitigation and adaptation to climate change.

judgment of the Federal Administrative Court, Section 1, of 5 May 2020. *Urgenda Foundation v State of the Netherlands* [2015] HAZA C/09/00456689. Dated 24 June 2015; aff’d 9 October 2018, District Court of the Hague and the Hague Court of Appeal. Views adopted by the Committee under article 5(4) of the Optional Protocol, concerning communication CCPR/C/127/D/2728/2016. Views adopted by the Human Rights Committee under the United Nations International Covenant on Civil and Political Rights, dated 7 August 2017. *Brazilian Socialist Party and Others v Brazil: Urgent Application to the Honorable Minister Rosa Weber* ADO No. 59; ADPF No. 747; ADPF No. 755, filed 11 November 2020. *Youth for Climate Justice v Austria and others: Complaint filed with European Court of Human Rights*, filed 2 September 2020. *Greenpeace Mexico v Minister of Energy and Others*: Complaint filed in the District Court of Mexico City, Mexico, filed 20 August 2020. *Asociación Civil Por La Justicia Ambiental y otros c/ Entre Ríos, Provincia de y otros (Asociación Civil por la Justicia Ambiental v Province of Entre Ríos)*: Complaint filed in Argentinian Supreme Court, filed 2 July 2020. Hearing on Climate Change Before the Inter-American Commission on Human Rights: Petition filed and heard at the Inter-American Commission on Human Rights, heard 22 May 2020. *Dini Ze’ Lho’imggin and Dini Ze’ Smogilhgim v Her Majesty The Queen In The Right Of Canada*: Complaint filed in Canadian Federal Court, filed 10 February 2020. *Neubauer and Others v Germany*: Complaint filed in German Federal Constitutional Court. Petition To The Inter-American Commission on Human Rights Seeking Relief From Violations Resulting from Global Warming Caused By Acts and Omissions of the United States P-1413-05. Ruling on Modification to Ethanol Fuel Rule 610/2019: Draft Decision of the Mexican Supreme Court, filed 22 January 2020. Rights of Indigenous People in Addressing Climate-Forced Displacement: Complaint filed to the United Nations, filed 15 January 2020. *Sacchi and Others v Argentina, Brazil, France, Germany & Turkey Communications* n°105/2019 (Brazil), n°106/2019 (France), n°107/2019 (Germany): Petitioners’ Reply to the Admissibility Objections of Brazil, France, and Germany. *Commune de Grande-Synthe v France* 2019: filed in the Conseil d’Etat, the highest administrative court in France.

173 Roschmann (2013).

Regional courts and human rights tribunals, such as the Inter-American Commission or the European Court of Human Rights also need to be mentioned here next to the relevant international bodies under the auspices of the African Union including the African Commission on Human and Peoples' Rights amongst others. In terms of existing African and REC courts these have great opportunity and potential for the future. Until now, however, frequent failures largely prevented these judicial bodies to unfold their real face value. After all, it has been rightfully stated that international courts and tribunals must become the new environmental sentinels in international law.¹⁷⁴

5 Conclusion

This chapter dealt with climate change from a *de facto* and a *de jure* perspective. Fact is, climate change impacts are felt in Namibia and across the globe, affecting people, nature and the economy. To mitigate climate change, we need to reduce global emissions of greenhouse gases significantly. But how does this coincide with the purpose of the UNFCCC, which is to achieve “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”?

The answer is given in the 2015 Paris Agreement, which builds upon the UNFCCC and which in its Preamble explicitly linked human rights and climate change in that

parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity.

The Paris Agreement also refined the concept of a safe climate to be “well below” a 2°C increase in the average global temperature, and ideally limited to a 1.5°C increase. This places national objectives, commitments and policies within a wider perspective, but it does - not per se - provide litigants with a cause of action by itself. Countries' National Determined Contributions (NDCs) are also not enforceable as such, which is why claimants turn to human rights as a legal tool against climate change. All of the aforementioned prompts the assumption that there is still a lot of work in progress, especially for courts. It is therefore hoped that the implementation of the Paris Rulebook will provide further impetus for human rights litigation aimed at directing political institutions to synchronise NDCs with the overall goals of the Paris Agreement.

Although the failure to reach the NDC targets is not per se sanctionable according to the Paris Agreement, countries are expected to make national provisions to

174 Desai / Sidhu (2020).

guarantee enforcement of their commitments, or to issue sanctions in the case of non-attainment. It is now the time to fill out the Paris Agreement with legal national measures.¹⁷⁵

It is also predicted that other countries in Africa will follow the 2016 Kenyan example and pass laws clarifying that large-scale greenhouse gas emitters can be sued for their contributions to climate change – a game changer that could force greenhouse polluters to “internalize” the true costs of pollution. The Kenyan Climate Change Act No. 11 of 2016 allows citizens to sue private and public entities that frustrate efforts to reduce the impacts of climate change.¹⁷⁶ Climate-related litigation efforts and the advancement of a more comprehensive climate protection law (i.e. a Climate Change Bill) are bound to increase the levels of legal certainty and general awareness, while at the same time promoting more climate resilient development pathways.¹⁷⁷ Green hydrogen may become such development pathway for Namibia.

In this light, the importance of sound legislation and the opportunity for public participation in environmental decision-making processes cannot be overestimated.¹⁷⁸ When people’s rights are potentially infringed, those affected and living in a state governed by the rule of law should be able to take legal action.¹⁷⁹ In South Africa’s legal system the role that public interest litigation plays in setting a model through which climate change jurisprudence is growing.¹⁸⁰

Unlike in Namibia, in South Africa, class action or *actio popularis* is possible. Public interest litigation is provided for in Section 38 of the South African Constitution with legal standing (*locus standi*) for class action and public interest litigation.¹⁸¹ Anyone listed in Section 38 has the right to approach a competent court, alleging that a right in the Bill of Rights has been infringed or threatened, and the court may grant appropriate relief, including a declaration of rights. The persons who may approach a court are (a) anyone acting in their own interest; (b) anyone acting on behalf of another person who cannot act in their own name; (c) anyone acting as a member of, or in the

175 Ruppel / Wulff (2016).

176 Cf. <http://kenyalaw.org/lex/actview.xql?actid=No.%2011%20of%202016>, accessed 7 May 2021.

177 Ruppel *et al.* (2020).

178 Ashukem (2019).

179 In this regard the Aarhus Convention is important to mention as it takes a human-centred approach to addressing environmental problems. It is the only legally binding international instrument encouraging protection of every person to live in an environment adequate to his or her well-being by ensuring access to information, participation and access to justice. The Aarhus Convention grants the public rights regarding access to information, public participation and access to justice, in governmental decision-making processes on matters concerning the local, national and transboundary environment. It focuses on interactions between the public and public authorities. Namibia is not a ratifying state of the Convention of which most ratifying states are in Europe and Central Asia.

180 Ruppel *et al.* (2020).

181 Rooney (2017).

interest of, a group or class of persons; (d) anyone acting in the public interest; and (e) an association acting in the interest of its members. Public interest litigation allows interested parties to identify possible gaps and failings in current laws and seek the judiciary's assistance in finding ways to fill those gaps and/or address such failings.

It is important to note, that the rule of law plays an important role in the Namibian Constitution according to which Namibia is established as a democratic and unitary state founded on the principles of democracy, the rule of law and justice for all.¹⁸² Central to the notion of democracy is, however, also access to public participation and access to justice. In the context of climate change this seems still to be work in progress despite the fact that Namibia has embarked on an ambitious development programme aimed at reducing poverty, creating employment, promoting human rights and economic empowerment, stimulating sustained economic growth, reducing inequalities in income distribution, reducing regional development inequalities, promoting gender equality and equity, enhancing environmental and ecological sustainability.¹⁸³

Thus, at least *de facto* climate change can no longer be denied in Namibia. *De jure* the state of explicit recognition of climate change, its legal consideration and possibilities of redress still need to be adjusted. So far there has been no case of climate litigation in Namibia. Nevertheless, the growing number of national laws and policies that address climate change (at least indirectly) inevitably contribute to creating a more solid legal basis for future litigants seeking to hold public and private actors to account for climate obligations to mitigate or adapt.¹⁸⁴

According to Article 2 of the International Covenant on Economic, Social and Cultural Rights (ICESCR)¹⁸⁵ there is a recognition that socioeconomic rights have to be realised over time and the progress towards full realisation is dependent on the availability of resources.¹⁸⁶ In light of this provision, the progressive realisation qualification requires a state to strive towards fulfilment and improvement in the enjoyment of socio-economic rights to the maximum extent possible, even in the face of resource constraints. A state's performance in terms of the progressive realisation would depend on, among other things, both the actual socio-economic rights people enjoy at a given moment as well as the society's capacity of fulfilment.¹⁸⁷ Namibia has become a State party to the ICESCR in 1994 by way of accession, while its Constitution has directive principles that contribute – for instance - to the realisation of the right to adequate

182 Ruppel / Ambunda (2011:2).

183 Ibid.

184 Further readings on the topic relevant to Namibia: Alogna / Clifford (2020); Dewaele (2019); Preston (2018); Setzer / Byrnes (2019).

185 At <https://bit.ly/3HQeE6Q>, accessed 15 February 2022.

186 Chenwi (2013:743).

187 Ibid.

food.¹⁸⁸ In this sense, Namibia is obligated in terms of its international human rights treaty obligations to mobilise and allocate the maximum available resources for the progressive realisation of economic, social and cultural rights, as well as for the advancement of civil and political rights and the right to development. Addressing climate change in this context should complement ongoing efforts to pursue the full realisation of such rights while minimising the negative impacts of climate change for the benefit of the poor and most vulnerable.¹⁸⁹

188 Cf. <http://www.fao.org/right-to-food-around-the-globe/countries/nam/en/>, accessed 17 May 2021.

189 Cf. submission of the Office of the High Commissioner for Human Rights to the 21 Conference of the Parties to the United Nations Framework Convention on Climate Change, at <https://www.ohchr.org/Documents/Issues/ClimateChange/COP21.pdf> accessed 17 May 2021.

PART IX:

CUSTOMARY LAW AND

TRADITIONAL KNOWLEDGE

Chapter 23: Customary Law and the Environment

Manfred O. Hinz

1 Introduction

The very special relationship of traditional or indigenous communities to nature, to the use of natural resources in general, and to plants and animals in particular, has been the subject of many empirical studies and theoretical reflections.¹ Nevertheless, the focus on customary environmental law is a rather recent focus. So far, customary environmental law has not been of much concern to authors of textbooks on environmental law or legal anthropological treatises.²

In Namibia, the interest in customary environmental law developed when, after Independence, the Ministry of Environment and Tourism drafted a new conservation policy, which changed the inherited approach to conservation. Instead of focusing on nature alone, i.e. nature minus human beings, the new approach took note of the relationship between nature as such and human beings living in and with nature, and by doing so, also acknowledged that traditional communities had their own ways of dealing with nature.

It was in this context that customary environmental law research began. One first result was the publication of *Without Chiefs, There Would Be No Game. Customary Law and Nature Conservation*.³ Later, the internationally designed and conducted BIOTA project requested legal anthropological research on the potential of customary law for the protection of biodiversity. *Biodiversity and the Ancestors: Challenges to Customary and Environmental Law. Case Studies from Namibia*⁴ a first set of studies was accomplished within the BIOTA project in 2008.⁵ A second set appeared in a subsequent publication *Knowledge Lives in the Lake. Case Studies in Environmental*

1 Cf. Hinz (2003:16ff.) but also (2013b) with further references.

2 An exception is the discourse about the legal protection of traditional knowledge. Cf. on this Section 7 below and Chapter 24.

3 Cf. Hinz (2003).

4 Hinz / Ruppel (2008a). *Biodiversity and the Ancestors* is (apart from the introduction by Hinz / Ruppel (2008b) – and a summary by Hinz (2008b) composed of 11 pieces of research which were conducted by students of the Faculty of Law of the University of Namibia under the supervision of this author.

5 BIOTA stands for Biodiversity Transect Africa. The aim of the project (it started in 2000 and ended in 2010) was to monitor the state of affairs of biodiversity and to develop strategic options for political interventions in favour of the sustainability of biodiversity. Cf. Hinz / Ruppel (2008b:59ff.); Falk (2008), but in particular the comprehensive account of the project in Jürgens / Schmiedel / Hoffman (2010) and in this: Hinz / Ruppel (2010); Hinz / Mapaure (2010); Pröpper *et al.* (2010).

and Customary Law from Southern Africa.⁶ Certain aspects of the research done in the BIOTA project could be pursued further in another internationally conducted project: the TFO project.⁷ The TFP project was completed in 2015. The results produced in both projects have remained relevant in assessing the importance of customary law for matters of the environment.⁸

The three mentioned publications from the BIOTA project and the publications from the TFO-project are important sources for this Chapter.⁹ It has been divided into six parts. The first part takes note of the development of the post-independence conservation policy and the implications for customary law in environmental matters. Following this, the place of customary law in the overall legal system of Namibia with special attention on customary environmental law is looked at. The next part offers information on the development of community projects (conservancies, community forests, fishery reserves) in Namibia and the role played by customary law in the implementation of these projects. Then follows an overview of the results of customary law research in the context of the BIOTA and the TFO projects. Traditional conservatism and a section on customary law and the protection of traditional knowledge are dealt with before the concluding remarks.

A note of reservation: The protection of the environment and the calls for the sustainable management of natural resources are on the international agenda. The deliberations on this agenda have confirmed, as will be illustrated in the course of this chapter, the importance of local agents, including traditional authorities and with this, the law created by traditional authorities. When looking at certain international features, regional treaties and rules applying to borders, i.e. in view of the case of Namibia the borders between Namibia and Angola and the borders between Namibia and Zambia

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- 6 *Knowledge Lives in the Lake. Case Studies in Environmental and Customary Law from Southern Africa* is edited by M.O. Hinz / O.C. Ruppel / C. Mapaire, Windhoek. Namibia Scientific Society, 2012. This volume contains 9 pieces of research by students of the Faculty of Law of the University of Namibia under the supervision of Oliver C. Ruppel and this author.
 - 7 TFO stands for The Future Okavango. “The task of the TFO project was to assess important ecosystem functions and services and their valuation within the Okavango basin.” (Jürgens (2013:7)). Cf. further Pröpper *et al.* (2015). The sub-unit directed by the author of this paper looked at relevant legal aspects, *inter alia* the customary water law in the Kavango basin. Cf. here Hinz (2013b; 2013d and 2014).
 - 8 Generally, environmental matters are well-placed on the agenda of research in Namibia. However, there is not much concern about law (not to speak of customary law). The Namibia Sustainable Forest Management Project, which is to run from 2020 – 2023 and is implemented together with the Desert Research Foundation of Namibia, will most probably take note of the function of law to support sustainability. The resource book for environmental awareness for sustainable development (Garrard *et al.* (2017:160)) mentions customary law in its chapter about how people tackle the task of managing natural resources sustainably.
 - 9 Part 7, the section on traditional knowledge and customary law extends the relatively short references to traditional knowledge in the introduction to *Biodiversity and the Ancestors*. (Cf. Hinz / Ruppel (2008b:17f.)) An earlier version of this part on traditional knowledge was published in Vol. 3(1) of the *Namibia Law Journal*; Hinz (2011a).

and Botswana, the fact is that local agents, and especially traditional agents, have hardly, if at all, been involved in the arrangement of treaties and the establishing of border practices. This could be illustrated with reference to OKACOM Agreement and also the KAZA Treaty, but will not be part of the following deliberations.¹⁰

2 Post-Independence Conservation Policy in Namibia: Gateway for Customary Environmental Law¹¹

The history of nature conservation in colonial and post-colonial Africa went through various stages. After exploration and exploitation, preservation was the principle that governed conservation policies for many years. Preservation was defined as the “complete insulation of wildlife and their habitat from human interference”.¹² Reserves were established to which only conservation officials had access, aside from visitors and other, especially permitted persons.

Conflicts between those living inside such nature conservation areas and conservationists have not been resolved and are still a matter of lively debates. In many instances, people were moved from their ancestral lands, without any rights, not even visiting rights to sacred locations. In many cases, their move was facilitated by promises that they would eventually benefit from this change by receiving, e.g. a share in park fees or the sale of licences to hunters.

A particular problem exists with people living close to parks. In some cases, such park borders are borders on paper only, meaning that animals come and go. Instead of promised returns from cooperation with the official conservation policy, people often suffer from so-called ‘problem animals’, which are raiding fields and livestock. The purist approach to nature conservation, which primarily focused on animals, did not develop mechanisms to mediate this kind of conflict between humans and animals. In as much as park borders are not necessarily borders that stop the movements of animals, people very often do not understand that human behaviour and movements are disturbing to animals and cause them to develop into problem animals. How can people who moved into an area known as an area of elephants since time immemorial expect

10 OKACOM Agreement established the Permanent Okavango River Basin Water Commission on 15 September 1994 (see for the agreement: <https://bit.ly/3EZZV7F>, accessed 15 December 2021). The KAZA Treaty creates the Kavango Zambesi Transfrontier Conservation Area of 18 August 2011 (KAZA – TFCA; see for the treaty https://tfcportal.org/system/files/resources/KAZA%20TFCA%20Treaty_SIGNED.pdf, accessed 28 September 2021). The TFO project produced relevant evidence with respect cross-border efforts of Namibian traditional authorities, which will be subject to a later publication.

11 Cf. for the following Hinz (2003:2ff.).

12 Yeager / Miller (1996:34).

to settle without problems? To declare animals that follow or even defend their customs ‘problem animals’ that need to be shot is certainly not the best solution.¹³

European concepts of nature conservation through preservation were, step by step, replaced with other approaches. Strategies for the ecologically balanced use of natural resources gained ground in the debate. The IVth World Congress on National Parks and Protected Areas resolved that protected areas¹⁴

cannot co-exist with communities, which are hostile to them, but they can achieve significant social and economic objectives when placed in a proper context. The establishment and management of protected areas and the use of resources in and around them must be socially responsive and just.

This statement is based on the very obvious fact that “communities living in and around protected areas, often have important and long-standing relationships with these areas.”¹⁵

However, the new approach manifested itself in concepts with implications differing according to the emphasis put on conservation through protection versus sustainable rural development for which conservation is not an end in itself.¹⁶ While the first would still support the existence of protected areas, the second would opt for radical revision of the existing system of conservation through protection and would eventually abandon the concept of human-free protected areas.

This second concept is associated with the policy of creating Integrated Conservation and Development Projects (ICDP) as put forward by US-American conservationists¹⁷ and adopted by the World Wildlife Fund (WWF).¹⁸ The WWF proposes the introduction of ICDPs in Government-operated protected areas, also in conservation projects under the jurisdiction of indigenous people and in specifically designed initiatives on communal or private land in terms of joint management arrangements between the state and the respective communities.

Although the relevant Ministry¹⁹ was reluctant to introduce the ICDP approach in its entirety, it nevertheless subscribed to its principles outside protected areas.²⁰ The

13 Many concerns about problem animals were raised to the author when he did fieldwork for Hinz (2003), Cf. Hinz (2003:2). See also *The Namibian* of 24 November 2010, which reports that the Ministry of Environment and Tourism compensated each conservancy in Namibia with N\$ 60,000 for losses caused by wild animals.

14 IUCN, Parks of Life. Report of the IVth World Congress on National Parks and Protected Areas, quoted from Jones (1997:1).

15 Ibid.

16 Cf. Jones (1997:6ff.).

17 Cf. Wells / Brandon (1992); Brown / Wyckoff-Baird (1992).

18 WWF (1995:1ff.).

19 Then: Ministry of Environment and Tourism, now Ministry of Environment, Forestry and Tourism.

20 Cf. Jones (1997:10).

introduction of conservancies into the Nature Conservation Ordinance is proof of this.²¹

After the approval of the Ministry's Policy on Wildlife Management Utilisation and Tourism in Communal Areas by Cabinet, the Ministry stressed that the new policy intended²²

to remove discriminatory provisions of the Nature Conservation Ordinance (...) by giving conditional and limited rights over wildlife to communal area farmers that were previously only enjoyed by commercial farmers;

to link conservancies to rural development by enabling communal farmers to drive a direct financial income from the sustainable use of wildlife and tourism; and

to provide an incentive to rural people to conserve wildlife and other natural resources through shared decision-making and financial benefit.

The Ministry's policy document refers to the development to the actual situation, which is characterised by the alienation of rural people from their environment who, in contrast to commercial farmers, have been, denied access to wildlife and game by the legislation in existence at Independence,²³

[r]ural communities in pre-colonial times had a well-established conservation ethic based on religious beliefs, the right of chiefs and other cultural values. However, successive colonial administrations throughout Africa have alienated rural people from their environment by taking away their rights and responsibilities in favour of centralising control over natural resources and making traditional practices illegal.

The policy document continues:

If Namibia is to successfully conserve the wildlife that still exists on communal land and which migrates annually from reserves into communal land and across international borders into Angola, Botswana and Zambia, then the needs and aspirations of rural people living in these areas still have to be addressed.

Not only will they have to gain some direct benefit from wildlife conservations, but they have to be re-empowered to take responsibility for wildlife management and to take responsibility themselves for managing natural resources sustainably.²⁴

These policy considerations eventually led to the amendment of the Nature Conservation Ordinance by the Nature Conservation Amendment Act of 1996.²⁵ The Amendment Act is a very interesting example of the interrelatedness between customary law and the practices and statutory law of the Government. The development and legal implementation of the conservancy policy in Namibia are significant because it took note of the relevance of environmental concerns in customary law and practices.

21 Ordinance 4 of 1975 (Official Gazette – South Africa - No. 3469) as amended by the Nature Conservation Amendment Act, No. 5 of 1996.

22 MET (1995).

23 Ibid:7.

24 Ibid:8.

25 No. 5 of 1996.

3 Customary Law and Customary Environmental Law within the General Legal System

Customary law in general terms enjoys a special constitutional status. Article 66(1) of the Constitution states:

Both the customary law and common law of Namibia in force on the date of independence shall remain valid to the extent to which such customary or common law does not conflict with this Constitution or any other statutory enactment.

This constitutional provision has changed the position of customary law. Under Apartheid, customary law was a set of second-class law – if law at all. With the enactment of the Constitution, customary law received constitutional confirmation and was placed at the same level as the imported Roman-Dutch common law.

What is customary law?²⁶ The Traditional Authorities Act describes customary law in its Section 1 as the “norms, rules, traditions and usages of a traditional community”.²⁷ This definition is a clear indication of the difficulties existing in the jurisprudence of modern (Western) law in determining African customary law. Traditions and usages are usually distinct from legal rules. The statutory definition of customary law does not follow this distinction, thus acknowledging that African customary law operates differently from modern law. This is one of the reasons why colonial rule created, better accepted, a duality of legal systems in most African countries: the system of imported law and the system of inherited African customary law. African customary law was usually only applied subject to the so-called repugnancy clause. This clause implied that where customary law was understood to be against public policy or natural justice, it had to give way to the imported colonial law. This state of affairs led to substantial inroads into and to deformations of customary law, to which remedies had to be found after the African countries gained Independence from colonial domination. However, the duality of legal systems survived the move from colonialism to Independence. Up to now, most African countries recognise or at least accept legal pluralism as their way of legal order.²⁸

In the case of Namibia, the blueprint for Independence was developed under the guidance of the United Nations Institute for Namibia (UNIN); it provided for the recognition of the importance of customary law, hence its inclusion as a constitutional clause.²⁹ Customary law neglected during the Apartheid era required space and freedom to develop out of the stagnation into which it had been forced by South African jurisprudence, centred, as this jurisprudence was, on Roman-Dutch law. Namibia enacted a number of statutes which provided the necessary space for the development of customary law in line with the country’s new constitutional dispensation. Of these, the

26 Cf. for the following Hinz (2003:8ff.).

27 No. 25 of 2000.

28 Cf. here Hinz (2006b).

29 UNIN (1986:963).

already quoted Traditional Authorities Act is the most important: a kind of constitution of traditional governance.

The Namibian parliament enacted the first version of the Traditional Authorities Act in 1995.³⁰ The Act was amended in 1997 and a fully revised version was enacted in 2000. In pursuance of the 1995 Act, a process of recognition of traditional authorities began. To date, 50 traditional authorities have been gazetted in the Government Gazette of Namibia. All 50 traditional authorities are represented in the Council of Traditional Leaders, established under the Council of Traditional Leaders Act.³¹

Section 3 of the Traditional Authorities Act deals with the powers, duties and functions of traditional authorities. The powers and duties have to be seen as part of the overall responsibility of the traditional authority which is to “promote peace and welfare” amongst the members of their community.³²

Section 3(2)(c) of the Act is about the environmental responsibility of traditional authorities. The provision stipulates that the members of the traditional authority

shall ensure that the members of his or her traditional authority use the natural resources at their disposal on a sustainable basis and in a manner that conserves the environment and maintain the ecosystem for the benefit of all persons in Namibia.

Although the wording of this provision is reminiscent of the wording of Article 95(1) of the Constitution, the legal status of Section 3(2)(c) of the Traditional Authorities Act reaches beyond the limits of Article 95(1) of the Constitution. Article 95 is part of Chapter 11 of the constitution, titled Principles of State Policy, which, as stipulated in Article 101, are not “of and by themselves enforceable by any Court”. Section 3(2)(c) of the Traditional Authorities Act is fully legally enforceable in a court of law, be it a traditional court (community court in terms of the Community Courts Act³³) or a state court. Despite of this, it must be noted that the so far existing law to protect the environment and support sustainable development has not made use traditional authorities to achieve generally accepted standards in environmental matters. Reference is not to the law that regulates environment-related community projects, but e.g. the Environmental Management Act.³⁴

It is part of the already quoted overall responsibility of traditional authorities to supervise and to ensure the observance and enforcement of customary law.³⁵ According to Section 3(3)(c) of the Act, traditional authorities “may make customary law”. It is obvious that the law-making capacity of traditional authorities is of utmost importance for any undertaking that looks at customary environmental law as it confirms the power of local stakeholders to embark on the necessary legislative translations of

30 Act No. 17 of 1995.

31 Act No. 13 of 1997.

32 Cf. Section 3(1) of the Traditional Authorities Act.

33 Act No. 10 of 2003.

34 Act No. 7 of 2007.

35 See the Chapeau of Section 3(1) of the Traditional Authorities Act.

the rapidly growing concerns with regard to the environment, the protection of biodiversity and the sustainable use of natural resources.

The collection of self-stated customary laws of the various Namibian communities in *Customary Law Ascertained* gives an interesting insight into the customary environmental law.³⁶ The following quotes some examples from the first volume of *Customary Law Ascertained*, which contains the customary law of the Owambo, Kavango and Caprivi communities:³⁷

The Laws of Oukwanyama³⁸ provide for the protection of trees, fruit trees in particular, plants and water. It is an offence to cut fruit trees, and all water has to be kept clean. The Laws of Ondonga³⁹ provide for the protection of trees with specific reference to fruit trees, palm trees and the Marula tree. The use of fishing nets is only allowed when permission is given by the traditional authority. The Laws of Uukwambi⁴⁰ provide for the protection of water, the protection of trees, wild animals and grass. The Laws of Shambyu⁴¹ provide for the protection of water: Anyone who pollutes or contaminates water commits an offence. In the Caprivi Region, the Laws of the Masubia⁴² prohibit the cutting of fruit trees, causing veld fires and the use of fishing nets to catch small fishes.

It is interesting to note that the more recent versions⁴³ of the self-stated customary laws pay more attention to environmental issues than the earlier noted versions of self-stated customary laws. Obviously, environmental awareness is growing among traditional authorities. This led these to consider the extension and further development of their customary law in terms of the authority conveyed to them by Section 3(3)(c) of the Traditional Authorities Act. Apart from this, the references to the ascertained versions of customary law are already an indication for the holistic approach of customary understanding of the environment and its protection. The quoted customary laws do not distinguish between land or soil, and what is underneath and above the soil, wild animals, water. All what belongs to nature is environment and deserves protection. The holistic customary approach has now become of particular importance in discussing mining on communal land: a problem still far from solutions.⁴⁴

36 Cf. Hinz (2010a; 2013a; 2015a; 2015b and 2019).

37 The concept of self-stating customary law is explained in Hinz (2010a) but see also Hinz (2015b).

38 Hinz (2010a:169ff.).

39 Ibid:87ff.

40 Ibid:233ff.

41 Ibid:311ff.

42 Ibid:467ff.

43 Self-stated laws of communities, which self-stated their law only recently, i.e. for the publication in *Customary Law Ascertained* or amended older versions of the laws.

44 See here the study on sustainable mining law in Namibia by Renkhoff (2016) and the article by Odendaal and Hebinck on mining activities on communal land (Odendaal / Hebinck 2019). – In the part on traditional knowledge, the holistic approach to nature will be taken up again.

4 Community Projects (Conservancies, Community Forests, Fishery Reserves) and Customary Law⁴⁵

In attempts to support community-oriented instruments with respect to the administration and management of natural resources, communal conservancies, community forests and community fishery reserves the government introduced laws to regulate these community projects and accepted the establishment of many projects making use of the new possibilities offered by law. Communal conservancies gained particular prominence. 86 conservancies have been approved; the conservancies cover about 19% of the land of Namibia,⁴⁶ thus covering one half of the communal land.

The policy that led to the *Nature Conservation Amendment Act* of 1996⁴⁷ and, with this, to the introduction of communal conservancies was driven by the intention to restore the rights of rural communities to wildlife. The policy was informed by anthropological evidence which showed that traditional communities had a balanced approach to the use of animals as part of their natural resources, which appeared to be in support of the conservation policy of the state.⁴⁸ The number of established conservancies shows that the policy of Government to open nature conservation in terms of the above-quoted policy was taken up positively. Indeed, there is no doubt that the possibility to establish conservancies met the aspirations and expectations of many people living on communal land.⁴⁹ The purpose of conservancies is to enable the inhabitants of communal land to contribute to the sustainable management and utilisation of game in communal areas. The expectation is to achieve this through the engagement of the local people, who will, in turn for accepting responsibility, gain benefits from income generated by the the utilisation of wildlife in their areas.

What does the Nature Conservation Amendment provide for? According to Section 24A(1)

any group of persons residing on communal land and which desires to have the area which they inhabit, or any part thereof, to be declared a conservancy, shall apply therefore to the Minister in the prescribed manner (...).

An application must be supported by the following: a document that lists the names of the persons who are members of the conservancy committee; the constitution of the committee; and a statement that sets out the boundaries of the area to be declared a conservancy. Before approving the application, the Minister must be satisfied that the conservancy committee is representative of the area's community.⁵⁰ It is also necessary

45 On the following see already: Hinz (2018) and Hinz / Schmidt (2021: paras 661ff).

46 See <http://www.nacso.org.na/conservancies#statistics>, accessed 15 December 2021.

47 No. 5 of 1996, amending Nature Conservation Ordinance 4 of 1975.

48 To this and the following, see: Hinz (2011b; 2012:2ff), the contributions by: Anyolo (2012a and b) and in general: Boudreaux (2010); Stamm (2017).

49 Cf. NASCO (2006) and in particular Anyolo (2012a and b).

50 Cf. here and for the following Section 24A(2) of the Nature Conservation Amendment Act.

that the conservancy constitution contains provisions for the sustainable management and utilisation of game in the proposed conservancy. Further to this, it is required that the committee is able to manage funds accountably, and that it can guarantee the equitable distribution of the benefits derived from the consumptive and non-consumptive use of game in its area. The proposed area has to be sufficiently delimited and the views of the relevant Regional Council have to be accommodated.

The Amendment to the Nature Conservation Ordinance does not make any reference to traditional authority, traditional leaders or other institutions recognised under the Authorities Act.⁵¹ What the Amendment Act applied is a civil society approach looking at individuals living in a particular area and by this in a way ignoring the traditional governmental structure that may be relevant to the individuals and the areas in which the individuals live.⁵² However, practice shows that most if not all conservancies established on communal land are clearly related to traditional territories.⁵³ Their administrative structure is, in particular, in areas where traditional governance is firmly grounded in the local culture as it is the case in North and North-Eastern Namibia, closely linked to the respective traditional authority by providing the respective traditional authorities with possibilities to influence the process of decision making in the conservancies.⁵⁴

The constitutions of conservancies are a very relevant source of the customary law of the various traditional communities. The constitutions of conservancies are striking examples for the potential of customary law to adopt statutory stipulations and to develop them in a creative manner. While the Nature Conservation Amendment Act provides for conservancies with respect to wildlife, many constitutions of conservancies go beyond wildlife and take note of other natural resources in their areas. Wildlife management, indeed, requires a comprehensive planning that includes the use of grass, water, forests etc.⁵⁵ The conservancy concept reflected in provisions of this nature is a product of the living customary law: it is an amendment to the Nature Conservation Amendment Act.

The need to draft constitutions for conservancies also contributed to open the collective memory and, by doing so, to develop social visions: In the preparatory stage of the Nyae Nyae in the Otjozondjupa Region (Tsumkwe East) conservancy,⁵⁶ people were asked to rate the importance of animals in their area. The ranking criteria were: healing, meat, household items, photographic safaris, professional hunting and

51 See here also Hinz (2011b).

52 The submission through the Faculty of Law of the University of Namibia to the Ministry Environment and Tourism, which pleaded for a clause on traditional authorities in the draft Nature Conservation Amendment Act was not accepted.

53 This was the result of the research done for Hinz (2003).

54 Cf. here again the findings produced in Hinz (2003:88ff.)

55 An analysis of the various constitutions of conservancies has not been done yet.

56 The Nyae Nyae conservancy was the first conservancy in Namibia.

national biodiversity. Seven species of animals were selectable: roan, elephant, buffalo, giraffe, gemsbok, leopard, and wild dog. 25 points could be allocated to those species separately and with one rank. Leaving aside interests only indirectly linked to the community (safaris, professional hunting, and national biodiversity), the results show an interesting concentration on some animals.⁵⁷ Eland and giraffe scored 22 marks, gemsbok 15 and roan 9. Eland and giraffe had 8, respectively 7 marks for healing. The same animals do not rate as well in terms of the indirect benefits for the community, i.e. through photographic safaris and professional hunting.⁵⁸ Roan gained the highest number of marks (10) while eland and giraffe received 4 and gemsbok 2 each. An explanation given in the conservancy constitution for the criteria of healing refers to the spirits of animals, which are “used to provide guidance to the traditional healer”.⁵⁹

Social visions were developed and implemented in the Nyae Nyae constitution in the benefit distribution scheme of the conservancy. In view of the sub-divisions of the area into districts and localities (*n!oresi*)⁶⁰ possible income from various sources were allocated in percentages to the whole of the conservancy, the district and the holder of a *n!ore*. 100% of the proceeds from subsistence hunting goes to the *n!ore*, while income from the sale of live game and concessions for trophy hunting goes to the whole community. Fees for the use of resources and the use of tourist camps are shared between the three levels.⁶¹ This scheme of income distribution reflects the vicinity principle as it is known on customary law.⁶² Those closest to the income-generating activity are given the bigger share of it or may even have the right to the whole.

Although the Act does not mention land and the tenure of land, the establishment of a conservancy has a bearing on land tenure. Giving the sustainable management of game prominence must mean that certain modes of production on the land the game of which has to be managed, e.g. cattle husbandry, will be excluded or, at least, limited. Such a change in the customary land tenure not only affects individual customary rights holders, who could be part of “any group”, but also the overall responsibility of traditional authorities over the communal land in their jurisdictions. The Nature Conservation Amendment Act of 1996 did not provide any role for traditional authorities in the process of establishing communal conservancies. However, research has shown that in most – if not all – cases, the relevant traditional authorities have played a role in the establishment of such conservancies.⁶³

57 Nyae Nyae Constitution (1996:15).

58 Ibid.

59 Ibid.

60 Ju/'hoan for a “block of land that surrounds each water hole and provides the resources on which the people of the water hole depend”; Lee (1979:334).

61 Ibid:12.

62 Cf. Hinz (1998:201).

63 Cf.: Hinz (2003) 82ff.

A case, decided by the High Court of Namibia offers new insights into the relationship between the administration of conservancies in communal areas by the committee of the conservancy and the power to allocate rights under the Communal Land Reform Act.⁶⁴ Given the growing importance of communal conservancies, the decision deserves special attention.⁶⁵

The High Court had to decide on rights granted by the !Kung Traditional Authority in Tsumkwe West in the Nǃa Jaqna conservancy. The claim of the committee of the Nǃa Jaqna Conservancy was mainly directed against 22 persons who had occupied land in the Nǃa Jaqna conservancy, but also against the Minister of Lands and Resettlement, the chairperson of the Otjozondjupa Communal Land Board, the !Kung Traditional Authority and the Minister of Environment and Tourism. The respondents claimed to have rights to use the land in the conservancy granted by the !Kung Traditional Authority. The land claimed for was mainly used for grazing. The occupants had also erected fences around the land.

The court ruled that those respondents whose land rights were not ratified by the Communal Land Board did not have the right to occupy land in the Nǃa Jaqna conservancy and had to leave the land within a given period of time. Fences had to be removed, as the fences were not erected, i.e. to protect a homestead as would have been allowed under Section 27 of the Regulations to the Act.⁶⁶

On the procedural side, the court had to decide whether the applicant had *locus standi*. Section 43 (2) of the Communal Land Reform Act gives the chief or the traditional authority the right to “institute legal action for the eviction of any person who occupies any communal land” without a right properly acquired under the Act. For the Court, it follows from common law that a case has to be heard when a person demonstrates that he or she has “a direct and substantial interest in the outcome of legal proceedings”.⁶⁷ The applicant represents the Nǃa Jaqna Conservancy, which – so the Court – is a juristic person in the form of a *universitas* as provided for under common law. According to the constitution of the Nǃa Jaqna Conservancy, the objectives of the conservancy was, in line with the objectives of the introduction of conservancies into the Nature Conservation Ordinance, namely “that the primary objective of the conservancy is to enable the inhabitants of the Conservancy to derive benefits from the sustainable management of the consumptive and non-consumptive utilization of the natural resources of the Conservancy.”⁶⁸

64 The *Nǃa-Jaqna Conservancy Committee v the Minister of Lands and Resettlement et al.*, High Court judgement, Case No. A 276/2013 – unreported.

65 Cf.: Hinz (2018), see also: van der Wulp (2016) and Hays / Hitchcock (2020).

66 Regulations Made in Terms of the Communal Land Reform Act, 2002, GN No. 27 of 2003, as amended.

67 At 41 of the Nǃa-Jaqna Conservancy decision.

68 *Ibid.*: at 45.

“Did the respondents unlawfully settle in the conservancy?” was the question the Court pursued in the substantial part of its decision. The Court found:⁶⁹

During the years 2002 to 2013 (...) respondents occupied land in the applicant’s conservancy and erected their private fences within the applicant’s conservancy outside the settlement area enclosing the commonage to the exclusion of the local community and the respondents’ farm with livestock. None of the respondents are members of the !Kung Traditional Community and none have acquired any customary or other legal right to occupy the commonage. Despite demand from the applicant, the respondents have failed or refused to remove their fences or vacate the respective occupied areas and to restore vacant possession of the commonage to the applicant, its members and the local community.

Therefore, the court decided in favour of the conservancy. However, the decision lets open what would be the legal position if the !Kung Traditional Authority and the Communal Land Board decided correctly in allocating land rights in the N#á Jaqna conservancy respectively endorsing the granting of the right. In other words: Are the rules set out in the constitution of the N#á Jaqna conservancy and its management plan rules that bind the chief and traditional authority when granting land rights and also bind the Communal Land Board with the effect that it would have to veto the right when a matter comes before it where the chief of traditional authority granted land rights in a conservancy and by doing so violated the rules for managing the conservancy?

With respect to the other mentioned community projects (community forests and fishery reserves), not much can be reported. The Forest Act gives the responsible Minister the authority to establish community forests:⁷⁰

The Minister may, with the consent of the chief or traditional authority for an area which is part of communal land or such other authority which is authorized to grant rights over communal land enter into a written agreement with anybody which the Minister reasonably believes represents the interests of the persons who have rights over that communal land and is willing to and able to manage that communal land as a community forest.

Some 43 community forests projects are reported to exist in 2020.⁷¹ Most of them overlap with communal conservancies.⁷² Falk and Kirk submitted the very first assessment of the enforcement of statutory and customary rules in the Kavango regions.⁷³ They refer in particular to the fact that the Forests Act is silent on the role and function of customary law and the relationship between the governmental forest authority and the traditional authorities.⁷⁴ Research about the community forests project in the territory of the Uukolonkadhi traditional authority stresses problems in the implementation of the forest project, but also shows the benefits from the project for the community.⁷⁵

69 Ibid: at 54.

70 Section 15(1) of the Forest Act No. 12 of 2001, as amended. See also: GRN (2005a).

71 Namibian Community Forests <https://conservationnamibia.com/factsheets/community-forests.php>, accessed 29 September 2021.

72 Cf. <http://www.nacso.org.na/community-forests>, accessed 15 December 2021; and Schusser (2012).

73 Falk / Kirk (2011): 333ff.

74 Ibid:347f.

75 Cf. Muhongo (2008); Vrabcová *et al.* (2019).

The Inland Fisheries Resources Act allows for the establishment of fishery reserves. According to Section 22 of the Act, the

Minister, on his or her own initiative, or in response to an initiative of any regional council, local authority council or traditional authority, and in consultation with the regional council, local authority council or traditional authority concerned, may by notice in the Gazette declare any area of inland waters as a fisheries reserve,

if the conditions call for such an action to support the sustainability of fish resources.⁷⁶ 10 fisheries reserves have been declared, the first one in 2015, the second in 2016 and the remaining in 2020.⁷⁷

All reserves are located in the Zambezi Region (formerly Caprivi Region). Adjacent conservancies are initiators in the setting of the management agreements for the fisheries reserves.⁷⁸ The fisheries reserves have attracted the interest of Kavango-Zambezi Transfrontier Conservation Area (KAZA-TFCA): which recently promoted the launch of a project titled Strengthening Community Fisheries in KAZA, funded by the European Union and under the authority of the Namibia Nature Foundation (NNF).⁷⁹

5 BIOTA and TFO Research on Customary Law and the Environment⁸⁰

The customary law research within the BIOTA project covered a broad range of topics. The research addressed questions to traditional and modern stakeholders, ordinary villagers and people who spend only part of their time in the village, younger and older people, people with different degrees of formal education, women and men were interviewed.

The overall picture emerging from the research⁸¹ shows that customary law has mechanisms to protect biodiversity and natural resources, albeit with certain limitations. The same limitations also determine the extent to which these mechanisms are implemented. Traditional communities have knowledge about the value of biodiversity and the need to protect it against non-sustainable external and internal exploitation. Although this knowledge is very often bound by social and economic constraints, it indeed has the potential to be transformed into societally efficient norms.

The law applied in traditional communities certainly has more impact on the sustainable protection of biodiversity than the concurrent norms of the state. Under

76 Section 22(1) Inland Fisheries Resources Act; see also on fisheries reserves, including the need to amend the law on fisheries reserves: Consultants for Fishery, Aquaculture and Regional Development (2002); Jones (2008); Hay (undated).

77 See <http://www.nacso.org.na/community-fisheries-reserves>, accessed 15 December 2021.

78 See e.g. Section 3(1) of the Declaration of Sikunga and Kassaya Channel as fisheries reserves: Inland Fisheries Resources Act, 2003, GN No. 276 of 2015.

79 Cf. *The Namibian* of 6 May 2021.

80 Cf. for the following Hinz (2006:211ff. and 2013b).

81 As documented in Hinz / Ruppel (2008) and Hinz *et al.* (2012).

customary law, traditional communities enjoy more or less full responsibility for the administration of natural resources. However, the examples of difficulties caused by the complex interface between statutory law and customary law need further exploration.

Where traditional communities are reluctant to employ mechanisms of customary law or to develop them further although, even if environmental awareness should suggest such a development, there is need for political intervention. The administration of the allocation of land and grazing rights is a case in point, as is the regulating of the forest resources. Balancing economic interests against those of environmentally sustainable use, the examples explored show that decisions are more likely to surrender to economic interest than to take a stand for biodiversity and sustainability.⁸²

The customary law research in the TFO project added important aspects to the understanding of customary environmental law. So far, customary water law was hardly considered in customary law research.⁸³ However, the research noted with interest that some Namibian communities found it worthwhile to self-state about the use of water in their customary law.⁸⁴

Research done for a master's dissertation in law⁸⁵ revealed an unexpected picture on the 'ownership' of water.⁸⁶ For a good majority of the interviewed people the state,

82 See, e.g. Rukoro (2008).

83 Cf. Hinz / Mapaure (2012). With respect to statutory water law, see Water Act No. 54 of 1956 (as amended) and the Water Resources Management Act No. 11 of 2013.

84 See Section 15 of the Laws of Uukwambi in Hinz (2010a:270ff.). This section has seven, quite detailed sub-sections. I quote the first two: "15.1 Water is life. Therefore water shall be conserved because it is important to people, animals and plants for survival. 15.2 The Traditional Authority shall have the responsibility of protecting water, together with other Traditional Authorities. The Traditional Authority shall not allow water to be misused, including fishing with nets ad *iishongo* [Fishing equipment made of buckets or reeds]. Anyone who is found misusing water shall be prosecuted. If the Headman or people from the household misuse water, the matter shall be reported to the Traditional Authority."

85 Mapaure (2012).

86 The question about 'ownership', was not guided by the concept of ownership as it originated from the western traditional jurisprudence and which grants the individual the generally accepted power to deal with the object of ownership as he or she wishes. The general legal order of the country, indeed, knows 'ownership' in the latter sense since the integration of the Roman-Dutch law as the common law of the country (Article 66 of the Constitution) and with this also contributed to the spreading of this concept. However, the customary law research also experienced that a different understanding of 'ownership' existed. Land may be said to be 'owned' although it is clear that this ownership is very different from ownership of land outside communal areas. 'Ownership' of communal land only means that the 'owner' has the right to use the land in a way that excludes or limits the rights of others, including the right of the traditional authority responsible for the administration of communal land and the right of the state which has to respect the customary law rights of the 'owners'. (Cf. Communal Land Reform Act No. 5 of 2002, Sections 17(1) and 20).

although claiming ownership under general law,⁸⁷ was not seen to be the owner. Owners were the community, God and a mythical entity with the name of *Ekongoro*. The customary law research in the TFO project took note of these findings and enquired in particular the reference to *Ekongoro*. Of the interviews conducted within the framework of the TFO Project done between March 2011 and August 2015 in the Kavango Region, the adjacent part of the Caprivi Region and in the Kavango Delta, i.e. in Ngamiland of Botswana, about 70 focused on *Ekongoro*.⁸⁸ This was done so because, the very first interest of the empirical research was to generate qualitative information on water, i.e. on the general perceptions of the people on water⁸⁹ – water in the Kavango River as the main source of water, but also locally pumped water or water provided, in the case of Namibia, by NamWater.⁹⁰

Who or what is *Ekongoro*? What is the social meaning of *Ekongoro*? Is there any legal relevance of *Ekongoro*? Most probably “yes” when we take note of what stated a 70 years old Thimbukushu-speaking farmer living at the Chobe River in the Caprivi Region in an interview about customary water law: “Makongoro are the Hafumu of water– the Makongoro are the rulers of water - and we respect them”.⁹¹

So, who or what is *Ekongoro*? “Likongoro⁹² is just another animal, no one can describe it,” was said by one respondent,⁹³ while another stated:⁹⁴ “Dikongoro is a creature that cannot be classified to anything, no one can tell if Dikongoro is an animal or a reptile.”

Where do we find *Ekongoro*? “The place where Dikongoro lives is mostly covered with foam. The water is always deep and dark and does not flow.”⁹⁵

87 See here Section 4 of the Water Resources Management Act No. 11 of 2013: “The State, in its capacity as owner of the water resources of Namibia by virtue of Article 100 of the Namibian Constitution has the responsibility to ensure that water resources are managed and used to the benefit of all people in furtherance of the objects of this Act.”

88 See here already Fisch (1979) and Seifert (2006:81ff.).

89 Cf. Hinz (2013b and 2013d), informing about this first phase of the TFO customary law research. The second phase of the research (currently in the process of evaluation) was to explore specific matters, such as access to water, control of access, rules against pollution and rules to protect water etc.

90 Namibia Water Corporation Limited, the Government controlled public water provider.

91 Cf. interview 069. *Makongoro* is the plural of *Ekongoro*. *Fumu* (sing. to *Hafumu*) means king / queen or ruler. (The transcripts of all quoted interviews are on file with the Centre of African and Migration Studies, University of Bremen.)

92 *Ekongoro* (pl. *Makongoro*) is Rukwangali; *Likongoro* (pl. *Makongoro*) is Rumanyo (Rushambyu and Rugciriku); *Dikongoro* (pl. *Makongoro*) is Thimbukushu. Quoting from interviews, the language is the language used by the interviewee. In references of the author, the Rukwangali language is used.

93 Interview 026.

94 Interview 053.

95 Interview 041.

The same respondent is very precise in naming places where one should be able to find *Ekongoro*:⁹⁶

These days, they [Makongoro] are very scarce to be found, but they still live in the water. There is a place at Kanorombwe where Dikongoro still lives. Also at Popa and Andara. There are places where Dikongoro is expected to live currently.

Another respondent had to report the following:⁹⁷

According to what I was told: Dikongoro still lives in a place we call Shadikongoro. And the agriculture irrigation site of Shadikongoro⁹⁸ was named because of the fact that Dikongoro lived and still lives in this place.

The stories told about *Ekongoro* are stories heard along the Kavango River and in adjacent areas.⁹⁹ They are obviously told from generation to generation and even appear in material used in schools.¹⁰⁰ Incidents with *Ekongoro* are remembered with details. Who was with whom when *Ekongoro* attacked is remembered and even the year in which incidents happened is recalled. The key-sentence “Makongoro are the Hafumu of water – the Makongoro are the rulers of water – and we respect them” found, indeed, support in a broad number of the interviews. It was not just the narrative of one respondent, who enjoyed to be interviewed and who allowed himself to be taken away by his imagination. The key-sentence finds support in the sense that *Ekongoro* is still seen as a powerful animated entity in the relationship between human beings and water.

The animated non-human parts of the environment appear as if they were human-like entities, i.e. entities which human beings can see, even have encounters with. Human beings can communicate with these entities. Despite their power over human beings, they are part of the world of human beings. How else would it have been possible that the grandfather in one of the quoted interviews became *Ekongoro* after his death? As ancestor, he could become *Ekongoro*, as it is part of a widely spread understanding in African traditional cultures that ancestors remain as the living-dead part of the human world, are able to communicate with the living-living, have an influence on them,

96 Interview 041. The places mentioned in the following quotation are in Mbukushu area (Mukwe District).

97 Interview 043.

98 Again, a place in the Mbukushu area.

99 There was no opportunity to investigate about *Ekongoro* in Angola. The fact that the same people live on the Angolan side where the river is the border between the two countries allows the conclusion that *Ekongoro* is present there as it is in Namibia.

100 Helgard Patemann thankfully drew the attention of the author to a textbook for standard 2 in Thimbukushu that contains a chapter on *Ekongoro*. After referring to Shadikongoro as the place where *Ekongoro* “lived in this place long ago”, the text requests the learner to consult with their grandfathers or elders to tell them “rightfully” about *Ekongoro*; Kloppers / Majavero (1991:25f.). It would certainly enrich the understanding of *Ekongoro* to learn to what extent learners have made use of the request to contact their grandfathers about *Ekongoro* and also to what extent the school-supported inquiries contributed to the story-telling on *Ekongoro*!

are even open to negotiate this influence.¹⁰¹ They may induce fear, but they also allow negotiations to avoid negative consequences.

The fact the *Ekongoro* is called *Fumu* is also to be considered in this context. The *Fumu* is not only a respected personality, the *Fumu* usually an offspring of a royal house, has special relations to the ancestors that allow him/her to communicate with them for the benefit of the community. The office of the *Fumu* is religiously blessed, it is sacred, which does not exclude that the ruler acts wrongly and eventually against the aspirations of the community.¹⁰²

Ekongoro is reported to attack canoes and human beings, *Ekongoro* is also said to kill people. This is one side; there is another side according to which *Ekongoro* saves water and natural resources and protects them, that *Ekongoro* provides for the growing of grass by holding water available. There is one voice that says that *Ekongoro* may swallow people but will always release them alive. To clarify the discrepant views, it will be helpful to refer here to the fact that, following other respondents, there are two sorts of *Ekongoro* or two mythical entities that live in the waters of the Kavango River: There is *Ekongoro* and *Mbava*, called the female side of *Ekongoro*, which has the same powers as *Ekongoro* and is said to be the most dangerous being in the waters.

As much as *Ekongoro* was part of the research interest from the beginning of the customary water law inquiry, *Mbava* came only late to the attention of the reported research. More information is, indeed, needed that would also require questions about the statement why *Mbava* is the female side to *Ekongoro*. *Ekongoro* and *Mbava*, which represent separately the quality of good and bad or we have the two qualities in one is eventually not very relevant. Relevant is that we have a dichotomy, a dichotomy of elements that are related to each other. There is the one, the animated force, let's call it *Ekongoro*, that maintaining water as the source of life, for the availability of fish, it is the rainbow that shines over the earth after life-supporting rain. There is the other, let's call it *Mbava*, which is very dangerous to people and may cause harm to them. There is one side, which is good, there is another, which is bad.

The dichotomy of *Ekongoro* and *Mbava*, or the dichotomy within *Ekongoro* itself, reminds us of what is essential in the discourses on the animation of nature.¹⁰³ This discourse deals with the concept of force, which is neutral on the surface, but can turn out to be good or depending on the case of employment. The power in the animated

101 Cf. here Hinz (2003:36ff.); Patemann (2004).

102 Cf. e.g. the description of 'Royal prerogatives and duties' of the Kwangari Hompa in McGurk / Gibson (1981:68ff.). According to this the Hompa is "the source and repository of wealth, dispenser of gifts, leader in war, officiant in religious ceremonies, and in some situations a medicine man. (...) the chief or another member of the royal family is the 'rainmaker for all the tribes' and as such is the keeper of the hereditary rain-making medicine." Similar notations can be found for the other traditional communities in the Kavango Region; see Gibson *et al.* (1981).

103 Reference is here to discourses on African philosophy, which cannot be elaborated on here. See on this the articles in Coetzee / Roux (2002), but also Glenn's analysis of the legal traditions (Glenn (2014)).

nature can, indeed, be supportive to humans, but also harmful. The power of nature can be good or bad as the power of human beings can be good and bad.

There are two important messages in the philosophy of the animated nature:¹⁰⁴ The first is that otherwise unexplainable causes of events are explainable with reference to the execution of power by the animated non-human world: You are not ill because of an unexplainable illness, you are ill because somebody, a human or non-human force, made you ill.¹⁰⁵ The second message is that the described power, despite its ambivalence, is not excluded from human influence. Influence can be negotiated.¹⁰⁶ *Ekongoro* expresses a network of relationships that reach from human connotations (you communicate with *Ekongoro*) to humanised non-human and even supra-human connotations (*Ekongoro*, the *Fumu* of water; our grandfather is *Ekongoro*). The complex conceptualisation of *Ekongoro* reflects the complexity of the traditional world order. In ethno-philosophical terms and having customary law as the rules of this world order in mind, one could say that *Ekongoro* is the manifestation of some kind of a customary law *Grundnorm*, which, in focusing on power, sets rules and governs the behaviour of human beings.

6 Traditional Conservationism

The environmental discourse in general and the discourse in anthropology in particular have for years been occupied with interpreting traditional ecological and environmental approaches. Traditional conservationism is a topic that has filled countless pages in anthropological publications.¹⁰⁷ It is therefore worthwhile to place the results in a broader legal and political anthropological framework. A short summary of what is understood by traditional conservationism or by relating biodiversity to the ancestors¹⁰⁸ will be helpful in preparing the skeleton of this framework.

Environmental and anthropology-based environmental literature allows for the identification of two extreme views about traditional concepts of nature conservation:¹⁰⁹ The one denies their existence or ignores them as irrelevant in view of the modern mainstreams which prevail in environmental approaches. The other view over-emphasises traditional conservationism. Traditional communities and their environmentalist approaches are said to reflect positions of the so-called Indian¹¹⁰ eco-saint

104 Which go beyond the interpretation by Fisch who, at (1979:43), holds against a religious or ethical qualification of the *Ekongoro* and the stories about *Ekongoro*.

105 To the latter see again Patemann (2004).

106 This is exemplified in Patemann (2004).

107 Cf. Ingold (2000); the collection of articles in Grim (2001); but also Hinz (2003:19ff.); Falk (2008) and Pröpper (2009).

108 As the title of Hinz / Ruppel (2008) calls for.

109 The following relies on Hinz (2003:19ff.).

110 Indian from the Americas, i.e. Native Americans.

who always knew what to take from nature and never went as far as modern societies did – in their exploitation of nature to the point of irreparable destruction.

Ecological anthropology has undergone important theoretical changes. One of its last transformations no longer believes in the Indian ‘eco-saint’, the ‘noble savage’ and other myths that were the products of European escapists. The American anthropologist Headland can be quoted here: his views led to a far-reaching debate amongst scholars in this field.¹¹¹ Headland is a moderate revisionist, searching for a middle road which he defines as “history-grounded” and of “good anthropology”.¹¹² He argues that “all ecosystems have been greatly modified by humans for thousands of years”.¹¹³

Radical revisionism, on the other hand, rejects the view, held by many that “tribal peoples lived generally in great harmony, health, and happiness and in balance with their stable environment.”¹¹⁴ “Primitive polluters” is the title of a publication by the anthropologist Rambo.¹¹⁵ Its message is to demonstrate “the essential functional similarity of the environmental interactions of primitive and civilised societies.”¹¹⁶

In a brief, but empirically founded response to the debate on Headland’s revisionism,¹¹⁷ the hypothesis was submitted that people in traditional societies do conserve, but do so only in respect of natural resources whose “depletion they can envisage”.¹¹⁸ The author of the hypothesis, Dye, adds that such societies must “rely on very limited data to ascertain whether a particular resource is being seriously depleted.”¹¹⁹ In his research among a group of rain forest people in Papua New Guinea, Dye saw how crocodiles that had gathered in a small lake – the only bit of water available in an extraordinary dry season – were harvested to extinction. This occurred alongside the community’s refusal to use long gill-nets for fishing in the lake, because they “would fish out the lake”.¹²⁰

Why is there a lack of conservationism in the case of the crocodiles, but conservationism in the case of the fish? Dye answers this by referring to the fact that the community had already experienced having wiped out fish when they had used their traditional way of fishing, i.e. by poisoning fish in pools in small streams. Dye discussed this with the villagers, who numbered only 125, saying that they would never be able

111 Headland’s (1997) article was published in *Current Anthropology*. Ten scholars reviewed his article, with Headland responding. See also Vol. 101 of *The American Anthropologist*.

112 Headland (1997:609).

113 Ibid:605.

114 Edgerton (1992), quoted by Headland (1997:607).

115 Rambo (1985).

116 Ibid:2.

117 Dye (1998:352f.).

118 Ibid:353.

119 Ibid.

120 Ibid.

to fish out a lake measuring five square miles, but they were resolute in their defence: “What does he know, with only 10 years here? And anyway, he doesn’t even fish.”¹²¹

Dye’s explanation that the lack of conservationism resulted from the lack of capacity to assess probabilities and the lack of traditionalised experience is certainly helpful to place conservationist concerns within the respective societal context. The efficiency of mechanisms of balancing short-term societal interests in using and consuming natural resources against long-term interests in sustaining those same resources depends on all sorts of factors; and these factors determine the actual situation of the given society or community and the environmental framework they live in. It is not only the knowledge of the consequences of certain behaviour, however: such knowledge must also – as the villagers’ answer to Dye shows – have become part of the collective memory, thus influencing the behaviour of the villagers.

Dye’s arguments did not reach out to this last point. Reaching out to it would have meant delving into the very difficult legal sociological and anthropological question of how knowledge becomes societally accepted, and how such knowledge is transformed into, again societally accepted, normative principles.

Bodley, an anthropologist whom revisionists criticise as a supporter of the ‘noble savage’ argument, warns against the exaggeration of revisionism with its focus on myths, which are easy to target, but, at the same time, “miss the point of the cultural ecological realities”.¹²² Contrary to what revisionists hold against him, Bodley quotes from his own writing where he does, in fact, employ a balanced view.¹²³ While he stresses, on the one hand, that man has always been a significant force for environmental modification and that primitive cultures have sometimes seriously disturbed their local environment, he says on the other hand that “primitive cultures achieved a far more stable environmental adaptation than presently assumed by industrial civilisation”.¹²⁴

Anthropological records are full of reports on rites that have formed part of traditional approaches to natural resources.¹²⁵ Traditional interventions into nature, such as fishing or hunting, had to be counterbalanced by acts of restoration and re-harmonisation. However, the interventions were not undertaken from a position of strength and superiority of humans over nature,¹²⁶ but from a position of caution. From a modern perspective, one may ask whether traditional rites were performed to secure the necessary supremacy over the animals the hunter wanted to hunt, or rather to prepare for a situation of disturbed forces which would arise with the killing of the animal and, thus, prompting efforts to bring the situation back to equilibrium.

121 Ibid.

122 Bodley (1997:612).

123 Bodley (1976).

124 Ibid:47.

125 Cf. for Namibia e.g. Fisch (1994).

126 Cf. Hinz (1974:69ff.).

If the first were the prevailing function of the rites, then it would be very easy to understand why they became redundant: not only because of diverging ideological and religious influences, but also because of the increasingly available modern weapons that secured superiority and rendered the inherited practices superfluous. If the second were the function, an element of true and genuine traditional conservationism could be assumed. Whether this alternative approach would entail more than achieving the same goal through different avenues, or a goal that was grounded more securely, is difficult to ascertain. But even if only the first possibility were true, it would be worthwhile to pursue. To those whose way of life is more closely aligned to traditional concepts than to modern ones, a conservationism based on the traditional avenue would be more convincing than one based on modern approaches.¹²⁷

In other words, and as it apparently gains increasing prominence in the interpretation of what is called traditional, instead of juxtaposing the so-called ‘traditional’ to the so-called ‘modern’, one should rather emphasise that the so-called ‘traditional’ of today is but one manifestation of several possibilities of modernity, or an alternative modernity. Such an interpretation will, indeed, open an unbiased approach to assess environmental perceptions and practices to the benefit of the protection of the environment and natural resources.

7 The Protection of Traditional Knowledge¹²⁸

Brown writes in the preface to a book with the title *Who Owns Native Culture?*¹²⁹

In the late 1980s, ownership of knowledge and artistic creations traceable to the world’s indigenous societies emerged, seemingly out of nowhere, as a major social issue. Before then, museum curators, archivists, and anthropologists had rarely worried about whether the information they collected should be treated as someone else’s property. Today the situation is radically different. Scarcely a month passes without a conference examining the ethical and economic questions raised by the worldwide circulation of indigenous art, music, and biological knowledge.

Legal examinations have added their questions to the debate. While a few countries enacted statutes to protect traditional knowledge,¹³⁰ to be more precise: access to biodiversity and genetic resources, the main focus of the debate lies in international and regional fora. The aim here is to establish, a consensus on legal mechanisms suitable

127 The Constitutional Court of South Africa held that it would be more convincing for certain parts of the South African population to argue against the death penalty by referring to *ubuntu* than to international and national human rights discourses. Cf. *S v Makwanyane* 1995 (6) BCLR 665 (CC).

128 Cf. for the following Hinz (2011a and 2021).

129 Brown (2003:IX).

130 Cf. WIPO (2010).

to the protection of traditional knowledge.¹³¹ When in 1997 WIPO, the World Intellectual Property Organisation, established its Global Intellectual Property Issues Division, it provided space to so far neglected voices in its first programme. The aim for this was¹³²

to identify and explore the intellectual property needs and expectations of new beneficiaries, including holders of indigenous knowledge and innovations, in order to promote the contributions of the IP system to their social, cultural and economic development.

WIPO conducted a worldwide fact-finding mission in 1998 and 1999, which took note of existing customary rules and practices employed in many communities as instruments to protect cultural assets against misuse and unwanted exploitation.¹³³ WIPO's fact-finding report is up to today the most comprehensive collection of legal anthropological data relevant for the still on-going effort to develop legal answers to the challenge posed by the demands to protect traditional knowledge.

The Harare-based African Regional Intellectual Property Organisation (ARIPO) has added to the debate by adopting the Legal Instrument for the Protection of Traditional Knowledge and Expressions of Folklore adopted in Lesotho in 2007 and, in pursuance of this, the Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore on 9 August 2010. 19 African countries are members of ARIPO,¹³⁴ of which nine have signed the protocol, amongst them Namibia.¹³⁵ In accordance with its Section 27(3) of the Protocol, it came into force in May 2015 after six states (as required by the Protocol): Botswana, Zimbabwe, Gambia, Rwanda, Malawi and Namibia deposited their instruments of ratification or accession.¹³⁶

The Swakopmund Protocol deserves a special place in the debate about the protection of traditional knowledge, the question about what traditional knowledge is and why it is relevant to protect it will be discussed. It responds to questions of this nature by linking them in a special way to customary law and traditional authorities. This is the reason why the following, after an inquiry about approaches that have been

131 Cf. the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights of 1995 and its Article 27 (2), which accepts the possibility of *sui generis* regimes for certain intellectual property rights, albeit within certain limits set by the agreement in general terms.

132 Main Programme 11, Programme and Budget 1998-1999, quoted from WIPO (2001:16).

133 Cf. WIPO (2001:57ff. and 207ff.).

134 The 19 countries are: Botswana, Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mozambique, Namibia, Rwanda, Sierra Leone, São Tomé and Príncipe, Somalia, Sudan, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe.

135 Cf. Saez (2010).

136 The ratification of the Protocol by the Republic of Zambia in August 2015 brings the number of member states party to the Protocol to seven. See more at: <http://www.aripo.org/news-events-publications/news/item/79-zambia-ratifies-the-swakopmund-protocol#sthash.99dOWmOZ.dpuf>, accessed 14 October 2015.

explored to provide legal protection of traditional knowledge, focuses on the Swakopmund Protocol.¹³⁷

What is traditional knowledge and why is it relevant to protect? There is not one generally accepted definition of traditional knowledge.¹³⁸ The fact-finding report of WIPO lists examples for what is commonly understood to be traditional knowledge, and illustrates the nature of such traditional knowledge.¹³⁹

Traditional knowledge is not limited to any specific field of technology or the arts. Traditional knowledge systems in the fields of medicine and healing, biodiversity conservation, the environment and food and agriculture are well known. Other key components of traditional knowledge are the music, dance, and “artisanat” (i.e. designs, textiles, plastic arts, crafts, etc.) Although there are creations which may be done purely to satisfy the aesthetic will of artisans, many such creations are symbolic of a deeper order or belief system. When a traditional singer performs a song, the cadence, melody, and form all follow rules maintained for generations. Thus, a song’s performance entertains and educates the current audience, but also unites the current population with the past.

Modern art and modern science are predominantly products of individual accomplishments. Traditional knowledge represents the cooperative efforts of communities. Plants used in accordance with traditional knowledge do very often carry symbolic values. When certain traditional sculptures are crafted, the process of crafting may be informed by inherited practices and with performing rituals in order to generate religious potential to be activated when need arises.¹⁴⁰ In the words of the fact finding report:¹⁴¹

Traditional knowledge is a multifaceted concept than encompasses several components. Traditional knowledge is, generally, produced in accordance with the individual or collective creator’s responses to and interaction with their cultural environment. This may apply to all forms of knowledge, however, whether “traditional” or “modern”. In addition, traditional knowledge, as representative of cultural values, is generally held collectively. This results from the fact that what can sometimes be perceived as an isolated piece of literature (a poem, for example) or an isolated invention (the use of a plant resource to heal wounds, for instance) is actually an element that integrates a vast and mostly coherent complex of beliefs of knowledge, control of which may not vest in the hands of individuals who use isolated pieces of knowledge, but be vested in the community or collective.

The reference to ‘traditional’ in traditional knowledge is not to mean that the knowledge so characterised is ancient and static. Traditional knowledge is traditional

137 Reason for focusing on the Swakopmund Protocol is – and this very different from the Nagoya Protocol of 2011, which is promoted by the Secretariat of the Convention on Biological Diversity – also that this protocol is not really acknowledged in research.

138 Reflection of the difficulty to determine the concept of traditional knowledge is also that local knowledge is sometimes used instead of traditional knowledge. See Hinz (2002a and b). Cf. also Wekesa (2009:267).

139 Ibid:211.

140 Ibid:212.

141 Ibid.

only in so far as the knowledge referred to is part of the – often - only orally transmitted cultural tradition of a given community.¹⁴²

While the fact-finding mission of WIPO still follows a very broad understanding of traditional knowledge, other discussions (including discussions in WIPO) distinguish between traditional knowledge and expressions of folklore. One can assume that the reason behind this distinction can be found in the different practical relevance of traditional knowledge in the narrower understanding and the expressions of folklore.¹⁴³ Traditional knowledge about plants, in particular their medicinal facilities, holds extreme societal values and is, above this, in high demand by manufacturers of industrially produced pharmaceuticals. More than half of the world population relies on traditional medicine. In some countries, more than 70% of the people depend on traditional medicine. More than 80% of the medicines used worldwide are of plant origin. ARIPO maintains that “a significant part of the global economy is based on the appropriation of traditional knowledge”.¹⁴⁴ However, the same statement concludes that in spite of the important role traditional knowledge plays in sustainable development, it continues to be largely disregarded in development planning. It currently plays only a marginal role in biodiversity management and its contribution to the society in general is neglected. Furthermore, traditional knowledge is being lost under the impact of modernisation and of on-going globalisation processes.¹⁴⁵

How to provide legal protection to traditional knowledge? At the very beginning of the debate about the protection of traditional knowledge (understood to include expressions of folklore) is the statement that intellectual property law, as it stands in international treaties, domestic legislation and decided cases, is unable to protect traditional knowledge. As a rule, intellectual property law aims at unknown knowledge generated by an individual.¹⁴⁶ Hence, the main purpose of such law is to protect the knowledge of the mentioned individual against the unauthorised trading of this knowledge. The need to create so-called *sui generis* protection for traditional knowledge was, therefore, seen to be a logical consequence.¹⁴⁷

Yet, this approach turned out to be too simple. Although the just-quoted statement about conventional intellectual property law holds truth, it could not exclude the possibility of developing intellectual property law further so that it would also offer at least some protection of traditional knowledge. An example for this is the extension of copyright law to protect the performance of a traditional song, which would as such

142 Ibid.

143 Cf. Wekesa (2009:269f.) and LeBeau (2003:26ff.).

144 ARIPO (2006).

145 Ibid.

146 Cf. on this Matsushita *et al.* (2006:695f.) and also Oguanaman (2006).

147 The meaning of such a *sui generis* protection will be explained below.

not qualify for protection under copyright law, against the free recording (fixation) of the performance.¹⁴⁸

The manifestation of *sui generis*-approaches are called upon for the more appropriate protection of traditional knowledge. When looking at what was developed as *sui generis*-approaches, one notes attempts to provide protection to traditional knowledge by placing it into the wider framework that seeks the recognition of rights of indigenous communities in terms of relevant parts of international law that distinguishes indigenous communities from other traditional communities.¹⁴⁹ The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples of 1993 illustrates this in a very significant manner.¹⁵⁰ The Preamble of the declaration refers to the much-debated right to self-determination of indigenous peoples¹⁵¹ and has as its first recommendation to indigenous communities that a definition of their own intellectual and cultural property be formulated.¹⁵² Thomas Cottier relates demands of this nature to claims “for new human rights, especially protecting the habitat and lifestyles of traditional indigenous and local communities and their intellectual property rights”.¹⁵³ Accordingly, so Cottier, the “holistic concept of Traditional Resource Rights” emerged, grounded on very (“largely unclear”) principles and rights.

The Earth Summit of 1992 and its overarching policy instrument – Agenda 21 – is still the most prominent and internationally agreed upon document, laying the groundwork for the *sui generis* treatment of all matters related to traditional knowledge. It recognises that traditional rule and customary law are grounded in their specific local knowledge and wisdom. Local wisdom governs practice in many instances. Taking note of the potential of traditional governance and customary law and the need to acknowledge this in development strategies, the way forward demands specific attention to what Chapter 26 of Agenda 21 states in its first paragraph:¹⁵⁴

Indigenous people and their communities have an historical relationship with their lands In the context of this chapter the term lands is understood to include the environment of the areas which the people concerned traditionally occupy. ... They have developed over many generations a holistic traditional scientific knowledge of their lands, natural resources and environment.

The Convention on Biological Diversity of 1992, in force since 4 June 1993, translated important parts of the Agenda 21 into a binding international treaty. The Convention

148 See the WIPO Performances and Phonograms Treaty (WPPT) of 20 December 1996 at <https://www.wipo.int/treaties/en/ip/wppt/>, accessed 15 December 2021.

149 Cf. here UN (2009).

150 Reproduced in Hinz (2002a:90ff.).

151 Cf. the debate about the Declaration on the Rights of Indigenous Peoples of 13 September 2007 (UNGA Res 61/295), which was eventually adopted by the majority of the members of the General Assembly of the United Nations after consensus could be reached on the Namibia-promoted reservation clause of Article 46.

152 See Point 1.1 of the Declaration.

153 Cottier (1999:1828ff.).

154 Retrieved from www.un.org/esa/dsd/agenda21, accessed 15 December 2021.

contains a variety of obligations for actions by its members to protect biological diversity found in the member countries. Particularly noteworthy is that the Convention refers repeatedly to traditional knowledge. Article 8(j) of the Convention is a kind of constitutional *Grundnorm* with respect to traditional knowledge. The Article expects that the members of the Convention

respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices;

Article 10(c) of the Convention demands from the members of the Convention to

[p]rotect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements;

Article 17(2) of the Convention includes in the needed exchange of information “specialised knowledge and traditional knowledge”. Article 15 of the Convention, in dealing with access to genetic resources, two principles, which have been also acknowledged beyond the field of genetic resources: the need to prior informed consent between the members of the Convention (Article 15(5)) and the need to have measures in place which will allow for the sharing of “benefits arising from the commercial and other utilisation of genetic resources with the Contracting Parties providing such resources (Article 15(7)).¹⁵⁵

The Preamble of the Swakopmund Protocol acknowledges the value of traditional knowledge systems and their contribution to local and traditional communities as well as “all humanity”. It further expresses the need

to recognise and reward the contributions made by such communities to the conservation of the environment, to food security and sustainable agriculture, to the improvement in the health of the populations, to the progress of science and technology, to the safeguarding of cultural heritage, to the development of artistic skills, and to enhancing a diversity of cultural contents and artistic expressions.

The Preamble also underscores the need to respect the continuing

customary use, development, exchange and transmission of traditional knowledge and expressions of folklore by traditional and local communities, as well as the customary custodianship of traditional knowledge and expressions of folklore.

Meeting the needs of the holders and custodians of traditional knowledge and expressions of folklore is an important aim of the Protocol. The empowerment of the holders of traditional knowledge and expressions of folklore is contained in this aim, to be able to exercise “due control over their knowledge and expressions”. The Preamble further emphasises that the protection of traditional knowledge and expressions of folklore must be “tailored” to the specific characteristics of both.

155 Cf. here also the various contributions in Kamau / Winter (2009).

According to Section 1 of the Protocol, it is its purpose to protect the holders of traditional knowledge against infringements of their rights and to protect expressions of folklore against misappropriation, misuse and “unlawful exploitation beyond their traditional context”. Section 3 of the Protocol provides for the establishment of a National Competent Authority, the task of which will be the implementation of the Protocol. Education, advice and the settlement of disputes are amongst the duties of National Competent Authorities and also the office of ARIPO.¹⁵⁶

The definition Section of the Protocol, Section 2, has definitions of expressions of folklore and traditional knowledge. Expressions of folklore are

any forms, whether tangible or intangible, in which traditional culture and knowledge are expressed, appear or are manifested, and comprise the following forms of expressions or combinations thereof:

- i. verbal expressions, such as but not limited to stories, epics, legends, poetry, riddles and other narratives; words, signs, names, and symbols;
- ii. musical expressions, such as but not limited to songs and instrumental music;
- iii. expressions by movement, such as but not limited to dances, plays, rituals and other performances; whether or not reduced to a material form; and
- iv. tangible expressions, such as productions of art, in particular, drawings, designs, paintings (including body-painting), carvings, sculptures, pottery, terracotta, mosaic, woodwork, metal ware, jewellery, basketry, needlework, textiles, glassware, carpets, costumes; handicrafts; musical instruments; and architectural forms.

Traditional knowledge

shall refer to any knowledge originating from a local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, where the knowledge is embodied in the traditional lifestyle of a community, or contained in the codified knowledge systems passed on from one generation to another. The term shall not be limited to a specific technical field, and may include agricultural, environmental or medical knowledge, and knowledge associated with genetic resources.

Both parts of the Protocol specify traditional knowledge and expressions of folklore in the two opening Sections of Part II on traditional knowledge and Part III on expressions of folklore, which are both titled Protection criteria. Section 4 reads:

Protection shall be extended to traditional knowledge that is:

- (i) generated, preserved and transmitted in a traditional and intergenerational context;
- (ii) distinctively associated with a local or traditional community; and
- (iii) integral to the cultural identity of a local or traditional community that is recognised as holding the knowledge through a form of custodianship, guardianship or collective and cultural ownership or responsibility. Such a relationship may be established formally or informally by customary practices, laws or protocols.

Section 16 states:

156 Cf. Section 14 in the part on traditional knowledge; Section 22 in the part on expressions of folklore; and Section 24 on regional protection in the final part of the Protocol.

Protection shall be extended to expressions of folklore, whatever the mode or form of their expression, which are:

- (a) the products of creative and cumulative intellectual activity, such as collective creativity or individual creativity where the identity of the individual is unknown; and (b) characteristic of a community's cultural identity and traditional heritage and maintained, used or developed by such community in accordance with the customary laws and practices of that community.

The protection of traditional knowledge is not bound to any formality (Section 5(1)). The beneficiaries of traditional knowledge are the holders of that knowledge, i.e. the local and traditional communities, but also recognised individuals within the communities who are involved in the creation, preservation and transmission of traditional knowledge (Section 6). The right to authorise the exploitation of rights to traditional knowledge vests in the "owners" of the rights. Owners shall also have the right to prevent anyone from the exploitation of their rights (Section 7(1) and (2)). The owners of traditional knowledge have the right to assign the right to somebody else and also to conclude licensing agreements. However, traditional knowledge belonging to a local or traditional community may not be assigned (Section 8). Compulsory licences are possible in case that traditional knowledge is not sufficiently exploited by the rights holders and there is an interest of public security or public health (Section 12).

The fair and equitable sharing of benefits generated by the commercial or industrial use of the knowledge is to be part of the mutual agreement between the parties (Section 9). The use of traditional knowledge "beyond its traditional context" shall be acknowledged to the holders (Section 10). A special rule protects genetic resources: Section 15 clarifies that authorised access to traditional knowledge associated with genetic resources does not imply the right to access genetic resources (Section 15).

Part III of the Protocol, devoted to expressions of folklore follows basically the structure of Part II. The protection of expressions of folklore is also not bound to formalities (Section 16). Beneficiaries of expressions of folklore are the

owners of the rights in expressions of folklore shall be the local and traditional communities:

- (a) to whom the custody and protection of the expressions of folklore are entrusted in accordance with the customary laws and practices of those communities; and
- (b) who maintain and use the expressions of folklore as a characteristic of their traditional cultural heritage.

Section 19 of the Protocol contains a detailed obligation for the members to the Protocol to develop the necessary legal instruments that will ensure that – as it is said in Section 19(2) of the Protocol "the relevant community can prevent (...) acts from taking place without its free and fair consent". Section 20 regulates exceptions and limitations applicable to the protection of expressions of folklore. Section 20 reads:

Measures for the protection of expressions of folklore shall:

- (a) be such as not to restrict or hinder the normal use, development, exchange, dissemination and transmission of expressions of folklore within the traditional or customary context by members of the community concerned, as determined by customary laws and practices;

- (b) extend only to uses of expressions of folklore taking place outside their traditional or customary context, whether or not for commercial gain;
- (c) be subject to exceptions in order to address the needs of non-commercial use, such as teaching and research, personal or private use, criticism or review, reporting of current events, use in the course of legal proceedings, the making of recordings and reproductions of expressions of folklore for inclusion in an archive or inventory exclusively for the purposes of safeguarding cultural heritage, and incidental uses,

provided that in each case, such uses are compatible with fair practice, the relevant community is acknowledged as the source of the expressions of folklore where practicable and possible, and such uses would not be offensive to the relevant community.

Having noted these quotations from the Protocol, the contribution of the Swakopmund Protocol can be summarised in the following five points:

- Firstly: Looking back to the development of the debate on the protection of traditional knowledge, the Swakopmund Protocol is an important step forward to conceptualise the much demanded *sui generis* protection of traditional knowledge (and expression of folklore for that matter).
- Secondly: The Protocol gives the Namibian constitutional recognition and confirmation of customary law¹⁵⁷ an additional international blessing. It relies in its orientation to acknowledge and protect traditional knowledge on the respective existing customary law. In other words, it binds existing customary law into its international framework and acknowledges by this that all efforts to protect traditional knowledge will only work when they provide space for the law that is closest to traditional knowledge: customary law.
- Thirdly: The Protocol follows the established trend to link the use of traditional knowledge to the two principles that became prominent in the Convention of Biological Diversity, viz. the principle of prior informed consent and the principle of sharing benefits.
- Fourthly: The Protocol offers an approach to the determination of holders of traditional knowledge and expressions of folklore, which will certainly influence the on-going debate about the need to concretise traditional knowledge rights, but also to balance the realm of legally protected interests and public interests in intercultural communication.
- Fifthly: The tasks assigned to the National Competent Authority and the references therein to customary law are not only a clear indication that education and the creation of awareness will be paramount to the success of the Protocol, but also the active engagement of traditional authorities which, inter alia, have the task to ascertain and even develop their customary law – a task, which is a special challenge when it comes to traditional knowledge!

The Swakopmund Protocol is to be implemented by a “national competent authority” which each member of the Protocol is expected to establish. This has been done with

157 Article 66(1) of the Constitution of Namibia.

the enactment of the Business and Intellectual Property Authority Act of 2016. The Business and Intellectual Property Authority is “responsible for the administration and protection of business and intellectual property”¹⁵⁸ including matters of traditional knowledge.¹⁵⁹ The Access to Biological and Genetic Resources and Associated Traditional Knowledge Act focuses on a number of matters regulated in the Nagoya and Swakopmund Protocols.¹⁶⁰ While the rights to biological and genetic resources vest in the state traditional knowledge associated with such resources “vest in the particular local community which holds and applies such knowledge for the sustainable conservation of the genetic resources”. It is also the respective local community which enjoy the utilisation of the traditional knowledge including “the fair and equitable sharing of the benefits”. The Access to Biological and Genetic Resources and Associated Traditional Knowledge Act is not in force yet.

8 Concluding Remarks

The above-quoted Section 3(2)(c) of the Traditional Authorities Act obliges traditional leaders to ensure that the members of their communities use the natural resources in a manner that conserves the environment and maintains the ecosystem for the benefit of all persons in Namibia. Is this duty a new duty that the legislators found necessary to add to the inherited list of tasks of traditional authorities? Was the wording done in reference to the list of Government policy principles spelled out in Article 95 (1) of the Constitution of Namibia? Or: Is Section 3(2)(c) of the Traditional Authorities Act a mere confirmation of what was in any event traditionally part of the duties of a traditional leader?

Furthermore, why did the lawmakers find it necessary to translate the environmental requirement of the Constitution into the Traditional Authorities Act and not, for example, into the Local Authorities and Regional Councils Acts?¹⁶¹ Would this not have been much more important – since traditional communities, by virtue of their direct social and economic dependence on their environments, have a genuine interest in the sustainable management of their natural resources and, therefore, would not need to be called upon to be environmentally sensitive? What is the explanation of the quoted sub-section in the Traditional Authorities Act referring to the “benefit of all persons” in Namibia and not to all persons, irrespective of domicile? Is this limitation, e.g.

158 Section 3 Business and Intellectual Property Authority Act, Act No. 8 of 2016.

159 Cf. BIPA (Business and Intellectual Property Authority) at www.bipa.na/intellectual-property “Traditional knowledge and cultural expressions”, accessed 1 February 2021. See also: BIPA (2019:30).

160 See the critical remarks on the act by Chinsembu / Chinsembu (2020).

161 Local Authorities Act No. 23 of 1992, as amended, and Regional Councils Act No. 22 of 1992, as amended.

intended to mean that the use of water from the Kavango River, which may have negative implications for the people in Angola, should be of no concern to the traditional authority that has the say on the Namibian side of the river?

The problems reflected in these questions have their reasons, at least to some extent, in the uncertainty of modern law and policymakers to give traditional governance its place in society in general and in the structure of Government. The legislative orientation of traditional environmental responsibility to persons in Namibia was most probably not meant as an attempt to prevent environmental responsibility from becoming supranational, i.e. beyond national borders, but rather to secure the extension of traditional responsibility beyond 'tribal' borders. With the chosen wording, however, the lawmakers unfortunately lost the chance to link local interests to global ones, although the Earth Summit of 1992, the Rio+20 Conference¹⁶² and Agenda 21 devoted considerable effort to do just that. Chapter 28 of Agenda 21 emphasises the beginning of successful movements worldwide to engage local authorities in the global process to achieve sustainability as the basic ingredient of societal policies and interventions. Chapter 26 of Agenda 21 complements Chapter 28 and the role of local authorities, by referring to indigenous peoples as being as equally relevant as other societal entities and actors in the process towards sustainability.¹⁶³ Therefore, it would have set a strong political signal to refer leaders of traditional communities to the fact that problems that appear on the surface to be local are indeed relevant to humankind as a whole.

The reasons for the second omission are easier to trace. The reluctance to write Agenda 21 implications into either the Local Authorities Act or the Regional Councils Act can be understood in view of the fact that what we see today in the movements of local authorities to join the universal battle for sustainability and protection of the environment is the result of a development that did not fall from heaven with the Rio Conference.¹⁶⁴ This is true not only for Europe and the United States of America, where local authorities have achieved a consolidated position throughout the countries concerned, but more so in other parts of the world, including Africa, where many local authorities are still struggling for financial and political survival.

Are traditional leaders – and, for that matter, African customary laws – things that should be left to the past and replaced by modern law? Will traditional governance and

162 Cf. on the Rio+20 UN A/Conf.216//1.

163 The mention of "indigenous peoples" in Chapter 26 of Agenda 21 is primarily a reference to indigenous peoples in the sense defined in the ILO Conventions and the UN Declaration on the Rights of Indigenous Peoples quoted in the Introduction to this publication. The use of this definition is motivated by the fact that paragraph 26.2 of Agenda 21 takes explicit note of the said international instruments. However, the introductory words of paragraph 26.2 read as follows: "Some of the goals inherent in the objectives and activities of this programme . . ." This could be understood to mean that the programme envisaged by Agenda 21 has a wider range, and that what is found in the quoted instruments are just examples of that with which the Agenda is concerned.

164 Cf. here Hilliges / Nitschke (2007:14ff.).

customary law be able to respond appropriately to modern needs? Can traditional governance and customary law be brought in line with the requirements of the principles of democracy and human rights? Namibia and many other African countries have found answers to these questions.¹⁶⁵ On the one hand, governments recognise the existence of traditional governance and customary law as being relevant to their societies; but on the other, there is a great quantum of scepticism about the political realities to be associated with the recognition. The scepticism is nourished by ignorance of the potential of traditional authorities and customary law – a potential that contributes effectively to peace and welfare in the communities to which they apply, and beyond. Indeed, the reported research underlines the potential of traditional authority and customary law. The research on customary environmental law has shown that traditional rule and customary law are grounded in local knowledge and wisdom. Local wisdom governs practice in many instances; in others where this is not the case, it could be made available if desired.

Taking note of what has been said about the potential of traditional governance and customary law, the possible way forward would pay specific attention to an element that has been underestimated in respect of the inherited land tenure systems, which one finds in most traditional communities. Chapter 26 of Agenda 21 states the following in its first paragraph:

Indigenous people and their communities have an historical relationship with their lands (...) In the context of this chapter the term lands is understood to include the environment of the areas which the people concerned traditionally occupy. (...) They have developed over many generations a holistic traditional scientific knowledge of their lands, natural resources and environment.

Whatever the concept of indigenous peoples is for the Agenda,¹⁶⁶ the quoted statement is also relevant for traditional communities in the broader sense. The anthropological fact that many traditional communities see land as an encompassing entity that includes what is underneath and above the soil; includes what moves on the soil and in water; and includes, in a wider sense the living and the dead, has not been fully explored yet in legal terms. How can all the resources: the trees, the wildlife, the mineral resources, the water, the traditional knowledge be managed and administered in a way that supports sustainability for the benefit not only of local owners, but also of those beyond the boundaries of the village, in a national and even global sense, now and in the future?

The customary law case studies done in the BIOTA project and more so in the TFO project have shown that, in many cases, members of local communities were not aware that traditional knowledge was a valuable asset. The apparent international trend in transforming – or, rather, dissecting – culturally determined social and, in terms of the quote from Chapter 26 of Agenda 21, holistic entities into marketable commodities

165 Cf. Hinz (2006a).

166 See the remarks on this above.

will have to be reviewed, as will the consequences of such marketing.¹⁶⁷ However, such reviewing will not be enjoyed by those who have interest in dissected parts of the environment, such as companies which – as it was recently reported - like to drill for oil in the Kavango area.¹⁶⁸ Whether local voices who speak against this project, will be heard must be seen. It is reported that the case has already been submitted to the High Court!¹⁶⁹

167 See her(e) in particular Hinz (2012 and 2013c).

168 Cf. *The Namibian* of 26 May 2021.

169 Ibid.

Chapter 24: Western Intellectual Property Rights Regimes and Traditional Knowledge Protection Systems in Africa

Eliamani Laltaika

1 Introduction

Indigenous and traditional communities in Africa and elsewhere depend on the natural environment for their livelihood. Traditional Knowledge (TK) related to medicine, agriculture, fisheries and food preservation, among others, is an important tool for their survival. Due to, among other reasons, advancement in biotechnology, the value of TK and associated genetic resources has increased tremendously in the past few years. Such increase in value calls for concerted legal efforts for protection. Mindful of this, the international community is working on possible modalities for protecting TK. Organisations involved in TK protection include the World Intellectual Property Organisation (WIPO), the Convention on Biological Diversity (CBD), the Council for the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of the World Trade Organisation (WTO) and the World Bank. The African Regional Intellectual Property Organisation (ARIPO) has, likewise, recently adopted a protocol for the protection of TK and expressions of folklore, the Swakopmund Protocol, named after the Namibian town where it was adopted.

These organisations by and large use the conventional or western intellectual property system as their point of departure for devising methods of protecting TK. However, the inherent differences between western intellectual property systems and traditional communities' perceptions still pose challenges to an effective protection of TK with the aim of benefitting their communities of origin. This chapter underscores some of these challenges and offers perspectives for a holistic approach that puts environmental protection and community welfare at the centre of the equilibrium as opposed to proprietary rights, whether collective or individual.

2 Defining Traditional Knowledge and Associated Genetic Resources

The World Intellectual Property Organisation describes Traditional Knowledge (TK) as¹

tradition-based literary, artistic or scientific works, performances, inventions, scientific discoveries, designs, marks, names and symbols; undisclosed information, and all other tradition-based

1 WIPO (2008:5).

innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields.

TK is the totality of knowledge of local and indigenous communities that enable them to live in harmony with the environment while supporting their livelihood. It is traditional not because it is old but because it is “created, preserved, and disseminated in the cultural traditions of particular communities.”² TK is time-tested, as it has enabled local and indigenous communities to interact with nature for centuries.

Genetic resources (GRs) or materials, on the other hand, are “any material of plant origin, including reproductive and vegetative propagating material, containing functional units of heredity”.³ The CBD puts genetic resources in a larger box of “biological resources” which includes “genetic resources, organisms or parts thereof, populations or any other biotic component of ecosystems with actual or potential use or value for humanity”.⁴ The phrase “with actual or potential value” signifies the fact that some GRs may not be of known economic value at the time of collection. Joseph Straus observes that GRs have a double legal nature due to the fact that:⁵

[A]sphenotypes i.e. individual plants and animals, they traditionally constitute private (tangible) goods; as *genotypes*, i.e. information embodied in the genetic constitution of micro-organism, plant or plant species, they *a priori* conform to the definition of public good.

Although the practice has been to discuss TK and GRs as one and the same, opinions differ on the matter. Some commentators are of the opinion that TK is not necessarily manifested in GRs and that not all GRs embody TK of local and indigenous communities.⁶ Another school of thought holds that TK and GRs are inseparable, and that any legal instrument for protection must appreciate their inseparable nature.⁷ Not only are the above differing views on the nexus between TK and GRs difficult to reconcile, but also widened by a lack of recognition of local and indigenous communities as true holders of TK and GRs.⁸ Moreover, conventional intellectual property rights, particularly patents, have been used as a tool to misappropriate TK, much to the detriment of

2 Singhal (2008:732).

3 Article 2 CBD.

4 Article 1 CBD.

5 Straus (2000:144); emphasis original.

6 According to this view, the CBD’s use of the term ‘potential value’ of GRs signifies that the importance of some GR is yet to be discovered by conventional scientists and is also unknown to local and indigenous communities.

7 This view is preferred by local and indigenous peoples whose philosophy of life evolves around a holistic world and interconnected life to them is a continuous journey of exploration.

8 As will be explained later, customary laws and protocols of local and indigenous communities can provide useful guidance on ownership of TK and GR.

local and indigenous communities.⁹ The Ayahuasca,¹⁰ Neem¹¹ and Hoodia¹² speak loud and clear on biopiracy, as will be explained in the next section.

3 Biopiracy

There is no commonly agreed definition of biopiracy. According to Dutfield¹³

biopiracy has emerged as a term to describe the ways that corporations from the developed world claim ownership of, free ride on, or otherwise take unfair advantage of, the genetic resources and traditional knowledge and technologies of developing countries.

Biopiracy can be described as illegal and unethical bioprospecting. In the context used here, bioprospecting is the “search for useful biological materials in micro-organisms, plants, fungi, animals and humans”.¹⁴ As with other tangible properties, unauthorised access to genetic resources for the purposes of prospecting passes the test of misappropriation or theft. This is the crux of concerns of developing countries.

An act that can be labelled biopiracy therefore involves any or a combination of the following:

- Unauthorised acquisition of biological resources;
- the unauthorised use of TK associated with genetic resources for profit;
- obtaining intellectual property rights, especially patents for an “invention” based on traditional knowledge.

The following cases, documented by the African Centre for Biosafety are illustrative:¹⁵

9 It is submitted that intellectual property law regime should rather do the opposite that is offer innovative ways of protection. It is with this legitimate expectation that local and indigenous communities look up to WIPO for intervention and assistance against, among other things, biopiracy.

10 The *Banisteriopsis caapi* is a medicinal plant that has been used by Ayahuasca in Latin America for centuries. In early 1980s an American researcher ‘discovered’ its usefulness and was issued with US Patent No 5751 issues in June 1986. As a result of collective efforts by civil societies and individuals, this patent was revoked in 1999 but later upheld.

11 The Neem tree *Azadirachta indica* is native to India and has been used by local and indigenous Indian communities for a long time. It has medicinal, spiritual and economic value. As with the Ayahuasca, the knowledge of the usefulness of the tree was used to ‘work on’ a discovery that led to an invention and subsequent grant of a patent by the European Patent Office EPO in 1994. This patent was however revoked in 2000 for lack of novelty.

12 For many years, the indigenous San of Southern Africa used Hoodia as a hunger suppressant. This traditional use was noted by a Dutch anthropologist in 1937. In 1995 the South African Council for Scientific and Industrial Research (CSIR) obtained a patent for Hoodia’s appetite suppressing element. Based on this knowledge, a team of researchers patented this knowledge in the United Kingdom and later licensed it to Pfizer, an American pharmaceutical company.

13 Dutfield (2004:1).

14 Polski (2005:543).

15 The African Centre for Biosafety (ACB) is a non-profit organisation, based in Johannesburg, South Africa. According to its website “It provides authoritative, credible, relevant and current

Swiss researchers are staking claims to drugs from *Cussonia zimmermannii*, a tree found in Tanzania, Kenya, Uganda, Mozambique, and other countries in east and southern Africa. According to the European research group, the *Cussonia zimmermannii* extracts are active on the human central nervous system's GABA(A) receptor and therefore may be of use in treating a variety of diseases, including epilepsy and mental disorders such as anxiety. The claim that *Cussonia zimmermannii* can be used to treat nervous system disorders will come as no surprise to Africans familiar with the tree's medicinal uses. In fact, even the Swiss 'inventors' concede that Kenyan researchers noted in 1986 that the plant is traditionally used to treat mental illness and that in 1964 an article on ethnobotany noted its traditional use in treating epilepsy. In addition, parts of the tree are used to treat other conditions including fever and post-partum bleeding. On what basis then, do the Swiss institutions claim their candidate drug is novel and inventive? Judging by the patent application, they seem to believe that by isolating and describing a chemical found in *Cussonia zimmermannii*, they have made an invention.

Source: African Centre for Biosafety (ACB) Pirating African heritage: A Brief Note by the African Centre for Biosafety (2009).

Agriculture and healthcare giant multinational Bayer, based in Germany, has staked a claim to the use of any extract from any plant of the *Vernonia* genus in Madagascar for "improving the skin status". In addition to claiming all *Vernonia* from Madagascar, Bayer's patent application makes specific claim to eight *Vernonia* species. The patent claim further focuses on the shrub species *Vernonia appendiculata*, commonly known as 'ambiaty', a plant which is endemic to the island. There are ample citations that document important traditional uses of the 'ambiaty' plant in Madagascar. Directly related to the alleged novelty of Bayer's patent claims is 'ambiaty's' documented traditional use in wound healing and in herbal steam baths – in both cases traditional uses that obviously relate to skin care and health. It has also been used traditionally in products such as dyes. Yet Bayer's patent application makes no reference to these and other traditional uses of 'ambiaty'.

Source: African Centre for Biosafety (ACB) Pirating African heritage: A Brief Note by the African Centre for Biosafety (2009).

Biopiracy appears to be on the increase, fuelled by new developments in biotechnology and the desire by pharmaceutical companies to be at the cutting edge as far as research and development (R&D) is concerned. It appears also that many of the organisations involved in, or suspected of conducting biopiracy, are aware of their obligations under international law including abiding by ethical research standards and obtaining

information, research and policy analysis in issues pertaining to genetic engineering, biosafety and biopiracy in Africa." See <http://www.biosafetyafrica.net/index.html/>, accessed 21 November 2010.

necessary permits from concerned Government agencies. This knowledge notwithstanding, both big and small companies do not seem to care about these obligations while operating in developing countries. This calls for concerted efforts at the international level, not only in enacting laws, but also in cooperation and capacity-building programmes. At the moment, only a few cases of ‘foul play’ by pharmaceutical companies are discovered and subsequently made public. There are many cases which go undiscovered, and the concerned companies reap where they have not sown. Could it be that the problem lies in the current international legal regime for intellectual property rights (IPR) governance? The next section aims to explore this.

4 Western Intellectual Property Regime versus Community Rights

The main challenge hampering protection of TK, both at the national and international level, is the concept of *communal* as opposed to *individual* property rights, entrenched in Western IP law.¹⁶ This line of reasoning puts TK into the public domain and therefore as free for the taking. This approach has been strongly criticised as being against social justice. Davis illustrates this, using two hypothetical cases:¹⁷

It happens that the chemical compound that constitutes Thermo’s cold cure actually occurs naturally in the leaf of a tree which is indigenous to India. The leaf has been used in India for many centuries as a cold cure. Aware of this fact, Thermo has analysed the chemical make-up of the leaf and reconstituted it in its laboratories. Susan visits Chile and overhears a “folk song” which is widely sung in the villages, although no one is sure of its origins. Susan returns to England, translates and arranges the song, which becomes a best seller.... an intellectual property regime which rewards Thermo and Susan, with patent and copyright respectively, but provides no mechanism for rewarding the villagers of India and Chile.

The second difficulty lies in the way indigenous and traditional communities look at life as a connected whole. According to former UN Special Rapporteur for Indigenous Affairs, Irene Daes, subdividing the heritage of indigenous people into legal categories such as “cultural”, “artistic” or “intellectual” would be inappropriate.¹⁸ As indicated earlier, the international community has been working hard – for over two decades now – to find better ways of protecting cultural resources of indigenous people.¹⁹ So far, the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) of the World Intellectual Property Organization (WIPO) has generated a number of useful documents, state-of-the-art-research,

16 An exception to this general rule is Geographical Indications (GIs). See Blakeney (2001).

17 Davis (2003:8).

18 Daes (1993); Gupta (2005).

19 In 1981, for example, the *World Intellectual Property Organisation* (WIPO) and the *United Nations Educational, Scientific and Cultural Organisation* (UNESCO) adopted a model law on folklore. For a detailed historical account cf. O’ Connor (2000:677).

and conference reports on various aspects of Traditional Knowledge (TK).²⁰ According to the new mandate passed by member states in 2009, the committee should come up with a legal instrument (or instruments) for protecting TK and Traditional Cultural Expressions (TCEs).²¹ In the meantime, the secretariat of the Convention on Biological Diversity and the United Nations Food and Agriculture Organisation (FAO) continues to deliberate on improving ways of protecting TK and GR.²² The two have, at different times, come up with the concepts of access and benefit sharing (ABS) and farmers rights, respectively. Both of these attempt to recognise rights of communities to their TK and associated GR as will be explained in the next two sections.

5 The Convention on Biological Diversity: A New Era for GR Governance?

[M]ost of us in developing countries find it difficult to accept the notion that biodiversity should [flow freely to industrialised countries] while the flow of biological products from the industrial countries is patented, expensive and considered the private property of the firms that produce them. This asymmetry [...] is unjust.²³

The Convention on Biological Diversity (CBD)²⁴ was adopted under the auspices of the United Nations Environment Programme (UNEP) and opened for signatures in Rio de Janeiro, Brazil, in 1992.²⁵ The aim of this convention is²⁶

to promote the conservation of biodiversity, the sustainable use of its components and the fair and equitable sharing of benefits arising from the use of such resources, including appropriate resources and transfer of relevant technologies.

The most relevant articles for the purposes of this chapter are Article 8(j) on protection of TK and Article 15 on access and benefit sharing.²⁷ These articles sum up the main IPR related work of the CBD, namely protecting the traditional knowledge of indigenous communities and advocating for disclosure of origin (Disclosure of Origin of

20 Some documents are available at <http://www.wipo.int/meetings/en/doc>, accessed 25 October 2010.

21 The mandate reads in part “(a) The committee will, during the next budgetary biennium (2010/2011), and without prejudice to the work pursued in other fora, continue its work and undertake text-based negotiations with the objective of reaching agreement on a text of an international legal instrument (or instruments) which will ensure the effective protection of GRs, TK and TCEs”, available at <http://www.ip-watch.org/weblog/wp-content/uploads/2009/10/wipo-ga-decision-on-tk-1-october-2009.pdf>, accessed 13 November 2010.

22 Ibid.

23 Ally Hassan Mwinyi, Former President of the United Republic of Tanzania; UN Doc. A/CONF. 151/26/Rev.

24 CBD (1992).

25 As of November 2010, 188 states had ratified this agreement. See *Secretariat of the Convention on Biological Diversity, Parties to the Convention on Biological Diversity*, available at <http://www.biodiv.org/world/parties.asp>, accessed 13 November 2010.

26 See Article 2.

27 These and related articles point to the Conventions’ third objective namely “The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.”

Genetic Resources and Traditional Knowledge/DOO) by applicants for intellectual property rights.²⁸ According to Article 8(j) each contracting party shall, as far as possible and appropriate and²⁹

subject to its national legislation, respect, preserve, and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant to the conservation and sustainable use of biological diversity. They should also promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices.

It should be noted, however, that although the CBD contains general provisions, as opposed to specific, normative terms, the above article has been criticised for lack of incentive for implementation. The article, it has been argued, “does not talk of protection of knowledge but merely calls upon parties to respect, preserve and maintain that knowledge”.³⁰ The phrase is especially problematic in countries still embracing “fortress conservation” where local communities’ presence in protected areas is seen as a nuisance rather than an opportunity to foster and protect TK.³¹

On GR, the Convention seeks to “facilitate deal making” between technologically-rich countries in the north and technologically-poor but biodiversity-rich countries in the south. Ideally, this deal would allow “industrialised countries to support the transfer of proprietary technologies to developing states as a *quid pro quo* for access”.³² Achieving this goal, however, has never been easy, due to among other reasons, the defensive nature of developing countries when it comes to intellectual property related issues.³³ The concept of Access and Benefit Sharing (ABS) was born out of these attempts.³⁴ ABS is a complex resource utilisation issue, requiring an interdisciplinary approach not only in the legislation, but also the implementation process. According to Young:³⁵

ABS is in some ways ‘unique’, particularly in its merger of very new concepts of commercial law and science with the goals of conservation, sustainable use and equity. New legal concepts and tools are needed, as well as new uses of existing tools. Legal innovation, however, is not an easy process.

According to the CBD, ABS agreements must be based on prior informed consent (PIC) and equitable sharing of benefits. To facilitate this exercise, the Sixth

28 Helfer (2004:29).

29 See Article 8j.

30 Mugabe (1998:9).

31 As will be seen later in this chapter delinking human-nature interaction is sometimes detrimental to the ecosystems aimed to be protected.

32 Helfer (2004:28).

33 The fact that GR were free for the taking for many years may help explain such resistance by industrialised countries as will be explained in part three below.

34 ABS is just one of several initiatives that seek to implement the third mandate of the CBD namely “equitable sharing of benefit arising out of the utilisation of genetic resources”.

35 Young (2004:2).

Conference of Parties (COP) to the CBD³⁶ adopted the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising Out of their Utilisation (Bonn Guidelines).³⁷ As mentioned before, the aim of bioprospecting is to obtain useful bio-chemicals in genetic resources in particular or biological materials in general. For inventions based on GR obtained in developing countries, the Bonn Guidelines invite states to encourage the disclosure of the country of origin of genetic resources in applications for intellectual property rights, in order to prevent issuance of “bad patents” on “pseudo-inventions” or biopiracy.³⁸ Due to the fact that the Bonn Guidelines are not binding legal rules, cases of biopiracy and unregulated access to genetic resources have been on the increase. At the time of writing this paper, members to the 10th COP to the CBD had adopted the Nagoya Protocol on ABS whose provisions, unlike those of the Bonn Guidelines, will be binding on all members after they have been signed into force.³⁹ While it can be said that commendable efforts have been made internationally under the CBD regime concerning ABS, many issues remain unresolved on TK and genetic resources for food and agriculture.

6 Intellectual Property in Plant Genetic Resources for Food and Agriculture and TK

Plant genetic resources for food and agriculture (PGRFA) refers to “the genetic resources or material of actual or potential value for human and agriculture that are contained in plants”.⁴⁰ PGRFA have been described as “building blocks” for breeders and traditional farmers alike “in improving crops and introducing new traits into those crops such as drought or pest resistance”.⁴¹ The use of such building blocks to improve productivity and maintain useful characteristics of crops is not a new phenomenon. Since mankind moved from hunting and gathering to agriculture, the quest for better and improved crops has been a constant. Quoting from Genesis, Tritton argues that the practice is evident from biblical times, although “the methodology described therein reveals a more Lamarckian (i.e. teleological) than Darwinian, approach to the

36 Meeting in The Hague 7-19 April 2002.

37 CBD (2002).

38 With regards to preventing patents based on TK, India has established a digital database of traditional knowledge searchable in several languages that has been approved by both the *European Patent Office* (EPO) and the *United States Patent and Trademark Office* (USPTO).

39 According to the wildlife trade monitoring network TRAFFIC: “For the first time, the new ABS regime will provide an internationally binding framework, applying for example to private sector enterprises actively bio-prospecting for pharmaceutical, medicinal, biochemical, aromatic and food resources;” available at <http://www.traffic.org/home/2010/10/29/a-ray-of-light-from-the-land-of-the-rising-sun.html>, accessed 5 February 2022.

40 Moore / Tymowski (2005:2).

41 Ibid.

introduction of certain desired traits”.⁴² For many years, PGRFA were freely exchanged between and among farmers and communities in different regions. This exchange reached a climax during the 19th century’s Columbian Exchange. This term refers to the exchange of biological resources between Europe, Africa and the Americas since the so-called discovery of the ‘New World’ by Christopher Columbus.⁴³

There is no doubt that developed countries benefited immensely from this free-for-all, hence their desire for a continuation of this *status quo*. This “wish list”, however, is difficult if not impossible to achieve because Western countries want stronger IPRs for ‘elite parental lines’ and little or no IPR protection at all on cultivars or landraces. This approach fails to appreciate traditional knowledge of indigenous and local farmers throughout the world, whose hard work has produced and protected PGRFAs. Linking the historical plunder with the on-going expansive nature of IPRs, many commentators think that IPRs in living things are a new form of colonialism and way of looting natural resources from developing countries. The following newspaper extract from Kenya summarises this sentiment:⁴⁴

Slavery, colonialism, plunder, cheap labour, brain drain (...) and now bio-piracy. Nothing has changed much in Africa-Europe ties for centuries. Africa continues to oil the wheels of industry in the West. The latest example is the ongoing debate over the kikoi, a name (kikoy) that a British firm wants to patent in the UK. Other cases have involved the kiondo and an enzyme used to give jeans a faded look. In 1992, American company Genencor International discovered commercially useful organisms in several lakes in the Rift Valley. The organisms are now being used to manufacture enzymes, which, among other properties, give jeans cloth a faded look. The company has reportedly made huge profits yet the Kenyan Government says it has not benefited from the venture.

6.1 The International Undertaking on Plant Genetic Resources

The first attempt to regulate the exchange of PGRFA at the international level led to the adoption of the International Undertaking on Plant Genetic Resources (hereafter “undertaking”) by the FAO Conference in November 1983 under Resolution 8/83.⁴⁵ The undertaking was based on the then universally accepted principle that plant genetic resources were “a heritage of mankind and consequently should be available without restriction”.⁴⁶ Apparently, many developing countries were unhappy with the underlying idea that PGRFA should be available unreservedly. In 1989 the undertaking was revised to provide for ‘farmers rights’ defined as the rights arising from the past, present and future contributions of farmers in conserving, improving and making available plant genetic resources, particularly in their centres of origin/diversity. These rights

42 Tritton (2002:420).

43 Tyler (1996).

44 Gatonye (2007:13).

45 FAO (1983).

46 Ibid. See Article 2.

are vested in the international community as trustee for present and future generations of farmers, for the purpose of “ensuring full benefits to farmers, and supporting the continuation, as well as attainment of the overall purpose of international undertaking”.⁴⁷ The interpretation of the revised undertaking required that farmers from developing countries be sufficiently rewarded for the use of PGRFA by developed countries, and that an International Gene Fund be established for this purpose.

Although the international undertaking was not meant to be a binding instrument of international law, the definition above has influenced subsequent international, regional and national laws with the bearing on farmers’ rights. In many cases, justification for the right is both historical and futuristic. Historical as it recognises past contribution and futuristic as it recognises even those contributions yet to be made.

6.2 The TRIPS Agreement and UPOV

The coming into force of the World Trade Organisation (WTO) Agreement on Trade Related Aspects of Intellectual Property (TRIPS) on 1 January 1995 took IPR in plants to a higher level. According to this agreement, member states to the WTO “shall provide protection of plant varieties either by patents or an effective *sui generis* system or a combination thereof”.⁴⁸ Although the agreement neither defines *sui generis* nor lays down criteria for an effective one, the International Union for the Protection of New Varieties of Plants (UPOV) is widely regarded as a *sui generis* system. UPOV was adopted in 1961 by a group of western European countries because of pressure from the private sector, which argued that the lack of intellectual property rights in this field threatened their development. It is noteworthy, however, that UPOV is taken to be a lesser-evil-approach by countries that are not comfortable with patenting life forms.⁴⁹

6.3 Historical Backdrop

Although IPR in plants now form part and parcel of not only international IP law but also international trade, the road to this acceptance was never an easy one. It is in the USA and in Europe, where these rights are more grounded and from whose inspiration (and influence) developing countries enact their laws on plant variety protection.⁵⁰ In the 19th century, it was widely accepted that natural powers and the forces of nature

47 FAO (1983).

48 TRIPS Article 27.3(b).

49 See generally Laltaika (2007).

50 Ibid.

could not be patented. In 1852, the US Supreme Court in the case of *Le Roy v Tatham*⁵¹ held that⁵²

a principle in the abstract, is a fundamental truth; an original cause, a motive; these can not be patented; and no one could claim in either of them an exclusive right. Nor can an elusive right exist to a new power, should one be discovered to those already known.

As this judicial reasoning presupposes, the objection raised against intellectual property rights in plants was mainly that plants are a product of nature.⁵³ As a result of developments in plant genetic engineering and plant breeding, the US Congress in 1930 enacted the Plants Patents Act.⁵⁴ This Act provided patent protection only to asexually reproduced plants, i.e. those plants produced by propagating or grafting. In 1970, the Plant Variety Protection Act was enacted, widening the horizon of patentable plants to include asexually reproduced varieties. Another often-cited historical event leading to the consolidation of intellectual property rights in plants in general and patents in particular, is the US Supreme Court's ruling in the case of *Diamond v Chakrabaty* that "anything under the sun made by man is patentable".⁵⁵ The USA currently grants patents for plants and any other living thing, provided it involves human ingenuity.

In Europe, earliest (first generation) patent laws excluded all forms of life. However, this position was not always accepted. According to Greer:⁵⁶

Although continental legislators clearly had in mind only inventions in the field of inanimate techniques (in German: *tote Technik*) when drafting first generation Acts, the majority of the Belgian, German and Dutch legal doctrines dismissed the objection that inventions relating to living materials are not patentable.

This indirect opposition to the general position of the law continued, albeit with little progress. A major development was achieved in 1961, when western European countries, notably France, Belgium and Germany established a union for the convention of new plant varieties through what came to be known as the Convention on the Protection of New Varieties of Plants, better known by its French acronym UPOV.

51 *Le Roy v Tatham* 55 US (14 How) 156 (1852).

52 *Ibid*:175.

53 Note that this reasoning was challenged in 1939 in the famous case of *Dennis v Pitner* 106 F. 2d 142, 7th Circ 1939. In this case, a patent was sought for the discovery of an effective insecticide from the root of a plant found in South America. The court observed *inter alia* that "[i]t is true that an old substance with newly discovered qualities possessed those qualities before the discovery was made. But it is a refinement of distinction both illogical and unjustifiable, and destructive of a laudable object of the statute to award a patent to one who puts an ingredient A with old ingredients B and produces a cure for ailment C; and deny patent protection to one who discovers that a simple and unadulterated or unmodified root herb or a chemical has ingredients or health-giving qualities, hitherto unknown and unforeseen."

54 Plants Patents Act of 1930. The purpose of this Act was to "afford agriculture, so far as practicable, the same opportunity to participate in the benefits of the patents system as has been given industry".

55 *Diamond v Chakrabaty* 447 US 303, at 309, 100 S. Ct 2207 at 2207, 206 USPQ 193 (1980).

56 Van Overwalle (1999:143).

6.4 The Pinch of IPR to Farmers

The pinch of these ‘intruding rights’ is not only felt in developing countries but also in industrialised and other developed countries. The Canadian case of *Monsanto v Percy Schmeise* provides a good illustration.⁵⁷ In this case, the court issued an injunction restraining a traditional farmer from planting seed retained from the plaintiff’s canola crops. The prohibition extended to⁵⁸

any seed saved from plants which are known or ought to be known to be Roundup tolerant, and from selling or otherwise depriving the plaintiffs of their exclusive right to use plants which the defendants know or ought to know are Roundup tolerant, or using the seeds from such plants.

As if the legal barriers are not enough, increasing conflicts of interest have led to the development of the ‘terminator technology’. This technology prevents farmers from harvesting seeds from crops they have grown using genetically engineered seeds, thereby forcing them to buy more of the original seed each planting season. According to Kieff⁵⁹

[t]erminator technology can also be thought of as the agricultural equivalent of copy protection technology in the software industry. Such terminator and copy protection technologies are each a form of self-help that can be used as an alternative to legal protection in a way that is likely to be more costly than legal protection.

In a world where many people, especially in developing countries, are starving, it is imperative to rethink IPR regimes, which on the face of it do more harm than good to the poor farmers and the environment.⁶⁰

7 African Approach

Although many African countries retain colonial elements in their laws, making them almost wholly Western, the concept of community rights is not alien to the African legal regime. In 1980, an African anthropologist and human rights activist, Asmaron Legesse, deliberated on how the Universal Declaration of Human Rights (UDHR) would have looked like if drafted by Africans.⁶¹ According to Legesse:⁶²

57 *Monsanto v Percy Schmeise* [2001] F.C. 256, available at <http://decisions.fct-Cf.gc.ca/fct/2001/2001fct256.html>, accessed 15 November 2010.

58 Ibid.

59 Kieff (2002:317).

60 Surely, genetic resources should not be put on the same scale as computer software. Even though we may romanticise the magic of biotechnology, the truth still remains that mankind cannot make genes. Our ingenuity is limited to the level of using DNA methods to ‘improve’ characteristics.

61 As we know, the UDHR was negotiated and adopted while the entire African continent was under colonial domination.

62 Legesse (1980:52).

If Africans were the sole authors of the Universal Declaration of Human Rights, they might have ranked the rights of communities above those of individuals, and they might have used a cultural idiom fundamentally different from the language in which the ideas are now formulated.

Two years later, this contention is proved by the African Charter on Human and Peoples Rights (Banjul Charter), which fully recognises group rights.⁶³ Indeed not all human rights scholars are fully content with the approach adopted by the Banjul Charter, and its formal recognition of group or community rights. It is imperative to note that group rights are not a one-size-fits-all concept. To understand the parameters of group rights, McCamant advises that the concept⁶⁴

works best where there exist clearly defined ethnic communities who carry on life separate from the wider society. These groups exist most prominently in areas where large scale production and trade have not yet brought about economic integration.

We now turn to specific agreements that seek to protect TK of communities in Africa.

7.1 The OAU Model Legislation on the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources

The Organisation of African Unity (OAU) Model Legislation on the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources (OAU model law), was endorsed by Heads of State of the Organisation of African Unity (now African Union/AU) in July 1998.⁶⁵ The law underscores the value of traditional knowledge for biodiversity conservation and food security on the continent and the potential effects of IPRs in agriculture. Article 9 of this law provides explicitly that:⁶⁶

- (1) Patents over life forms and biological processes are not recognised and cannot be applied for.
- (2) The collector (of GRs) shall, therefore, not apply for patents over life forms and biological processes under this legislation or under any other legislation relevant to the regulation of access and use of a biological resource, community innovation, practice, knowledge and technology, and the protection of rights therein.

While scholars continue to debate whether or not such prohibition is in conformity with the TRIPS Agreement, it is submitted that the issue here should be to try to relieve farmers of the burden created by IPR which by and large steal from their reserve without any compensation. The African Model law may seem too radical and against biotechnological inventions but still there should be ways to strike a balance. When it

63 Howard (1986).

64 McCamant (1981:542).

65 OAU / AU (1998).

66 Ibid: see Article 9.

comes to PGRFA, the human right to food should override recouping R&D expenses, as it is often times contended. It is proposed that the concept of farmers' rights be taken seriously for the benefit of not only farmers but also as a stimulant for protection of landraces.

7.2 The Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore

It was a commendable initiative to protect TK in Africa by a diplomatic conference, convened at the coastal Namibian town of Swakopmund, with the Protocol on the Protection of Traditional Knowledge and Expressions of Folklore within the Framework of the African Regional Intellectual Property Organisation (ARIPO).⁶⁷ The Protocol recognises⁶⁸

the intrinsic value of traditional knowledge, traditional cultures and folklore, including their social, cultural, spiritual, economic, intellectual, scientific, ecological, agricultural, medical, technological, commercial and educational value.

It defines traditional knowledge as⁶⁹

any knowledge originating from a local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, where the knowledge is embodied in the traditional lifestyle of a community, or contained in the codified knowledge systems passed on from one generation to another.

While the protocol recognises the holistic approach to life as perceived by indigenous and local communities as discussed above⁷⁰ and considers communities as holders of TK, it commits a greatly error by entitling individuals within such communities with "ownership" of TK. Section 6 provides:⁷¹

The owners of the rights shall be the holders of traditional knowledge, namely the local and traditional communities, and recognised individuals within such communities, who create, preserve and transmit knowledge in a traditional and intergenerational context in accordance with the provisions of Section 4.

Debates are raging around the incompatibility of individual rights within local and indigenous communities. In Australia, an Aborigine artist is reported to have told a court of law:⁷²

67 ARIPO (2010).

68 Ibid: see Preamble.

69 Ibid: see Article 2.1 (ix).

70 Article 1.2 provides "This Protocol shall not be interpreted as limiting or tending to define the very diverse holistic conceptions of: (a) traditional knowledge; or (b) cultural and artistic expressions, in the traditional context".

71 Ibid.

72 *Milpurruru and Others v Indofurn Pty Ltd and Others* [1996] AUIndigLawRpr 20. For a commentary on the case see Blakeney (1995).

As an artist, while I may own copyright under Western law, under Aboriginal law, I must not use an image or story in such a way as to undermine the rights of all the other Yolngu.

There are many instances, however, where Western-oriented laws introduce individual rights in indigenous communities in order to ‘modernise’ them and the aftermath has more often than not been catastrophic, demonstrated for instance by the results of the introduction of individual land rights in pastoralist lands in Kenya.⁷³ It is advised therefore that this particular aspect of TK protection be taken seriously to avoid importing problems, which were the reason for the slow-paced investigation for alternative methods of protection in the first place.

8 The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefit Arising from their Utilisation: Too Little, Too Late?

Shortly after the publication of the first edition of this book, the 10th Conference of the Parties (CoP) to the convention on biological diversity (CBD) meeting in the city of Nagoya, Japan, adopted the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefit Arising from their Utilisation. The Protocol, though yet to come into force, has awakened a sense of hope and enthusiasm among civil society activists and communities. As a brief update to the previous edition of this chapter, this section explores the main sections of the protocol and asks whether, coming 17 years after the coming into force of the Convention on Biological Diversity, the protocol is not too little, too late.

8.1 Overview of the Protocol

The objective of the Protocol is a verbatim repeat of the third objective of the CBD, namely “conservation of biological diversity and the sustainable use of its components.”⁷⁴ With regard to access, the Protocol requires provider states to provide for “legal certainty, clarity and transparency” as well as “fair and non-arbitrary rules and procedures” on access to genetic resources. On Benefit Sharing, the Protocol obliges member states to take legislative, administrative, or policy measures to ensure that benefits arising from the utilisation of genetic resources as well as subsequent application and commercialisation are shared fairly and equitably with the providing party.⁷⁵

73 Rutten (1992).

74 Nagoya Protocol 2010: Article 1.

75 Ibid: Articles 5.1 and 5.5.

8.2 Does the Protocol Make a Difference?

When it comes to local and indigenous communities who are custodians of traditional knowledge and associated genetic resources, the Protocol does not seem to make any difference. It retains the same powers of governments to designate "competent authorities" and generally assert their "sovereignty to natural resources" as provided by the CBD.

8.3 Too Little, Too Late?

As this paper has shown, many cases of biopiracy have already taken place in Africa. The Protocol, although it contains commendable provisions for ABS, does not address cases prior to its coming into force. It remains to be seen whether by addressing the future, the past is capable of taking care of itself.

9 The Need for a Paradigm Shift

For Africa to effectively protect TK, it must not only put local and indigenous communities at the centre, but also tap into their know-how to enhance conservation. However, most African legal dispensations for conservation of natural resources lack this essential component for modern conservation. The origin of these laws and policies, which exclude people from nature in the context of conservation, can be traced back to colonial times.⁷⁶ Due to this 'colonial hangover effect', many if not most policy makers in Africa and other developing countries take the conservation of biological resources to be synonymous with the eviction of local communities from such lands. Although it is undeniable that human activities contribute greatly to the destruction of the environment and ecosystems, not all human activities are incompatible with conservation. Sometimes, de-linking the human-nature interaction is detrimental to ecosystems and the environment at large.⁷⁷ Many are the times also that those entrusted with the task of conservation turn out to be the reason for inefficiency much to the dismay of local communities. A Maasai elder, evicted by the Government of Tanzania from the Ngorongoro crater, summarises such dismay:⁷⁸

I was born in Engitati in Ngorongoro Crater where I spent my youth. I remember the rhino. They were so many. They outnumbered the buffalo. They were everywhere. We rarely killed the rhino and when we did it was because they threatened us in some way. We have lived in the Crater together with wild animals, listening to the lions roar. Then we were moved to where we are

76 Kameri-Mbote (2004).

77 Sharma (2000:32).

78 Majamba (2006:8).

now. When I look at the Crater I feel a dead sadness. Once control of the Crater was given to someone else, the rhinos started to disappear. Now they have almost gone. Is this what they call conservation?

When it comes to farmers, eviction is less common but there are no deliberate efforts to support their inventiveness as already discussed above. Our intellectual property laws reward inventors, breeders and other entrepreneurs, while punishing the local peasant with frequent change of policies and skyrocketing prices of agricultural produce. A paradigm shift is necessary among policy makers in Africa to understand the important attachment that local communities have to their lands as well as the value of traditional knowledge in agriculture and associated genetic resources, including landraces. The argument that was advanced here is that Government authorities should avoid implementing policies which destroy communal structures.

10 Concluding Remarks

Law is more than just rules written on a piece of paper, and/or debated by legislative authorities, parliaments or international organisations. Using aspects of customary law to protect TK/TCEs will make such laws more meaningful to indigenous and local communities. Customary law is an aggregate of culture, history and spirituality of the local and indigenous communities. Without such recognition, it is doubtful if current initiatives to protect TK/TCEs will ever be successful. The old adage ‘the magic of ownership turns sand into gold’ is especially true if applied to communal ownership of traditional knowledge and associated genetic resources in Africa.

PART X:

ENVIRONMENTAL ADJUDICATION

Chapter 25: Environmental Justice and Litigation

Oliver C. Ruppel

1 Introduction

Compliance (adherence to legal norms or requirements) and enforcement (actions in response to non-compliance) are essential in the field of environmental law, in which prevention is the golden rule, both for ecological and economic reasons.¹ Several compliance and enforcement measures are available to ensure environmental protection. Apart from environmental litigation in courts as enforcement measures, several compliance mechanisms are available in the pre-litigation phase, starting with administrative measures such as permits, licences, notices and directives. Statutory environmental law provides for a variety of compliance and enforcement measures. In cases where conflicts arise, methods of alternative dispute resolution may be appropriate instead of or prior to court proceedings, which can play an important role in terms of remedial action to protect the environment or to secure compliance, especially when it comes to cases concerned with criminal prosecution or the recovery of damages.

2 Environmental Justice and Advocacy

Today, both in the industrialised and developing parts of the world, a growing body of evidence demonstrates that poor and other disenfranchised groups have been the greatest victims of environmental degradation. The poor and marginalised often still lack access to justice, especially environmental justice. The North-South divide also still needs to be bridged in this respect.² The social impact of degradation increases the vulnerability of specific groups and populations. This vulnerability has become a key element in human rights discussions. Rights and responsibilities regarding the utilisation of environmental resources need to be distributed with greater fairness among communities – globally, regionally and domestically. Therefore, human rights movements increasingly apply a rights-based strategy to confront global environmental devastation and to protect ecological habitats and the planet for future generations.³

Environmental justice as a concept embraces two objectives. The first is to ensure that rights and responsibilities regarding the utilisation of environmental resources are distributed with greater fairness amongst communities. This entails ensuring that poor

1 Kiss / Shelton (2004:151).

2 Beyerlin (2006:259-296).

3 Kiss / Shelton (2004:12ff.).

and marginalised communities do not suffer a disproportionate burden of the costs associated with the development and exploitation of resources, while not enjoying equivalent benefits from their utilisation. The second is to reduce the overall amount of environmental damage, again globally and domestically.⁴ Recognition of the link between the abuse of the human rights of various vulnerable communities and related damage to their environment is expressed in the concept environmental justice. The scale and urgency of environmental justice are beyond past challenges: solving them will perhaps mean destabilising and reorienting global economic growth.⁵

Environmental justice includes two complementary dimensions: *procedural* and *substantive*. The procedural dimension is divided into three rights: the right to information, the right to participate in decision-making, and the right of access to justice in environmental matters. Environmental rights still face a multitude of challenges of procedural nature. To what extent these challenges are relevant depends, amongst others, on the following:

The question of whether and under what conditions an individual, organisation or state has the right to commence action regarding a right to environment needs to be addressed. The issue of *locus standi* is of great relevance in respect of judicial enforcement of the right to environment and needs specific attention. The Indian experience with the establishment of public interest litigation has shown that environmental concerns can be advanced more efficiently by enabling any citizen to appeal directly to the Supreme Court.⁶

Another focal point deals with the question of who the proper addressee of claims would be dealing with a right to environment, and whether a right to environment is to be enforced vertically between individuals and/or horizontally between individuals and states. Moreover, the question whether environmental rights can be enforced at the national or international level is of particular interest in the globalising world, also with regard to the concept of regional integration, which is playing an increasingly important role in sub-Saharan Africa.⁷

Namibia is at the dawn of environmental advocacy, which refers to the act of speaking out in favour of, supporting, and defending the environment with the aim of having an impact on a decision or policy. Environmental advocates seek to preserve the

4 Ibid.

5 Thus, the issue of climate change prompts significant questions about justice and distribution. There is an acute need for intelligent collective action focusing on the human suffering that climate change will cause in future. As a matter of law, the human rights of individuals need to be viewed in terms of state obligations: it is the state that is responsible for human rights fulfilment. This assignation of such responsibility may seem inadequate in the context of climate change, where social and economic rights in poor countries are threatened primarily by actions undertaken elsewhere. The special responsibility of wealthy countries to mitigate climate change remains – and is widely accepted. See also Kiss / Shelton (2004:12ff.).

6 Rosencranz / Jackson (2003:228).

7 Ruppel (2009c:277ff.).

natural and man-made environment, and to protect the relationships that people have with their environment. Cities, villages, communities and individuals can experience a wide array of threats to the environment that may require advocacy. Business interests may be moving forward with a development project such as a dam, without addressing the needs and interests of the communities that will be affected by it. A factory may be polluting air or water, thereby posing risks to public health; or the Government or other resource users might be proposing an activity that threatens humans and wildlife alike. Many problems can potentially be addressed through environmental advocacy. Through environmental advocacy, environmental rights can be strengthened. Through more public participation in environmental affairs and more participatory democracy,⁸ environmental justice is more likely to be achieved. Unfortunately, more often than not, the people who suffer from violations of their environmental rights are incapable of instituting litigation due to a number of factors, including poverty, access to information, and access to justice.⁹

3 Administrative Procedures for Compliance and Enforcement

Administrative procedures play a major role in terms of compliance and enforcement. Some examples of administrative compliance and enforcement measures will be highlighted in the following.

One of the core mechanisms to secure adherence to environmental legal norms or requirements is the system of permits or licences. Specific activities with an impact on the environment may only be carried out, if a permit or licence is granted by the competent authority as required by many environmental statutes. Specific examples of licences under statutory environmental law include the following:

An environmental clearance certificate as required by the Environmental Management Act No. 7 of 2007 (EMA) for activities having an impact on the environment can be seen as a licensing mechanism to ensure that the general principles of environmental management as laid down in Section 3 of the Act are applied.

The Water Act No. 54 of 1956 for example requires a licence for the abstraction of subterranean water. Similarly, the Water Resources Management Act No. 11 of 2013, which will repeal the Water Act, requires licences to abstract or use water and to discharge effluents. Drilling or construction of boreholes or wells is also subject to a licence issued by the Minister.

Specific licences are needed for prospecting and mining activities according to the Minerals Prospecting and Mining Act No. 33 of 1992 such as reconnaissance licences, exclusive prospecting licences, mining licences or mineral deposit retention licences.

8 Ruppel / De Klerk (2009:2-4).

9 Ferris (2009).

To ensure environmental protection, the Forest Act No. 12 of 2001 provides that unless authorised by the Act or a licence, it is not allowed to cut, destroy, or remove vegetation as defined by the Act. The Act furthermore demands specific licences with regard to the use of forest or forest produce, e.g. to harvest, to graze or to carry on agricultural activities, to carry out mining activities, or to construct roads or buildings.

Directives or compliance orders are further effective mechanisms to secure compliance with regulatory frameworks. Environmental officers for example, who are appointed to help enforcing the Environmental Management Act, have the competence to issue compliance orders if there is reason to believe that a person has contravened the Environmental Management Act or violated a condition of an environmental clearance certificate issued under the Act. The penalty for a failure to obey a compliance order issued under Section 20 of the EMA is a fine of up to N\$ 500,000 or imprisonment for up to 25 years, or both.

The Water Resources Management Act provides for various forms of directives, which can be given by the Minister, e.g. to water service providers who fail to comply with a licence (Section 43) or directives related to measures for the prevention of water pollution (Sections 68 and 89) or in cases of failure to comply with a licence to discharge effluents (Section 83). For the purpose of promoting the sustainable use and protection of aquifers the owner or occupier of land may be directed by the Minister to seal off any borehole situated on the land (Section 66). Furthermore, the Minister may give directives in cases of risks related to the safety of dams (Section 95).

4 The Role of Namibian Courts in Environmental Matters

Environmental litigation can play an important role in shaping and preserving the quality of life. Namibia has enacted numerous statutes designed to improve air and water quality, better cope with waste, protect the wildlife and endangered species, and establish rules for the management of land and marine resources. These statutes are deemed to become more and more subject in lawsuits, filed by affected industry, state and local governments, indigenous groups, conservation groups and private citizens. Environmental litigation entails a variety of highly specialised legal fields, *inter alia*:¹⁰

- Global climate change litigation;
- environmental criminal litigation;
- civil environmental enforcement litigation;
- insurance recovery for environmental liabilities; and
- natural resource damages litigation.

10 Perlman (2009).

Courts have various functions related to matters concerned with environmental protection. On the one hand, courts are involved in classical litigation. On the other hand, courts play a vital role when it comes to the implementation of environmental laws.

Courts can for example be approached to obtain interdicts, which are important mechanisms in terms of the conservation of the environment in that they put a temporary or final stop present or future infringements, which might have negative impact on the environment.¹¹ An interdict secures the termination of offending actions or conduct, or the abandonment or alteration of offending procedures. Interdicts can also require the performance of a particular action.¹² Upon application, the court can grant an interdict provided that the applicant can cumulatively satisfy the following requirements: (1) a clear right; (2) an unlawful interference with that right; (3) the absence of any other satisfactory remedy.¹³

Courts are also approached in environmental matters for judicial review of administrative decisions. Such enforcement mechanisms of administrative law nature are contained in various environmental law statutes with the Environmental Management Act leading the way. Appeals can, for example, be brought to the High Court if a person feels aggrieved by a decision of the Minister related to the review of decisions of the Environmental Commissioner or to compliance orders (Section 51 of the Environmental Management Act). In the appeal, the High Court only considers legal questions but not facts. Similarly, the Minerals Prospecting and Mining Act No. 33 of 1992 provides for a right to appeal to the High Court if a person feels aggrieved by a decision of the Minerals Ancillary Rights Commission (Section 113).

Deciding on matters regarding compensation for environmental damage also falls into the responsibility of Namibian Courts. An example for this can be found in the Water Resources Management Act No. 11 of 2013, which provides that the court by which a person is convicted may upon a written request¹⁴

after enquiry into the nature and extent of the damage, order the person convicted to pay, in addition to any other penalty that may be imposed, compensation to the person for the damage suffered or, in the case of damage to a water resource, compensation to the Minister representing the actual or expected cost of restoring or rehabilitating the water resource or its dependent ecosystems.

Further invaluable environmental law enforcement mechanisms exercised by courts relate to criminal offences.

11 Du Plessis *et al.* (2013:121).

12 *Ibid.*

13 Amoo (2014:198).

14 Section 128.

5 Criminal Law

The role of criminal law for environmental protection is significant. Environmental crimes (potentially) harm the environment including all natural resources and/or the health and well-being of people and criminal law ensures that non-compliance with environmental legal standards results in criminal consequences such as fines or even imprisonment. Cancellation of environmental licences can also result from a conviction. Criminal law has a deterrent effect and can therefore contribute to environmental protection. All statutes in the ambit of Namibian environmental legislation contain provisions with criminal sanctions. The teeth of environmental legislation in terms of offences are sharp. However, relatively few criminal sanctions are being applied vigorously.

The Environmental Management Act as the main environmental framework legislation contains extensive provisions pertinent to crimes, penalties and forfeiture. The magistrate's court has jurisdiction to impose any penalty provided for in terms of the EMA as laid down in Section 53.

It is a crime under the EMA if waste is disposed anywhere else than at a waste disposal site (Section 5). With regard to environmental clearance certificates, the EMA stipulates that it is a crime to proceed with activities listed in the EMA without an environmental clearance certificate or not to comply with conditions set out in the environmental clearance certificate. To forge an environmental clearance certificate; to give false information or to withhold relevant information in an application for an environmental clearance certificate are further crimes relating to environmental clearance certificates (Sections 27, 34, 37 and 43). Moreover, certain activities hindering environmental officers to perform their duties are qualified as crimes under the EMA, such as giving false information to an environmental officer or refusing to answer questions asked by an environmental officer, unless there is a lawful excuse (Section 22). Criminal prosecution of directors, members, managers, trustees and other officers for crimes for which a legal entity is responsible is anchored in Section 53 of the EMA, another important enforcement mechanism in view of major environmental transgressions – especially pollution – by corporations. Section 54 of the EMA contains provisions regarding forfeiture with the aim to remove the incentives to commit a crime. Any item related to the commission of a crime might have to be forfeited to the State.

Similar provisions are contained in other environmental statutes such as the Marine Resources Act No. 27 of 2000 which for example states in Section 54(1):

Where a court convicts a person of an offence under this Act the court may, in addition to any other penalty

- (a) order any marine resource, fishing gear, vessel, vehicle or item in respect of which the offence was committed or which was used in connection with the commission thereof, to be forfeited to the State, subject to paragraph (c);
- (b) cancel or suspend, for such period as the court may consider fit, any licence or other authorization issued or given to such person under this Act; or

- (c) where the marine resources, fishing gear, vessel or item have been released under section 55(4), order the amount guaranteed in respect of the value thereof under that section to be forfeited to the State.

The penalties in the EMA vary and range from fines up to N\$ 500,000 or imprisonment up to 25 years or both. According to Section 27, fines paid under the EMA as well as financial resources resulting from forfeiture are paid into the Environmental Investment Fund of Namibia, which is established under the Environmental Investment Fund Act No. 13 of 2001. These financial resources are used for measures aiming at environmental conservation.

The fact that criminal law is an important component of compliance and enforcement can be seen in respective provisions in the various environmental statutes, which all link certain penalties to non-compliance. Some examples of criminal law implications of statutory environmental law are sketched in the following:

Section 20 of the Nature Conservation Ordinance No. 4 of 1975 as amended provides that illegal hunting is an offence and a fine not exceeding R200,000 or imprisonment for a period of not exceeding twenty years or both may be imposed (for illegal hunting of elephants or rhinos; the fines for hunting other specially protected game range from R20,000 to five years imprisonment or both; the Ordinance contains various other provisions regarding illegal hunting). Further offences specified in the Ordinance relate among many others to the illegal entering of game parks and nature reserves (Section 18); illegal picking of indigenous plants (Section 24); import and export of game and wild animals and their skins (Section 49) and illegal catching of fish in inland waters (Section 71).

The Water resources Management Act contains a catalogue with water related offences (Section 127) *inter alia* stating that it is an offence to abstract and use or dispose water otherwise than in accordance with a licence under the Act or to cause a water resource to be polluted by any act or omission unlawfully and intentionally or negligently.

Part VIII of the Aquaculture Act No. 18 of 2002 deals with offences and penalties and stipulates that a person commits an offence who without written permission introduces into any Namibian waters any species of aquatic organisms or any genetically modified aquatic organism or transfers any species of aquatic organisms from one aquaculture facility to another. To engage in aquaculture without a licence is also considered an offence (Section 39).

Examples of offences under the Forest Act (see Section 45 for a catalogue of offences) relate to damage or destruction of vegetation in a protected area or the destruction or removal of living trees, bushes or shrubs growing within 100 metres of a river, stream or watercourse.

6 Conflict Resolution

6.1 Environmental Litigation

Disputes relating to environmental issues are often characterised by a blurring of boundaries requiring professional expertise, time-consuming processes, high costs and irreversible damage to the environment or to public health. In the case of matters relating to the development and construction of infrastructure, for example, the advantages of development are almost always accompanied by heavy social and public costs. The production of goods almost inevitably (and the provision of employment) pollutes air, water and soil, the construction of roads takes place at the expense of open spaces, the lack of a clear suburbanisation policy results in unwanted urban sprawl, imposing strain on the municipal systems. There are many other examples. In a nutshell: environmental disputes usually occur where different interests collide.

Litigating, for example, industries and corporations that cause environmental damage can be quite demanding. Many businesses prefer cheaper methods of production, but these are far more often than not the ones' that produce more pollution. Even in the face of strict regulation, companies sometimes act against the law. Taking these companies to court can prove to be a challenging endeavour. In order to prepare a successful case, plaintiffs must be able to link the damage to the alleged source. For the lawsuit to make it to court, the plaintiff must have credible evidence that he/she was exposed to, for example harmful substances. A resident may develop cancer and sue a nearby chemical manufacturer, but to prove it was that specific chemical in the water or in the air that caused the cancer, as opposed to, e.g. a genetic predisposition, requires substantial scientific evidence.

Moreover, taking a large corporation to court can be expensive. Whenever corporations' profits and public perceptions are at stake, these are often quite willing pay for highly skilled (and expensive) legal teams to preclude an unwanted negative outcome. One strategy is to draw the trial out as long as possible, as the prospect of spending years in court can wear plaintiffs down. Defence teams often use this strategy to bully victims to agree to 'more favourable' out-of-court settlements.

In Namibia, environmental litigation, with few exceptions, has not yet been an issue. For this purpose, lawyers need to be trained in the theory and practice of environmental litigation. Environmental litigation is an integral part of the environmental regulatory instruments and the designing of environmental policy. The role of lawyers in environmental litigation should become clearer when it comes to effective project planning, consultation and sound environmental management practices. Lawyers need to be familiarised with specific litigation strategies, the litigation process and in particular the use of expert witnesses. Environmental litigation is not only a means to enforce the law by private individuals using common law and statutory avenues. Environmental

litigation can also be used against Government decisions and by Government, including civil litigation and criminal prosecutions.

6.2 Alternative Dispute Resolution (ADR) in the Field of Environmental Conflict

6.2.1 General Features of ADR

ADR is an important set of mechanisms, which are beneficial to conflicts related to the environment. Although litigation plays an important role when it comes to environmental disputes, ADR methods are increasingly being used to address environmental conflicts. Even environmental statutes provide for ADR mechanisms to resolve certain disputes.

ADR generally refers to informal dispute resolution processes with the involvement of a professional third party who assists to resolve the dispute in a way that is less formal than is done in the courts. The most common forms of ADR are conciliation, mediation, facilitation, negotiation and arbitration. These methods differ from each other in the degree of the parties' control over the process and the extent to which parties bind themselves to the outcome of the ADR proceedings.

Table 1: Forms of ADR

Conciliation	Informal process in which a third party (the conciliator) who does not take part in the process itself brings disputing parties together in order for them to resolve their dispute.
Mediation	Consensual dispute resolution process. Neutral third party (mediator) helps parties to identify issues, clarify perceptions and explore options for a mutually acceptable outcome. Generally, the mediator offers the opportunity to expand the discussion beyond the issues in dispute and to focus on developing creative solutions instead of giving own opinions regarding outcomes of the dispute.
Facilitation	Process in which a neutral third party (facilitator) uses his/her skills to promote communication and understanding of negotiable issues. Facilitator focuses purely on moderating the discussion among the parties.
Negotiation	Process whereby the parties involved in a conflict discuss options for resolution directly with each other. The parties themselves control the decision-making and meeting processes.
Arbitration	Arbitration can be voluntarily or compulsory and is similar to court proceedings, but less formal and generally private. The arbitrator, a third-party neutral, holds a confidential hearing with the disputing parties. Based on the facts and evidence presented, a legally binding award is rendered which may be subject to appeal.

Source: Table compiled by the author.

General features which apply to all ADR methods include that the parties decide to resolve the dispute out of court and that the parties to the conflict decide upon the process and the result of dispute resolution themselves. Compared to litigation, ADR is based on more direct participation by the disputants, rather than being run by lawyers, judges, and the state. In most cases, ADR is voluntary, but may also be mandated by the law as a first step before parties can take a case to court. The objectives of ADR are to find a solution to the conflict agreeable for all parties and to resolve the dispute promptly and effectively. Compared to litigation, ADR can be less costly, less formal, less competitive, and less time-consuming. Specific benefits of ADR include the following:

- Increase in efficiency;
- reduction of time taken;
- encouragement of constructive approaches;
- sense of ownership by parties to the conflict;
- reduction of on-going disputation; and
- courts can still enforce decisions reached through ADR.

Private business actors are using mediation in many parts of the world with increased regularity in order to resolve commercial environmental disputes, such as those involving pollution indemnification or regulatory compliance. Mediation has also been used to address prosecutorial disputes between Government and business. Finally, and more surprisingly, parties are turning to mediation to address seemingly intractable disputes over deeply rooted values, which are often the source of the environmental conflict.

In the resolution of environmental disputes, adversarial processes (like litigation) are only advantageous under certain circumstances. This is the case, when there is an imbalance in power between disputants or when one or both parties aim to establish a precedent in an evolving area of the law. Consequently, litigation and mediation importantly remain complementary of one another.¹⁵ Against this backdrop, there are numerous reasons why parties choose to mediate an environmental dispute, even where litigation is an option. Mediated processes, for example, help parties control dispute resolution costs that might otherwise escalate. These cost savings are advantageous regardless of whether a dispute concerns two businesses, a government prosecutorial action, or a citizen suit against developers. Mediated processes also allow people to maintain control over the dispute without delegating decision-making power to a third party or divulging confidential information. As a result, in mediation, parties can explore innovative means of dispute settlement that may offer joint gains for the parties involved, and also improve environmental quality. In mediated processes, parties are also more likely to develop parallel dispute and information management processes such as joint fact-finding sessions to navigate the inevitable scientific and technical

15 Ruppel (2007).

complexities and uncertainties that exacerbate environmental conflict. Mediation allows parties to sit around the negotiating table and create the solution together. However, an agreement reached through mediation should always be formally drawn up so that the agreement can be implemented and enforced.¹⁶

6.2.2 ADR in Namibian Statutory Law

Several Namibian environmental statutes contain mechanisms for out-of-court proceedings. Of particular relevance is the duty of the Ombudsman enshrined in the Constitution to investigate complaints “concerning the over-utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia”.¹⁷ To this end, the Constitution specifies that the Ombudsman makes use of various methods of ADR, particularly negotiation and compromise. The environmental mandate of the Ombudsman is dealt with in more detail in Chapter 27.

Section 121 of the Water Resources Management Act explicitly provides for mediation of disputes and is a good example of ADR in the area of environmental conflicts. Section 121 reads as follows:

- (1) If a dispute arises between two or more persons or between any person and the Minister, the Minister may, on the Minister’s initiative or at the request of any party to the dispute, direct that the dispute be dealt with by way of mediation involving an independent mediator.
- (2) A directive under subsection (1) must specify the period within which the mediation process must commence, and request the parties to select by agreement an independent mediator and determine the place and time of the mediation proceedings.
- (3) If the parties fail to select a mediator, the Minister, by agreement with the parties, may appoint the mediator, who may be a staff member of the Ministry, if the Minister is not a party to the dispute.
- (4) The parties, by agreement, may at any time during the course of mediation proceedings appoint another person to act as mediator.
- (5) The contents of discussions and submissions made during the mediation proceedings are privileged and may not be used in evidence in any court of law, unless the parties agree otherwise.

7 Concluding Remarks

In Namibia, more than 30 years after Independence, a legal culture upholding environmental rights is still in the initial phase of being created. On paper, a broad variety of

¹⁶ Ibid.

¹⁷ Article 91(c).

laws directed at environmental protection exists; and in principle, these laws also provide for effective mechanisms to ensure compliance with and enforcement of these environmental laws. What, however, remains a challenge is the full implementation of these provisions. It seems essential to strengthen the Executive and the Judiciary in terms of manpower and know-how in order to ensure that the principles anchored within the broad field of Namibian environmental laws are implemented in due consideration of all aspects of good governance, including transparency, reliability, accountability, predictability and the rule of law.

The holistic fulfilment of the Constitution's environmental principles regarding state policy requires even more political will and public participation at different levels. There is also a need for the Namibian society as a whole, and individuals in particular, to pass on a healthy and viable environment to future generations. For this purpose, it is imperative that Namibia considers a healthy and viable environment to be (at least implicitly) a fundamental right of its citizens and is ready to reaffirm its international commitments regarding the protection of the environment. The right to information, public participation and the right of access to justice should also be underlined in this respect.

The courts' role in promoting environmental justice cannot be overestimated. Internationally, the experiences of courts that have been tasked to decide over cases dealing with environmental rights show that the judiciary is crucial when it comes to interpreting existing law in a way that takes into account recent developments incorporating environmental concerns. In the 2009 South African case of *Lindiwe Mazibuko and Others v City of Johannesburg and Others*, O'Reagan J held that¹⁸

[t]he purpose of litigation concerning the positive obligations imposed by social and economic rights should be to hold the democratic arms of Government to account through litigation. In so doing, litigation of this sort fosters a form of participative democracy that holds Government accountable and requires it to account between elections [for] specific aspects of Government policy. When challenged as to its policies relating to social and economic rights, the Government agency must explain why the policy is reasonable.

Litigation concerning environmental rights cannot only lead to more environmental justice for the individual but will also exact more detailed accounting from Government and, with an attendant beneficial influence on the policy-making process. In this context, the Namibian judiciary will inevitably be confronted with the dilemma of 'judicial activism' versus 'judicial self-restraint'.¹⁹ While the latter refers to a situation in which the judge tries to avoid developing the law beyond its clearly established parameters in order not to take over a lawmaker's function, judicial activism describes a

18 *Lindiwe Mazibuko and Others v City of Johannesburg and Others*, Case CCT 39/09, [2009] ZACC 28.

19 The term was coined by Mahoney (1990).

situation in which judges extend or modify certain legal provisions as living legal instruments by interpreting them in the light of present-day conditions.²⁰

In this spirit it is hoped, that in the course of dealing with practical cases and a subsequent increase in environmental rights litigation and advocacy, Namibian courts gradually clarify the substance of those rights, while also drawing on international experiences.

Environmental mediation can be a flexible alternative permitting a wider view of the dispute and the reaching of agreements that extend the range of possible solutions (unlike a judicial process, which is usually characterised by its focus on a very limited aspect of the problem, and which is bound by procedural rules). After all, it is the complexity of environmental disputes that often requires an overall and comprehensive viewpoint and creative solutions.

20 Quansah / Fombad (2009).

Chapter 26: Instituting an Environmental Court or Tribunal: An Option for Namibia?

Elize Shakalela

1 Introduction to Environmental Courts and Tribunals

Environmental Courts and Tribunals (ECTs) trace their origin from Australia and New Zealand back in the 1970s. About 350 ECTs were recorded to exist in the year 2000, this number tripled to 1,200 ECTs recorded to be in operational in 2016.¹ The number is estimated to grow as countries realise the importance of establishing specialised environmental courts.² The establishment of ECTs depends on the circumstances of each country, including the capacity inherent in the country and its extent of land use, urbanisation, commitment to sound environmental governance, and existence of processes to implementing the principles of sustainable development.³

An Environmental Court or Tribunal (ECT) “can be realised through a public body or official in the judicial or administrative branch of government specializing in adjudicating environmental, resource development, land use, and related disputes”.⁴ These bodies can either exist in a form of a court or a tribunal. Environmental courts (ECs) are defined as specialised bodies designed within the judicial branch of government and mandated to hear, determine and dispose of matters relating to the environment.⁵ Whilst environmental tribunals (ETs) are specialised bodies established within the executive or administrative branch, mandated to make decisions on environmental matters.⁶

2 Models of ECTs

The models of ECTs include:⁷

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- 1 By, 2016 The following Countries had operating ECTs: Antigua and Barbuda, Australia, Austria, Bangladesh, Belgium, Bolivia, Brazil, Canada, Chile, China, Costa Rica, Denmark, Egypt, El Salvador, Finland, Gambia, Greece, Guatemala, Guyana, India, Ireland, Jamaica, Japan, Kenya, Malaysia, Malta, Mauritius, New Zealand, Nicaragua, Nigeria, Pakistan, Paraguay, Peru, Philippines, Samoa, South Korea, Spain, Sri Lanka, Sudan, Sweden, Thailand, Trinidad and Tobago, United Kingdom, and United States. See Pring / Pring (2016b:80).
 - 2 See Pring / Pring (2016b).
 - 3 Ibid.
 - 4 Pring / Pring (2016a:2).
 - 5 Pring / Pring (2016a).
 - 6 Ibid.
 - 7 Pring / Pring (2009a).

- Free-standing ECs and ETs;
- formal and informal panels of judges within a court of general jurisdiction normally referred to as green benches/chambers;
- individual judges within generalist courts who have training and expertise in environmental law and to whom environmental cases are assigned formally or informally; and
- ETs housed within another government body such as the environmental agency.

It is trite that there is no existence of a ‘one best model or a one-size-fits-all’ ECT structure. It has been rightfully noted that the most effective form for a country should be driven by factors that include the type of laws, legal institutions, cultural, and socio-economic conditions prevalent in each national jurisdiction.⁸

In order to improve access to environmental justice in the Namibian legal system, this Chapter proposes the establishment of an ECT. In the amid of institutions involved with enforcing environmental law, courts are recognised to be amongst the most powerful. They are important not only in resolving concrete disputes but also in a larger enterprise of developing principles, substantive rules and legal expertise to enhance environmental justice.⁹

2.1 Free-standing Environmental Court (EC) Model

A free-standing court model refers to a standalone court in the country’s judiciary. This model requires the enactment of an enabling legislation, outlining its establishment and functions. Namibia’s Labour Court is an example of a free-standing court model, established in terms of the Labour Act of 1992 as repealed by the 2007 Labour Act. Before establishing this model, a country would require conducting a needs assessment. It is common practice to undertake a needs-based assessment before a new institution is established. A needs assessment measures and demonstrates how the envisaged institution could resolve the problem as well as well as determining all the factors that should be considered before instituting such an established. It aids governments to make an informed decision before establishing an institution and determine questions relating to the sustainability of the court and the type of court model to adopt. The assessment can also be used to determine the case records and volume of the general courts in order to establish the prospect of case load for trial in the assessment. In Kenya, a record of at least one (1) million cases pending for hearing in the general

⁸ Markowitz / Gerardu (2012).

⁹ Obtained from McLeod-Kilmurray (2011).

courts were recorded.¹⁰ This case load resolved that a standalone EC, be established in Kenya's judiciary.

A free-standing EC operates with exclusive jurisdiction to hear and determine environmental matters as outlined in the enabling legislation. This type of ECT model requires resources ranging from qualified personnel employed by the court, a building where the EC is to operate from, rules of the court.¹¹ This type of model exhibits independency of the court, which is a critical factor to access environmental justice, as the more independent a court is of the political process and administrative pressure, the more likely its decisions are to be fair, equitable, unbiased, and perceived as such by government and the public.¹²

Establishing this form of a model in Namibia would require the conduction of a needs-based assessment to highlight issues like geographic location, costs to be incurred, caseload on environmental matters in Namibia, and to source best practices of this model from other jurisdictions.

2.2 Specialised Green Chambers

The term of specialised green chambers refers to the establishment of either a specialised unit, branch, chamber, a panel of judges or a judge operating within in the traditional courts of a country, appointed to hear and dispose of environmental matters. The establishment of a specialised green chamber does not require the enactment of an enabling legislation; its effect can be by a magistrate or the presiding judge of the court.¹³ Countries using this model, either have a formally designed chamber in the general court, or one that is set up on an *ad hoc* basis to hear cases pertaining the environment. The presence of this EC model is found in Uganda and India amongst other countries.¹⁴ The hallmark of this model is its flexibility, the flexibility of any court to set up a green chamber when a case relating to the environment is registered. The court remains accessible to the general public as any person wanting to file an environmental case may still file it any of the existing courts of the country. This model also allows the court to manage a caseload especially in instances where the number and complexity of environmental cases fluctuates, while maintaining a workable case load in the court.¹⁵

Namibia could create specialised green chambers in both its lower and superior courts. This would allow the court to manage its fluctuating caseload in environmental

10 Kaniaru (2012).

11 Pring and Pring (2016a).

12 Ibid.

13 Ibid.

14 Ibid.

15 Ibid.

matters, at the same time slowly creating a pool of specialised skills and expertise in the much-needed field of environmental litigation. The judges and prosecutors appointed to these chambers could be encouraged to attend training on environmental litigation, especially in instances where the applicant lacks knowledge in the field. Although establishing these specialized green chambers may not require a separate budget for its setting, one of the drawbacks of such a chamber could be the lack of flexibility of the court as a general court to practice innovative, creative, problem-solving approach in deciding in environmental cases.¹⁶

2.3 Green Judges

Green judges or a green judge refers to a single trial, judges and/or prosecutors in the traditional courts of a country, designated to deal with environmental matters. In the absence of environmental caseload, these personnel are assigned to other cases as they may arise. This EC model is suitable to jurisdictions where resources such as caseload, financial and human resources are insufficient to justify either a separate court or chamber of judges specialising in environmental law cases.¹⁷

Namibia could consider establishing this EC model, perhaps as a *gini piggi* (as a one-step-at-a-time) model in preparation to establish a specialised green chamber model which could expand a standalone EC model through the enactment of respective legislation.

2.4 Tribunals

Environmental tribunals can be defined as judicial bodies other than courts in the judicial branch but still specialised government bodies empowered to make binding decisions on environmental disputes. Tribunals are considered as a first step towards preventing and providing effective redress for environmental disputes.¹⁸ Tribunals may be incorporated as part of a standalone EC model or they can be established under the government authority / ministries designated to regulate environmental matters. There are three models of environmental tribunals:¹⁹

- Independent tribunals: The creation of an independent tribunal is effected by enabling legislation.

16 Ibid.

17 Ibid.

18 Markowitz / Gerardu (2012).

19 Pring / Pring (2016b:38).

- Quasi-independent tribunals: Refers to tribunals established and operating under the direction of another agency, whose decision they do not review.²⁰
- Captive tribunals: Bodies whose members are appointed by, answerable to, and/or housed in the environmental agency whose decisions they are supposed to review.

The establishment of environmental tribunals could be something worth considering in Namibia. The country already has experience in setting up such administrative bodies through the establishment of Labour Tribunals. Independent tribunals could be something worth pursuing, but research needs to be invested to establish a clear *modus operandi* drawing, among others, from existing tribunals in Namibia and elsewhere.

3 ECTs in the context of Namibia's Judiciary and the Environmental Management Act

Namibia's judicial powers are vested in the Judiciary as one of the organs of state.²¹ The Judiciary is made up of the Supreme Court, the High Court and the Lower Courts²² with the Supreme Court being the highest court of the country. Decisions of the Supreme Court are binding to all courts of the land. The High Court of Namibia is also known as the Court of appeal and review, which court has inherent jurisdiction to hear all appeals on decisions enforced by the lower courts. Namibia has two high courts, one is based in its capital city (Windhoek), whilst the other court based in the northern part of Namibia (Oshakati). The lower courts consist of the magistrate courts and regional courts; these courts are also known as the courts of first instance. The lower courts are preceded over by the magistrate in terms of the Magistrates Act. The establishment of an ECT in Namibia could bring about judicial decisions as for example required under the Environmental Management Act No. 7 of 2007 (EMA).

For carrying out the provisions of the EMA, environmental officers who may perform duties related to environmental compliance may be appointed by the Minister. Environmental officers are vested with various powers, including the power to enter and inspect premises subject to the authority of a warrant issued by a judge of the High Court or by a magistrate who has jurisdiction in the area where the premises in question are situated. Such warrant may only be issued if it appears from information on oath that reasonable grounds for believing that any material, substance or other things is on or in such premises, and it must be specified, which of the acts mentioned in Section

20 Ibid:37 refer to New York City Environmental Control Board (ECB) as a classical example of an independent quasi-independent tribunal. The tribunal was removed from within the environmental agency whose decisions it reviews and placed within New York City's Office of Administrative Trials and Hearings (OATH) in 2008.

21 Article 78 of the Namibian Constitution.

22 Article 78(1) of the Namibian Constitution.

19(3) of the EMA may be performed in terms of warrant of the person to whom it is issued. The issuance of such warrant could be part of the functions of a specialised ECT.

The Office of the Environmental Commissioner is set up as a department in the Ministry of Environment, Forestry and Tourism (MEFT). Its functions as outlined in Section 17 of the EMA are wide and administrative duties are at the core. The establishment of an ECT in Namibia will inhibit the issuance of a warrant to an environmental officer by the general courts, rather by a specialised court which will enhance and maintain consistency regarding the issuance of warrants. This section does by no means aver the replacement of the Office of the Environmental Commissioner with ECTs, it rather presents arguments on how ECTs could complement the work of the Office of the Environmental Commissioner in carrying out its duties and functions.

4 Push Factors for Establishing an ECT in Namibia

4.1 Principle 10 of the Rio Declaration

Principle 10 of the Rio Declaration,²³ is cited as a primary progenitor of ECTs in many jurisdictions. The principle recognises that environmental issues are best addressed with the participation of all citizens by recognising three important rights: appropriate access to information, the opportunity to participation in decision making process and effective access to judicial and administrative proceedings including redress and remedy.²⁴ Jurisdictions have come to realise that establishing a specialised ECTs can fulfil their obligations under this principle that they agreed to.

Principle 10 of the Rio Declaration is part of Namibian law through Article 144 of the Namibian Constitution. This means that Namibia is obliged to ensure that it respect, promote and fulfil the right to access to environmental justice by providing platforms to access information, platforms to participate in decision making process where appropriate and platforms to access effective administrative and or judicial bodies to seek redress when these rights have been infringed. It is also noteworthy to highlight that EMA promote the participation of all interested and affected parties, the EMA also makes it obligatory for administrative bodies to take into account the interests, needs values of interested and affected parties when making or taking an environmental decision.²⁵

23 Rio Declaration Principle 10. At <http://www.unep.org/documents.multilingual/default.asp?documentid=78&articleid=1163>, accessed 21 May 2020.

24 Kurukulasuriya / Powell (2010).

25 Part II, Section 3(c) of the Environmental Management Act No. 7 of 2007.

4.2 Development Agencies

Development agencies such as the World Bank also have an arm in the proliferation of ECTs.²⁶ Finance for development projects is provided mostly, if countries have stringent environmental and social safeguard policies in place.²⁷ Funding agencies require the conduction of detailed environmental impact assessments (EIAs) and strategic environmental assessments (SEAs) with the involvement of all the affected parties and the availability of dispute resolution mechanisms to warrant that the development-impacted people and the public are furnished with accurate information, an opportunity to raise concerns and file complaints against the envisaged development project. Traditional courts often lack the expertise to respond to the public's concerns on the development projects, therefore, governments often establish ECTs to fulfil this requirement.

4.3 The Judiciary

The push to establish ECTs could also be a push by the judges themselves, who realise the gap in the traditional courts to deliver justice to environmental litigation. Judges are becoming increasingly aware of their responsibilities to uphold the rule of law and to promote environmental governance through judgements and declarations.²⁸ Judges may also recommend the establishment of a ECT because of the backlog of cases that the courts have to decide on. The lack of expertise to adjudicate ECTs may also cause the delay to derive an environmental decision timely. To curb these delays imposed by the traditional courts, ECTs can be issued with preliminary emergency orders to deal with imminent and irreparable harm to the environment, which the general courts may lack or only use at the conclusion of a case.

4.4 Other Factors

A consistent six step pattern leading to the establishment of ECTs regardless of the country and its development status, has been described as follows:²⁹

First, the environmental impacts of non-sustainable development and population growth begin impacting the environment in a major way. Second, civil society and advocacy groups become aware of these environmental impacts and demand laws and institutions to prevent and/or mitigate the environmental damage. Third, laws are passed, which may or may not be adequate, but

26 Pring / Pring (2015).

27 Pring / Pring (2009a).

28 Ibid.

29 Pring / Pring (2009b).

are not rigorously enforced. (For example, many countries have now adopted the right to a healthy environment as a human right and/or sustainable development in their national constitutions and some international laws have created environmental rights of action. Fourth, public dissatisfaction with the laws or their enforcement prompts litigation in the general courts. fifth, this dissatisfaction with the general courts, by both plaintiffs and defendants, leads to a public debate over new options and the emergence of visionary leaders who believe that a well-designed ECT can address the issues. sixth, the general courts then disappoint these advocates by not having the expertise, patience, will, or incorruptibility to adjudicate environmental cases in a way that is – to quote the memorable phrase of one Australian court law – “just, quick, and cheap”; cases may take decades to hear, cost the parties immense sums, expose complainants to monetary liability or intimidation or worse, result in dismissal on technical grounds, and/or produce inconsistent decisions.

5 The Significance of Establishing an Environmental Court / Tribunal in Namibia

When delivering judgements, the role of the Judiciary is to apply and interpret the law in light of the facts of the case. The deliverance of a just judgment requires an understanding of the law, and in environmental law cases, an understanding of the complexity of a specialised field of environmental law. Environmental law is defined as a body of laws, including a system of complex and interlocking statutes, common law, treaties, conventions, regulations and, policies which seek to protect the natural environment which may be affected, impacted or endangered by human activities.³⁰ Authors on ECTs continue to note the difficulties and challenges faced by traditional courts to stay abreast with all the development of the complex and rapidly changing environmental law.³¹

The lack of environmental legal expertise in the judiciary is a hindrance to achieve environmental justice. Principle 10 of the Rio Declaration calls for the availability of “effective judicial and administrative proceedings, including redress and remedy”. The lack of legal expertise on environmental law can be interpreted to mean that the judiciary lack competency to dispose, determine and hear environmental matters. This hinders one of the arm to promote, fulfil and respect environmental justice through the provision of an effective judicial system to seek remedy and redress.

5.1 ECTs as Effective Tool to Enforce Environmental Law Timeously

Evident from the definition of environmental law is its complexity and scientific principles which require expertise to adjudicate these matters. An ECT is desirable because

30 See http://www.unep.org/training/programmes/Instructor%20Version/Part_2/Activities/Interest_Groups/Decision-Making/Core/Environmental_Law_Definitions_rev2.pdf last accessed 22 May 2020.

31 Markowitz / Gerardu (2012).

it paves a way to create a pool of expertise to adjudicate complex environmental cases. An ECT also has a comparative advantage to formulate principles which may have general applicability.³²

The scientific nature of environmental matters brings about a time-consuming task for judges to prepare themselves to be sufficiently expert to adjudicate the complex issues raised by environmental litigation. The establishment of an ECT in Namibia will decrease case backlogs.³³ Currently in its development phase, the growing number of mining and development projects taking place in Namibia, requires a well-equipped and educated judiciary on environmental law. Namibia's judiciary is yet to be presented with complex environmental litigation cases. Before the occurrence of these events, the courts should prepare to ensure that neither of the parties are denied access to an effective judiciary and/or administrative proceedings when seeking redress or remedy by delaying adjudication on matters relating to environmental law. Specialisation presents an opportunity for judges and personnel of the courts to gain more insight in a specific field. ECTs mainly adjudicate matters relating to the environment, land and established principles.

5.2 Option to Operate as a Multi-Door-Court-House

A multi-door-court-house incorporates a wide range of dispute resolution mechanisms. Such a court improvises on an array of in-house and external dispute resolution processes under one roof. This includes conciliation, mediation, arbitration, evaluation, adjudication of environmental matters and case management. Specialisation facilitates a better appreciation of nature and characteristics of environmental disputes and selection of an appropriate dispute resolution for each dispute.³⁴ Evidently, Namibia's Labour Court also follows this approach of a multi-door-court-house, by refereeing matters for conciliation, mediation and to arbitration when the parties fail to reach an agreement. The arbitrator awards a binding decision to the parties, subject to appeal and review by the Labour Court.

32 The ECT of Australia is a notable leader in formulating principles, the court has formulated 43 planning principles. See The Land and Environment Court planning principles at http://www.lawlink.nsw.gov.au/lawlink/ec/11_lec.nsf/pages/LEC-planningprinciple, accessed 27 May 2020.

33 Scott (1973) quoting Judge Wright.

34 Pring / Pring (2016b:21).

5.3 Comprehensive *Locus Standi*

The current courts of Namibia apply a restricted locus standi in that an applicant must demonstrate a direct and substantial interest in the subject matter and outcome of the application before the court can hear the matter.³⁵ ECTs often liberalise locus standi, strengthening the public's access to environmental justice and making courts accessible to anyone with a substantial environmental claim.

5.4 Improving Access to Environmental Justice

Access to justice includes access to environmental justice. It is recognised worldwide that traditional courts lack the ability to potentially maximise the development of procedures and institutional mechanisms to holistically guarantee access to environmental justice.³⁶ Principle 10 of the Rio Declaration recognises three access rights in line with environmental justice, access to information, the right to access to justice is now viewed as a standalone right, which also have a fundamental effect to secure other rights. Without doubt, access to justice is closely linked to environmental concerns and as the existence of nature depends upon the wellbeing of the environments. The jest of access to environmental justice is really the ability of persons who are affected or may be potentially affected by a developmental project in a certain environment to participate in, influence, and have rights of review in relation to, the making of environmental laws, decisions about land use, and development and enforcement of environmental laws.³⁷

Access to justice is enhanced in a clearly identified independent judicial court that is easily identifiable by the public, whose decision makers are highly trained in environmental law, and whose decisions are documented and published. Independence is perhaps the most important attribute of an ECT for access to justice. It is fostered by a democratic form of government, an unbiased judicial selection process, protection of decision-makers from political pressure or punitive consequences for their decisions, and institutional separation from the agency whose decisions are being reviewed.³⁸

The concept of environmental justice thrust shift the focus from the environment to the people, particularly the local communities. Environmental justice seeks to ensure that environmental protection is planned holistically and not in vacuum and to ensure that environmental goals take in to account social and political realities.³⁹

Specialised environmental courts are lauded for their potential to facilitate and promote environmental justice, covering both the substantial and procedural principles.

35 Articles 25(2) and 18 of the Namibian Constitution.

36 Angstadt (2016).

37 Millner (2011).

38 Pring / Pring, (2016b).

39 Kameri-Mbote / Cullet (1996).

These courts have proven to stretch the boundaries of locus standi.⁴⁰ ECTs provide a platform especially for environmental litigation. Traditional courts hinder access to environmental justice because of the limited expertise on environmental related issues and limited locus standi that it affords the public. ECTs eliminate all these by stretching the boundaries to locus standi through the principle public interest litigation where any public member may approach the court on a perceived harm that a specific project may have for development.

The components of environmental justice are the right to access information, the right to participate in decision making and the right to access justice. This study suggests that these rights are best enforceable through environmental advocacy, litigation and mediation. Specialized ECTs are well equipped to provide litigation by interpretation of the law and formulating principles. In terms of mediation, these courts are able to conduct judicial review in an independent manner, without any interference from the executive. It is very important that environmental justice is secured because a healthy environment is the *conditio sine qua non* for our existence on planet earth. Therefore, fundamental rights arising out of the civil and political rights as well as the social and economic rights such as the right to life, health, culture, family, depend upon environmental justice.⁴¹ *Locus standi* is a precondition to environmental justice, therefore “if nobody can sue, the environment is unprotected”.⁴² Including the principles of access to justice explaining them and demonstrating how specialised ECTs can improve access to environmental justice.

ECTs are also a way to reaffirm governments commitments towards environmental protection. It may also have a deterrence factor, especially on environmental crimes. One of the disadvantages of creating any specialised court especially for developing countries may perhaps be an argument that have also been noted as applicable to even developed states. A call for a certain specialized court might create more calls for specialized courts such as water courts, intellectual property rights courts, energy courts etc amongst others. However, proponents believe that there is a more efficient option of creating an environmental court that will consider disputes in the use of natural resources as well as those in the sphere of environmental protection.⁴³ Another is an argument that was also considered in china before establishing an environmental court, whether the establishment of ECTs will have enough caseloads.⁴⁴

40 The courts in India are made accessible to the public by provision of public in interest litigation, see Sharma (2008).

41 Millner (2011).

42 McLeod-Kilmurray (2011).

43 Anisimov / Ryzhenkov (2013).

44 Wang / Gao (2010).

5.5 An African Example: The Environment and Land Court (ELC) of Kenya

The advent of Environmental law in Kenya dates back in 1999 from the enactment of Kenya's environmental law framework, namely the Environmental Management and Coordination Act (EMCA).⁴⁵ The EMCA provides two avenues for resolving environmental disputes to complement the ordinary courts of law, namely; the Public Complaints Committee, a committee to receive environmental complaints from the public and the National Environmental Tribunal, a tribunal established to hear technical disputes relating to the administration of the Act.⁴⁶ Kenya's ordinary courts experienced challenges to determine disputes arising from the technical nature of environmental law, due to lack of expertise by its judiciary to interpret and apply environmental law.⁴⁷ In 2010, Kenya adopted a new Constitution through a referendum. The new Constitution creates two new specialised courts, namely (a) the Employment and Labor Relations Court and (b) the Environment and Land Court.⁴⁸ The Constitution also includes the right to a clean and healthy environment.

Kenya prides itself with being the first African country to establish an ECT.⁴⁹ Kenya's establishment of the Environment and Land Court also affirms the feasibility of establishing ECTs in any jurisdiction, particularly in Africa regardless of the country's economic status of development. Kenya is an example that Namibia may reference prior its decision to establish an ECT. It is worth mentioning that Kenya's ECT model in the amid of Australia, New Zealand, United States of America and India, is classified as one of the best ECT models, especially the operation of its tribunal courts.⁵⁰ Kenya's Environment and Land Act⁵¹ was concluded after numerous consultations with various stakeholders.⁵²

Kenya's judiciary comprises of five superior courts, subordinate courts, and tribunals.⁵³ The Environment and Land Court is a superior court granted status of the high

45 The Environmental Management and Co-ordination Act No. 8 of 1999, Kenya.

46 Odote (2013).

47 Ibid.

48 Kenya's Constitution, Section 162(2) reads as follows: "to establish a superior court to hear and determine disputes relating to the environment and the use and occupation of, and title to, land, and to make provision for its jurisdiction functions and powers, and for connected purposes".

49 Established in terms of Kenya's 2010 Constitution and enforced through the Court and Environment Act of 2011.

50 See Pring / Pring, (2016b).

51 Environment and Court Act No. 12 of 2012, Kenya.

52 Consultation between the Ministry of Justice, Environment, and Lands, consultations with the public, meetings with other entities Parliamentary Oversight Committee, Constitution Implementation Commission, and its instituted consultations, Kenya Law Reform Commission, the Office of the Attorney General), and printing by the Government Printer.

53 The Constitution of Kenya 2010: Articles 169-170.

court.⁵⁴ The court is granted original and appellate jurisdiction, to hear, determine and dispose of cases relating to the following classes of jurisdiction:⁵⁵

- Environmental planning and protection, climate issues, land use planning, title, tenure, boundaries, rates, rents, valuations, mining, minerals and other natural resources;
- relating to compulsory acquisition of land;
- relating to land administration and management;
- relating to public, private and community land and contracts, choses in action or other instruments granting any enforceable interests in land; and
- any other dispute relating to environment and land.

The court also has jurisdiction to determine matters relating to the right to a clean and healthy environment; the enforcement of environmental rights and obligations in respect of the environment.⁵⁶ The court is bound to use the alternative dispute resolution (ADR) mechanism as condition precedent to any proceedings before the Court, the Court shall stay proceedings until such condition is fulfilled.⁵⁷ Section 18 of the Environment and Land Act, elucidates the guiding principles of the court:

- (a) the principles of sustainable development, including –
 - (i) the principle of public participation in the development of policies, plans and processes for the management of the environment and land;
 - (ii) the cultural and social principles traditionally applied by any community in Kenya for the management of the environment or natural resources in so far as the same are relevant and not inconsistent with any written law;
 - (iii) the principle of international co-operation in the management of environmental resources shared by two or more states;
 - (iv) the principles of intergenerational and intergenerational equity;
 - (v) the polluter-pays principle; and
 - (vi) the precautionary principle;
- (b) the principles of land policy under Article 60(1) of the Constitution;
- (c) the principles of judicial authority under Article 159 of the Constitution;
- (d) the national values and principles of governance under Article 10(2) of the Constitution; and
- (e) the values and principles of public service under Article 232(1) of the Constitution.

The foregoing guiding principles of the court are so compressive, covering the aspect of both Kenya's national and international environmental law. The personnel of the court are recruited in the same manner as other judges' other courts. However, an additional requirement of at least 10 years' experience as a distinguished academic or

54 The Environment and Court Act 12 of 2012: Section 4(2).

55 Ibid: Section 13.

56 Article 69 of the Constitution.

57 The Environment and Court Act 12 of 2012: Section 70.

legal practitioner with knowledge and experience in matters relating to environment or land is added.

The establishment of the Environmental Management and Coordination Act No. 8 in 1999, has improved the then used to be rigid *locus standi* of Kenya.⁵⁸ The ELC, has also further improved Kenya's *locus standi*, in terms of Article 13(3) which states that

nothing in this Act shall preclude the Court from hearing and determining applications for redress of a denial, violation or infringement of, or threat to, rights or fundamental freedom relating to a clean and healthy environment under Articles 42, 69 and 70 of the Constitution.

6 Conclusion

Specialised tribunals provide opportunities for innovation, and for development of flexible procedures and remedies.⁵⁹ Any specialised court creates an increase decisional quality by judges who have more expertise and experience with the complex issue at hand. It is this process of learning by doing that gradually but surely lead the creation of a pool of expertise in any judiciary. This expertise ultimately increases uniformity and consistency in the interpretation and application of environmental law across the jurisdiction and discourage forum shopping.⁶⁰ It is also, argued that environmental courts are more responsive to environmental problems. One of the reasons why this study proposes the consideration of setting up an ECT in Namibia is because, most countries all over the world have come to realize the loop in the traditional courts when dealing with environmental issue caused by the scientific complexity of environmental law and the backlog of cases in the traditional courts.

The protection of the environment in Namibia is a constitutional requirement. This chapter has set out a roadmap towards establishing an ECT that Namibia may adopt in order to establish a specialised court system that deals specifically with environmental matters. The study has also demonstrated the pivotal role that is played by the judiciary in the interpretation and vindication of environmental law. It has been demonstrated how a specialised court is better placed to handle environmental related issues. The existence of ECTs around the world is preceded over by numerous factors including but not limited to Principle 10 of the Rio Declaration, development agencies, the Judiciary, and other factors. Different categories of ECT models have been described which Namibia may choose from.

58 The Environment Management Coordination Act, Section 3(3), states as follow: "any person who alleges that his or her entitlement to a clean and healthy environment is being or is likely to be contravened may apply to the High Court for redress".

59 Carnwarth (2012).

60 Anisimov / Ryzhenkov (2013).

It has been noted that the advocacy for environmental courts is traceable in the debate between the generalist versus the specialist court system,⁶¹ where special courts can develop procedural norms and deliver quality judgement through expert judges bringing about uniformity, consistency and predictability. It can therefore be concluded that establishing an ECT would be beneficial for Namibia, as a judicial body specialised in environmental matters would be efficient and effective in developing decisions, decrease multiple proceedings arising out of the same environmental dispute, reduce costs and delays, and ultimately contribute towards environmental justice.

61 Sharma (2008).

Chapter 27: The Ombudsman and the Environment

Katharina Ruppel-Schlichting

1 Introduction

In 1982, the United Nations General Assembly requested the Lusaka-based United Nations Institute for Namibia (UNIN), to prepare a comprehensive document on all aspects of socio-economic reconstruction and development planning for an independent Namibia.¹ The document recommended the creation of an institution based on the model of the Ombudsman, which has its origin in Sweden.² At the beginning of the nineteenth century, the Swedish Parliamentary Ombudsman was instituted to safeguard the rights of citizens through a supervisory agency independent of the Executive. The tasks of Ombudsmen, making Government accountable, have meanwhile been developed to a sophisticated level. Today, such institutions have been adopted in many countries all over the world and in many countries of southern Africa.³ In some countries there have also been developments of Ombudsman schemes in the private sector. Within the Southern African Development Community (SADC), all member states have institutions that keep an eye on the proper execution of power and the protection of human rights, even though not all these countries use the term Ombudsman.⁴

Usually, the Ombudsman is established per constitutional stipulation as an official, appointed by Government or Parliament. This official is charged with representing the interests of the public by investigating and addressing complaints reported by individual citizens. The major advantage of an Ombudsman is that he/she examines complaints independently of those state institutions charged with irregular conduct. In Namibia, the Office of the Ombudsman was constitutionally established, at Namibian

1 UNIN (1986). UNIN was established in 1976 by the United Nations Council for Namibia. The document was prepared in cooperation with the South West Africa People's Organisation (SWAPO), the Office of the United Nations Commissioner for Namibia and the United Nations Development Programme.

2 UNIN (1986:970).

3 Cf. Kasuto / Wehnhörner (1996).

4 Ombudsmen are established in Angola, Botswana, Lesotho, Malawi, Swaziland, Zambia, Zimbabwe, Namibia, Mauritius, and the Seychelles. In Mozambique, the institution of an Ombudsman was established by constitutional amendment in 2005. In Tanzania similar functions to those typically held by an Ombudsman are performed by the Permanent Commission of Enquiry. In South Africa, the title Ombudsman was changed to 'Protector-General', Madagascar has established an institution of a public protector (*Défenseur du Peuple*) and the Democratic Republic of Congo constitutionally provides for five institutions to support democracy, including the National Observatory for Human Rights. (*L'Observatoire National des Droits de l'Homme*) as well as a Commission for Ethics and Anti-corruption (*La Commission de l'éthique et de la lutte contre la corruption*).

Independence on 21 March 1990. Since then, three Ombudsmen and one Ombuds-woman have been at the helm of the Office.⁵

2 Legal Foundations

The intention behind this institution, the Ombudsman, is to protect and maintain the respect of the State for the rights of the individual citizen, to promote the rule of law, and to promote and advance democracy and good governance.⁶ The Namibian Bill of Rights in Chapter 3 of the Constitution contains a provision dealing with the enforcement of fundamental human rights and freedoms. Article 25(2), reads as follows:

Aggrieved persons who claim that a fundamental right or freedom guaranteed by this Constitution has been infringed or threatened shall be entitled to approach a competent Court to enforce or protect such a right or freedom, and may approach the Ombudsman to provide them with such legal assistance or advice as they require, and the Ombudsman shall have the discretion in response thereto to provide such legal or other assistance as he or she may consider expedient.

However, the really relevant legal provisions with regard to the Ombudsman are to be found in Chapter 10 of the Namibian Constitution as well as in the Ombudsman Act.⁷ They include provisions on the establishment of the office and on his/her political independence, appointment and term of office, functions and powers of investigation, amongst others.

According to Article 91 of the Constitution, the mandate of the Ombudsman in Namibia relates to three widely-defined categories:⁸ Human rights, administrative practices and the environment. Moreover, the Ombudsman contributes proactively towards education and development.⁹ Before the Namibian Constitution Second Amendment Act¹⁰ came into force, the Ombudsman's mandate also included the fight against corruption. However, with the amendment, the word corruption was removed from the list of functions of the Ombudsman in Article 91 in order to avoid a duplication of

5 The Office is headed by Ombudsman Basilius Dyakugha since 2021.

6 Kasuto / Wehmhörner (1996:118).

7 No. 7 of 1990.

8 For more details on the mandates of the Ombudsman see Ruppel / Ruppel-Schlichting (2010).

9 The Office of the Ombudsman provides for outreach programmes and specific human rights education, in order to enhance public education. These programmes are carried out in collaboration with NGOs, community leaders, local authorities, etc. The Office of the Ombudsman has also conducted several awareness campaigns and continues to do so. Such campaigns take the form of public lectures, community meetings, or the distribution of newsletters and brochures, to name but a few. Furthermore, during April 2006, in collaboration with NGOs, civil society organisations and the Council of Churches in Namibia, the Ombudsman established the Ombudsman Human Rights Advisory Committee. The latter Committee consists of 20 members of the afore-mentioned institutions, who together create a forum for dialogue on all aspects of human rights. For more detail on specific awareness campaigns undertaken by the Office of the Ombudsman, see Walters (2008:122f.).

10 No. 7 of 2010.

functions between the Office of the Ombudsman and the Anti-Corruption Commission of Namibia, which was established by the Anti-Corruption Act,¹¹ and inaugurated in early 2006. Thus, corruption-related complaints are now to be followed-up by the Anti-Corruption Commission (ACC).

Generally speaking, the Ombudsman in Namibia investigates complaints concerning violations of fundamental rights and freedoms, and regarding the administration of all branches of Government. Violations are rectified by attempting a compromise between the parties concerned, or by bringing the matter to the attention of the authorities, by referring the matter to the courts or by seeking judicial review.

3 Basic Characteristics of the Ombudsman in Namibia

To ensure citizens have an avenue, open to report complaints, free of red tape and free of political interference, the Namibian Ombudsman is politically independent, impartial, fair, and acts confidentially in terms of the investigation process.¹² Negotiation and compromise between the parties concerned are the main objective when handling complaints.¹³

Different acts or non-actions can give rise to complaints under the competence of the Ombudsman. They include the failure to carry out legislative intent, unreasonable delay, administrative errors, abuse of discretion, lack of courtesy, oppression, oversight, negligence, inadequate investigation, unfair policy, partiality, failure to communicate, maladministration, unfairness, unreasonableness, arbitrariness, inefficiency, violation of law or regulations, abuse of authority, discrimination, and all other acts of injustice.

Complaints may be submitted to the Office of the Ombudsman by any person, free of charge and without specific formal requirements. The Office of the Ombudsman cannot investigate complaints regarding court decisions, however. The Office cannot assist complainants financially or represent a complainant in criminal or civil proceedings. Authorities which may be complained about include Government institutions,¹⁴ parastatals,¹⁵ local authorities and, in the case of the violation of human rights or freedoms, private institutions and persons.¹⁶ In 2009, complaints were brought against

11 No. 8 of 2003.

12 Tjitendero (1996:10). As to the characteristics of a classical Ombudsman in general see Gottehrer / Hostina (1998).

13 Article 91(e) of the Constitution and Section 5(1) of the Act.

14 Including Ministries, the National Assembly, the National Planning Commission, and the Attorney-General.

15 Including NamPower, Telecom, NamWater, NamPost, and the Namibian Broadcasting Corporation.

16 Gawanas (2002:104).

several Ministries, the Namibian Police, Prison Service, and others.¹⁷ A statistical analysis of cases taken up by the Ombudsman's office during the period 2007–2009 shows that among those objections against Government institutions, around 65% were directed at the Ministry of Justice and the Namibian Police, and prison-related matters.¹⁸

In order to effectively fulfil his or her functions, the Ombudsman has to be impartial, fair, and independent. Independence is probably the most fundamental and inviolable value for the successful functioning of the Ombudsman's office.¹⁹ This is emphasised in Article 89 of the Constitution, which explicitly provides that “[T]he Ombudsman shall be independent and subject only to this Constitution and the law” and that

no member of the Cabinet or the Legislature or any other person shall interfere with the Ombudsman in the exercise of his or her functions and all organs of the State shall accord such assistance as may be needed for the protection of the independence, dignity and effectiveness of the Ombudsman.

The underlying rationale for independence is that an Ombudsman has to be able to conduct fair and impartial investigations, be credible to both complainants and the authorities that may be reviewed by the Office of the Ombudsman.²⁰ There are several determining factors, which, taken as a whole, serve to secure the independence of the institution. These factors are related to the positioning of the institution within the legal framework, the method of appointing and removing an incumbent from office, accountability, funding and personnel issues, enforcement mechanisms, and the investigation process.²¹

In terms of functional and political autonomy, it is essential that the Ombudsman is independent of the institutions or organisations he/she reviews.²² If this were not the case, there would be an increased risk of serving the interests of the reviewed organisation, and complaints would not be dealt with in an impartial manner based on examination and analysis of the facts and the law. Provision for the independence of the Ombudsman from the organisations he/she reviews is made in Article 89(2) of the Constitution. Legislative control is only permissible by way of the Ombudsman's appointment, reappointment or removal from office, with strict preconditions attached to the latter, as regulated by Article 94. To have the Ombudsman's independence supported and acknowledged remains a challenge in practice:²³

the ‘battle’ to have the Ombudsman's independence supported and indeed acknowledged, remained a problem; this is mainly attributed to the fact that the Office of the Ombudsman is a directorate situated within the Ministry of Justice and is treated by the Ministry as such.

17 Office of the Ombudsman (2010:29ff.).

18 Ibid:29.

19 See Ruppel-Schlichting (2008:277).

20 UNDP (2006:12).

21 Ruppel-Schlichting (2008:277).

22 Blaauw (2009:18).

23 Office of the Ombudsman (2014:3).

In Namibia, the establishment of the Office of the Ombudsman rests on two pillars. The first of these, the legal authority, is found in the Constitution. The Constitution of Namibia also authorises the legislative body to enact statutory law to amplify the Ombudsman's powers and responsibilities. This law has duly taken the form of the Ombudsman Act. By integrating the institution of the Ombudsman into the Constitution, which is the supreme law of the land,²⁴ the permanence and authority of the institution is underscored, since any constitutional amendment is subject to strict conditions. The aforementioned measure creates stability for the office and lends credibility to it in terms of public perception. The Ombudsman is thus free to investigate cases without fear that the office's activities will be hampered by political considerations, that it will easily be closed or restricted in its tasks.

The Ombudsman is appointed by the President on the recommendation of the Judicial Service Commission.²⁵ The latter consists of the Chief Justice, a judge appointed by the President, the Attorney-General, and two members of the legal profession.²⁶ The appointment process is initiated by the Judicial Service Commission's recommendation and followed by the formal act of proclamation by the President. The two-stage appointment process intends to make sure that the Ombudsman is independent of any agency. If the Ombudspersons were not independent of the agency being reviewed, he/she could be subject to pressures that would reduce the credibility of the institution. All appointments of Ombudsmen to date have observed this constitutional two-stage appointment process.²⁷ With regard to the appointment of an acting or deputy Ombudsman, respective provisions are contained in the Ombudsman Act.²⁸ Strict selection criteria in terms of personal qualifications are applied to warrant that the Ombudsman is not subject to further control: "The Ombudsman shall either be a Judge of Namibia, or a person possessing the legal qualifications which should entitle him or her to practise in all the Courts of Namibia."²⁹

The Ombudsman enjoys a fixed, long term of office – which is another way of securing independence from actual political developments. Article 90(2) of the Constitution provides that the Ombudsman holds office until the age of 65. However, the retiring age may be extended by the President to the age of 70. No further provision is contained in the Act as to the term of office, which implies that, regardless of the age at the time of appointment, the Ombudsman theoretically holds office until the age of 65 or 70, respectively. The Ombudsman Act, however, states that the appointment of the Ombudsman is required to be in accordance with such terms and conditions as the

24 Article 1(6), Namibian Constitution.

25 Article 90(1), Namibian Constitution.

26 Article 85(1), Namibian Constitution.

27 So far, four Ombudsmen have taken office: the late Fanuel J Kozonguizi in 1992, Bience Gawanas in 1996, John Walters in 2004 and Basilius Dyakugha in 2021.

28 Section 2.

29 Article 89(4), Namibian Constitution.

President may determine. Many legal systems providing for the establishment of the institution of Ombudsman have a time restriction on the term of office, combined with the possibility of an extension. In light of especially the independence of the institution, a fixed term of office, subject to a time limit with the option of reappointment or extension seems to be more acceptable, than an indefinite term of office.

Before the expiry of the Ombudsman's term of office, the Ombudsman can only be removed from his office subject to the tight requirements of Article 94 of the Constitution. The President, acting on the recommendation of the Judicial Service Commission, is empowered to remove the Ombudsman from office only for specified causes, e.g. incapacity, or gross misconduct. This guarantees that the Ombudsman will not be removed for political reasons or just because the results of investigations have offended those in political power in the legislative body. Following the principle of immunity from liability and criminal prosecution that is granted to heads of state, it is considered appropriate to grant immunity to an Ombudsman for acts performed under the law. The Southern African Conference for the Institution of the Ombudsman in its resolutions and recommendations provides that –

[t]he Ombudsman and members of his/her staff should not be personally liable for anything that they do in the due course of their duties, provided that liability be attached to the Institution for the Ombudsman and his/her staff for wilfully committing or omitting anything in bad faith.³⁰

Namibia's Ombudsman Act provides for a limitation of liability in respect of anything done in good faith under any provision of the Act.³¹ This applies to the Ombudsman³² as well as to his/her deputy and other office staff. According to Section 2(4) of the Ombudsman Act, the Ombudsman is not permitted to perform remunerative work outside his/her official duties without the permission of the President.

4 The Environmental Mandate of the Ombudsman

Beside the mandates on human rights and maladministration, the environmental mandate is of specific importance regarding the legal implications of environmental concerns in Namibia. This mandate, according to Article 91(c) of the Constitution, *inter alia*, relates to the over-utilisation of natural resources, the protection of ecosystems, and to the maintenance of the beauty and character of Namibia. The power to investigate complaints concerning environmental issues contains unique provisions, which go beyond the traditional powers and functions of an Ombudsman institution. The environmental mandate of the Ombudsman is a progressive and innovative step towards environmental protection, which may have model rule character. However, the

30 The Conference was held in November 1995 in Swakopmund, Namibia. For the resolutions and recommendations, see Kasuto / Wehmhörner (1996:6).

31 Section 11 of the Ombudsman Act.

32 The Ombudsman holds a diplomatic passport *ex officio*.

provision could be given a more vital role within the Ombudsman's activities. Two major points may be listed for the fact that the Office of the Ombudsman to date are not dealing with many complaints under the environmental mandate; on the one hand, the imbalance can be traced back to the nature of topics/complaints, with some occurring more frequently than others; on the other hand, despite the fact, that the Office of the Ombudsman endeavours to raise publicity for the institution and to take the office to the grassroots level,³³ the awareness of the potential of the Ombudsman in environmental matters is very low. Many people are still unaware of the availability of the institution in environmental matters.³⁴ The lack of sufficient specifically trained staff³⁵ and financial resources as well as the heavy workload are further challenges for the Ombudsman's activities in environmental matters. Nevertheless, the Ombudsman's environmental mandate is a progressive step towards environmental protection in Namibia and it is hoped that because of the multi-functionality of the Office this mandate can be invested with the much-deserved and needed importance in future. Although the categories of maladministration and violation of human rights play the most vital role in the work of the Office of the Ombudsman,³⁶ environmental concerns deserve equal attention. The imbalance as to complaints by specific mandates can be clearly seen when consulting relevant data of the recent years.³⁷

33 Tours all over the country are recurrently undertaken by the Office of the Ombudsman to expose the office to the population and to enhance publicity; alongside the main Office of the Ombudsman in Windhoek, the institution maintains branches in Keetmanshoop and Oshakati.

34 Many cases of environmental concern do, regrettably, still not find their way to the Ombudsman Office. The case of the Epupa dam might serve as a prominent example. In this case, a hydro-power scheme was proposed by NamPower (the Namibian parastatal for the bulk supply of electrical power) for the lower KuneneRiver in north-western Namibia. The case drew local and international attention, when the Himba community opposed the project in 1998. However, in this case, it was not the Office of the Ombudsman that was approached with a complaint by the communities' Chief. For further reference see Daniels (2003:52).

35 However, several training measures on environmental issues, such as workshops on environmental law in Namibia, have been performed recently in order to train staff of the Office of the Ombudsman in environmental matters. See Ruppel (2009d). Further projects of this kind remain on the Ombudsman's agenda.

36 Walters (2008:121ff.).

37 See the annual reports by the Office of the Ombudsman (2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014, 2015, 2016, 2017, 2018, 2019, 2020 and 2021).

Table 1: Complaints to the Office of the Ombudsman by mandate from 2008 to 2019

Year 2008	Year 2009	Year 2010	Year 2011	Year 2012	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020
Maladministration												
872	1064	1,397	1,656	978	1,288	1,332	2,018	1774	2,040	1,845	1,795	1,401
Human rights violations												
138	165	236	221	189	236	199	341	301	459	325	261	263
Corruption												
35	30	14	10	6	8	12	5	7	13			
Environment												
3	6	4	5	6	6	5	4	7	13	11	6	6
Miscellaneous												
494	343	475	659	746	805	886	1,584	1,659	1,637	1,337	1,201	930
Total number of complaints												
1,542	1,608	2,126	2,551	1,925	2,343	2,434	3,952	3,748	4,162	3,518	3,263	2,600

Source: Table compiled by the author based on Office of the Ombudsman (2009, 2010, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020 and 2021).

In the course of 2019 and 2020, various solid and liquid waste sites have been inspected by the Office of the Ombudsman detecting environmental pollution due to poor waste management practices. Major issues revealed with regard to waste sites across the country included the lack of clearance certificates, required environmental impact assessments as well as of environmental management plans. Furthermore, improper fences around waste sites, insufficient recycling and uncontrolled burning of waste causing environmental harm have been reported among others. Another investigation performed by the Ombudsman’s Office during 2019 related to the uncontrolled destruction of flood plains in the Rundu area. Upon respective complaints, uncontrolled cutting of trees, illegal sand mining, deficient introduction of sewage waste, and the illegal dumping of waste within the flood plains have been revealed and reported to the competent Ministries for further action to protect the flood plains and prevent pollution of the Kavango River.³⁸

In 2018, the office of the Ombudsman issued a report on the impact of plastic bags on the environment advocating for a total ban of plastic bags. The report was submitted to the Ministry of Environment and Tourism. Furthermore, some inspections relating to sand mining and sewage flowing have been subject to inspections by the Office of the Ombudsman.

38 Office of the Ombudsman (2020).

Investigations into solid and liquid waste management by all towns and villages covering all 14 regions of the country have been performed in 2017 in addition to some cases of soil and water pollution.

In 2016, investigations into solid and liquid waste management resulted in a report submitted to relevant ministries for the implementation of recommendations including, among others, the following:³⁹

- Local Authorities must ensure that their solid waste sites are approved by the Ministry of Environment and Tourism;
- the needs to apply for an environmental clearance certificate from the Ministry of Environment and Tourism in terms of Section 27 of the Environmental Management Act, 2007 in order to establish and develop a waste disposal site;
- more emphasis must be placed on waste minimisation and recycling; and
- by-laws must be in place and enforced to deal effectively with littering and illegal dumping of waste material at non-designated areas.

One of the environment-related complaints in 2013 was filed by a lodge owner against the Okahandja Municipality. Subject at matter was the alleged noise pollution and environmental destruction caused by a sand mining company who was granted a sand mining permit by the Okahandja Municipality to collect sand from the Okakongo river located next to the lodge owner's camp site. The investigation by the Office of the Ombudsman revealed that no environmental clearance certificate had been issued by the Environmental Commissioner as required by the Environmental Management Act No. 7 of 2007. As a result, the company seized with its sand mining activities while waiting for the required environmental clearance certificate.⁴⁰

Another environmentally relevant complaint brought to the attention of the Ombudsman in 2011 related to the harvesting of Cape fur seals. A complaint alleged illegalities pertaining to the annual seal hunt in Namibia and requesting an urgent interdict preventing the harvest from commencing. Grave concerns about Namibia's annual seal harvest have furthermore been raised by several civil society organisations, NGOs and individuals. In 2012, the Office of the Ombudsman published its report on the matter at hand⁴¹ concluding that the harvesting of seals is lawful and that he does not have adequate and sufficient grounds in law and fact to recommend to the Namibian Government to stop the annual seal harvest. On the question however, of whether, in harvesting Cape fur seals in the manner, which is currently practised, Namibia would use its natural resources unsustainably, the Ombudsman was unable to come to a definite finding. The lack of sufficient evidence in this regard was given as reason. The

39 Office of the Ombudsman (2017).

40 Office of the Ombudsman (2014:31).

41 Office of the Ombudsman (2012).

Ombudsman in his report⁴² stated that despite several oral and written requests, he could not obtain the information requested by the Ministry of Fisheries and Marine Resources, namely the 2011/12 aerial survey of seals by the Benguela Current Commission and other related information.

The few investigations on environmental issues in 2009 touched on waste disposal at the Windhoek Central Prison, and the oxidation pond system and the management of the solid waste disposal side in Okahandja.⁴³ In an earlier case in relation to a Malaysian textile company, Ramatex, which allegedly had failed to maintain sound environmental practices and contaminated some soil and groundwater in Windhoek, a complaint was brought to the Office of the Ombudsman by Earthlife Namibia, an environmental NGO.⁴⁴

The above cases show that the Office of the Ombudsman is committed to carry out the environmental mandate as enshrined in the Namibian Constitution. But still, many cases of environmental concern do not, regrettably, find their way to the Ombudsman's Office. The Namibian Constitution, as well as a multitude of statutory enactments and policies underline the importance of environmental matters and the Ombudsman is endowed with the constitutional power, to play a significant role within the wide field of environmental protection. Hopefully, the importance of the Ombudsman's environmental mandate will be reflected in a higher number of environmentally relevant complaints sometime in future.

5 Investigation, Enforcement and Reporting Procedures

Section 4(a) of the Ombudsman Act provides that

[w]hen the Ombudsman performs his or her duties and functions in terms of the Act the Ombudsman may in his or her discretion determine the nature and extent of any inquiry or investigation.

The investigative powers and procedures are described in Article 92 of the Constitution and Section 4 of the Act.⁴⁵ The Ombudsman may determine the nature and extent of any inquiry or investigation and has

the right to enter at any time (...) any building or premises (...), except any building or premises or any part thereof used as a private home, and to make such enquiries therein or thereon, and put such questions to any person employed thereon (...) in connection with the matter in question.

Usually, the investigation process is started by a complaint brought before the Ombudsman by an individual. In this context, and with regard to the Ombudsman's independence, consideration needs to be given to whether the Ombudsman, apart from

42 Office of the Ombudsman (2013).

43 Office of the Ombudsman (2010:20ff.).

44 See in this regard Ruppel (2008b:116ff.).

45 As to the adequacy of powers given to the institution, see Gawanas (2002:105).

conducting an investigation on the basis of a complaint, may also conduct proactive investigations. Such competence would indeed contribute to the independence of the Ombudsman in that he/she would not be tied down by incoming complaints only. Proactive investigations may also be appropriate in cases where the persons affected are unable to make a complaint themselves, e.g. if affected persons would endanger themselves by submitting a complaint.⁴⁶

Although neither the Constitution nor the Ombudsman Act contains an explicit provision allowing the Ombudsman to conduct an investigation without having received a complaint, the Ombudsman may decide to undertake proactive investigation if such an investigation concerns issues and involves authorities which would be within the institution's competence if they had been brought by a complainant.⁴⁷ Own-motion investigations are acceptable and are indeed being conducted.⁴⁸ After having received a complaint, and after having decided on the question of jurisdiction, and whether to investigate, investigations are undertaken through fact-finding by collecting all necessary information with the goal to resolve complaints where possible and to achieve a remedy for the complainant and/or a restoration of rights that have been violated. Generally, the Ombudsman raises requests in order to obtain relevant information. To have enquiries answered by offending institutions has proven difficult, as expressed by the Ombudsman in his recent annual report:⁴⁹

Regarding responses from offending institutions in a timely fashion, it saddens me to have to report that there has not been any improvement whatsoever; on the contrary, the situation seems to have worsened and I had to subpoena more persons than ever before to force institutions to answer enquiries from the Ombudsman. I am at my wits end as to how this problem should be addressed, but one can only hope that Permanent Secretaries will accept responsibility for this and perhaps designate focal persons to deal with enquiries; such a small gesture will go a long way in addressing this particular problem.

In the event the Ombudsman is of the opinion that any instance investigated by him or her can be rectified or remedied in any lawful manner, he or she gives notification of his or her findings and the manner in which the matter can, in his/her opinion, be rectified or remedied.⁵⁰

Although the Ombudsman obviously has to adhere to the provisions of the Constitution and the Ombudsman Act, strict rules of procedure such as those that apply to court proceedings do not have to be applied by the Ombudsman. Instead, the Ombudsman uses his/her discretion to generate a speedy and informal resolution by applying

46 UNDP (2006:25).

47 For further reference see Ruppel-Schlichting (2008:283).

48 The recent investigation with regard to waste disposal at Windhoek Central Prison was initiated on the Ombudsman's own motion in the course of a routine visit at the prison; see Office of the Ombudsman (2010:20). Especially in cases of human rights violations, own-motion investigations have repeatedly been conducted.

49 Office of the Ombudsman (2014:3).

50 Section 5(1)(b) of the Act.

techniques such as negotiation and compromise.⁵¹ The powers of investigation described in Article 92 of the Constitution and Section 4 of the Ombudsman Act warrant self-determined investigation procedures.⁵²

The Ombudsman, furthermore, has the right to access all documents relevant to the investigation, as well as the right to seize anything that he/she deems necessary in connection with the investigations.⁵³ The investigative powers of the Ombudsman also imply the right to require any person to appear before him/her in relation to a specific inquiry or investigation. Individuals may be compelled to appear and give testimony, or to produce information determined to be relevant to the investigation. In this regard, the Ombudsman even has the right to issue subpoenas.⁵⁴ These far-reaching powers of investigation and their anchorage in the afore-mentioned legal instruments emphasise the basic approach that the Ombudsman is empowered to conduct investigations without being dependent on any other body. However, litigation might become necessary to enforce the powers granted to the Ombudsman by the Constitution and the Ombudsman Act.

The investigation generally ends once the Ombudsman is satisfied that it has yielded all the relevant facts. As soon as the investigation process is completed, the Ombudsman notifies the person who laid the matter before him/her, and takes appropriate action or steps to call for or require the remedying, correction and reversal of matters such as: negotiation and compromise between the parties concerned; reporting the findings to the superior of an offending person; referring the matter to the Prosecutor-General or to the Auditor-General or both, or bringing proceedings in a court.⁵⁵

The Ombudsman may in general not make binding orders. It could be argued that without such power, the Ombudsman cannot protect the rights under his or her mandate efficiently and the lack of such power might be interpreted as a weakness of the Ombudsman institution. On the other hand, the Ombudsman has extensive powers to inquire and investigate. If the Ombudsman would have the power to make binding orders, the institution would take the function of a court of last instance, which would – despite the fact that much more financial resources would be needed – not meet the basic rationale of such institution.⁵⁶ In case that complaint shows that the complainant

51 Article 91(e)(aa), Namibian Constitution.

52 As to the adequacy of powers given to the institution, see Gawanas (2002:105).

53 Section 4(1)(b), Ombudsman Act.

54 Article 92(a), Namibian Constitution.

55 Article 91(e), Namibian Constitution and Section 5 of the Act.

56 See UNDP (2004:3). This Report on the Fourth UNDP International Round Table for Ombudsman institutions in the ECIS Region makes the point convincingly, that the lack of power of making binding orders, considered by some as a weakness, in fact is the institution's strength for "[w]here any institution has the power to order others to do its bidding, another institution must have to power to review the decisions of the first institutions. In this case, if Ombudsmen were to have the power to issue binding orders, the courts would be the place where the

was justified in bringing the complaint, the Ombudsman's main instrument is rather to make recommendations in order to solve problems or prevent them from reoccurring.⁵⁷ By using this method, Government agencies are persuaded rather than forced to act, which in many cases may lead to more effective and efficient solutions.

The Ombudsman is not endowed with the coercive powers typical of formal justice systems. The institution follows the approach of alternative dispute resolution; an informal process in which conflicting parties revert to the assistance of a third party who helps them resolve their dispute in a less formal and often more consensual way than would be the case in court. The methods for dealing with grievances underline the Ombudsman's independence in terms of the broad variety of options available for conflict resolution. On the one hand, the Ombudsman can bring proceedings before competent courts if he/she deems it necessary;⁵⁸ on the other, the Ombudsman can opt for various alternative methods to resolve the disputes in question. Compared with the rights-based traditional adversarial attitude towards dispute resolution, the alternative interest-based approach to dispute resolution has expanded significantly within the past few years, not only in the field of human rights and administrative justice, but also in the private sector.⁵⁹

Indeed, several arguments favour alternative dispute resolution above court proceedings. Normally, such alternatives are faster and less expensive. Generally, they also allow greater and more flexible control over the dispute. Moreover, the process is based on more direct participation by the disputants, rather than being run by lawyers, judges, and the state; and finally, in most processes, the disputants outline the process they will use and define the substance of the agreements. This type of involvement is believed to increase people's satisfaction with the outcomes, as well as their compliance with the agreements reached. By avoiding court proceedings, the relationship between the disputing parties is often less afflicted, which is a key advantage in situations where the parties need to continue interacting after settlement has been reached, such as in labour cases.

Ombudsman's orders would be reviewed. Having the power to order that recommendations be implemented would change dramatically the dynamic of an Ombudsman institution... What was created to be a less formal and faster way of solving problems would likely become more formal and slower. The cost to the Ombudsman, the people and the state would be greater and the benefits would be fewer." Similar arguments were given by the European Ombudsman, Diamandouros (2006).

- 57 For these reasons, the sub-regional *Conference on the Ombudsman in southern Africa* in its concluding resolutions and recommendations held that "[T]he Ombudsman should not have enforcement mechanisms and/or powers". See Kasuto / Wehmhörner (1996: 5).
- 58 Article 91(e) of the Constitution provides for specific instances in which the Ombudsman can bring proceedings before the courts, e.g. in order to obtain an interdict to secure the termination of the offending action or conduct, Article 91(e)(dd) or to seek an interdict against the enforcement of legislation by challenging its validity, Article 91(e)(ee).
- 59 Ruppel (2007:1).

While the most common forms of alternative dispute resolution are mediation and arbitration, there are many other techniques and procedures applied by Ombudsman institutions. Typically, the Ombudsman explores options and attempts to achieve equitable solutions for all parties. The Ombudsman works through alternative dispute resolution methods such as negotiation, mediation, consultation, influence, shuttle diplomacy, and informal investigation.

Due to the fact that the Ombudsman may not issue binding orders, he/she cannot be taken to court to appeal the findings; neither can the findings and reports be subject for review or modification. However, courts may decide upon the question, whether or not the Ombudsman has jurisdiction in specific cases. A claimant can still take the case to the courts after having submitted a respective complaint to the Ombudsman, for one objective of establishing the office is to offer an alternative to litigation, but not to force an aggrieved party to choose between the option to submit a complaint to the Ombudsman and the possibility of taking the alleged offender to court.

According to the Constitution and the Act, the Office of the Ombudsman is obliged to draft reports on his/her investigations.⁶⁰ These reports can be divided into two main categories: those drafted for single complaints, and those containing all the activities of the Office within a specific period. When investigations are completed, the Ombudsman drafts a report containing findings on the complaint, as well as recommendations to solve the problems or to prevent them from happening again. Despite the final recommendations, the report summarises the complaint, the facts found, the law governing the situation, an analysis of the facts in light of the law, as well as a finding on what the complaint alleged.⁶¹ An annual report containing the Ombudsman's activities during the period ending on 31 December of the previous year has to be drafted and submitted to the Speaker of the National Assembly and subsequently to the National Assembly.⁶² The annual reports contain information as to the scope of activities, complaints, investigations, management services and administration, outreach activities and public education. The reports impressively reflect that the Office of the Ombudsman takes the task to protect and promote the values under his mandate seriously through independent and impartial investigations, as words are not minced in these annual reports. The annual reports contain specific case summaries and statistical breakdowns, which draw a clear picture of the work performed by the office in several respects.

60 Provisions for reports to be furnished by the Office of the Ombudsman are contained in Article 91(g) of the Constitution as well as in Section 6 of the Ombudsman Act.

61 UNDP (2006:21).

62 Article 91 (g) of the Constitution and Section 6(2) of the Act.

PART XI:
CROSS-CUTTING ISSUES

Chapter 28: Trade, Environment and Sustainable Development

Oliver C. Ruppel

1 Introducing the International Trade, Environment and Development Debate

Issues related to international trade and the environment undoubtedly are of significance to developing countries because they argue that developed countries have depleted resources and indulged in environmentally harmful practices during the past century, in order to achieve unprecedented high standards of living.¹ The developing countries therefore demand a general but differentiated responsibility, seeking open trade and compensation for adopting environmentally restraining policies.² Upon further reflection on the link between economic growth activities, environmental protection and social development, the triangular debate on these topics will be highlighted briefly, by introducing the various perspectives.³

1.1 The Trade Perspective

Trade creates the wealth, which increases human well-being. Trade can be good for the environment because it creates wealth that can be used for environmental improvement, and the efficiency gains from trade can mean fewer resources used and less waste produced. Increased economic growth leads to more environmental protection and a higher standard of living. The exchange of goods introduces new technologies, which reduce emissions and save raw materials and natural resources.

1.2 The Environmental Perspective

The environment actually represents a higher order than trade and the *status quo* seriously threatens the earth's eco-systems. Developing countries try to protect themselves against costly environmental demands. In contrast, the wealth created by trade will not necessarily result in environmental improvements. Trade liberalisation is deemed to cause greater harm, leading to exports of natural resource allocation to other countries and thereby causing increased environmental degradation.⁴

1 Ruppel (2009c; 2010g, 1).

2 Goyal (2006:11).

3 For further reading see Goyal (2006) and UNEP (2005b).

4 For a detailed discussion see UNEP (2005b:3ff.).

1.3 The Development Perspective

Developing countries' top priority should be to reduce poverty. Openness to trade (market liberalisation) and investment may be a key to doing so by increasing exports, even though the link between market liberalisation and economic growth does not happen automatically. Developed countries protect their industries with subsidies, special trade rules and tariff systems which place a disadvantage at exporters in developing countries. Demands that developing countries comply with the environmental standards of developed countries are unfair, particularly if they are not accompanied by technical or financial assistance. Priorities differ; in Africa, for example, clean water is paramount and, historically, developed countries caused most of the environmental damage in the first place.

1.4 Sustainable Development: The Answer to the Dilemma?

Principle 11 of the 1972 Stockholm Declaration states that:

The environmental policies of all States should enhance and not adversely affect the present or future development potential of developing countries, nor should they hamper the attainment of better living conditions for all, and appropriate steps should be taken by States and international organisations with view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures.

In its 1987 report *Our Common Future*, the Brundtland Commission defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.⁵ Since the 1992 UN Conference on Environment and Development in Rio de Janeiro, the principle of sustainable development has influenced a broad number of international instruments, both of legal and non-legal in nature. It aims at embracing and balancing ecology, economy, conservation, and utilisation and has become a worldwide governing political *Leitmotiv* for environment and development. It can be broadly understood as a concept that is characterised by (i) the link between the policy goals of economic and social development and environmental protection; (ii) the qualification of environmental protection as an integral part of any developmental measure, and vice versa; and (iii) the long-term perspective of both policy goals, that is the States' inter-generational responsibility.⁶

Apart from the question, whether the principle of sustainable development enfold normative quality,⁷ the concept reflects the idea of distributive justice and can play an important role in the process of bridging the North-South divide in international and

5 The World Commission on Environment and Development (1987).

6 Beyerlin (1996).

7 Cf. Sands (2003:254).

developmental relations.⁸ Sands formulated an “integration approach”, where economic and social development must be an integral part of environmental protection, and vice versa.⁹

Although many African countries are classified as least-developed countries, the southern African region is endowed with numerous natural resources, fisheries, and minerals. In turn, environmental challenges include among other things, land degradation, poor land use and land management, exploitation of natural resources, water scarcity, bio-diversity loss and climate change. In this regard poverty and challenges of governance often collide with different interests in society and political pressures.¹⁰

The former executive Director of the United Nations Environmental Programme (UNEP), Klaus Töpfer, once stated that “sustainable development cannot be achieved unless laws governing society, the economy, and our relationship with the Earth connect with our deepest values and are put into practice internationally and domestically.” The problem continues to lie, however, in that such laws “must be enforced and complied with by all of society, and all of society must share this obligation”.¹¹ It is also important to acknowledge that not only rests the responsibility on national governments and international organisations but also on corporate businesses to enter a new era of sustainable development:¹²

Companies don't operate in a vacuum, they operate in the society we find ourselves in, and the situation we find ourselves in. And the one situation is the planet which is in crisis. We have used the natural assets of the planet faster than nature can regenerate them, so the great companies in the world (...) by means of integrated reporting need to tell their stakeholders in future more transparently how they had worked out a long-term strategy on sustainability issues.

The importance of a harmonised interplay between trade and sustainable development is well reflected in the universally applicable (applicable to all countries, not just developing nations and emerging economies) sustainable development goals (SDGs) that have been proposed by the UN Open Working Group¹³ and which are universally applicable (to all countries, not just developing nations and emerging economies).

At the United Nations Sustainable Development Summit on 25 September 2015, world leaders adopted the 2030 Agenda for Sustainable Development. The Sustainable Development Goals, otherwise known as the Global Goals, build on the Millennium Development Goals (MDGs), eight anti-poverty targets that the world committed to achieving by 2015. The MDGs, adopted in 2000, aimed at an array of issues that included slashing poverty, hunger, disease, gender inequality, and access to water and

8 Beyerlin (1996) with further references.

9 Sands (2003:263).

10 Kameri-Mbote / Odote (2009:37).

11 Töpfer (2005).

12 Interview was available at <http://www.moneyweb.co.za/mw/view/mw/en/page295799?oid=526093&sn=2009+Detail&pid=295799>, accessed 30 January 2011.

13 UN Open Working Group Proposal for Sustainable Development Goals <https://sustainabledevelopment.un.org/content/documents/1579SDGs%20Proposal.pdf>, accessed 1 July 2021.

sanitation. Enormous progress has been made on the MDGs, showing the value of a unifying agenda underpinned by goals and targets. Despite this success, the indignity of poverty has not been ended for all.¹⁴

The SDGs, and the broader sustainability agenda, go much further than the MDGs, addressing the root causes of poverty and the universal need for development that works for all people. With the SDGs the UN aspired to further an understanding of sustainable development within the ever changing social, political, and environmental conditions of the 21st century. The 17 SDGs and 169 targets, demonstrate the scale and ambition of the universal Agenda. The 17 Goals consist of: No poverty; zero hunger; good health and well-being; quality education; gender equality; clean water and sanitation; affordable and clean energy; decent work and economic growth; industry innovation and infrastructure; reduced inequalities; sustainable cities and communities; responsible consumption and production; climate action; life below water; life on land; peace, justice and string institutions; and partnerships for the goals.¹⁵ Unlike its predecessor, the MDGs, the SDGs provide greater detail in both goals and targets setting. All 17 Sustainable Development Goals are relevant to Namibia, while some are particularly central.

Namibia's Fifth National Development Plan, is the nation's blueprint for national development between 2017-2022. It outlines a development strategy to improve the living conditions of every Namibian. NDP5 builds on the successes and achievements of the four previous five-year plans from the Transitional National Development Plan (TNDP) to the Fourth National Development Plan. It also recognises the challenges experienced during the implementation of the previous plans. The current plan is informed by the global, continental, regional and national development frameworks. These include the Global Sustainable Development Goals (Agenda 2030), African Union Agenda 2063, Southern African Development Community (SADC), Regional Integrated Strategic Plan (RISDP), Vision 2030, Harambee Prosperity Plan (HPP) and the SWAPO Party Manifesto. The principle of sustainable development permeates NDP5. As such, the plan frames the achievement of progress within a framework of ensuring the ability of future generations to thrive. In the same spirit, NDP5 has four key goals, namely; achieve inclusive, sustainable and equitable economic growth; build capable and healthy human resources; ensure sustainable environment and enhance resilience; and promote good governance through effective institutions.¹⁶

14 See <https://www.undp.org/publications/millennium-development-goals-report-2015>, accessed 1 July 2021.

15 "The 17 Goals", UNDP Sustainable Development Goals, United Nations Development Programme, accessed 2 July 2021, <https://sdgs.un.org/goals>.

16 GRN (2017a).

2 The Role of Trade for Sustainable Development and the Reduction of Poverty in Africa¹⁷

Human rights and good governance have an impact on the domestic investment climate, which contributes to growth, productivity and the creation of jobs, all factors essential for economic growth and sustainable reductions in poverty. The furtherance of economic development, reduction of poverty and the promotion of human rights in fact go hand in hand. The relationship has grown closer over the past few years due to increasing discussions in the world community on related matters and issues. The connection can be seen as a two-way relationship insofar as economic development is obliged to respect human rights in a democratic society. Conversely, human rights can be given more effect through economic growth, as a possible outcome of economic growth is the increasing availability of resources, resulting in the reduction of poverty and a higher standard of living.¹⁸

States have committed themselves to respecting human rights by acceding to specific human rights treaties, conventions or declarations on the international, regional and sub-regional level; including the International Covenants on Civil and Political Rights and on Economic, Social and Cultural Rights and the African Charter on Human and Peoples' Rights.¹⁹ On 10 December 2008, on the 60th Anniversary of the Universal Declaration of Human Rights, the United Nations adopted the Optional Protocol to the International Covenant on Economic, Social and Cultural Rights (ICESCR) bringing the possibility of international justice one step closer for millions of excluded people, groups, communities and peoples worldwide. The Optional Protocol is important because it promises to provide victims of economic, social and cultural rights violations that are not able to get an effective remedy in their respective domestic legal systems with an avenue for redress. Both human rights and good governance have an impact on the investment climate, which again contributes to productivity and the creation of jobs, all essential for economic growth, sustainable development, and the reduction of poverty.²⁰

Poverty has always been one of the central concerns of the Committee on Economic, Social and Cultural Rights (CESCR). Given the magnitude of the problem, it is often unrealistic for governments to tackle this daunting task without assistance. To achieve sustainable development a holistic approach must be adopted to deal with the concerns of the poor.²¹ A need exists for African governments to accelerate the process of creating enabling environments for the private sector to play an effective role in reducing poverty. To create such environments, countries and regions must ensure the efficient

17 The following passages are largely based on Ruppel (2010f, g).

18 Cf. Ruppel (2009a; 2010b); Ruppel / Bangamwabo (2008).

19 Cf. Pillay (2009).

20 Ruppel (2009c).

21 Yahie (2000).

functioning of their markets, facilitate sufficient access of the poor to such markets and create the best possible conditions for competitiveness of their firms.²² In particular, enterprises in the informal sector are to be considered as part of the enterprise entity, which contributes to the development process.²³

The evidence of African poverty and growth rates leaves little room for doubt about the need for financial assistance and an improved trade climate. China, for example, is providing substantial funds for investment and development in many African countries. China follows a 'purely capitalist' approach, not attempting to assist in the facilitation of social or political change through the pursuit of wealth and although this approach seems appealing to many African leaders,²⁴ it is questionable because it does not attempt to improve social welfare in the targeted countries.²⁵

Far more than any unconditional investment and development aid, trade can prove to be the catalyst, given favourable conditions, to uplift millions of people from poverty. African countries could gain disproportionately from further global trade reform, but it is widely acknowledged that a level playing field does not yet exist in the current world trade system, at least not to the required extent. Developing countries still face numerous hurdles, including high tariffs against their exports and subsidised competition. Nevertheless, the participation of developing countries in the global trading system is the most effective way of encouraging development and helping to alleviate poverty. A key objective of the on-going round of negotiations within the World Trade Organization (WTO), the Doha Development Round, is to assist developing countries more fully to reap the benefits of international trade. The liberalisation of agriculture in particular is hoped to provide significant benefits to developing countries in Africa.²⁶ Countries in Southern Africa are more or less in a permanent food security crisis, and policy formulation and response must be geared toward this reality on a continuing basis.²⁷

Free trade agreements (FTAs) can also bring about economic benefits by reducing barriers to trade and investment between participating parties. They can open markets faster than would otherwise be possible through the WTO and build on the commitments already agreed in the WTO.²⁸ Over two-thirds of WTO members are developing and least-developed countries. Members could gain access to a range of special provisions and assistance contained in the rules of the WTO. The WTO's Committee on Trade and Development and its Sub-Committee on Least-Developed Countries

22 Cf. Asche / Engel (2008:11ff.).

23 Ruppel / De Klerk (2009).

24 Politicians often receive so-called 'signature bonuses' for approving resource or other investment deals.

25 Keenan (2009:125f.).

26 Khor / Hormeku (2006); Ruppel (2010i).

27 Zunckel (2010:v).

28 AusAID (2007).

monitor the implementation of provisions designed to assist developing and least-developed countries. The committees also monitor the substantial amount of training and technical assistance provided to developing countries by the WTO.²⁹ Yet, the design of the multilateral trade regime needs to shift from one which overemphasises a market access perspective to one which prioritises enabling (or at least not disabling) the domestic policy space available to developing countries to make a range of diverse, including unorthodox, policy choices and pursue the concomitant strategies. It should also not be evaluated on the basis of whether it maximises the flow of goods and services, but on whether trade arrangements, current and future, maximise possibilities for human development, especially in developing countries. An implication is that multilateral trade rules will need to adjust ‘one-size-fits-all’ solutions that really only suit a few powerful members. The global trade governance framework requires additional asymmetric rules in favour of the weakest members. In the long run, such rules will be beneficial for both developed and developing countries.³⁰ Trade rules therefore have to allow for diversity in national institutions and standards. Countries should have the right to protect their own institutions and development priorities where necessary, and no country has the right to impose its institutional preferences on others. In order to create a trade regime friendly to poverty reduction and human development, governments must have the space to design appropriate policies.³¹

Article 11 of the International Covenant on Economic, Social and Cultural Rights is for instance concerned with the right to food and advocates considering the problems of both food importing and food exporting countries, to ensure an equitable distribution of world food supplies in relation to need. Between the weak and the strong, poor and the rich, liberty is the oppressor and the law is freedom. Article 11(2) ICESCR in recognising the fundamental right of everyone to be free from hunger, compels Parties to take measures to (a) improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge, by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization of natural resources; (b) taking into account the problems of both food-importing and food-exporting countries, to ensure an equitable distribution of world food supplies in relation to need.³² Driven by a global population projected to rise to over 10 billion people by 2050 (from 7.6 billion today) and an increase in the ‘consuming class’ with the purchasing power to demand more food per capita (including food with a higher environmental footprint), the world could require a doubling in agricultural production from 2005 levels in order to meet demand. Such a trajectory is unsustainable.³³

29 Ibid.

30 Cf. Malhotra (2006).

31 Cf. Ruppel (2012d).

32 Ruppel (2021:500).

33 World Economic Forum (2020).

Therefore, negotiating and implementing more sustainable trade rules is one of the WTO's basic missions, and its primary vocation in so doing is to regulate, and not to deregulate, as is often thought. It also presupposes the existence of social policies, whether to secure redistribution or provide safeguards for the men and women whose living conditions are disrupted by changes in the international division of labour. It does not suffice unless it is accompanied by policies designed to correct the imbalances between winners and losers; and the greater the vulnerability of economies, societies or individuals, the more dangerous the imbalances. It does not suffice unless it goes hand in hand with a sustained international effort to assist developing countries to build the capacity required to take advantage of open markets.³⁴

3 Regional Integration and Natural Resources in Southern Africa

The wealth of natural resources in southern Africa can only promote sustainable economic growth and contribute to poverty alleviation if there is an effective legal framework for environmental protection in place.³⁵ The spirit of the Chapter is eloquently captured in the following message of past United Nations Secretary-General, Ban Ki-moon (May 2011):

For most of the last century, economic growth was fuelled by what seemed to be a certain truth: the abundance of natural resources. We mined our way to growth. We burned our way to prosperity. We believed in consumption without consequences. Those days are gone. In the twenty-first century, supplies are running short and the global thermostat is running high. Climate change is also showing us that the old model is more than obsolete. It has rendered it extremely dangerous. Over time, that model is a recipe for national disaster. It is a global suicide pact. So what do we do in this current challenging situation? How do we create growth in a resource-constrained environment? How do we lift people out of poverty while protecting the planet and ecosystems that support economic growth? How do we regain the balance? All of this requires rethinking.

Here at Davos – this meeting of the mighty and the powerful, represented by some key countries – it may sound strange to speak of revolution. But that is what we need at this time. We need a revolution. Revolutionary thinking. Revolutionary action. A free market revolution for global sustainability. It is easy to mouth the words “sustainable development”, but to make it happen, we have to be prepared to make major changes – in our lifestyles, our economic models, our social organization and our political life. We have to connect the dots between climate change and what I might call here WEF – water, energy and food (...). But as we begin, let me highlight the one resource that is scarcest of all: time. We are running out of time. Time to tackle climate change. Time to ensure sustainable, climate-resilient green growth. Time to generate a clean energy revolution. The sustainable development agenda is the growth agenda for the twenty-first century.³⁶

34 Ibid.

35 Ruppel / Ruppel-Schlichting (2012a).

36 Ban Ki-moon (2011).

The United Nations General Assembly specifically proclaimed poverty eradication as an overriding theme of sustainable development.³⁷ Poverty is a major factor to consider when formulating workable legal frameworks. Thus far, Africa remains poor regardless of its high concentration of natural resources. “[I]neffective and inefficient, as well as narrowly focused, economic and environmental policies” have been identified as the culprits in increasing poverty and environmental degradation.³⁸

Table 1: Endowment of SADC Countries with Natural Resources

Angola	petroleum, diamonds, iron ore, phosphates, copper, feldspar, gold, bauxite, uranium
Botswana	diamonds, copper, nickel, salt, soda ash, potash, coal, iron ore, silver
Congo, DR	cobalt, copper, niobium, tantalum, petroleum, industrial and gem diamonds, gold, silver, zinc, manganese, tin, uranium, coal, hydropower, timber
Lesotho	water, agricultural and grazing land, diamonds, sand, clay, building stone
Madagascar	graphite, chromite, coal, bauxite, salt, quartz, tar sands, semiprecious stones, mica, fish, hydropower
Malawi	limestone, arable land, hydropower, unexploited deposits of uranium, coal, and bauxite
Mauritius	arable land, fish
Mozambique	coal, titanium, natural gas, hydropower, tantalum, graphite
Namibia	diamonds, copper, uranium, gold, silver, lead, tin, lithium, cadmium, tungsten, zinc, salt, hydropower, fish; note: suspected deposits of oil, coal, and iron ore
Seychelles	fish, copra, cinnamon trees
South Africa	gold, chromium, antimony, coal, iron ore, manganese, nickel, phosphates, tin, uranium, gem diamonds, platinum, copper, vanadium, salt, natural gas
Swaziland	asbestos, coal, clay, cassiterite, hydropower, forests, small gold and diamond deposits, quarry stone, and talc
Tanzania	hydropower, tin, phosphates, iron ore, coal, diamonds, gemstones, gold, natural gas, nickel
Zambia	copper, cobalt, zinc, lead, coal, emeralds, gold, silver, uranium, hydropower
Zimbabwe	coal, chromium ore, asbestos, gold, nickel, copper, iron ore, vanadium, lithium, tin, platinum group metals

Source: Table compiled by the author based on CIA World Fact Book at <https://www.cia.gov/the-world-factbook/africa/>, accessed 3 July 2021.

A sound legal framework can play a vital role in regulating sustainable poverty alleviation strategies across the region, but utmost success seems unattainable without national governments’ dedication to achieving the same goal. Regional integration is an essential precondition for more effective regional environmental policy because the environment knows no national boundaries. Regional integration is a path towards

37 Resolution on Programme for the Further Implementation of Agenda 21 GA Res 19/2, UN Doc S-19/2 (1997) para. 27.

38 Susswein (2003:303).

gradually liberalising the trade of developing countries and integrating them into the world economy.³⁹ At first glance it appears that the promotion and protection of the environment is not within the focal range of a regional economic community (REC). However, environment related matters play a vital role. The relationship between environmental protection and economic development has become closer over the past few years due to increasing discussions in the world community on the issue.⁴⁰ This connection can be seen as a two-way relationship insofar as economic development is obliged to respect the environment in a democratic society. Conversely, environmental protection can be given more effect through economic growth, as one outcome of economic growth is the increasing availability of resources, resulting in the reduction of poverty and a higher standard of living. Here the principle of sustainable development comes into play. On the one hand, Africa is endowed with natural resources, fisheries, and minerals.⁴¹ On the other, its environmental challenges include inter alia, climate change, land degradation, poor land use and land management, and over-exploitation of natural resources, water scarcity and loss of biodiversity. In this regard poverty and challenges of governance often collide with different interests in society and political pressures.⁴²

The stimulation of growth and income levels, for example, potentially enable nations to have opportunities to generate additional resources to address environmental issues more effectively.⁴³ Increasing awareness about the negative effects of climate change and ongoing communication among international institutions, as well as public dialogue, necessarily leads to revision of and amendment to traditional frameworks. These also lead to fruitful discussions, for example, on new trade and climate change related measures such as carbon labelling or similar standards or regulations or on the imposition of border carbon adjustments, a measure to impose border taxes on the embodied carbon of imported goods, set at the level of equivalent domestic taxes.

Regional integration provides an opportunity to enhance political stability by establishing regional organisations which play an increasing role in defusing conflicts within and between countries and in promoting human rights. In terms of climate change related matters, such organisations are of the utmost relevance, especially when it comes to climate change related disaster management and environmentally induced migration. In this context, regional integration may serve as a tool to maintain political stability by building trust, enhancing understanding between groups and deepening interdependence.

39 Andresen *et al.* (2001:3).

40 Ruppel (2008a:116).

41 Sands (2003:263).

42 Kameri-Mbote / Odote (2009:37).

43 This and the following two paragraphs are largely based on Ruppel / Ruppel-Schlichting (2012a).

Regional cooperation in environmental related matters including knowledge and technology transfer is another important link between regional integration and environmental protection. Such cooperation can address further interrelated challenges of a trans-national dimension such as food security, biodiversity, natural resources, and disease and pest control. One example in this regard is the considerable hydroelectric, solar and wind energy potential that exists in Southern Africa. Since many African countries share relevant resources, such as cross-border river basins, a regional approach is best suited to attract respective investment.

The African Continental Free Trade Agreement (AfCFTA) is highly relevant in this regard and expected to open new opportunities across the African continent. The Agreement Establishing the African Continental Free Trade Agreement (AfCFTA) entered into force on 30 May 2019 and began on 1 January 2021. The AfCFTA can contribute to eliminating existing obstacles, such as high tariffs on intermediate inputs to stimulate production of final goods and raise productivity. Moreover, the rules-of-origin (RoO) need to be harmonised and designed in a manner to make them easier to apply. Through development policy measures more sustainability can be achieved by regulating supply chains to become flexible to react.⁴⁴

Moreover, regional trade agreements such as the AfCFTA also have high potential to boost intra-African trade and to restore certain imbalances in the world agricultural trade markets,⁴⁵ which – for instance – also provides an opportunity to revisit EU-Africa trade policy relations in the fields of food and agriculture, where greater emphasis should be laid on African development, including environmental, climate, health and distributional aspects.⁴⁶ This was explicitly reflected in 2014 Malabo Declaration of the African Union on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods where it was declared to boost intra-African trade in agricultural commodities and services, especially through the establishment of the AfCFTA and to enhance resilience of livelihoods and production systems to climate variability.⁴⁷

4 The WTO and the Environment

In the first place, the WTO is concerned with reducing trade barriers and eliminating discriminatory treatment in international trade. However, world trade law is also

44 Ruppel (2021:510).

45 Ibid:520.

46 Kornher / von Braun (2020:5).

47 Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods Malabo, Equatorial Guinea, 26 June 2014, at https://au.int/sites/default/files/documents/31247-doc-malabo_declaration_2014_11_26.pdf, accessed 2 July 2021.

framed by the concept of sustainable development. Although environmental issues have not been negotiated as a separate topic during the Uruguay Round, the agreement establishing the WTO, unlike the General Agreement on Tariffs and Trade (GATT) has anchored the objective of sustainable development and the need to protect and preserve the environment within its Preamble:

Recognizing that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.

Although this statement in the Preamble is more of a policy goal than a binding principle, it has significant weight in decision-making and dispute resolution and can make an important difference to the agreement's operation in practice. The importance of the citation of sustainable development in the Preamble has, for example, been highlighted by the WTO's Appellate Body in the so-called Shrimp – Turtle Case.⁴⁸ Nowadays, world trade order is *de facto* closely related to international environmental policy and its institutions. Environmental degradation and pollution are largely induced by economic activities and international trade flows.

But what is the WTO's relationship to the environment? At first glance, the WTO provides a forum for negotiating agreements aimed at reducing obstacles to international trade and ensuring a level playing field for all, thus contributing to economic growth and development.⁴⁹ The WTO is not an environmental protection agency. So far, its competence in the field of trade and environment is limited to trade policies and to the trade-related aspects of environmental policies that have a significant effect on trade. However, in addressing the link between trade and environment, the two fields can complement each other. Overall, the GATT/WTO rules already provide significant scope for members to adopt national environmental protection policies. The right of governments to protect the environment is confirmed by WTO agreements under certain conditions. This is regulated by way of exceptions that allow governments under certain conditions to implement policies to protect the environment, but which affect trade. Trade liberalisation for developing country exports, along with financial incentives and technology transfers, are necessary to help developing countries generate the necessary resources to protect the environment and work towards sustainable development. Improved co-ordination on trade- and environment-related issues at the national level between trade and environmental officials, as well as increased co-ordination at

48 WT/DS58 Appellate Body Report, adopted 21 November 2001. The Report is available at http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds58_e.htm, accessed 2 July 2021. This case will be sketched below in the subsection on relevant WTO disputes.

49 WTO (2015:9); VanGrasstek (2013:3); Van den Bossche / Zdouc (2013:84).

the international level, could enhance mutual support between the trade and environmental regimes.

4.1 The Primary Objectives of the WTO

Today, the WTO with its 164 members⁵⁰ sees itself primarily as a forum for governments where international trade agreements are negotiated. The WTO provides a system of trade rules covering goods, services and intellectual property, as well as a legal and institutional framework for the implementation and monitoring of these agreements, and a venue for settling disputes arising from the interpretation and application of WTO agreements. Administering WTO trade agreements, monitoring national trade policies, providing technical assistance and training for developing countries and cooperating with other international organisations are further functions of the WTO.⁵¹ More specifically, the WTO's main activities are:⁵²

- Negotiating the reduction or elimination of obstacles to trade (import tariffs, other barriers to trade) and agreeing on rules governing the conduct of international trade (e.g. anti-dumping, subsidies, product standards, etc.);
- administering and monitoring the application of the WTO's agreed rules for trade in goods, trade in services, and trade-related intellectual property rights;
- monitoring and reviewing the trade policies of members, as well as ensuring transparency of regional and bilateral trade agreements;
- settling disputes among members regarding the interpretation and application of the agreements;
- building capacity of developing country Government officials in international trade matters;
- assisting the process of accession of some 30 countries who are not yet members of the organisation;
- conducting economic research and collecting and disseminating trade data in support of the WTO's other main activities; and
- educating the public about the WTO, its mission and its activities.

The WTO's founding and guiding principles remain the pursuit of open borders, the guarantee of the most-favoured-nation principle and non-discriminatory treatment by and among members, and a commitment to transparency in the conduct of its activities. The opening of national markets to international trade, with justifiable exceptions or with adequate flexibilities, will encourage and contribute to sustainable development,

50 See https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm, accessed 26 May 2021.

51 See Article III of the Agreement Establishing the WTO, text at http://www.wto.org/english/docs_e/legal_e/04-wto.pdf, accessed 2 July 2021.

52 See http://www.wto.org/english/thewto_e/whatis_e/what_we_do_e.htm, accessed 2 July 2021.

raise people's welfare, reduce poverty, and foster peace and stability. At the same time, the liberalisation of markets must be accompanied by sound domestic and international policies which contribute to economic growth and development according to each member's needs and aspirations.⁵³

Again, the WTO is not an environmental protection agency. However, the fields of trade and environment can complement each other. Trade liberalisation for developing country exports, along with financial and technology transfers, are necessary in helping developing countries generate the necessary resources to protect the environment and work towards sustainable development; coordinating trade and environment issues should be emphasised. An improved coordination at the national level between trade and environmental officials, as well as increased coordination at the international level could contribute to enhancing mutual supportiveness between the trade and environment regimes. The WTO's primary mandate is not to protect the environment but to promote trade. Although the first paragraph of the WTO agreement explicitly refers to the objective of sustainable development, aspiring⁵⁴

both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.

However, WTO members should not operate on the assumption that the WTO itself has the answers to environmental problems. Moreover, international trade also creates vulnerabilities through supply disruptions, growing unilateralism and competition over natural resources that can be both a cause and a consequence of geopolitical rivalry.⁵⁵ The WTO is a crucial institution for the governance of international trade, yet it has been characterised by frequent deadlocks in the past and has suffered from credibility loss due to the persistent failure of the Doha Development Agenda. The WTO has even been subject to trade war dynamics and a dysfunctional appellate body, all of which further exacerbates the need for reforms.⁵⁶ Geopolitical frictions hamper reform consensus to revive multilateral institutions, including the WTO, which should be empowered beyond the trade effects of trade.⁵⁷

4.2 The 2001 Doha Declaration and the Environment

The 2001 Doha Declaration envisages trade, the environment and sustainable development to be mutually supportive. The declaration was adopted at the Doha Ministerial Conference in 2001 emphasising the relationship between existing WTO rules and

53 Ibid.

54 Agreement Establishing the World Trade Organisation, available at http://www.wto.org/english/docs_e/legal_e/04-wto.pdf, accessed 2 July 2021.

55 Zhou *et al.* (2020).

56 Narlikar (2020).

57 Cf. for further reference Ruppel (2021:522).

specific trade obligations set out in multilateral environmental agreements (MEAs). The negotiations shall be limited in scope to the applicability of such existing WTO rules as among parties to the MEA in question. The negotiations shall not prejudice the WTO rights of any member that is not a party to the MEA in question; procedures for regular information exchange between MEA Secretariats and the relevant WTO committees, and the criteria for the granting of observer status; the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services. The Committee on Trade and Environment was instructed, in pursuing work on all items on its agenda within its current terms of reference, to give particular attention to the effect of environmental measures on market access, especially in relation to developing countries, in particular the least-developed among them, and those situations in which the elimination or reduction of trade restrictions and distortions would benefit trade, the environment and development; the relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights; and labelling requirements for environmental purposes. The importance of technical assistance and capacity building in the field of trade and environment to developing countries, in particular the least developed among them was stressed.⁵⁸

Agenda 21 promulgated that international trade and environmental laws should be mutually supportive. In this context, the relationship of the WTO rules and MEAs is not always clear.⁵⁹ Of the many MEAs currently in existence, over 20 incorporate trade measures to achieve their goals. Such trade-restricting measures may conflict with WTO rules (this problem is reflected in the Chile – Swordfish case discussed below).

The relationship between MEAs and WTO regulation is mostly not so problematic in cases, where all WTO members concerned are at the same time parties to the specific MEA in question. Then the case can be dealt with under the general obligations of public international law. WTO regulations will in general terms not hinder Members, which are parties to an MEA to apply it accordingly. More problematic are cases in which one of the parties concerned is not a WTO member, respectively not a party to the MEA in question.⁶⁰

58 The Doha Ministerial Declaration is available at http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm, accessed 2 July 2021.

59 E.g. the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; the 2001 Stockholm Convention on Persistent Organic Pollutants (POPs); the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; the 1985 Vienna Convention for the Protection of the Ozone Layer; the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer; the 1992 Bonn United Nations Framework Convention on Climate Change and its 1997 Kyoto Protocol; and the 1992 Rio Convention on Biological Diversity, to name but a few of the most prominent MEAs.

60 Stoll / Schorkopf (2006:258f.).

4.3 The Committee on Trade and Environment

The WTO's Committee on Trade and Environment (CTE) was established in 1994 by the Marrakesh Ministerial Decision on Trade and Environment.⁶¹ As subsidiary body of the General Council of the WTO, the CTE is responsible for implementing the mandate the council was given by the Decision on Trade and Environment. The CTE meets several times a year and membership is open to all WTO Members. Observer governments and observers from inter-governmental organisations are invited to participate in CTE meetings. Originally, the CTE was endowed with broad mandates "to identify the relationship between trade measures and environmental measures in order to promote sustainable development", to –⁶²

to make appropriate recommendations on whether any modifications of the provisions of the multilateral trading system are required, compatible with the open, equitable and non-discriminatory nature of the system.

The CTE was *inter alia* mandated to discuss:

- The links between the multilateral trading system and MEAs; relations between the WTO and taxes applied for environmental protection;
- relations between the WTO system and prescriptions established for environmental purposes with regard to products, norms, technical regulations and prescriptions on packaging, labelling and recycling;
- provisions of the WTO relating to the transparency of trade measures applied to the environment and environmental measures that have an impact on trade;
- the interrelationship between dispute settlement mechanisms established by MEAs and those provided by the multilateral trading system;
- the effects of environmental measures on market access;
- services and intellectual property; and
- the export of prohibited products.

Some of the items contained in the original ten items programme are being negotiated in the course of the Doha negotiations.⁶³ Considering its mandates and the items of its work programme, the CTE is an important institution to find a balance between trade and environment in general, and more particularly between legal implications of the trading system and multilateral environmental agreements. Launched in November 2020 by 53 WTO members, the Trade and Environmental Sustainability Structured Discussions (TESSD) are intended to complement the existing work of the Committee on Trade and Environment and other relevant WTO committees and bodies. The initiative is open to all WTO members and will also involve outreach to representatives

61 See http://www.wto.org/english/docs_e/legal_e/56-dtENV_e.htm, accessed 2 July 2021.

62 See 1994 Marrakesh Ministerial Decision on Trade and Environment at http://www.wto.org/english/docs_e/legal_e/56-dtENV_e.htm, accessed 2 July 2021.

63 See http://www.wto.org/english/tratop_e/envir_e/cte00_e.htm for further information, accessed 2 July 2021.

from the business community, civil society, international organisations and academic institutions. The new Director-General Ngozi Okonjo-Iweala welcomed the discussions, telling participants the initiative is in line with the WTO's founding principle of promoting sustainable development:⁶⁴

I have said that to remain relevant, the WTO needs to deliver results. And looking to the future, we have to see how we can harness the power of trade to help us have a healthy environment. Trade policies can help unlock the green investment and innovation needed to decarbonize our economies and create the jobs of the future.

Some of the issues suggested as possible topics for discussion include trade and climate change; decarbonising supply chains; the circular economy; biodiversity loss; fossil fuel subsidies; and border carbon adjustments measures. Many members emphasize the importance of broadening participation in the discussions, ensuring the special needs of developing and least developed countries are taken into account, and avoiding duplication of efforts with the work currently taking place in the relevant WTO committees and bodies.

4.4 WTO Agreements and Environmentally Relevant Provisions

4.4.1 The General Agreement on Tariffs and Trade (GATT)

The GATT covers international trade in goods. The workings of the GATT agreement are the responsibility of the Council for Trade in Goods (Goods Council) which is made up of representatives from all WTO member countries. GATT 1994, Articles I and III deal with non-discrimination. One component of the principles of non-discrimination is the Most-Favoured-Nation (MFN) clause (Article I). It regulates that WTO members are bound to treat the products of other members not less favourable than accorded to the products of any other country. No country may give special trading advantages to another or to discriminate against it. This means that all members are on an equal footing, and all share the benefits of any move towards lower trade barriers. The MFN principle ensures that developing countries and others with little economic leverage are able to benefit freely from the best trading conditions, whenever and wherever they are negotiated. Another principle of non-discrimination is the National-Treatment (NT) Principle (Article III); it regulates that once goods have entered a market, they must be treated no less favourably than equivalent domestically-produced goods. Non-discrimination in terms of environmental concerns ensures to prevent the abuse of environmental policies and of their usage as disguised restrictions on international trade.

64 Cf. https://www.wto.org/english/news_e/news21_e/tessd_08mar21_e.htm, accessed 26 May 2021.

Moreover, GATT Article XI provides for an elimination of quantitative restrictions. Article XI has been violated in the context of a number of environmental disputes in which countries have imposed bans on the importation of certain products; it therefore has relevance for trade and environment discussions. Most importantly, Article XX grants general exceptions from the aforementioned GATT rules. Article XX(b) lists measures necessary to protect human, animal or plant life and health; Article XX(g) lists measures relating to the conservation of exhaustible natural resources. WTO members may be exempted from GATT rules in specific instances. However, measures must be necessary (necessity-test). If the conditions set by Article XX are fulfilled, they must still pass the test of the introductory clause (Chapeau) of Article XX. According to the Chapeau measures may not be pronounced as arbitrary and unjustifiable discrimination between countries where the same conditions prevail and they may not constitute a disguised restriction on international trade. GATT rules provide significant scope for members to adopt national environmental protection policies. GATT rules impose only one requirement in this respect, that of non-discrimination. WTO members are free to adopt national environmental protection policies provided that they do not discriminate between imported and domestically produced like products (NT principle), or between like products imported from different trading partners (MFN clause). Non-discrimination is one of the main principles on which the multilateral trading system is founded. It shall secure predictable access to markets, protect the economically weak from the more powerful, and guarantee consumer choice.⁶⁵

4.4.2 The General Agreement on Trade in Services (GATS)

The GATS is among the World Trade Organisation's most important agreements. The agreement, which came into force in January 1995, is the first and only set of multilateral rules covering international trade in services. It has been negotiated by the member governments and sets the framework within which firms and individuals can operate. The GATS has two parts: the framework agreement containing the general rules and disciplines; and the national schedules which list individual countries' specific commitments on access to their domestic markets by foreign suppliers.⁶⁶ GATS contains a general exceptions clause in Article XIV, similar to that of GATT Article XX. In addressing environmental concerns, GATS Article XIV(b) allows WTO members to maintain policy measures inconsistent with GATS if this is necessary to protect human, animal or plant life or health. This must not result in arbitrary or unjustifiable

65 On the trade and environment negotiations see https://www.wto.org/english/tratop_e/envir_e/envir_negotiations_e.htm, accessed 2 July 2021.

66 See http://www.wto.org/english/tratop_e/serv_e/gats_factfiction1_e.htm, accessed 2 July 2021.

discrimination and may not constitute disguised restriction on international trade. GATS Article XIV Chapeau is identical to that of GATT Article XX.

4.4.3 The Agreement on Technical Barriers to Trade (TBT)

The TBT Agreement attempts to ensure that regulations, standards, testing and certification procedures do not create unnecessary obstacles. Technical regulations and product standards may vary from country to country. Many differing regulations and standards make life difficult for producers and exporters. If regulations are set arbitrarily, they could be used as an excuse for protectionism.⁶⁷ The TBT aims to avoid unnecessary obstacles to trade. Product specifications, whether mandatory or voluntary (known as technical regulations and standards), as well as procedures to assess compliance with those specifications (known as conformity assessment procedures), should not create unnecessary obstacles to trade. Article 2.2 provides for legitimate objectives for countries to pursue protection of human health or safety; protection of animal or plant life; and protection of the environment.

4.4.4 The Agreement on Sanitary and Phyto-sanitary Measures (SPS)

The SPS Agreement deals with the following problem: How do we ensure that our country's consumers are supplied with food that is safe to eat and safe by the standards considered appropriate? And at the same time, how can we ensure that strict health and safety regulations are not being used as an excuse for protecting domestic producers?⁶⁸ The SPS Agreement is very similar to the TBT Agreement but covers a narrower range of measures. It covers measures taken by countries to ensure the safety of foods, beverages and feedstuffs from additives, toxins or contaminants, or for the protection of countries from the spread of pests or diseases. It recognises the right of members to adopt SPS measures but stipulates that they must be based on a risk assessment, should be applied only to the extent necessary to protect human, animal or plant life or health, and should not arbitrarily or unjustifiably discriminate between countries where similar conditions prevail. The SPS objectives aim to protect human or animal life from risks arising from additives, contaminants, toxins or disease-causing organisms in their food, beverages and foodstuffs.

67 See http://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm, accessed 2 July 2021.

68 See http://www.wto.org/english/tratop_e/sps_e/sps_e.htm, accessed 2 July 2021.

4.4.5 The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

Namibia is a party to the World Intellectual Property Organization (WIPO) Convention, the Berne Convention for the Protection of Literary and Artistic Works, and the Paris Convention for the Protection of Industrial Property. Namibia is also a party to the Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks and the Patent Cooperation Treaty. Namibia is a signatory to the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty.⁶⁹

The TRIPS Agreement introduced intellectual property rules into the multilateral trading system for the first time. Ideas and knowledge are an increasingly important part of trade. Most of the value of new medicines and other high-technology products are contained in the amount of invention, innovation, research, design and testing involved. Films, music recordings, books, computer software and on-line services are bought and sold because of the information and creativity they contain, not because of the plastic, metal or paper used to make them. In the past, products were traded as low-technology commodities now contain a higher proportion of invention and design in their value; for example, branded clothing or new varieties of plants. Creators can be given the right to prevent others from using their inventions, designs or other creations and to use that right to negotiate payment in return for others using them. These are intellectual property rights. They take various forms. For example, books, paintings and films are protected under copyright; inventions can be patented; brand names and product logos can be registered as trademarks; and so on. Governments and parliaments have given creators these rights as incentive to produce ideas that will benefit society as a whole. The extent of protection and enforcement of these rights varies around the world; as intellectual property became more important in trade, these differences became a source of tension in international economic relations. New internationally agreed upon trade rules for intellectual property rights were seen as a way to introduce more order and predictability, and for disputes to be settled more systematically.⁷⁰

TRIPS stipulates patents are available for inventions in all fields of technology. It however also regulates the permissible exceptions thereto in Section 5, Article 27. The TRIPS Agreement is the most important multilateral agreement on the protection of intellectual property and obliges WTO members to comply with a certain minimum level of protection of these rights, cf. Preamble of TRIPS. Vaccines, technologies for diagnostics or the production of medical equipment, i.e. many “pandemic relevant products” are also covered by this. Part II of TRIPS, which protects copyrights (Section 1), trademarks (Section 2), patents (Section 5) and undisclosed information

69 For additional information see <http://www.wipo.int/directory/en/>, accessed 2 July 2021

70 From http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm, accessed 2 July 2021.

(Section 7), is particularly relevant for these products. The impact of intellectual property rights on the health of the world's population is largely based on access to medicines and medical treatment. Thus, the question arises to what extent intellectual property protection has an artificial effect on production and access. Two specific factors need to be considered here. First, the existence of medicines and, second, the access to and price of these. In light of the Covid-19 pandemic, the WTO community became increasingly aware that strong patent protection and the accompanying trade liberalisation can have a negative impact on human health. Art. 30 TRIPS allows that the rights granted to the patent holder under Art. 28 TRIPS for patent protection may exceptionally be suspended. To mitigate negative effects, exceptions to patent protection were created in Art. 31 and Art. 31bis TRIPS. Art. 31 provides for the granting of compulsory licenses according to the law of a nation state, which, however, has to be based on certain criteria. For example, the patent for the required drug may only be used in situations of medical emergency without prior attempts to negotiate with the patent holder without the latter's consent, Art. 31 (b) TRIPS. According to Art. 31(c), the compulsory license must be limited in time, and according to Art. 31(h), the patent holder must be paid reasonable compensation for the use. The crux of this provision is that according to Art. 31(f) a predominant use of the patent for the domestic market must be observed. This means that the drug may only be manufactured and distributed within the country's own borders and may not be sold or exported abroad.⁷¹ However, the requirement of exclusive use in the domestic market means that the poorest countries continue to be denied access to medicine. They often lack production facilities and the necessary infrastructure. For this reason, the Doha declaration created Art. 31bis TRIPS. This allows countries to export or import genetically modified medicines produced under a compulsory license, creating more flexibility for developing countries.

4.4.6 The Agreement on Subsidies and Countervailing Measures (SCM)

The SCM Agreement disciplines the use of subsidies, and it regulates the actions countries can take to counter the effects of subsidies. Under the agreement, a country can use the WTO's dispute-settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Alternatively, a country can launch its own investigation and ultimately charge extra duty (countervailing duty) on subsidised imports found to be detrimental to domestic producers.⁷² The Agreement on Subsidies and Countervailing Measures applies to non-agricultural products and is designed to regulate the use of subsidies. Certain subsidies referred to as 'non-actionable' are generally

71 Bäumler / Terhechte (2020: para. 28).

72 See http://www.wto.org/english/tratop_e/scm_e/scm_e.htm, accessed 2 July 2021.

allowed. Under Article 8 of the Agreement on non-actionable subsidies, direct reference had been made to the environment. Amongst the non-actionable subsidies that had been provided for under that Article were subsidies used to promote the adaptation of existing facilities to new environmental requirements (Article 8.2(c)). However, this provision expired in its entirety at the end of 1999. It was intended to allow members to capture positive environmental external factors when they arise.

4.4.7 Trade in Agriculture⁷³

In the decades following the Second World War, both the United States and nations of Western Europe provided generous subsidies to their agricultural producers and imposed both tariff and non-tariff import barriers to protect these producers from foreign competition.

The 1947 General Agreement on Tariffs and Trade (GATT) generally exempted agriculture from the GATT's trade liberalisation obligations: Trade in agriculture has been distorted by subsidies and protectionism to the detriment of both producers and consumers. Trade in agricultural products at the same time contributes to global food security by helping countries to obtain food supplies from world markets. Agricultural imports can be risky if they crowd out more expensive local production. This can have negative income effects for producers and thereby continuously weaken local agriculture. In the case of acute supply bottlenecks, such effects can often only be quickly remedied by imports, provided that enough food is available on the world market at affordable prices.⁷⁴

Since the start of the *Brexit* negotiations, the agri-food sector suffered under a lack of certainty regarding the future relationship between the European Union (EU) and the United Kingdom (UK). Existing supply chains and trade flows for agricultural goods and food products, within the EU but also with respect to imports from and export to third countries, suggest a significant challenge for farmers and food businesses in the UK, in Ireland, across the EU and around the world. Issues of relevance range from market access to plant protection, food safety, and food and quality labelling.⁷⁵

International trade of food commodities induces a virtual transfer of embodied land, carbon, and other land-based resources, while most of the environmental impacts of agricultural production remain in the producing countries the role of trade in food security is expected to increase due to climate change, population growth and changing

73 Cf. for further reference Ruppel (2021:517).

74 Rudloff / Wieck (2020).

75 Fratini Vergano (2018).

diets.⁷⁶ The causes of, and contributing factors to, global food insecurity are numerous and complex. It is clear, however, that the WTO and international trading rules play an important role in the pursuit of global food security.⁷⁷

GATT Article XXI forms a controversial WTO provision recognising certain flexibilities for states in the international trading system, permitting ordinarily trade-restrictive measures for the purpose of national security. Article XXI(b)(iii) on “security exceptions” states that nothing in the GATT must be construed to prevent any WTO Member “from taking any action which it considers necessary for the protection of its essential security interests” in times of “emergency in international relations”. This provision can justify certain trade restrictions introduced in pursuit of certain political objectives.

In 2019 in the case of *Russia – Measures Concerning Traffic in Transit* the WTO Dispute Settlement Panel found that “essential security interests” could be generally understood as referring to those interests relating to the quintessential functions of the state. The Panel observed that the specific interests at issue will depend on the situation and perceptions of the state in question and can be expected to vary with changing circumstances. For these reasons, the Panel held that it is left in general to every Member to define what it considers to be its essential security interests.⁷⁸

According to Article XI of the GATT, supply risks explicitly justify otherwise prohibited trade restrictions and bans for food. Since trigger criteria and deadlines are not regulated, export bans are implemented rapidly, which in principle drives prices up and results in supply risks for other import-dependent countries. On the import side, protective tariffs can seal off sectors in particularly threatening situations, as is often the case for reasons of supply to stimulate production. In bilateral agreements, the weaker partners often condemn this protection option as too restrictive. At the same time, caution should be given against premature isolation, as it often makes sense to secure supplies through less expensive imports. In principle, the WTO complicates such incentives for specifications on production processes that do not lead to physical product differences, as is usually the case when considering sustainability.⁷⁹

Article XI GATT has been violated in the context of a number of environmental disputes in which countries have imposed bans on the importation of certain products; it therefore has relevance for trade and environment discussions. Article XX grants general exceptions from the aforementioned GATT rules. Article XX(b) lists measures necessary to protect human, animal or plant life and health; Article XX(g) lists measures relating to the conservation of exhaustible natural resources. WTO members may be exempted from GATT rules in specific instances. However, measures must be

76 See Zhou *et al.* (2020).

77 Stewart / Manaker Bell (2015).

78 Cf. <https://bit.ly/2NlydMZ>, accessed 10 February 2021.

79 Rudloff / Wieck (2020).

necessary (necessity-test). If the conditions set by Article XX are fulfilled, they must still pass the test of the introductory clause (Chapeau) of Article XX. According to the Chapeau, measures may not be pronounced as arbitrary and unjustifiable discrimination between countries where the same conditions prevail, and they may not constitute a disguised restriction on international trade. GATT rules provide significant scope for members to adopt national environmental protection policies. GATT rules impose only one requirement in this respect – that of non-discrimination. WTO members are free to adopt national environmental protection policies provided that they do not discriminate between imported and domestically produced like products (NT principle), or between like products imported from different trading partners (MFN clause). Non-discrimination is one of the main principles on which the multilateral trading system is founded. It secures predictable access to markets, protects the economically weak from the more powerful, and guarantees consumer choice.⁸⁰

Certification and appropriate, non-deceptive labelling in line with WTO rules, in particular the Agreement on Technical Barriers to Trade (TBT), can enable consumers to make sustainable food choices avoiding unjustified barriers to trade. International food-safety as well as plant and animal health standards, based on the SPS Agreement, are essential for reaping the benefits of agricultural trade and for avoiding potential risks to human, animal and plant health, while unjustified sanitary and phytosanitary restrictions on food trade can exacerbate food insecurity.⁸¹

Article XX of the GATT 1994 states that measures “necessary to protect human, animal or plant life or health” (b) and those “relating to the conservation of exhaustible natural resources” (g) can be interpreted as a legally accepted exception. While this could be most relevant for the protection of soil, a typical measure that can fall under this exception may be requiring export countries to comply with certain policies prescribed by the importing country.⁸²

Further exceptions in accordance with Article XX of the GATT could possibly also be used to justify border carbon adjustment (BCA) measures as a tool for addressing carbon leakage. Such measures could, for instance, be the inclusion of certain imported goods in a Carbon Emissions Trading Scheme (ETS), a customs duty, or a border tax.⁸³

To adhere to WTO principles of non-discrimination, countries cannot ask for more or different compliance from importers than they ask of their own firms producing comparable products. That means that only price-based climate policies can be associated with a price at the border. A domestic carbon tax can be complemented by a border tax.⁸⁴

80 On the trade and environment negotiations see https://www.wto.org/english/tratop_e/envir_e/envir_negotiations_e.htm, accessed 10 February 2021.

81 Cf. <https://bit.ly/3plgHG0>, accessed 10 February 2021.

82 Van den Bossche / Zdouc (2017).

83 Cf. for further reference Ruppel (2021:516).

84 Droege / Fischer (2020).

The Paris Agreement does not explicitly state but implies counteracting like products and services with a higher footprint, which can take place in a number of different ways, and not necessarily through discrimination against only foreign goods (MFN/NT).⁸⁵ The Paris Agreement does not prescribe border carbon adjustment measures. Whether a carbon tax yields a better result for global food security than carbon sequestration remains open for discussion beyond the scope of this article. Yet, the rapidly increasing food import volumes or price decreases may legitimise safeguarding action by countries which have had to transform their non-tariff barriers (NTBs) into tariffs. Basically, however, rules and limits apply to four categories of protection and support policies. Border protection should be limited to tariffs. The maximum rates (bound/scheduled) should not be increased without compensation as per Article XXVIII of the GATT. Import quotas are prohibited under Article XI of the GATT. A time-limited border protection is available against imports threatening or jeopardising local production, which are generally available safeguards under Article XIX of the GATT.⁸⁶ In addition, in Article XXIV(5) of the GATT, WTO members may exclude customs unions and bilateral or regional free-trade areas from compliance with WTO disciplines in certain circumstances. These regional agreements are important, as they establish disciplines which might affect both the adoption of domestic and international carbon rules and measures to promote sustainable development and environmental cooperation.⁸⁷

The Agreement on Agriculture (AoA) entered into force at the time of the inception of the WTO on 1 January 1995. In principle, all WTO rules on trade in goods apply to agriculture. These rules include, inter alia, the GATT and pacts such as those dealing with sanitary and phytosanitary measures, customs valuation, import licensing, pre-shipment inspection, safeguarding measures, subsidies in general, and various standards, regulations and labelling requirements that imports have to meet (known as “technical barriers to trade”). The AoA was negotiated in the Uruguay Round (1986–1994) and was a significant step towards fairer competition and a less distorted sector. WTO member governments agreed to improve market access and reduce trade-distorting subsidies in agriculture. The AoA seeks to reform trade in agricultural products and provides the basis for market-oriented policies. In its Preamble, the Agreement reiterates the commitment of members to reform agriculture in a manner which protects the environment. Under the Agreement, domestic support measures with minimal impact on trade (known as green box policies) are excluded from reduction commitments (contained in Annex 2 of the Agreement).⁸⁸

85 Häberli (2018:20).

86 Ibid:8.

87 See with further references Gehring / Hepburn (2013).

88 Ruppel (2018:790).

The AoA primarily covers three aspects which need to be adapted to improve international agricultural trade, namely market access, export competition and domestic support. Market access is set out in Articles 4 and 5 of the AoA, and requires member states to convert their non-tariff barriers into tariffs and then to reduce those tariffs to improve agricultural trade market transparency and to strengthen the connection between domestic and international agricultural markets. The AoA also highlights the need for stricter regulation of domestic support measures under Articles 3, 6 and 7 to avoid their use for protectionist strategies which promote unfair competition, and categorises domestic agricultural support measures into 3 boxes according to the level of their trade-distorting effect, namely amber box, blue box and green box measures. Exemptions for reductions in support measures include green box subsidies which are considered minimal or non-trade distorting and include support for public stockholding for food security purposes and domestic food aid, as well as development measures which assist support of agricultural and rural development objectives. Export competition, as set out in Articles 9 and 10 of the Agreement on Agriculture, required member states to make reduction commitments on their export subsidies. Article 20 recognises the importance of taking into account non-trade concerns and special and differential treatment for developing country members, resulting in many developing countries, through negotiating groups bringing forward proposed amendments to the AoA on the elimination of export subsidies, the use of public stockholding in the context of food security purposes and trade remedies such as special safeguard mechanisms.⁸⁹

The AoA in Article 21(1) stipulates that the GATT and all other WTO agreements on trade in goods (officially Annex 1A of the Marrakesh Agreement establishing the WTO) apply but if there is a conflict, then the rules in the Agriculture Agreement prevail.⁹⁰ While the “AoA professed to ameliorate the double standards in global agricultural trade”, it has been said that⁹¹

It was riddled with ambiguities that enabled wealthy countries to continue to subsidize their agricultural producers while requiring market openness in developing countries. Since most developing countries had already liberalised their markets pursuant to structural adjustment programs, the impact of the AoA was to preclude these countries from adopting these subsidies in the future beyond de minimis levels. Agricultural subsidies in the United States and European Union, however, actually increased in the aftermath of the AoA.

In terms of agricultural product subsidies there is no outright prohibition, but because they are considered to distort trade, they are limited for all WTO members. The conditions for unlimited governmental programmes are narrowly defined. The Developing Country Green Box (Article 6(2) AoA) allows, for instance, certain credit schemes and subsidies, for example for irrigation construction, and even for the running costs of low-income and resource-poor producers. Article 6(2) provides in relevant parts that

89 Cf. for further reference Ruppel (2021:518).

90 World Trade Organization (2015).

91 Gonzales (2014:106).

measures which are “an integral part of the development programmes of developing countries (...) shall be exempt from domestic support reduction commitments that would otherwise be applicable to such measures”. These are “*investment subsidies* which are generally available to agriculture in developing country Members and *agricultural input subsidies* generally available to low-income or resource-poor producers in developing country Members”.⁹²

Nevertheless, there is still a need to update global trade rules to reflect market and policy shifts that have occurred in recent years and to address contemporary agricultural and food challenges in reducing trade-distorting agricultural support of the past.⁹³ This does not come as a surprise, as the AoA has given rise to a relatively large number of disputes reflecting the fact that agriculture is a sensitive sector in many member countries. In its 2019 recent panel report DS511 on China – Domestic Support for Agricultural Producers the DSB found that China was not in compliance with its domestic support commitments pursuant to Articles 3(2) and 6(3) of the Agreement on Agriculture after the United States contended that China has provided market price support to its agricultural producers of wheat and rice in excess of its commitments under the AoA.⁹⁴

The agriculture, forestry, and other land use (AFOLU) sector is an important sector that services national food requirements and export earnings for many developing countries around the world. It is unique in the sense that it is the only sector within which both sources and sinks for greenhouse gases can be found. AFOLU plays a central role in food security, sustainable development and climate change mitigation and adaptation and could also be considered as a valid motive under Article 6(2) AoA through measures that do not distort trade. Effective climate-smart support to farmers can also improve the comparative advantage of agriculture in countries that will be negatively affected by changing climate, allowing them to become competitive and achieve a better balance in export and import performance.⁹⁵

Further relevant provisions for trade in agricultural products are found in the WTO Agreement on Subsidies and Countervailing Measures (SCM). SCM exerts discipline over the use of subsidies and regulates the actions that countries can take to counter the effects of subsidies. Under the agreement, a country may use the WTO’s dispute-settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Alternatively, a country can launch its own investigation and ultimately charge extra duty (countervailing duty) on subsidised imports found to be detrimental to domestic producers.⁹⁶ In line with Article 13 AoA, the SCM agreement now also applies to agricultural export (and import displacement) measures. Although export

92 Häberli (2018:9).

93 Cf. <https://bit.ly/3qfnlic>, accessed 10 February 2021.

94 Cf. <https://bit.ly/3qeGiS7>, accessed 10 February 2021.

95 Deutz *et al.* (2020).

96 See http://www.wto.org/english/tratop_e/scm_e/scm_e.htm, accessed 2 July 2021.

subsidies – a long-term concern of many competitive agricultural product exporters – were finally prohibited in 2015, there still is no agreement on the implementation details (e.g. schedule changes) nor on the rules tightening mandated for all export competition measures under the Doha Development Agenda (DDA). This failure is also reflected in the stalling reform process under Article 20 of the AoA to agree on additional disciplines making trade patterns more sustainable, more resilient under a climate change perspective.

The key for an economic impact assessment of agricultural subsidies in a climate perspective would probably be the contribution of a differentiating subsidy under the Paris Agreement. Here again, not all countries are equal. Some temperate climate countries may actually benefit from global warming, with little or no justification for a subsidy. For countries located closer to the Equator, adaptation subsidies and Official Development Assistance (ODA) might find economic justification especially for farmers without meaningful support from their governments.⁹⁷

This could contribute to global efforts to control atmospheric greenhouse gas concentrations, foster AFOLU-related mitigation pathways and at the same time lead to improved soil conditions. In this regard, trade could become more central in climate change mitigation efforts and this would also benefit soil protection. If trade could provide the necessary signals to farmers to produce low carbon footprint products, emissions could be reduced globally. In practice, this would necessitate the imposition of a carbon tax (or an equivalent mitigation measure) on agricultural products domestically, combined with a corresponding tariff adjustment at the border to discriminate against high carbon footprint imports.⁹⁸

WTO provisions offer flexibility for waivers or exemptions from complying with the non-discrimination principle. While sufficient space for policy discussions needs to be pursued at the intersection of the WTO and the Paris Agreement, the principle of differentiated responsibilities, respective capabilities, and the special and differential treatment of developing countries remain ever relevant when discussing and implementing transformative policies for climate change adaptation and mitigation to make agriculture meet contemporary challenges.⁹⁹

4.4.8 The Environmental Goods Agreement

In 2014, various WTO members launched plurilateral negotiations for an Environmental Goods Agreement (EGA). The negotiations relate to promoting trade and investment that is needed to protect the environment, and to developing and disseminating relevant technologies. Under the EGA, members are engaged in negotiations seeking to eliminate tariffs on a number of important environment-related products. These

97 Leal-Arcas / Morelli (2018:25).

98 Cf. for further reference Ruppel (2021:520).

99 FAO (2018:97).

include products that can help achieve environmental and climate protection goals, such as generating clean and renewable energy, improving energy and resource efficiency, controlling air pollution, managing waste, treating waste water, monitoring the quality of the environment, and combatting noise pollution. The participants to these negotiations account for the majority of global trade in environmental goods. The benefits of this new agreement will be extended to the entire WTO membership, meaning all WTO members will enjoy improved conditions in the markets of the participants to the EGA.¹⁰⁰

The talks aim at securing a tariff-cutting deal on selected environmental goods, and they build on a list¹⁰¹ of specific environmental goods put together by countries of the Asia-Pacific Economic Cooperation forum. Included are goods such as wind turbines, air quality monitors and solar panels. Meanwhile, several participating countries have presented indicative lists of product nominations related to cleaner and renewable energy, as well as energy efficiency, among others. The EGA talks will – no doubt – contribute to the movement of sustainable development and environmental concerns towards the centre of discourse among WTO members.

4.5 The WTO's Dispute Settlement Body

The Dispute Settlement Body (DSB) is the WTO's judicial body. The dispute settlement mechanism of the WTO, one of the pillars of the multilateral trading system, is governed by Articles XXII and XXIII of GATT, and the Dispute Settlement Understanding (DSU). In simplified terms, the full dispute settlement process can be subdivided in four phases:¹⁰² The process begins with consultations between the countries in dispute. If consultations fail, the process enters the second stage, the panel. Panels consist of three or five experts from different countries who examine the evidence and issue a report. The report becomes the Dispute Settlement Body's (DSB) ruling or recommendation unless a consensus rejects it. The third stage of the dispute settlement process is an appeal to the Appellate Body, if so requested by one or both parties to the dispute. The respective appeals report has to be accepted or rejected by the DSB. The final stage is that of adoption and implementation of the DSB's rulings and recommendations. The number of cases that went for dispute settlement has amounted to close to 600 as of 26 May 2021 with over 350 rulings issued.¹⁰³ The majority of cases relate to the European Union and the United States.

100 Cf. https://www.wto.org/english/tratop_e/envir_e/ega_e.htm, accessed 26 May 2021.

101 List available at http://www.apec.org/Meeting-Papers/Leaders-Declarations/2012/2012_aelm/2012_aelm_annexC.aspx, accessed 2 July 2021.

102 For more details see Delich (2002:71).

103 See https://www.wto.org/english/tratop_e/dispu_e/dispu_e.htm, accessed 2 July 2021.

Historically, Africa's involvement in the dispute settlement process of the WTO is rather small. Although the involvement of developing countries in WTO related cases has increased significantly and account for over 40% of the cases, it is mostly the large Asian and Latin American countries which are making use of the dispute settlement process. While African countries have been respondents in nine cases (Egypt in four cases, South Africa in five cases and Morocco in two cases), Tunisia is the only country on the African continent that has so far initiated proceedings as complainant under the DSU.¹⁰⁴ The participation as third party is slightly higher.¹⁰⁵

The reasons for Africa's minor role in the proceedings under the DSU are manifold.¹⁰⁶ Although Africa's share in world trade is growing, it is still relatively small compared to that of other regions with a share of about 3% on average in trade in goods and services.¹⁰⁷ With a narrow range of primary export products (mainly fuels and mining products),¹⁰⁸ it is understandable that the participation of African countries in the dispute settlement system is still limited.¹⁰⁹

Further reasons for Africa's limited participation through litigation under the DSU are the agreements granting preferential access to key trade markets. Moreover, African priorities are rather focused on market access negotiations than on taking disputes to the WTO's judicial body. However, it is predictable that the African share of world trade will increase, and as such, there may be need to resolve disputes that arise. With increasing economic development and regional integration strengthening the position of African economies, combined with a growing base of legal expertise in trade related issues, the participation of African countries in the dispute settlement system will undoubtedly improve.

4.6 Some Environmental Case References

A few of the environment-related cases that have been brought before the GATT/WTO dispute settlement mechanism are listed below in brief.

104 See https://www.wto.org/english/tratop_e/dispu_e/dispu_maps_e.htm, accessed 2 July 2021.

105 African countries which have participated as third parties are Benin, Cameroon, Chad, the Ivory Coast, Egypt, Ghana, Kenya, Madagascar, Malawi, Mauritius, Namibia, Nigeria, Senegal, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. See http://www.wto.org/english/tratop_e/dispu_e/dispu_by_country_e.htm#respondent, accessed 1 January 2021.

106 Horlick / Fennell (2013:164); Zunckel / Botha (2012:3); Alavi (2007:25-42).

107 WTO (2021:3).

108 See WTO Database on International Trade and Market Access Data; Profile for Africa at http://webservices.wto.org/resources/profiles/MT/TO/2012/AFR_e.pdf, accessed 2 July 2021.

109 See World Bank (2011:xiii); Rugwabiza (2012).

4.6.1 United States – Canadian Tuna (1982)

In the United States – Canadian Tuna case,¹¹⁰ an import prohibition was introduced by the United States after Canada seized nineteen fishing vessels and arrested US-fishermen for harvesting Albacore tuna, without authorisation from the Canadian Government, in waters considered by Canada to be under its jurisdiction. The United States did not recognise this jurisdiction and introduced an import prohibition to retaliate against Canada under the Fishery Conservation and Management Act. The Panel found that the import prohibition was contrary to GATT Article XI:1 and was not justifiable under Articles XI:2 and Article XX(g).¹¹¹

4.6.2 Canada – Salmon and Herring (1988)

This case¹¹² deals with the 1970 Canadian Fisheries Act, under which Canada maintained regulations prohibiting the exportation or sale for export of certain unprocessed herring and salmon. The United States complained that these measures were inconsistent with GATT Article XI. Canada argued that these export restrictions were part of a system of fishery resource management aimed at preserving fish stocks, and therefore were justified under Article XX(g).

The panel found that the measures maintained by Canada were contrary to GATT Article XI:1 and were justified neither by Article XI:2(b), nor by Article XX(g).¹¹³

4.6.3 United States – Tuna (Mexico) (1991, not adopted)¹¹⁴

The US Marine Mammal Protection Act (MMPA) required a general prohibition of the “taking” and importation into the United States of marine mammals, except when explicitly authorised. The Act governed, in particular, the taking of marine mammals incidental to harvesting, yellow fin tuna in the Eastern Tropical Pacific Ocean (ETP), an area where dolphins are known to swim above schools of tuna. Under the MMPA, the importation of commercial fish or products from fish which were caught using commercial fishing technology which results in the incidental killing or injury of ocean mammals in excess of US standards, were prohibited. In particular, the importation of

110 See http://www.wto.org/english/tratop_e/envir_e/edis01_e.htm, accessed 2 July 2021.

111 United States – Prohibition of Imports of Tuna and Tuna Products from Canada, adopted on 22 February 1982.

112 See http://www.wto.org/english/tratop_e/envir_e/edis02_e.htm, accessed 2 July 2021.

113 Canada – Measures Affecting Exports of Unprocessed Herring and Salmon, adopted on 22 March 1988.

114 See http://www.wto.org/english/tratop_e/envir_e/edis04_e.htm, accessed 2 July 2021.

yellow fin tuna harvested with purse-seine nets in the ETP was prohibited (primary nation embargo), unless the competent US-authorities established that the Government of the harvesting country had a programme regulating the taking of marine mammals, comparable to that of the United States, and the average rate of incidental taking of marine mammals by vessels of the harvesting nation was comparable to the average rate of such taking by US vessels. The average incidental taking rate (in terms of dolphins killed each time in the purse-seine nets) for that country's tuna fleet were not to exceed 1.25 times the average taking rate of US vessels in the same period.

Imports of tuna from countries purchasing tuna from a country subject to the primary nation embargo were also prohibited (intermediary nation embargo). Mexico claimed that the import prohibition on yellow fin tuna and tuna products was inconsistent with Articles XI, XIII and III. The United States requested the panel to find direct embargo was consistent with Article III and, the alternative, was covered by Article XX(b) and (g). The United States also argued that the intermediary nation embargo was consistent with Article III and, the alternative, was justified by Article XX(b), (d) and (g) because the tuna was caught in a manner harmful to dolphins.

The panel found that the import prohibition under the direct and the intermediary embargoes did not constitute internal regulations within the meaning of Article III, were inconsistent with Article XI:1 and were not justified by Article XX(b) and (g). Moreover, the intermediary embargo was not justified under Article XX(d). Allowing the American import measures, the import prohibition, would undermine the multilateral trading system.¹¹⁵

4.6.4 United States – Gasoline (1996)¹¹⁶

Following the 1990 amendment to the Clean Air Act, the US Environmental Protection Agency (EPA) promulgated the Gasoline Rule on the composition and emissions effects of gasoline, in order to reduce air pollution in the United States. The Gasoline Rule permitted only gasoline of a specified cleanliness (“reformulated gasoline”) to be sold to consumers in the most polluted areas of the country. In the rest of the country, only gasoline no dirtier than that sold in the base year of 1990 (“conventional gasoline”) could be sold. The Gasoline Rule applied to all US refiners, blenders and importers of gasoline. It required any domestic refiner which was in operation for at least six months in 1990 to establish an individual refinery baseline, which represented the quality of gasoline produced by that refiner in 1990. EPA also established a statutory baseline, intended to reflect average US 1990 gasoline quality. The statutory baseline was assigned to those refiners who were not in operation for at least six months in

115 United States – Restrictions on Imports of Tuna, circulated on 3 September 1991, not adopted.

116 See http://www.wto.org/english/tratop_e/envir_e/edis07_e.htm, accessed 2 July 2021.

1990, and to importers and blenders of gasoline. Compliance with the baselines was measured on an average annual basis.

Venezuela and Brazil claimed that the Gasoline Rule was inconsistent, *inter alia*, with GATT Article III, and was not covered by Article XX. The United States argued that the Gasoline Rule was consistent with Article III, and, in any event, was justified under the exceptions contained in Article XX(b), (g) and (d). The panel found that the Gasoline Rule was inconsistent with Article III and could not be justified under paragraphs (b), (d) or (g). The appeal on the panel's findings on Article XX(g), the Appellate Body found that the baseline establishment rules contained in the Gasoline Rule fell within the terms of Article XX(g) but failed to meet the requirements of the Chapeau of Article XX.¹¹⁷

4.6.5 Chile – Swordfish (WTO/ITLOS, 2000)¹¹⁸

Swordfish migrate through the waters of the Pacific Ocean. During their extensive journeys, swordfish cross jurisdictional boundaries. For ten years, the European Community and Chile were engaged in controversy over swordfish fisheries in the South Pacific Ocean, resorting to different international law regimes to support their positions. However, the European Community decided in April 2000 to bring the case before the WTO, and Chile before the International Tribunal for the Law of the Sea (ITLOS) in December 2000.

With regard to the proceedings at the WTO on 19 April 2000, the European Community requested consultations with Chile regarding the prohibition on the unloading of swordfish in Chilean ports established on the basis of the Chilean Fishery Law. The European Community asserted that its fishing vessels operating in the South East Pacific were not allowed, under Chilean legislation, to unload their swordfish in Chilean ports. The European Community considered that, as a result, Chile made transit through its ports impossible for swordfish. The European Community claimed that the above-mentioned measures were inconsistent with GATT 1994, and in particular Articles V and XI. On 12 December 2000, the Dispute Settlement Body (DSB) established a panel further to the request of the European Community. In March 2001, the European Community and Chile agreed to suspend the process for the constitution of the panel (this agreement was confirmed in November 2003).

117 United States – Standards for Reformulated and Conventional Gasoline, Appellate Body Report and Panel Report, adopted on 20 May 1996.

118 See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds193_e.htm and http://www.wto.org/english/tratop_e/envir_e/envir_wto2004_e.pdf, accessed 2 July 2021.

Proceedings started on 19 December 2000 at the ITLOS by Chile and the European Community. Chile requested, *inter alia*, the ITLOS to declare whether the European Community had fulfilled its obligations under UNCLOS:

- Article 64: Calling for cooperation in ensuring conservation of highly migratory species;
- Articles 116-119: Relating to conservation of the living resources of the high seas;
- Article 297: Concerning dispute settlement; and
- Article 300: Calling for good faith and no abuse of right.

The European Community requested, *inter alia*, the Tribunal to declare whether Chile had violated:

- Articles 64, 116-119 and 300 of UNCLOS, as well as
- Article 87: Freedom of the high seas including freedom of fishing, subject to conservation obligations; and
- Article 89: Prohibiting any State from subjecting any part of the high seas to its sovereignty.

On 9 March 2001, the parties informed the ITLOS that they had reached a provisional arrangement concerning the dispute and requested that the proceedings before the ITLOS be suspended. This suspension was recently confirmed. The case therefore remains on the docket of the Tribunal.

4.6.6 United States – Shrimp: Initial Phase (1998)

To date, seven species of sea turtles have been identified worldwide. They spend their lives at sea, where they migrate between their foraging and their nesting grounds. Sea turtles have been adversely affected by human activity, either directly (exploitation of their meat, shells and eggs), or indirectly (incidental capture in fisheries, destruction of their habitats, pollution of the oceans). In early 1997, India, Malaysia, Pakistan and Thailand brought a joint complaint against a ban imposed by the United States on the importation of certain shrimp and shrimp products. The US Endangered Species Act of 1973 (ESA) listed as endangered or threatened the five species of sea turtles that occur in US waters and prohibited their take within the United States, in its territorial sea and the high seas. Pursuant to ESA, the United States required that US shrimp trawlers use ‘turtle excluder devices’ (TEDs) in their nets when fishing in areas where there is a significant likelihood of encountering sea turtles. Section 609 of Public Law 101-102, enacted in 1989 by the United States, provided, *inter alia*, that shrimp harvested with technology that may adversely affect certain sea turtles may not be imported into the United States, unless the harvesting nation was certified to have a regulatory programme and an incidental take-rate comparable to that of the United States, or that the particular fishing environment of the harvesting nation did not pose a threat

to sea turtles. In practice, countries having any of the five species of sea turtles within their jurisdiction and harvesting shrimp with mechanical means had to impose on their fishermen requirements comparable to those borne by US shrimpers, essentially the use of TEDs at all times, if they wanted to be certified and to export shrimp products to the United States.

The Panel considered that the ban imposed by the United States was inconsistent with Article XI and could not be justified under Article XX. The Appellate Body found that the measure at stake qualified for provisional justification under Article XX(g), but failed to meet the requirements of the Chapeau of Article XX, and, therefore, was not justified under Article XX of GATT 1994.¹¹⁹

4.6.7 United States – Shrimp: Implementation Phase (2001)

Malaysia introduced an action pursuant to Article 21.5 of the Dispute Settlement Understanding (DSU), arguing that the United States had not properly implemented the findings of the Appellate Body in the Shrimp – Turtle dispute. The implementation dispute revolved around a difference of interpretation between Malaysia and the United States on the findings of the Appellate Body. In Malaysia's view, a proper implementation of the findings would be a complete lifting of the US ban on shrimps. The United States disagreed, arguing that it had not been requested to do so, but simply had to revisit its application of the ban. In order to implement the recommendations and rulings of the Appellate Body, the United States had issued Revised Guidelines for the Implementation of Section 609 of Public Law 101-162 Relating to the Protection of Sea Turtles in Shrimp Trawl Fishing Operations (the Revised Guidelines). These Guidelines replaced the ones issued in April 1996 that were part of the original measure in dispute. The Revised Guidelines set forth new criteria for certification of shrimp exporters. Malaysia claimed that Section 609, as applied, continued to violate Article XI:1 and that the United States was not entitled to impose any prohibition in the absence of an international agreement allowing it to do so. The United States did not contest that the implementing measure was incompatible with Article XI:1, but argued that it was justified under Article XX(g). It argued that the Revised Guidelines remedied all the inconsistencies that had been identified by the Appellate Body under the Chapeau of Article XX.

The implementation panel concluded that the protection of migratory species was best achieved through international cooperation. However, it found that the Appellate Body had instructed the United States to negotiate (not necessarily to conclude) an international agreement for the protection of sea turtles with the parties to the dispute.

119 United States – Import Prohibition of Certain Shrimp and Shrimp Products, Appellate Body Report and Panel Report, adopted on 6 November 1998.

The panel found that the United States had indeed made serious *bona fide* efforts to negotiate such an agreement and ruled in favour of the United States. Malaysia subsequently appealed against the findings of the implementation Panel. It argued that the panel erred in concluding that the measure no longer constituted a means of “arbitrary or unjustifiable discrimination” under Article XX. Malaysia asserted that the United States should have “negotiated and concluded” an international agreement on the protection and conservation of sea turtles before imposing the import prohibition. The Appellate Body upheld the implementation panel’s finding and rejected Malaysia’s contention that avoiding “arbitrary and unjustifiable discrimination” under the Chapeau of Article XX.¹²⁰

4.6.8 Brazil – Measures Affecting Imports of Re-treaded Tyres (2007)¹²¹

On 20 June 2005, the European Community (EC) requested consultations with Brazil on the imposition of measures that adversely affect exports of re-treaded tyres from the EC to the Brazilian market. The EC would like to address the following measures:

- Brazil’s imposition of an import ban on re-treaded tyres;
- Brazil’s adoption of a set of measures banning the importation of used tyres, which are sometimes applied against imports of re-treaded tyres, despite the fact that these are not used tyres;
- Brazil’s imposition of a fine of 400 BRL per unit on the importation, as well as the marketing, transportation, storage, keeping or keeping in deposit or warehouses of imported, but not for domestically re-treaded tyres; and
- Brazil’s exemption of re-treaded tyres imported from other MERCOSUR¹²² countries from the import ban and from the above-mentioned financial penalties, in response to the ruling of a MERCOSUR panel established at the request of Uruguay.

The EC considers that the foregoing measures are inconsistent with Brazil’s obligations under Articles I:1, III:4, XI:1 and XIII:1 GATT 1994.

- Brazil justifies its foregoing by Articles XX(b) and (d), XXIV GATT 1994.
- Upon Brazil’s acceptance Argentina joined the consultations on 20 July 2005.
- Brazil justifies its foregoing by Articles XX(b) and (d), XXIV GATT 1994.
- On 6 March 2006, the European Communities requested the Director-General to compile the panel.

120 United States – Import Prohibition of Certain Shrimp and Shrimp Products, Recourse to Article 21.5 by Malaysia, Appellate Body Report and Panel Report, adopted on 21 November 2001.

121 See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds332_e.htm, accessed 2 July 2021.

122 MERCOSUR (Spanish: Mercado Común del Sur; Portuguese: Mercado Comum do Sul; English: Southern Common Market) is an economic and political agreement between Argentina, Brazil, Paraguay and Uruguay.

Did Brazil impose an import prohibition on re-treaded tyres inconsistent with Article XI:1 GATT 1994? The Panel found that the prohibition on granting of import licences is an import prohibition inconsistent with the requirements under Article XI:1 GATT 1994.

Was Brazil's import prohibition justified under Article XX(b) GATT 1994 to protect human, animal or plant life or health? Risks are posed to human life or health by the accumulation of waste tyres. The accumulation of waste tyres cause mosquito-borne diseases and tyre fires cause toxic emissions. The Panel finds that risks posed by mosquito-borne diseases such as dengue, yellow fever and malaria to human health and life exist in Brazil in relation to the accumulation as well as transportation of waste tyres. The existence of risks to human life and health fall within the meaning of Article XX(b) GATT. The Panel found that Brazil's policy of reducing exposure to the risks to human, animal or plant life or health arising from the accumulation of waste tyres – the import ban – falls within the range of policies covered by Article XX(b).

Was the measure 'necessary' within the meaning of Article XX(b)? The necessity of a measure should be determined through "a process of weighing and balancing a series of factors":

- The relative importance of the interests or values furthered by the challenged measure;
- the contribution of the measure to the realisation of the ends pursued by it; and
- restrictions on international commerce.

Comparison is to be undertaken between the challenged measure and possible alternatives. The Panel's decisions on necessity are affirmative. The prohibition on the importation of re-treaded tyres contributes to the objective pursued by Brazil, as it can lead to a reduction in the overall number of waste tyres generated in Brazil because re-treaded tyres have a shorter lifespan than new tyres. This can in turn reduce the potential for exposure to the specific risks to human, animal, plant life and health. The Panel is of the view that alternative measures to the import ban (measures to reduce the number of waste tyres; measures to improve the management of waste tyres; other disposal methods e.g. land filling; stockpiling) are not reasonably available to Brazil in light of the level of protection Brazil pursues in relation to the health risks concerned. Stockpiled waste tyres pose similar types of risks such as mosquito-borne diseases and tyre fires to those posed by the accumulation of waste tyres in general and thus cannot constitute an alternative to the import ban.

When considering the Chapeau of Article XX, was the import ban on re-treaded tyres applied in a manner that resulted in discrimination? The Panel has determined that discrimination arises in the application of the measure at issue from two sources:

The MERCOSUR exemption can be considered to form part of the manner in which the import ban imposed by Brazil on re-treaded tyres, the measure provisionally justified under Article XX(b), is applied and that it gives rise to discrimination within the

meaning of the Chapeau of Article XX, between MERCOSUR and non-MERCOSUR countries.

The importation of used tyres under court injunctions: in the case at hand, re-treaded tyres may be *produced* in Brazil from imported *casings* (while re-treaded tyres using the same casings cannot be imported). Court injunctions permitted imports of *used* tyres. This results in discrimination in favour of tyres re-treaded in Brazil using imported casings, to the detriment of imported re-treaded tyres. Discrimination also arises from the importation of used tyres under court injunctions.

Was the discrimination in the application of the measure arbitrary / unjustifiable under the Chapeau of Article XX? Arbitrary means dependent on will or pleasure, based on mere opinion or preference as opposed to the real nature of things, capricious, unpredictable, inconsistent, unrestrained in the exercise of will or authority; despotic, tyrannical. Unjustifiable means, not justifiable, indefensible. The Panel's decision on arbitrary or unjustifiable discrimination was as follows:

The MERCOSUR exemption did not constitute arbitrary or unjustifiable discrimination. The Panel found, that, as of the time of its ruling, the operation of the MERCOSUR exemption has not resulted in the measure being applied in a manner that would constitute arbitrary or unjustifiable discrimination

The importation of used tyres through court injunctions was, however, considered to be unjustifiable. The Panel found that since used tyre imports have been taking place under the court injunctions in such amounts that the achievement of Brazil's declared objective is being significantly undermined, the measure at issue is being applied in a manner that constitutes a means of unjustifiable discrimination.

Did the discrimination in light of the Chapeau of Article XX occur between countries where the same conditions prevail? The Panel concluded that since used tyre imports have been taking place under court injunctions at such frequencies that the achievement of Brazil's declared objective is being significantly undermined, the measure at issue is applied in a manner that constitutes a means of unjustifiable discrimination where the same conditions prevail.

Was the measure applied in a manner that constituted a disguised restriction on international trade under the Chapeau of Article XX? The imports of used tyres through court injunctions constituted such disguised discrimination. Since imports of used tyres take place in significant amounts under court injunctions to the benefit of the domestic re-treading industry, the import ban on re-treaded tyres is applied in a manner that constitutes a disguised restriction on international trade.

The MERCOSUR exemption did not constitute disguised discrimination. The MERCOSUR exemption, although it also has the potential to similarly undermine the achievement of the stated objective of the measure, has not been shown to date to result in the measure at issue being applied in a manner that would constitute such a disguised restriction on international trade. In conclusion, the Panel found that the importation of used tyres through court injunctions results in the import ban being applied in a

manner that constitutes a means of unjustifiable discrimination and a disguised restriction to trade within the meaning of the Chapeau of Article XX. In light of this conclusion, the Panel found that the measure at issue was not justified under Article XX GATT 1994.

4.6.9 China – Measures Related to the Exportation of Various Raw Materials

The case was initiated by a request for consultations by the United States on 23 June 2009,¹²³ deals with China's restraints on the export from China of various forms of raw materials. The consultations have been joined by Canada,¹²⁴ the European Communities,¹²⁵ Mexico¹²⁶ and Turkey.¹²⁷ The dispute deals with certain measures imposed by China affecting the exportation of certain forms of bauxite, coke, fluorspar, magnesium, manganese, silicon carbide, silicon metal, yellow phosphorous, and zinc. China is a leading producer of each of the raw materials which are used to produce everyday items as well as technology products. Four types of export restraints imposed on the different raw materials at issue have been challenged, namely export duties, export quotas, minimum export price requirements, and export licensing requirements.

The DSB established a panel and Argentina, Brazil, Canada, Chile, Colombia, Ecuador, the European Union, India, Japan, Korea, Mexico, Norway, Chinese Taipei, Turkey and Saudi Arabia reserved their third-party rights. The United States considered that China was in violation of Articles VIII, X, and XI of the GATT 1994; and several provisions of the Protocol on the Accession of the People's Republic of China (the Accession Protocol) by imposing temporary duties on exports of bauxite, coke, fluorspar, magnesium, manganese, silicon metal, and zinc; and by furthermore subjecting exports of yellow phosphorus to a duty in excess of the *ad valorem* rate listed for item No. 11 in Annex 6 to the Accession Protocol. The European Union claimed that China has violated the obligation assumed under the note to Annex 6 to consult “with other affected WTO Members prior to the imposition” of the export duties on bauxite, coke, fluorspar, magnesium, manganese, silicon metal, and certain forms of zinc.

Article XX of the GATT 1994 and in particular its provisions relating to environmental matters play a major role in this case. China¹²⁸ *inter alia* argued that the export duty applied to fluorspar was justified pursuant to Article XX(g) because it is a

123 WT/DS394/1.

124 WT/DS394/4.

125 WT/DS394/2.

126 WT/DS394/5.

127 WT/DS394/3.

128 In its first written submission see WT/DS394/R/Add.1, WT/DS395/R/Add.1, and WT/DS398/R/Add.1.

measure relating to the conservation of an exhaustible non-renewable mineral resource, and is applied together with restrictions on domestic production and consumption. The export duties applied to coke, magnesium metal, and manganese metal are justified pursuant to Article XX(b) because they are necessary for the protection of human, animal, and plant life or health by virtue of their contribution to the reduction of the polluting and energy-intensive production of coke, magnesium metal, and manganese metal.

On 5 July 2011, the panel¹²⁹ ruled in favour of the claimants and found that the wording of the Accession Protocol did not allow China to use the general exceptions in Article XX of the GATT 1994 to justify its WTO-inconsistent export duties and that even if China were able to rely on certain exceptions available in the WTO rules to justify its export duties, it had not complied with the requirements of those exceptions. The panel recommended that China bring its export duty and export quota measures into conformity with its WTO obligations such that the series of measures do not operate to bring about a WTO-inconsistent result.

Upon appeal the Appellate Body¹³⁰ upheld the Panel's finding that there is no basis in China's Accession Protocol to allow the application of Article XX of the GATT 1994 to China's obligations under Paragraph 11.3 of the Accession Protocol. The Appellate Body report and the panel report, as modified by the Appellate Body report have been adopted by the DSB¹³¹ and China informed the DSB of its intention to implement the rulings and recommendations and rulings.

4.6.10 China – Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum¹³²

On 13 March 2012, the US,¹³³ Japan¹³⁴ and the EU¹³⁵ requested consultations with China under the WTO's dispute settlement system. Canada has also requested to join the consultations.¹³⁶ The case deals with China's restrictions on the export of various

129 WT/DS394/R; WT/DS395/R; WT/DS398/R.

130 WT/DS394/AB/R, WT/DS395/AB/R, WT/DS398/AB/R.

131 At its meeting on 22 February 2012, see WT/DS394/16, WT/DS395/15, WT/DS398/14.

132 Panel Report at http://www.wto.org/english/tratop_e/dispu_e/431_432_433r_e.pdf, accessed 2 July 2021. On this case, see also Baroncini (2012).

133 WT/DS431/1; G/L/982, http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds431_e.htm, accessed 2 July 2021.

134 WT/DS433/1; G/L/984, http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds433_e.htm, accessed 2 July 2021.

135 WT/DS432/1; G/L/983, http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds432_e.htm, accessed 2 July 2021.

136 WT/DS431/4; WT/DS432/4; WT/DS433/4.

forms of rare earths,¹³⁷ as well as tungsten and molybdenum. Rare earths feature unique magnetic, heat-resistant and phosphorescence properties and are used, inter alia, to produce highly efficient magnets, phosphors, optical and battery materials. These materials are key components of products such as helicopter blades; wind-power turbines; energy-efficient light bulbs; motors for electric and hybrid vehicles; flat screens and displays; hard drives; medical equipment; and many others. Although reserves of rare earth elements are dispersed throughout the world with China holding only 50% of the world's reserves, China has a near-monopoly position with more than 97% of the world's rare earth production.¹³⁸ The country has curbed output and exports since 2009 to conserve mining resources and protect the environment. The complaint relates to China's restrictions in the form of export duties; export quotas; minimum export price requirements; export licensing requirements; and additional requirements and procedures in connection with the administration of the quantitative restrictions. The complainants claim that China's measures are inconsistent with Articles VII, VIII, X and XI of GATT 1994 and several provisions of China's Protocol of Accession. It is argued that China administers export restrictions on various forms of rare earths, tungsten, and molybdenum, and that the requirements and procedures in connection with these export restrictions are administered in a manner that is not uniform, impartial, reasonable, or transparent. On 29 August 2014, the DSB adopted the Panel and Appellate Body reports, which found that China's export restrictions on rare earths, tungsten and molybdenum were in breach of China's WTO obligations and were not justified under the GATT exceptions.

4.6.11 European Communities – Measures Prohibiting the Importation and Marketing of Seal Products (EC – Seal Products)¹³⁹

In 2009, the European Union (EU) established a general prohibition of the marketing of seal products in its market, alleging that the hunting of seals inflicts suffering contrary to the European public morality on “animal welfare.” The EU included some exceptions to this general prohibition, allowing, for example, the importation and marketing of seal products derived from seal hunts traditionally conducted by Inuit

137 A set of 17 chemical elements, usually referred to as rare earths. These include 15 lanthanides (lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium and lutetium) as well as scandium and yttrium. The request specifically refers to certain materials falling under but not limited to a vast number of Chinese Customs Commodity Codes.

138 Humphries (2013).

139 European Communities – Measures Prohibiting the Importation and Marketing of Seal Products: Request for Consultations by Canada, WT/DS400/1 and Add.1, 4 November 2009; WTO, European Communities – Measures Prohibiting the Importation and Marketing of Seal Products: Request for Consultations by Norway, WT/DS401/1 and Add.1, 10 November 2009.

populations and other indigenous communities because these hunts contribute to the subsistence of these communities. Canada and Norway presented complaints against the indicated EU regime before the WTO dispute settlement mechanism, alleging that it was inconsistent with the multilateral trading system rules. The dispute raised fundamental questions regarding the relationship between public morals and international trade and raised the question of whether WTO members can impose trade restrictions based on moral or ethical concerns in a way that trumps commitments to liberalisation of trade and justifies protectionist measures.¹⁴⁰ The crux of the issue in this case, is the balancing of sustainable development and international trade by the WTO. According to the WTO Preamble, the “multilateral trading system is a vehicle through which parties wish to attain higher living standards; ensure full employment; ensure a large and steadily growing volume of real income and effective demand; and expand the production of and trade in, goods and services, while allowing for the optimal use of the world’s resources in accordance with the objective of sustainable development”.¹⁴¹ The case brought up a “trilemma” for the international law regime in the balancing of three, sometimes competing, interests. This “trilemma” bridges interests of trade liberalisation, where free and unencumbered trade is a priority; animal welfare in the pursuit of environmental protection which is restrictive of trade; and the interests of Arctic indigenous peoples’ whose livelihoods are dependent on the trading of these banned products. In 2009 the EU enacted a regime that banned seal products including meat, oil, fur skins and clothing from being placed on the EU market.¹⁴² The ban was enacted as a response to the moral outrage in Europe against the inhumane killing and hunting of seals in the production of seal products and thus prohibited the importation and sale of seal products on animal welfare grounds, but provided for three exceptions to the ban covering products from seals hunted ; by Inuit or other indigenous communities (IC); for the purposes of marine resource management (MRM); and those products brought into the EU by travellers under certain conditions (travellers exception).¹⁴³ It was these exceptions, specifically that of the indigenous communities that gave rise to dispute. Canada and Norway challenged the new regime under the WTO Agreement on Technical Barriers to Trade (TBT) and the General Agreement on Tariffs and Trade 1994 (GATT), claiming that the regime was discriminatory, in terms of Article 2.1, and more restrictive than necessary, in terms of Article 2.2 of the TBT. The ban was also challenged as being in violation of Article I of GATT – the most-

140 Conconi / Voon (2016:211).

141 Ruppel (2016:440).

142 Regulation (EC) No. 1007/2009 of the European Parliament and of the Council of 16 September 2009 on trade in seal products, Official Journal of the European Union, L Series, No. 286 (31 October 2009) and Commission Regulation (EU) No. 737/2010 of 10 August 2010 laying down detailed rules for the implementation of Regulation (EC) No. 1007/2009 of the European Parliament and of the Council on trade in seal products, Official Journal of the European Union, L Series, No. 216 (17 August 2010) 1.

143 Conconi / Voon (2016:212).

favoured-nation-clause and Article III:4 - the national treatment clause. The Appellate Body was eventually tasked with settling this trilemma by choosing to either rule against the EU, finding that the ban was not in conformity of the Chapeau of Article XX of the GATT, upholding the ban on the basis of trade liberalisation by finding it to be discriminatory to products outside of the EU, or to uphold the ban based on environmental and moral concerns.¹⁴⁴ Whilst the panel held that the TBT applies as the seal regime constituted a “technical regulation”, the Appellate Body overruled this finding as a technical regulations provide for product characteristics – the exceptions based on the identity of the hunter and the purposes of the hunt were not found to describe product characteristics and thus found the panel’s findings under the TBT devoid of legal effect.¹⁴⁵ However, the Appellate Body in its report found that the prohibition did in fact violate both GATT Article I and GATT Article III:4.¹⁴⁶ The EU defended these claims by citing Article XX(a) and XX(b) of the GATT as they believed the measures were necessary to protect public morals and necessary in the protection of animal life.¹⁴⁷ In assessing this defence, the Appellate Body considered the regulatory objective behind the EU measure; whether such measures were necessary to protect public morals under Article XX(a); and whether the measures nonetheless constituted an arbitrary or unjustifiable discrimination. The EU maintained that its ban addressed the moral concerns of EU citizens regarding animal welfare, the EU defended the IC exception on the basis that it differentiated between commercial hunts subsistence hunts of an indigenous community, citing two international law documents providing for the protection of cultural rights for indigenous communities.¹⁴⁸ The Appellate body found that the main objective of the EU’s ban was to address public morals regarding seal welfare and as such fell within the scope of Article XX(a) and held that “members should be given some scope to define and apply [such standards] for themselves”.¹⁴⁹ The Appellate Body then needed to apply a balancing test, weighing the importance of the ban, the importance of the objective (environmental / animal welfare) and the contribution of the measure to that objective.¹⁵⁰ It upheld the panel’s conclusion that the measures contributed to some extent in reducing the global demand for seal products.¹⁵¹ It also found that the measure of “necessity” was also met as

144 Hovic / Ibrahim (2021:14).

145 Panel Report, European Communities – Measures Prohibiting the Importation and Marketing of Sea; Products, WT/DS400/R, WT/DS401/R (Nov. 25, 2013) (adopted 18 June 2014), hereinafter Panel Report, para. 5.58-5.59 and 5.70.

146 Appellate Body Report, European Communities – Measures Prohibiting the Importation and Marketing of Seal Products, WT/DS400/AB/R, WT/DS401/AB/R (May 22, 2014) (adopted 18 June 2014), hereinafter AB Report.

147 Shaffer / Pabian (2015).

148 Panel Report para. 7.274.

149 AB Report para. 5.199.

150 Shaffer / Pabian (2015:4).

151 AB Report para. 5.289.

alternative measures were not reasonable available and would not necessarily meet the goals of the ban.¹⁵² The EU nonetheless lost the case in terms of Article XX as the exceptions were deemed to be applied in a manner which constitute a means of arbitrary or unjustifiable discrimination between countries. The Appellate Body maintained that the chapeau is designed to “prevent the abuse” of members invoking exceptions and that the burden lies on the member invoking the exception to show that by its design, it does not lead to arbitrary or unjustifiable discrimination.¹⁵³ However, the decision still largely upheld the EU’s defence in respects of animal welfare grounds, making it the first time that the Appellate Body has found that a trade ban based on animal welfare grounds falls within the exceptions listed under Article XX(a) GATT as a measure necessary protecting public morals.¹⁵⁴

4.7 The WTO and the North-South Divide

Helping developing and least-developed countries secure a share in the growth of international trade commensurate with the needs of their economic development has steadily gained importance in recent years. Developing and least-developed country members can gain access to a range of special provisions and assistance contained in the rules of the WTO – in general, referred to as special and differential treatment. The WTO provides no explicit definition as to which country is considered to be a developing country. The status of a member as a developing country is to a large extent based on self-selection and members announce whether they consider themselves developing countries. In some cases, the developing country status is part of the accession negotiations.¹⁵⁵ Least-developed countries, being those that have been designated as such by the United Nations,¹⁵⁶ benefit from additional special and differential treatment.

Altogether, over two-thirds of WTO members are developing and least-developed countries. In recent years, they have participated more actively and efficiently in WTO negotiations and decision-making. In the course of recent negotiations, developing countries, including least-developed countries, have been able to make their voice heard and their concerns considered.¹⁵⁷ Developing countries are represented in several (sometimes overlapping) negotiating groups, such as the African group or the group of least-developed countries. These groups aim to speak with one voice using a single

152 Ibid.

153 Ibid: paras 5.297- 5.302.

154 Shaffer / Pabian (2015:1).

155 Van den Bossche / Zdouc (2013:105).

156 Which is currently the case for 46 countries. See <https://unctad.org/topic/least-developed-countries/list>, accessed 2 July 2021.

157 Van den Bossche / Zdouc (2013:148).

co-ordinator or negotiating team and have gained in influence in WTO negotiations and decision-making. The standard procedure for decision-making in the WTO is based on consensus. Under WTO rules, this means that “the body concerned shall be deemed to have decided by consensus on a matter submitted for its consideration, if no Member, present at the meeting when the decision is taken, formally objects to the proposed decision.”¹⁵⁸ Where consensus is not possible, the WTO agreement allows for taking decisions by voting on the basis of one country, one vote, and with a vote being won with a majority of the votes cast. This, however, is implemented only very exceptionally.

There is a broad variety of provisions granting special and differential treatment to developing countries.¹⁵⁹ GATT for example contains a special section on trade and development. In very general terms, the WTO framework includes provisions allowing developed countries to treat developing countries more favourably than other WTO members, and provisions granting extra time for developing countries to fulfil their commitments under certain WTO agreements. Other provisions are designed to increase developing countries’ trading opportunities through greater market access, or require WTO members to safeguard the interests of developing countries when adopting domestic or international legislation. Moreover, provisions on technical assistance for developing countries are part of WTO efforts in favour of developing countries. Legal assistance and training of Government and other officials are special fields of support to developing countries. In sum, it can be stated that the WTO’s legal framework contains numerous provisions for special and differential treatment for developing countries. Technical support forms an important pillar for dealing with the special needs of developing countries.

Concerns have been raised with regard to the effectiveness of the numerous provisions on special and differential treatment for developing countries, which have been considered as best-endeavour provisions that are not enforceable.¹⁶⁰ Nevertheless, some of the developing countries do play an increasingly important and active role in the WTO as they become more important in the global economy. Integrating developing economies into the global trading system is an important and controversially discussed issue at multilateral trade negotiations and remains one of the challenges facing the WTO. As to the challenges between sustainable development and trade, these are notably driven by advanced economies as well as civil society. For the time being, developing countries are wary of potential agreements on trade and the environment. The on-going negotiations on climate change are exemplary in this regard.

158 See footnote 1 to Article IX of the WTO Agreement.

159 For detailed information on the special and differential treatment provisions, and their use, see https://www.wto.org/english/tratop_e/devel_e/dev_special_differential_provisions_e.htm, accessed 2 July 2021.

160 Keck / Low (2004).

A very important factor in the current discussions on development, and on special and differential treatment in the WTO, is the Doha Development Round of negotiations. It was officially launched at the WTO's Fourth Ministerial Conference in Doha, Qatar, in November 2001 and was never successfully completed. One fundamental objective of the Doha Development Agenda was to improve the trading prospects of developing countries.

In December 2013, WTO members concluded negotiations on a Trade Facilitation Agreement at the Bali Ministerial Conference, as part of a wider 'Bali Package'. Since then, WTO members have undertaken a legal review of the text. In line with the decision adopted in Bali, WTO members adopted on 27 November 2014 a Protocol of Amendment to insert the new Agreement into Annex 1A of the WTO Agreement. The Trade Facilitation Agreement will enter into force once two-thirds of members have completed their domestic ratification process. The Trade Facilitation Agreement is expected to provide significant advantages for developing countries to couple intra-regional trade with infrastructure development efforts and to boost considerable growth potential that has so far largely remained untapped in Africa.¹⁶¹

The "Nairobi Package" was adopted at the WTO's 10th Ministerial Conference (MC10), held in Nairobi, Kenya, from 15 to 19 December 2015. It contains a series of six Ministerial Decisions on agriculture, cotton and issues related to least-developed countries (LDCs). A Ministerial Declaration outlining the Package and the future work of the WTO was adopted at the end of the Conference. The Nairobi Package contained a series of Ministerial Decisions¹⁶²

on agriculture, cotton and issues related to least-developed countries. These include a commitment to abolish export subsidies for farm exports, which (the then) Director-General Roberto Azevêdo hailed as the "most significant outcome on agriculture" in the organization's 20-year history. The other agricultural decisions cover public stockholding for food security purposes, a special safeguard mechanism for developing countries, and measures related to cotton. Decisions were also made regarding preferential treatment for least developed countries (LDCs) in the area of services and the criteria for determining whether exports from LDCs may benefit from trade preferences.

The 12th Ministerial Conference (MC12) was scheduled to take place in December 2021 in Geneva, Switzerland but was postponed due to COVID-19. However, Heads of WTO member delegations recently exchanged views about issues on which they can realistically reach agreements and what needs to happen to make such deals possible. Fisheries subsidies, agriculture and the COVID-19 pandemic featured

161 Cf. WTO website for the latest version of the Agreement (WT/L/931, previously issued under WT/PCTF/W/27).

162 The decisions are available at <https://www.tralac.org/news/article/8699-10th-wto-ministerial-conference-nairobi-resource-box.html>, accessed 27 May 2021.

prominently in the discussions, with several members stressing that delivering concrete negotiated results was critical for the WTO's credibility. At this meeting¹⁶³

WTO Director-General Ngozi Okonjo-Iweala said three concrete deliverables stood out: an agreement to curb harmful fisheries subsidies; outcomes on agriculture, with a focus on food security; and a framework that would better equip the WTO to support efforts against the COVID-19 pandemic and future health crises (...). On fisheries subsidies, she urged members to exercise the necessary flexibility to overcome the remaining hurdles (...). Noting that for many members, meaningful outcomes on agriculture were necessary to make MC12 a success, DG Okonjo-Iweala said that the pandemic, and rising hunger around the world, made a strong case for a WTO "food security package". Elements for a prospective package included public stockholding, the proposed exemption from export restrictions of World Food Programme humanitarian purchases, domestic support and transparency, with some delegations also raising cotton and the special safeguard mechanism. The Director-General welcomed the view expressed by many delegations that MC12 can deliver concrete responses on trade and health. The WTO's spotlight on export restrictions and the need to increase vaccine production volumes was gaining attention and engagement from leaders, she said (...). With regard to dispute settlement, where many members called for resolution to the impasse over the Appellate Body, the Director-General expressed hope that by MC12 members can reach a shared understanding on the types of reforms needed (...). She (further) noted that groups of members had signalled a desire to move ahead in areas such as services domestic regulation, e-commerce, investment facilitation, women's economic empowerment, micro, small, and medium-sized enterprises as well as issues related to trade and climate change. For issues not in a position to be concluded this year, the Director-General said members had called for post-MC12 work programmes on multilateral issues relating to agriculture, services, and special and differential treatment as well as in joint statement initiatives in areas including plastics pollution and environmental sustainability.

4.8 Climate Change and WTO Law

The international trade regime under the WTO is also strongly related to the international climate change regime. In fact, both regimes recognise that climate change may provide opportunities as well as challenges for international development.¹⁶⁴ The WTO is a remarkable example of institutional evolution, and its dispute settlement system is as effective as it is impartial. However, similar to the international climate change negotiations, the Doha Development Round of multilateral trade negotiations have been complex and without sufficient success so far. Both negotiation processes seem to lack the necessary consensus of the parties involved. The only difference between the two negotiation processes lies in the fact that "the climate doesn't have time for a Doha-like approach."¹⁶⁵

With regard to the persistence of global poverty and socio-economic inequalities, international trade rules often allow affluent countries to continue to protect their markets – with tariffs, quotas, anti-dumping duties, export credits and huge subsidies to

163 Cf. https://www.wto.org/english/news_e/news21_e/hod_03may21_e.htm, accessed 27 May 2021.

164 See WTO / UNEP (2009).

165 Houser (2010).

domestic producers. This is at the expense of potential agricultural and textile exports from developing countries.¹⁶⁶ International trade should therefore be considered as a means to an end, but not as the end in itself. An effective international trade regime must first and foremost be friendly to the environment, poverty reduction and sustainable development.¹⁶⁷ Increasing awareness of the negative effects of climate change, and continuing communication among international institutions, as well as public dialogue, necessarily lead to rethinking and eventually to the adjustment of traditional frameworks. These also lead to fruitful discussions – for example, on new trade and climate-change-related measures, such as carbon labelling or similar standards or regulations on the imposition of border carbon adjustments, which impose border taxes on the embodied carbon of imported goods, set at the level of equivalent domestic taxes.¹⁶⁸

World trade law “can both constrain and enable climate action”.¹⁶⁹ It has the potential to promote community goals, namely the enhancement of economic development. However, a closer look at world trade law¹⁷⁰

sadly shows that accordingly solidarity is poorly implemented. The flaw is not in WTO law itself: WTO law allows developed countries to act in favour of developing countries. But developed countries can choose not to implement relevant exceptions and too often implement them poorly.

While the question of response measures remains sensitive in United Nations Framework Convention on Climate Change (UNFCCC) negotiations, the forum could provide for a multilateral dialogue to examine the implications of unilateral climate action designed to promote the ultimate objective of the UNFCCC. In some cases, the WTO dispute settlement mechanism could also enter the scene if the measure in question falls under WTO agreements.

In all cases, however, the focus should shift from the relatively simplistic choice between multilateral action, unilateral action or no action towards exploring ways in which interaction between a plural mix of legal regimes and jurisdictions in a global context can best serve the ultimate objective of the UNFCCC to avoid dangerous anthropogenic climate change.¹⁷¹

Thus, more international co-operation in economic areas is necessary to ensure more coherence and global welfare.¹⁷² As stated by Delbrück¹⁷³

166 Pogge (2010:534).

167 Ruppel / Ruppel-Schlichting (2012a:46).

167 See Spier (2012).

168 Ruppel / Ruppel-Schlichting (2012a).

169 Moncel / van Asselt (2012).

170 Hestermeyer (2012:57).

171 Kulovesi (2012).

172 Tietje (2001).

173 Delbrück (2012).

[I]t is not surprising that given the broad scope of subjects covered by international economic law in general and the law of the WTO in particular – cooperation in these fields show the variety of modes and mechanisms to implement obligations to cooperate.

After all, while world trade has, no doubt, contributed significantly to greenhouse gas emissions, it also offers a variety of options in terms of new technologies and services, which will be crucial in mitigating further climate change. In that sense, WTO reform to better accommodate climate change measures is an increasingly urgent issue. Such reform could entail legal changes, namely amending the WTO agreements to accommodate climate change measures; introducing a waiver that temporarily relieves WTO members from their legal obligations under the WTO agreements when pursuing climate action; adopting an authoritative interpretation clarifying the scope of WTO rules in relation to climate policies; and introducing a time-limited peace clause pursuant to which WTO members will not challenge the climate policies of other members. Such changes would, however, involve complex political processes that – for a variety of reasons – would be difficult to implement in practice.¹⁷⁴

In the meantime, existing flexibilities under current WTO law should be utilised to advance climate action, while it is not unlikely that conflicts between the trade and climate regimes will sooner or later surface in the WTO's dispute settlement system. It has been rightfully stated that international courts and tribunals must become the new environmental sentinels in international law.¹⁷⁵ In the interest of global soil protection and for the sake of sustainable food security, the challenge will be to bridge the gap where measures claiming to implement the Paris mitigation commitments collide with present trade rules. This will require commitment to overcome substantial barriers at various institutional (and conceptual) levels as well as adequate and corresponding regulatory frameworks. With more ambitious NDCs expected in the future, countries can take trade-related climate measures that are likely to assume increasing importance.¹⁷⁶ The fact is that the climate protection goals of the Paris Agreement can only be reached if, in addition to the decarbonisation of the global economy, more areas of land are used to extract carbon dioxide (CO₂) from the atmosphere.¹⁷⁷

5 Multilateral Environmental Agreements (MEAs) and the Multilateral Trading System

International environmental treaties or Multilateral Environmental Agreements (MEAs) as they are commonly referred to, regulate the relationships between states pertaining to the environment. Generally, the first objective of any MEA is the

174 Ruppel (2021b:69).

175 Desai / Sidhu (2020).

176 Kasturi *et al.* (2018:6).

177 WBGU (2020).

protection and conservation of the environment. International trade agreements focus on the exchange of goods, services and capital across international borders. That there is *de facto* a close interrelationship between trade and the environment can be taken from the respective legal documents: Environmental agreements contain trade measures and trade agreements provide for measures for environmental protection, as has been sketched in the previous section. This close relationship and a call for mutual supportiveness of trade and environment agreements with a view to achieving sustainable development has been emphasised by Chapter 2 of Agenda 21 and various environmental and trade agreements.

Different trade measures are provided for in MEAs, which are taken to protect the environment and have an impact on international trade flows. The most direct such measure is to prohibit or restrict trade in certain goods or products. Trade measures may be imposed in different forms, such as import or export licences, product standards, labelling, certification systems, notification procedures, taxes or subsidies. By applying trade measures, environmental agreements typically either aim to control and monitor trade activities with regard to the over-exploitation of natural resources, or to combat trade activities considered being sources of pollution.

The 1973 Convention on International Trade in Endangered Species (CITES) for example contains several trade measures to control the trade of species in danger of extinction or which might become endangered. The species to which the trade measures are applicable are specified in the annexes to CITES. Trade measures here include export and import licenses, quotas and certificates on the country of origin.

The 2000 Cartagena Protocol on Biosafety, agreed upon by the Parties to the 1992 Convention on Biological Diversity, is another important example of MEAs that have an impact on international trade flows. The Protocol provides for specific steps states may take to regulate trade in genetically modified organisms (GMOs) in order to ensure safety of international transfers and of the use of any living GMOs resulting from biotechnology as trans-boundary movements of GMOs may have adverse effects on the conservation of biological diversity. The import of living GMOs may thus be restricted as part of a detailed risk management procedure. The Protocol establishes trade control measures based on a compulsory procedure of notification by the exporting country.

The 1985 Vienna Convention for Protection of the Stratosphere was developed as a framework convention establishing general objectives and a basis for cooperation on ozone layer protection. In order to achieve the elimination of the production of ozone depleting substances, the 1987 Montreal Protocol on Substances that Deplete the Stratospheric Ozone Layer, established trade restriction measures. Certain substances are listed as ozone depleting and all trade in those substances is generally banned between parties and non-parties. Bans may also be implemented against parties as part of the Protocol's non-compliance procedure.

Whereas the 1992 United Nations Framework Convention on Climate Change (UNFCCC) does not provide for specific trade measures, the 1997 Kyoto Protocol contains more detailed obligation related to the reduction of greenhouse gases and provides for trade affecting techniques such as tax impositions on carbon dioxide emissions, the adoption of certain treatment or emission rules for greenhouse gas emissions not covered by the Montreal Protocol or the elimination of subsidies adversely affecting the objective of the UNFCCC.

Aiming to protect human health and the environment against the adverse effects which may result from the production and management the 1989 Basel Convention on the Control of Trans-Boundary Movement of Hazardous Wastes and their Disposal contains trade measures establishing a notification and consent procedure for any envisaged trans-boundary movement of hazardous and other wastes. The Convention acknowledges the sovereign right of states to ban the entry of hazardous wastes in their territories and contains obligations concerning transport, disposal, packaging and labelling. Parties may only export a hazardous waste to another party that has not banned its import and that gives written consent to the import. In general, parties may not import from or export to a non-party. Parties are also obliged to prevent the import or export of hazardous wastes if there is an indication that the wastes will not be treated in an environmentally-sound manner at their destination.

The above examples of trade measures in MEAs show that measures generally designed to protect the environment may have a direct impact on the freedom of international trade. Although the provisions in the fields of trade and environment should mutually complement each other according to Agenda 21 and many other international rules, it may occur that MEAs and trade agreements address the same issues differently whereby conflicts between the two fields of international law may arise. In such instances, disputes may be resolved according to the procedures as described in the respective MEA. However, disputes on trade measures in MEAs could also be taken to the WTO's DSB, especially, if the Party affected by the trade measure is not a party to the MEA, but a member of the WTO. So far, MEAs have not been challenged directly under the WTO's DSU. However, conflicts may arise between WTO rules and trade related measures where trade restrictions provided for in MEAs are used by a party to the MEA against a non-party to the MEA if both parties are members of the WTO. In such cases, the MFN and national-treatment principles, as well as provisions on eliminating quantitative restrictions are potentially infringed.¹⁷⁸ Neither the WTO's legal framework nor the wordings of MEAs claim to be hierarchically superior to the other. On the contrary, the concept of mutual supportiveness of trade and environment agreements is emphasised by both regimes without offering express solutions to solve possible conflicts resulting from the coexistence of trade and environment agreements. Generally, it can be stated that in case of a conflict between MEAs and WTO rules,

178 For more details see UNEP (2005b:65ff.).

the rules of treaty interpretation under the Vienna Convention on the Law of the Treaties and general rules of interpretation would have to be applied in order to determine which rules would take precedence over others.¹⁷⁹ So far, trade measures within MEAs have not been in the centre of attention of international trade proceedings. However, WTO members may choose to take a case relating to trade measures in MEAs to the DSB of the WTO. Included in the Doha development agenda, and thus subject to ongoing negotiations, is the task of clarifying the relationship between trade measures in MEAs and WTO rules, the responsibility for which has been given to the WTO's Committee on Trade and Environment.

6 The Trade and Investment Environment in Namibia

Since Independence in 1990, Namibia has been a member of the WTO. As a member of the African Union (AU) African Economic Community, the Southern African Development Community (SADC), and the Southern African Customs Union (SACU), Namibia is committed to a liberal trade regime. Namibia's economy is closely linked to the economy of South Africa. The Namibia dollar is pegged to the South African rand and some common trade and investment policies make economic trends including inflation closely follow those in South Africa. Monitoring national trade policies is one of the WTO's fundamentally important activities. The main surveillance mechanism is the Trade Policy Review Mechanism (TPRM). WTO members are reviewed, the frequency of each country's review varying according to its share of world trade. Namibia was part of the Trade Policy Review of the Southern African Customs Union (SACU, including Namibia, Botswana, Swaziland, South Africa and Lesotho). The fourth review of the trade policies and practices of SACU took place on 4 and 6 November 2015. The basis for the review is a report by the WTO Secretariat and a report by the Governments of Namibia, Botswana, Swaziland, South Africa and Lesotho.¹⁸⁰

Namibia's Vision 2030 is aiming to provide long-term policy scenarios on the future course of development in the country at different points in time until 2030. Vision 2030 formulates a target of 10.2% investment growth by 2030.¹⁸¹ Namibia welcomes foreign investment and provides a strong foundation of stable, democratic governance and good infrastructure on which to build businesses. The Namibian government prioritises attracting more domestic and foreign investment to stimulate economic growth, combat unemployment, and diversify the economy.¹⁸²

179 For a detailed discussion see Goyal (2006:356ff.).

180 Details of the Trade Policy Review are contained in WTO document WT/TPR/S/324, available at https://www.wto.org/english/tratop_e/tp_r_e/tp424_e.htm, accessed 3 July 2021.

181 GRN (2004a:63).

182 From <https://www.state.gov/reports/2020-investment-climate-statements/namibia/>, accessed 27 May 2021.

The Ministry of Industrialisation, Trade and SME Development is responsible for the development and management of Namibia's economic regulatory regime, on the basis of which the country's domestic and external economic relations are conducted.¹⁸³ This Ministry is also responsible for promoting growth and development of the economy through the formulation and implementation of appropriate policies to attract investment, increase trade, develop and expand the country's industrial base. It is also the governmental authority primarily responsible for carrying out the provisions of the Foreign Investments Act No. 27 of 1990 (FIA 1990) as amended by the Foreign Investments Act No. 24 of 1993 (FIA 1993) and to be repealed by the Namibia Investment Promotion Act No. 9 of 2016 (NIPA). However, this act has not been enforced due to substantive legal concerns raised by the private sector. Therefore, the FIA 1993 remains the guiding legislation on investment in Namibia.¹⁸⁴ The FIA calls for equal treatment of foreign investors and Namibian firms, including the possibility of fair compensation in the event of expropriation, international arbitration of disputes between investors and the government, the right to remit profits, and access to foreign exchange. As a post-apartheid country with one of the highest rates of inequality in the world, Namibia continues to look for ways to address historic economic imbalances. Namibia has ratified Bilateral Investment Treaties (BITs) with Austria, Finland, France, Germany, Italy, Malaysia, the Netherlands, Spain, and Switzerland. Angola, Cuba, China, the Russian Federation, and Vietnam have signed investment agreements with Namibia, but the agreements are not in force. Namibia has double taxation agreements with Botswana, France, Germany, India, Malaysia, Mauritius, Romania, the Russian Federation, South Africa, Sweden, and the United Kingdom.¹⁸⁵

There is no bilateral investment agreement between the United States and Namibia. There is also no taxation treaty between Namibia and the United States. In 2008, SACU (of which Namibia is a member) signed a Trade, Investment, and Development Cooperation Agreement (TIDCA) with the United States. Namibia has double taxation agreements with Botswana, France, Germany, India, Malaysia, Mauritius, Romania, the Russian Federation, South Africa, Sweden, and the United Kingdom.¹⁸⁶

The Competition Act No. 2 of 2003 establishes the legal framework to "safeguard and promote competition in the Namibian market." The Competition Act establishes a legal and regulatory framework that attempts to safeguard competition while boosting the prospects for Namibian businesses and recognizing the role of foreign investment. There is a free flow of financial resources within Namibia and throughout the Common Monetary Area (CMA) countries of the South African Customs Union (SACU). Capital flows with the rest of the world are relatively free, subject to the South African

183 Partially based on Ruppel / Shifotoka (2015).

184 Ibid.

185 Ibid.

186 Ibid.

currency exchange rate. The Namibia Financial Institutions Supervisory Authority (NAMFISA) registers portfolio managers and supervises the actions of the Namibian Stock Exchange (NSX) and other non-banking financial institutions. Namibia's central bank, the Bank of Namibia (BON), regulates the banking sector. Namibia has a highly sophisticated and developed commercial banking sector that is comparable with the best in Africa. The Namibian dollar is pegged at parity to the South African rand, and rand are accepted as legal tender in Namibia.¹⁸⁷

7 Cotonou and Post-Cotonou Agreement

The partnership between the European Union and African, Caribbean and Pacific States (ACP) is one of the EU's oldest and broadest trade cooperation's with other countries. So far, the EU-ACP partnership focused on the eradication of poverty and sustainable development. The Cotonou Agreement, was adopted in 2000 to replace the 1975 Lomé Convention. It was concluded for a 20-year period. The Cotonou Agreement was initially due to expire in February 2020. Its provisions have been extended until 30 November 2021, unless the new partnership agreement between the EU and the ACP countries is provisionally applied or enters into force before that date. The Cotonou Agreement aims to reduce and eventually eradicate poverty and contribute to the gradual integration of the ACP countries into the world economy. It is based on development cooperation, economic and trade cooperation and the political dimension thereto.

The joint ACP-EU ministerial trade committee discusses any trade-related issue of concern to all ACP states. It monitors the negotiations and implementation of Economic Partnership Agreements. It also examines the impact of the multilateral trade negotiations on ACP-EU trade and the development of ACP economies. The EU has negotiated a series of economic partnership agreements (EPAs) with the 79 ACP countries. These agreements aim to create a shared trade and development partnership backed up by development support.¹⁸⁸ The EU signed an EPA on 10 June 2016 with the SADC EPA Group comprising Botswana, Lesotho, Mozambique, Namibia, South Africa and Eswatini. Angola has an option to join the agreement in future. The agreement became the first regional EPA in Africa to be fully operational after Mozambique started applying the EPA in 2018. The EU is the Southern African Development Community EPA Group's largest trading partner, with South Africa accounting for the largest part of EU imports to and EU exports from the region. The EPA gives asymmetric access to the partners in the SADC EPA group. They can shield sensitive products from full liberalisation and safeguards can be deployed when imports from the EU are

187 Ibid.

188 Cf. <https://www.consilium.europa.eu/en/policies/cotonou-agreement/>, accessed 27 May 2021.

growing too quickly. A detailed development chapter identifies trade-related areas that can benefit from funding. The agreement also contains a chapter on sustainable development which covers social and environmental matters.¹⁸⁹

The new post-Cotonou agreement includes a broader range of policy areas, such as climate protection, human rights and migration issues. The post-Cotonou negotiations started in September 2018 with the aim was to agree on a new agreement to succeed the Cotonou Agreement and adapt the relations to the new realities. The Cotonou Agreement was initially due to expire in 2020, but its application was prolonged until 30 November 2021, unless the new Agreement enters into force or is provisionally applied before that date. Concretely, the new Agreement is composed of a “common foundation”, which sets out the values and principles that bring partners together and indicates the strategic priority areas that both sides intend to work on. These are: (i) Human Rights, Democracy, and Governance in People-Centred and Rights-Based Societies (ii) Peace and security, (iii) Human and social development, (iv) Environmental sustainability and climate change, (v) Inclusive sustainable economic growth and development, and (vi) Migration and mobility. The Agreement combines this foundation part with three specific, action-oriented regional protocols (Africa, Caribbean, Pacific) which focus on each region's needs. The regional protocols will have their own specific governance to manage and steer the relations with the EU and different regions involved, including through regional parliamentary assemblies. There will also be an overarching joint OACPS-EU framework with a strong parliamentary dimension. In April 2020, the ACP Group of States became the Organisation of African, Caribbean and Pacific States (OACPS), an international organisation with 79 members, following the entry into force of the revised Georgetown Agreement.¹⁹⁰

8 Concluding Remarks

Natural resources represent a significant and growing share of world trade, and properly managed, provide a variety of products that (continue to) contribute greatly to the quality of human life. They, however, also represent challenges for policy makers. Natural resources are scarce, economically useful, distributed unevenly and exhaustible. Their production, trade and consumption can have negative externalities¹⁹¹ on people and the environment. Natural resources are dominated by national

189 Cf. <https://ec.europa.eu/trade/policy/countries-and-regions/regions/sadc/>, accessed 27 May 2021.

190 Cf. <http://www.acp.int/content/post-cotonou-negotiations-new-euafrican-caribbean-and-pacific-partnership-agreement-conclude>, accessed 27 May 2021.

191 An example of such negative externality would be when a production or mining process results in pollution affecting the health of people who live nearby, or that damages the natural environment, animal or plant life or reduces the livelihood of people.

economies, they are highly volatile.¹⁹² The ‘curse’ of natural resources, climate change, water stress, food security and the prevalence of poverty *inter alia* remain challenges for Africa. All of these are also linked to international trade and certainly go hand in hand with poverty reduction, self-reliant sustainable development and the rational use of Africa’s natural resources.

With regards to trade, over-exploitation of natural resources, widespread dumping of sub-standard products and services, second-hand and re-conditioned machinery, including of transport goods to increase the share in exports in organically-grown agricultural products to create technical data bases on a wide range of exportable products, implementing and monitoring plans for detection of heavy metals, pesticides, micro-biological and contaminants in food items are issues that need to be addressed. Another remaining challenge in terms of the WTO and the environment (e.g. biodiversity) is to control the transfer of genetically modified goods, including when delivered as food aid. The balancing act of bringing the interests of trade, environmental protection and sustainable development in line with each other can only succeed with a joint effort from all relevant stakeholders.

Scarce natural resources, climate change, water stress, food security and the prevalence of poverty, *inter alia*, remain major challenges. All of these are also linked to international trade and certainly go hand-in-hand with poverty reduction, self-reliant sustainable development and the rational use of natural resources. Although various legal provisions in the framework of the WTO provide a solid foundation for modern-day trade to fully embrace the concept of sustainable development and preservation of the environment, there is still ample scope for state and organisational practice to exploit its full potential in this regard.

Countries should increase efforts through the international architecture, specifically the WTO, to develop green trade agreements that facilitate and incentivise increased trade in commodities produced without conversion of natural habitats. While subsidies are, for the most part, deployed within the country granting the subsidies and can only be reformed through the actions of domestic governments, reforming harmful subsidies still requires an international effort. International organisations can facilitate changing the status quo on subsidies reform and encourage governments to cooperate on ways to implement change.¹⁹³

While every country must have the right to develop its own agricultural model to feed its population, respect for the needs of other countries and international obligations remains key. Policies must therefore assure that trade can meet global challenges, facilitates the sustainable and efficient use of land, protects biodiversity and prevents overexploitation and degradation of land and natural resources. In particular, nationally appropriate measures to conserve natural resources and combat climate change

192 WTO (2010).

193 Deutz *et al.* (2020:66).

that are respectful of international commitments related to sustainable development, e.g. the Paris Agreement on Climate Change, the Rio Declaration on Environment and Development and the Convention on Biological Diversity.

Chapter 29: Human Rights and the Environment

Oliver C. Ruppel

1 Introduction

Modern human rights law is commonly considered to have its roots in the 1945 Charter of the United Nations (UN), whereas environmental concerns started to move to the centre of international activities with the UN Conference on the Human Environment held in Stockholm in 1972.¹ More than 30 African countries² participated at this conference and committed themselves – at least to some extent – to the recognition and promotion of environmental concerns on the international level.³ At the conference, the then Indian Prime Minister Indira Gandhi stated this:⁴

We do not want to impoverish the environment any further, but we cannot forget the grim of poverty of large numbers of people. When they themselves feel deprived how can we urge the preservation of animals? How can we speak to those who live (...) in slums about keeping our oceans, rivers and the air clean when their own lives are contaminated at the source? Environment cannot be improved in conditions of poverty.

Colonialism, apartheid, and the unequal distribution of resources have curbed human rights and challenged progress in Namibia for a long time. Today, over 30 years after Independence⁵ and the promulgation of the Constitution of the Republic of Namibia,⁶ the country still faces challenges that impede, *inter alia*, the explicit recognition of environmental (human) rights. The adoption of a human rights framework and culture in terms of the Namibian Constitution of 1990 has, without doubt, been a positive attribute of the country since it gained Independence. The Constitution serves as the fundamental and supreme law, and the Namibian Government is subordinate to it.⁷ The Constitution also established a new regime relating to natural resources in the country.⁸ Regardless of the aforementioned, the legal milieu in support of environmental human rights is still far from perfect.

1 The following passages were largely taken from Ruppel (2010h).

2 Some 113 states were invited, in accordance with UN General Assembly Resolution 2850 (XXVI). The following African states took part in the Conference: Algeria, Botswana, Burundi, Cameroon, Central African Republic, Chad, Congo, Egypt, Ethiopia, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Lesotho, Liberia, Libyan Arab Republic, Madagascar, Malawi, Mauritania, Mauritius, Morocco, Niger, Nigeria, Senegal, South Africa, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zaire, and Zambia.

3 It should be noted that the Stockholm Declaration is legally only a non-mandatory document.

4 Quoted in Anand (1980:10).

5 Namibia became independent on 21 March 1990.

6 No. 1 of 1990.

7 Naldi (1995:15-19).

8 Carpenter (1991:56-57).

In its first part, this Chapter examines the categorisation and concept of human rights in general, and then views the Namibian constitutional dispensation in the light of environmental concerns. The Chapter intends to establish whether, and to what extent, environmental human rights are explicitly or implicitly recognised in Namibia. At the same time this Chapter aims to show how human rights and the environment are inter-related and actually indivisible.

2 Human Rights Categories

The categorisation of human rights into generations has not been without criticism;⁹ and it must be admitted that the attempt to relegate human rights into categories, be it into generations or other classifications, always bears the risk of not being capable of determining exactly which rights belong to which category. This is inherent in the very nature of human rights in general, as human rights are universal, inalienable, indivisible, interrelated and interdependent.¹⁰

The categorisation of human rights into three generations goes back to the first Secretary-General of the International Institute for Human Rights in Strasbourg, the Czech-French lawyer Karel Vasak. As early as 1977, he divided human rights into three generations. First-generation human rights refer to traditional civil and political liberties that are considered important in Western liberal democracies, such as freedom of speech, of religion, and of the press, as well as a right of the individual to bodily inviolability, i.e. an obligation of non-interference against individuals by the state.¹¹ These rights are the classical human rights, as contained in Chapter 3 of the Namibian Constitution. For many years, the dominant position was that only these were genuine human rights.¹²

Second-generation rights are economic, social, and cultural rights. These have generally been considered as requiring affirmative Government action for their realisation. Second-generation rights are often seen to be group rights or collective rights, as they pertain to the well-being of groups, social formations, even whole societies. They contrast with first-generation rights, perceived as individual entitlements or prerogatives of individuals, as they refer to rights held, ascribed to and exercised by people collectively or by specific subgroups. Examples of second-generation rights include the right to education, work, social security, food, self-determination, and an adequate standard of living. These rights are codified in the International Covenant on Economic, Social

9 Scheinin (2009:25).

10 These important characteristics of human rights were formulated and reaffirmed by the World Conference on Human Rights held in Vienna in 1993, and are laid down in Section I(5) of the Vienna Declaration and Programme of Action.

11 Vasak (1977).

12 Steiner *et al.* (2008).

and Cultural Rights (ICESCR),¹³ and also in Articles 23–29 of the Universal Declaration of Human Rights.¹⁴ Writers reluctant to recognise second-generation rights as human rights have often based their argument on the assumption that courts are unable to enforce affirmative duties on states and that, therefore, such rights are merely aspirational. Similarly, critics have opined that, regardless of the political system or level of economic development, all states are able to comply with civil and political rights, but not all states have the means to provide the financial and technical resources for the realisation of affirmative obligations such as education and an adequate standard of living.¹⁵

Third generation¹⁶ or solidarity rights are the most recently recognised category of human rights.¹⁷ This group has been distinguished from the other two categories of human rights as their realisation is predicated not only upon both the affirmative and negative duties of the state, but also upon the behaviour of each individual. Rights in this category include self-determination as well as a host of normative expressions; their status as human rights is still controversial. Third-generation rights include the right to development, the right to peace, and so-called environmental human rights.¹⁸ Actually, and strictly speaking, environmental human rights do not really fit into any one particular category or generation of human rights. More generally, third generation rights can be viewed from different angles, somehow touching on all of the above-mentioned generations of rights. One could argue, for instance, that it should be possible to give individuals and groups access to environmental information, judicial remedies, and political participation through existing civil and political rights.¹⁹ In this context, environmental rights should be seen as empowerment rights that grant participation in environmental decision-making, compelling governments to meet minimum standards of protecting life and property from environmental hazards. This anthropocentric approach²⁰ focuses on harmful environmental effects on individuals rather than on the environment, thus leading to a ‘greening’ of human rights law. Another possibility for dealing with environmental human rights would be to treat an intact and healthy environment as an economic, social or cultural right, comparable to those codified in the ICESCR. This approach values the environment as a good in its own right, one that is vulnerable and at the same time linked to development. Like (other)

13 1966 United Nations International Covenant on Economic, Social and Cultural Rights.

14 1948 United Nations Universal Declaration of Human Rights.

15 On the classification of human rights see Parker (2002).

16 See Ruppel (2008a:101 ff.).

17 Recent reference has been made to so-called fourth-generation human rights or communication rights, which are concerned with human rights in the information society.

18 Vasak (1977).

19 1966 United Nations International Covenant on Civil and Political Rights.

20 Also, a human-centred approach, as opposed to an ecocentric approach that is focused on the environment, or a theocultural approach that is focused on religion, philosophy and culture. See Theron (1997:23-44).

economic, social and cultural rights, environmental rights are still largely of an aspirational nature and in many cases enforceable only through the relatively weak international supervisory mechanisms.

The fact that environmental human rights are usually not expressly recognised by the 1966 Conventions²¹ means that their status and content is often still seen to be contentious.²² Environmental human rights – for the purpose of this Chapter and, more importantly, for their improved recognition and application in Namibia – should not be seen in isolation from other human rights. They are Janus-faced, embracing simultaneously morality and the law. They are constructions rather than moral truths to be discovered and, as such, have an inherently juridical character, which entails an orientation towards a positive conceptualisation.²³

3 Constitutionality of Environmental Human Rights?

Many national constitutions cover environmental protection and establish it as a constitutional objective, an individual right, or both. These include Brazil, Ecuador, Kenya, Peru, the Philippines, South Africa, and South Korea. Among Council of Europe member countries, the constitutions of Belgium, Hungary, Norway, Poland, Portugal, Slovakia, Slovenia, Spain and Turkey acknowledge a fundamental individual right to environmental protection, while those of Austria, Finland, France, Germany, Greece, the Netherlands, Sweden and Switzerland enshrine environmental protection as a constitutional objective. In southern Africa, it can be observed that, during the past few decades, states have placed a strong emphasis on including environmental provisions in their respective legal frameworks. While some constitutions explicitly recognise the existence of such right within their respective Bills of Rights,²⁴ others include environmental concerns in the principles of state policy²⁵ rather than formulating a human right to environment as a fundamental human right.

When the Namibian Constitution came into force, it was lauded as a model for Africa because of its drafting process and content. The Constitution as adopted by the Constituent Assembly came into force on the date of Independence, namely 21 March 1990.²⁶ The Constitution can be considered to be among the most liberal and

21 Both the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR) were adopted by the United Nations General Assembly on 16 December 1966.

22 Scheinin (2009:25).

23 Mushkat (2009:119ff.).

24 One example of a human right to environment codified on the national level is Article 24 of the 1996 Constitution of the Republic of South Africa.

25 Such as Article 95 of the Namibian Constitution on the promotion of the welfare of the people in the Chapter entitled “Principles of State Policy”.

26 Article 130.

democratic in the world. It enjoys hierarchical primacy amongst the sources of law by virtue of its Article 1(6). It is thematically organised into 21 Chapters that contain 148 Articles relating to the Chapter title. Together, they organise the state and outline the rights and freedoms of the Namibian people.²⁷

The Namibian Constitution is special in several ways. Firstly, it was developed largely under the eyes and with the assistance of the international community. This is closely related to the fact that Namibia's decolonisation process was strongly supported by the implementation of UN Resolution 435. Secondly, the Namibian Constitution was certainly an experiment in southern Africa in putting an end to racial discrimination and apartheid.²⁸ Namibia has not totally relinquished its South African legal legacy and Article 140 provides for legal continuity, stating that all existing laws prior to Independence are to remain in force until repealed by Parliament. This does not only mean that Roman-Dutch law continues to be the ordinary law of the land, but also that Namibia has a considerable amount of pre-Independence legislation, of which some certainly needs renewal.

The constitutional rights relevant to environmental human rights will be analysed in several steps. Since the Namibian Constitution does not provide explicitly for entrenched and enforceable environmental human rights, it has to be determined whether (and to what extent) these rights are covered by the Constitution's fundamental rights and freedoms, or whether the respective rights form part of it in other Sections, e.g. as principles of state policy. Arguable, the fundamental rights and freedoms – to life, human dignity and equality – reinforce claims that people may have to an environment of a certain quality, even if positive obligations on the part of the state are not imposed *per se*. International aspects of environmental human rights applicable in Namibia, e.g. via Article 144 of the Constitution, will also be outlined below.

3.1 The Preamble

The Preamble of a constitution is an important tool for the interpretation of such document, because it reflects the general spirit of the drafters.²⁹ The Namibian Constitution makes no clear reference to the environment in its Preamble. However, it explicitly recognises that “the inherent dignity” and “the equal and inalienable rights of all members of the human family is indispensable for freedom, justice and peace”. The

27 Bukurura (2002:57).

28 Watz (2004:21).

29 *Ibid.* He further quotes Hartmut Ruppel, Namibia's first Attorney-General after Independence, and the Chairman of the Standing Committee on the issue, that the content of the Preamble was critically debated at the time. Some members raised the question whether the Preamble had been influenced predominantly by Western values.

reference to “inalienable rights” leads immediately to Chapter 3 and Article 5 therein. It states that

[t]he fundamental rights and freedoms enshrined in this Chapter shall be respected and upheld by the Executive, Legislature and Judiciary and all organs of the Government and its agencies and, where applicable to them, by all natural and legal persons in Namibia, and shall be enforceable by the Courts in the manner hereinafter prescribed.

The 1996 South African Constitution aims to “establish a society based on democratic values, social justice and fundamental human rights”.³⁰

Here, the reference to “fundamental human rights” also opens the way for Chapter 2 of the 1996 South African Constitution, namely the Bill of Rights, and therein to Section 24.³¹ The 1996 South African Constitution makes it very clear from the outset that not only the Bill of Rights but also the environmental rights in Section 24 thereof apply to all laws in the country and is obligatory for all the organs of the state. However, Section 24 jurisprudence in South Africa has not always been applauded when it comes to understanding the nature of such right and how it operates vis-à-vis other rights.³² In the case of *HTF Developers (Pty) Ltd v Minister of Environmental Affairs and Tourism and Others*,³³ for example, the court held that Section 24(b) was akin to a directive principle and was “aspirational in form”. The aforementioned view of the court is, however, incorrect.³⁴ Firstly, the rights in the Bill of Rights are justiciable rights, which can be distinguished from directive principles in two ways: While fundamental rights may either prohibit the state from doing something or may place a positive obligation on the state, directive principles are simply affirmative instructions to the state. While fundamental principles are legally binding, directive principles are not. Secondly, Section 24(b) is clearly not aspirational in nature. The mandate stemming from Section 24(b) “falls within the realm of real expectations”.³⁵

3.2 Fundamental Rights and Freedoms

Chapter 3 of the Namibian Constitution outlines 16 fundamental rights and freedoms, reflecting the values and spirit of the independent Namibian nation. The Constitution

30 Preamble of the 1996 South African Constitution.

31 Section 24 reads as follows: “Everyone has right (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”

32 Ferris (2009:132).

33 2006 (5) SA 512 (T).

34 This is in accordance with Ferris (2009:132).

35 Ibid.

excels in being a document that guarantees human rights by comprehensive coverage and provisions set out in clear language. Human rights are justiciable as their protection can be secured through the courts.³⁶ This gives citizens the right to take executive agencies to court, and the judiciary reigns as the authority to adjudicate such matters. The set of enforceable fundamental human rights and freedoms are to be respected and upheld by the Executive, the Legislative and the Judiciary, all organs of Government, its agencies, and, where applicable, by all natural and legal persons in Namibia.³⁷ Apart from the right to culture (Article 19) and the right to education (Article 20), Chapter 3 does not contain any typical socio-economic rights – such as rights to housing, water or access to health services.³⁸ Instead, such socio-economic considerations are addressed elsewhere in the Constitution, especially in the Principles of State Policy.³⁹

Chapter 11 contains Principles of State Policy that cannot be categorised as constitutional rights in the strictest sense.⁴⁰ Article 95(1) compels state organs to be directed by the environmental principle of state policy.⁴¹ Article 95 stipulates that

[t]he State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following: (...)

- (1) maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future;

Article 101 states that the Principles of State Policy are not legally enforceable, but merely serve as societal goals in making and applying laws to give effect to the fundamental objectives of the different principles. The principles must also be employed in the interpretation of Namibian law and guide the state in its decision-making processes.⁴² Constitutional Principles of State Policy serve as a stimulus for new initiatives or endeavours – especially where existing policy, law or programmes seem inadequate to attain the principles’ objectives.⁴³ The principles must similarly be employed as direction indicators in setting Government priorities. Also, the judiciary should apply the Principles of State Policy in constitutional interpretation and use them to fill gaps in the legislative framework when and where necessary. These generic features of constitutional principles of state policy arguably also apply to the environmental principle of state policy in the Constitution of Namibia. The language used in Article 95 indicates that the fulfilment of the Principles of State Policy requires positive action on the part of Government, i.e. “[t]he State *shall* ... promote and maintain” [emphasis added]. At first sight, this creates the impression that such state principles create enforceable

36 Bukurura (2002:21).

37 Article 5.

38 See Erasmus (1991:13).

39 Watz (2004:75).

40 Naldi (1995:99).

41 Hinz (2001:77).

42 Watz (2004:186).

43 Du Plessis (2008:177-179).

obligations that must be fulfilled.⁴⁴ Although this is not the case in Namibia, the state is expected to promote and maintain the welfare of the people by adopting policies aimed at maintenance.⁴⁵

The following sections deals with those Articles in the Namibian Constitution that in one way or another are related to promoting the protection of environmental human rights and justice.

3.3 Article 6: The Right to Life

Article 6 regulates, amongst others, that “[t]he right to life shall be respected and protected.”

It is clear that human life depends strongly on the state of the environment, including water, air, natural resources, plant and animal life. Environmental degradation threatens people’s lives and livelihoods. The right to life is the most basic human right: a person can exercise no other right unless this most primary of rights is adequately protected. As such, the right to life is one that should be interpreted narrowly, and this arguably requires the state to adopt positive measures. Presenting compelling facts, however, is critical for an individual to successfully present a case. Obviously, the most compelling cases involve environmental harm that is likely to cause death in the short term.⁴⁶

3.4 Article 8: Respect for Human Dignity

Article 8 of the Namibian Constitution states that:

- (1) The dignity of all persons shall be inviolable.
- (2) (a) In any judicial proceedings or in other proceedings before any organ of the State, and during the enforcement of a penalty, respect for human dignity shall be guaranteed.
(b) No persons shall be subject to torture or to cruel, inhuman or degrading treatment or punishment.

Dignity has to be read in conjunction with other fundamental rights set out in the Constitution, such as the right to equality and to non-discrimination (Article 10). The dignity of a person is inseparably linked to environmental human rights, as a person’s health, well-being and respect-worthiness are subject to environmental human rights, as e.g. access to clean and sufficient water, sanitation services, and waste disposal are

44 Ibid.

45 Ibid.

46 Herz (2008:173-281).

aspects relevant to human dignity.⁴⁷ In 2002, the UN Committee on Economic, Social and Cultural Rights concluded that there was a human right to water embedded in Article 11 of the ICESCR, which defined the right to livelihood as including adequate food, clothing and housing. The General Comment on the right to water was adopted by this Committee in 2002, so the 145 countries that ratified the Covenant agree that the human right to water entitles everyone to sufficient, affordable, physically accessible, safe water acceptable for personal and domestic use, and that they are required to develop mechanisms to ensure that this goal is realised.⁴⁸ The Committee recognised that⁴⁹

the right to water clearly falls within the category of guarantees essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival.

The 1979 Convention on the Elimination of all Forms of Discrimination against Women⁵⁰ and the 1989 Convention on the Rights of the Child⁵¹ have already identified access to water as a human right. By becoming party to these agreements, the Republic of Namibia has committed itself to protect and realise the rights of women and children to water. Namibia thus agreed to hold itself accountable before the international community for the fulfilment of its obligations in the framework of the aforementioned conventions. A right to water as an individual prerogative for all (not only for women and children), was adopted in the Sixty-fourth UN General Assembly Plenary held on 28 July 2010.⁵² The UN adopted (by a vote of 122 in favour to none against, with 41 abstentions) a resolution calling on states and international organisations to provide financial resources, build capacity and transfer technology, particularly to developing countries, in scaling up efforts to provide safe, clean, accessible and affordable drinking water and sanitation for all. Through this text on the human right to water and sanitation, the Assembly expressed deep concern that some 884 million people were without access to safe drinking water and more than 2.6 billion lacked access to basic sanitation. Bearing in mind the commitment to fully achieve the Millennium Development Goals,⁵³ it expressed alarm that 1.5 million children under five years old died each year as a result of water- and sanitation-related diseases, acknowledging that safe,

47 WHO (2003:18ff.).

48 See http://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf, accessed 15 July 2021.

49 Ibid.

50 GA Res. 34/180, 18 December 1979, Article 14(2)h.

51 GA Res. 44/25, 20 November 1989, Article 24(2)c.

52 GA 10967.

53 In September 2000, building upon a decade of major United Nations conferences and summits, world leaders came together at United Nations Headquarters in New York to adopt the United Nations Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets - with a deadline of 2015 - that have become known as the Millennium Development Goals; cf. <http://www.un.org/millenniumgoals/bkgd.shtml>, accessed 19 December 2010.

clean drinking water and sanitation were integral to the realisation of all human rights.⁵⁴ Despite some progress, also in light of the 17 Sustainable Development Goals (SDGs) which are at the heart of the 2030 Agenda for Sustainable Development adopted by all United Nations Member States in 2015, SDG 6 aiming to ensure availability and sustainable management of water and sanitation for all is yet to be achieved with 2.2 billion people still lacking safely managed drinking water.⁵⁵

In the judgement of *Matsipane Mosetlhanyane and Others v the Attorney General of Botswana*⁵⁶ the Botswana Court of Appeal overturned a decision of the High Court that prohibited the Kalahari Bushman from sinking boreholes in the Central Kalahari Game Reserve necessary to sustain their livelihood. The ruling interestingly draws a balance between the interests of nature conservation with those of indigenous people's water rights. The court in its judgement *inter alia* made reference "to the United Nations Committee on Economic, Social and Cultural Rights, which on 20 January 2003 submitted a report on what it termed Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights. In its introduction it stated the following:

1. Water is a limited natural resource and a public good fundamental for life and health. The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realisation of other human rights...

In paragraph 16 (d) of its report the Committee said the following:⁵⁷

16. Whereas the right to water applies to everyone, States Parties should give special attention to those individuals and groups who have traditionally faced difficulties in exercising this right, including women, children, minority groups indigenous peoples, refugees, asylum seekers, internally displaced persons, migrant workers, prisoners and detainees. In particular, States Parties should take steps to ensure that:
- (d) Indigenous people's access to water resources on their ancestral lands is protected from encroachment and unlawful pollution. States should provide resources for indigenous peoples to design, deliver and control their access to water.

In the 2009 South African case of *Lindiwe Mazibuko and Others v City of Johannesburg and Others*,⁵⁸ the Constitutional Court had to decide over an alleged violation of the right to have access to sufficient water under Section 27 of that country's Constitution. Section 27 stipulates that:

- (1) Everyone has the right to have access to-
- (a) health care services, including reproductive health care;
- (b) sufficient food and water; and

54 See <http://www.un.org/News/Press/docs/2010/ga10967.doc.htm>, accessed 12 November 2010.

55 See <https://sdgs.un.org/goals/goal6>, accessed 15 July 2021.

56 Case No. CACLB-074-10, unreported judgment of the Appeal Court of Botswana dated 27 January 2011.

57 *Ibid.*

58 *Lindiwe Mazibuko and Others v City of Johannesburg and Others* CCT 39/09 [2009] ZACC 28.

- (c) social security, including, if they are unable to support themselves and their dependents, appropriate social assistance.
- (2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.

Lindiwe Mazibuko and Others v City of Johannesburg and Others was the first case in which the Constitutional Court had considered the obligations imposed by the right to access sufficient water, as set out in Section 27(2) of the South African Constitution. Under the Namibian Constitution, the right to water is not explicitly included in the fundamental rights,⁵⁹ but is an implicit component of existing fundamental human rights. Therefore, water must be available and accessible in sufficient quality and quantity for personal and domestic consumption.⁶⁰ The protection of the right to water is an essential prerequisite to the fulfilment of many other human rights.⁶¹ Without guaranteeing access to a sufficient quantity of safe water, respect for human dignity and other human rights may be jeopardised.⁶² Formal recognition of the right to water means acknowledging the environmental dimension of existing human rights.⁶³

In 2002, Namibia adopted a National Water Policy that states that all Namibians have a right to access sufficient safe water for a healthy and productive life. Moreover, Sections 2 and 3 of the Water Resources Management Act⁶⁴ state that the state has an obligation to ensure that water resources are managed in ways consistent with fundamental principles to warrant equitable access to water by every citizen. Although Parliament approved the Water Resources Management Act, the rather out-dated Water Act⁶⁵ remains in force until the new Water Resources Management Act is promulgated.⁶⁶ The relationship between water quality regulation and human rights jurisprudence is very significant.⁶⁷

3.5 Article 10: Equality and Freedom from Discrimination

As part of the Bill of Rights under Chapter 3 of the Constitution, Article 10 provides for the following:

59 This is also reflected in the recent article by Mungunda (2011) which elaborates on “Access to water: A human right” in Namibia.

60 See Mapaure (2010).

61 Ruppel (2008a:107).

62 Ruppel (2012c).

63 Mapaure (2010). Through a rights-based approach, victims of water pollution and people deprived of essential water to meet their basic needs are provided with access to remedies.

64 No. 24 of 2004.

65 No. 54 of 1956.

66 The Water Act was still applied by the High Court in Windhoek in the recent case concerning the use of groundwater by the Valencia Uranium Mine; see Hinz / Ruppel (2008b:48) with further references.

67 Koonan / Khan (2010:294).

- (1) All persons shall be equal before the law.
- (2) No persons may be discriminated against on the grounds of sex, race, colour, ethnic origin, religion, creed or social or economic status.

The equality clause can be interpreted to strongly support the notion of environmental human rights, thus putting the state under the obligation to protect its people equally and to ensure that benefits are distributed fairly that is to the greatest possible extent.⁶⁸ Human vulnerability also exacerbated by means of global warming and climate change is felt most acutely by those segments of the population who are already in vulnerable situations due to factors such as poverty, gender, age, minority status, and disability.⁶⁹ Vulnerability and impact assessments in the context of climate change largely focus on the economic sector, and tend to not take into account the former factors.⁷⁰

Since Independence, the Government of Namibia has made various efforts in terms of strengthening women's and children's rights, first of all by according gender equality the status of a constitutionally guaranteed fundamental right and by subsequently passing progressive gender-based laws. Moreover, a Ministry of Gender Equality and Child Welfare was established in 2000 with the objective of ensuring the empowerment of women, men and children, and the equality between men and women as prerequisites for full participation in political, legal, social, cultural and economic development.⁷¹

3.6 Article 15: Children's Rights

A study on children's rights has shown that Namibia can be lauded for initiating law reform for the improvement of such rights.⁷² This reflects Namibia's remarkable commitment to protecting children's rights by, amongst other things, incorporating a broad variety of international legal instruments into the domestic system. Namibia is a State Party to the most relevant legal instruments on the protection of children's rights on global, regional and sub-regional level. Thus, the Convention on the Rights of the Child (CRC) explicitly states that the child has a right to "clean drinking water, taking into consideration the dangers and risks of environmental pollution".⁷³ Of course, effective implementation and the entire reporting system, which are imperative for enhancing the situation of children, can only work if States Parties collaborate to improve the situation of children.⁷⁴ In this context there can be no doubt, that the recognition of

68 Bilchitz (2003:1-26).

69 Ruppel (2010a, b, d).

70 Ruppel (2008g).

71 Ruppel (2008b, g; 2009a; 2010b, c, d).

72 Ruppel (2009e, f); Amunda / Mugadza (2009).

73 Article 24(2)(c) CRC.

74 Ruppel (2009e:2-3).

environmental human rights is not only supportive to, but in all means in the best interest of the child. Although the Namibian Constitution does not seem to envisage the concept of the best interest of the child to be of paramount consideration,⁷⁵ international human rights standards must be applied accordingly.⁷⁶

3.7 Articles 18 and 5: Administrative Justice

The Constitution deals with administrative justice in two of its articles, namely Articles 18 and 5. Article 18 requires that administrative bodies act fairly and reasonably, and that they comply with the requirements stipulated in common law and relevant legislation. This article obviously plays an eminent role in the proper implementation of administrative measures, being a means of achieving compliance with environmental laws and thus promoting environmental human rights in Namibia. Article 5 contains the fundamental obligation enshrined in modern constitutionalism according to which the three organs of the state – including the executive – are obliged to uphold and respect the fundamental rights and freedoms set out in Chapter 3 of the Constitution. Thus, Article 5 reaches beyond Article 18: the yardsticks of Article 5 are the fundamental rights and freedoms. Article 5 requires substantial compliance by confronting administrative actions and the law authorising such actions with the comprehensive catalogue of human rights. The placement of Article 5, as an integral part of Chapter 3's fundamental freedoms, expresses – in line with what follows later, namely in Article 21(1) and Article 22 – that the fundamental rights and freedoms are invested with real constitutional and legal weight.⁷⁷

3.8 Article 19: The Right to Culture

With Article 19 the right to culture is guaranteed under the Bill of Rights in the Constitution, as well as in Article 15(1)(a) of the International Covenant on Economic, Social and Cultural Rights (ICESCR). In terms of these two legal obligations, the Government is required to take legislative and administrative action to ensure the fulfilment of these rights. Although Chapter 3 is not primarily aimed at protecting economic, cultural and social rights (such as those of Article 19), it is important to remember that Article 5 makes those listed within Chapter 3 legally enforceable. From this arose the right to profess, maintain and promote a language in the case of *Government*

75 Naldi (1995:79).

76 Ruppel (2009f).

77 Hinz (2009:81-89).

of the Republic of Namibia v Cultura 2000.⁷⁸ Cultural diversity is also closely linked to ecological biodiversity.⁷⁹ The collective knowledge of biodiversity, its use and its management rests in cultural diversity, and can, therefore, also be regarded as an (indigenous) environmental human right.⁸⁰

The right to tradition also falls under Article 19, which seeks to ensure that the traditions and way of life of the different indigenous groups⁸¹ comprising Namibia's society are protected. Article 19 is in line with Article 17(3) of the Banjul Charter, which proclaims that the state has the duty to protect traditional values.⁸² Traditional knowledge, without doubt, is such a value. So far, Namibian courts have been reluctant to consider the right to culture as a means of protecting traditional knowledge. In a case decided by a Magistrate's Court,⁸³ the harvesting of almost 400 kg of hoodia was at issue. *Hoodia gordonii*, a cactus-like plant native to the Namib Desert, is widely believed to be an appetite suppressant, used by some traditional (indigenous) communities.⁸⁴ All hoodia species are protected under the Convention on the Illegal Trade of Endangered Species (CITES), to which Namibia is a signatory. Accordingly, it is listed as a protected plant under Schedule 9 of the Namibian Nature Conservation Ordinance,⁸⁵ as amended after Independence by the Nature Conservation Amendment Act.⁸⁶ Thus, according to Section 73(1) of the Ordinance, no person other than the lawful holder of a permit granted by the Executive Committee is permitted at any time to pick or transport any protected plant. The Magistrate's Court, however, discharged

78 1994 (1) SA 407 (NmS).

79 See in detail Hinz / Ruppel (2008b).

80 Ibid:57.

81 Indigenous groups can be defined as "originating in and characteristic of a particular region or country; native; ... e.g. the indigenous peoples of southern Africa." See <http://dictionary.reference.com/browse/indigenous>, accessed 15 July 2021.

82 Naldi (1995:97).

83 The case was decided at the end of 2007 by the Mariental Magistrates' Court; cf. *Allgemeine Zeitung*, 8 January 2008.

84 Members of the San community used this plant for centuries when hunting. As hunting usually took several days, they used to eat the hoodia to still their hunger. The San name for the hoodia is *!khoba*. The events related to the hoodia plant are one of the cases dealing with bioprospecting (also described as *biopiracy*), describing the appropriation, generally by means of patents, of legal rights over indigenous biomedical knowledge without compensation to the indigenous groups who originally developed such knowledge. However, hoodia is registered in the name of the South African Council for Scientific and Industrial Research (CSIR). In 2003, after years of disputes with the CSIR, the latter concluded an agreement with the San, granting them 6% of the royalties paid to the CSIR by Phytopharm, in addition to 8% of the 'milestone income' paid by Phytopharm in case the development of the product made substantial progress. This agreement was the first of its kind, granting participation in profits to indigenous people resulting from traditional knowledge. Nonetheless, the CSIR, despite having signed the agreement with the San for good reasons, at a later stage alleged as part of proceedings before the European Patent Office that it was doubtful whether the San really did have knowledge about the effect of hoodia. See also Hoering (2004).

85 No. 4 of 1975.

86 No. 5 of 1996.

two suspects of the alleged theft of almost 400 kg of hoodia. In its ruling, the court held that it could not be proved that the confiscated plants were of the specific *Hoodia gordonii* species. Taking into consideration that Schedule 9 of the Ordinance lists all *Hoodia* species as protected plants, the reasoning for the ruling in this case is not clear. The Ordinance deals with *in situ* and *ex situ* conservation by providing for the declaration of protected habitats as national parks and reserves, also for the protection of scheduled species. It regulates hunting and harvesting, possession of and trade in listed species for the propagation, protection, study and preservation of wild animal life, wild plant life, and objects of geological, ethnological, archaeological, historical and other scientific interest, and for the benefit and enjoyment of the inhabitants of Namibia and other persons.

Traditional knowledge is an important part of cultural identity. CITES has links to traditional knowledge (e.g. traditional medicine) and culture (folklore, artefacts), with the essential purpose and operation of the Convention noting that Appendix III provides a practical mechanism for States Parties to list specific species for specific purposes, e.g. the protection of intellectual property rights. Notwithstanding the question as to whether the protection of traditional knowledge actually lies within the logic of the intellectual property system or the human rights system, intellectual property law uses the language of economic incentive to justify intellectual property protection. Apart from the economic value of protecting traditional knowledge, it must be protected for cultural reasons as well, as stated in Article 19 of the Constitution.

3.9 Article 25: Enforcement of Fundamental Rights and Freedoms

Article 25(2) of the Constitution provides that

[a]ggrieved persons who claim that a fundamental right or freedom guaranteed by this Constitution has been infringed or threatened shall be entitled to approach a competent Court to enforce or protect such a right or freedom, and may approach the Ombudsman to provide them with such legal assistance or advice as they require, and the Ombudsman shall have the discretion in response thereto to provide such legal or other assistance as he or she may consider expedient.

Article 25(2) plays an important role in the constitutional framework, as it makes clear reference to the Ombudsman. Chapter 10 of the Constitution deals with the Ombudsman in more detail. In Namibia, ombudsmanship was already introduced in 1986 by the enactment of the Ombudsman of South-West Africa Act.⁸⁷ After Independence in 1990, the Office of the Ombudsman was established as a constitutional Office. The legal foundations of this institution are to be found in Articles 89 to 94 of the Constitution. In addition to the constitutional provisions, the Ombudsman Act⁸⁸ defines and

87 No. 26 of 1986, as amended by the Ombudsman of South West Africa Amendment Act No. 11 of 1988.

88 No. 7 of 1990.

prescribes the powers, duties and functions of the Ombudsman, and provides for matters incidental thereto. The Office of the Ombudsman is intended to ensure that citizens have an avenue open to them, free of red tape, and free of political interference.⁸⁹ The Ombudsman has a relatively broad mandate and corresponding powers. According to Article 91 of the Namibian Constitution, the mandate of the Ombudsman mainly relates to four broad categories: human rights, administrative practices, and the environment.⁹⁰ The Ombudsman's human rights and environmental mandates are crucial for an effective protection and realisation of environmental human rights in Namibia.

Article 25(3) obliges the state *inter alia* to make all necessary and appropriate orders to respect and uphold fundamental rights and freedoms, including by interdict and injunction. Namibian courts have stated in the past that the Constitution requires a generous interpretation, avoiding the austerity of tabulated legalism, in order to give individuals the full measure of their rights. However, Namibian courts also adhere to the presumption of constitutionality, meaning that the onus is on the applicant to prove that a fundamental right or freedom has been infringed upon and that he/she has *locus standi* as an aggrieved person under Article 25(2). Generally speaking, the common law test for *locus standi* is that the person applying for standing either has a private right or is able to demonstrate that s/he has a special interest in the subject matter of the action before the relevant court.⁹¹ The special interest does not need to involve a legal or pecuniary right but can also be of an intellectual or emotional concern.⁹²

3.10 Article 95(1): The Environmental Principle of State Policy⁹³

Chapter 11 contains principles of state policy that cannot be categorised as constitutional rights in the strictest sense.⁹⁴ Such states Article 101 that the principles of state policy are not legally enforceable, but merely serve as societal goals in making and applying laws to give effect to the fundamental objectives of the different principles. The principles must also be employed in the interpretation of Namibian law and guide

89 Tjitendero (1996:10).

90 With the Namibian Constitution Second Amendment Bill, corruption was removed from the list of the functions of the Ombudsman. The intention behind this amendment was to avoid concurrent overlapping competences between the Office of the Ombudsman and the Anti-Corruption Commission, and to divert all corruption-related complaints to the Commission. The latter was established by the Anti-Corruption Act, 2003 (No. 8 of 2003), and inaugurated in early 2006.

91 Fisher / Kirk (1997:372).

92 In this respect, the Namibian legal set-up is quite different from many others. The 1996 South African Constitution, for example, contains a rather generous allocation of legal standing. People seeking protection for their environmental right need not prove a direct interest in proceedings in order to have *locus standi*; see Du Plessis (2008:261) with further references.

93 See Ruppel (2010h:346ff.).

94 Naldi (1995:99).

the state in its decision-making processes.⁹⁵ Article 95(1) compels state organs to be directed by the environmental principle of state policy.⁹⁶ Article 95 stipulates that

[t]he State shall actively promote and maintain the welfare of the people by adopting, *inter alia*, policies aimed at the following: (...)

- (1) maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future;

Constitutional principles of state policy serve as a stimulus for new initiatives or endeavours – especially where existing policy, law or programmes seem inadequate to attain the principles’ objectives.⁹⁷ The principles must similarly be employed as direction indicators in setting Government priorities. Also, the judiciary should apply the principles of state policy in constitutional interpretation and use them to fill gaps in the legislative framework when and where necessary. These generic features of constitutional principles of state policy arguably also apply to the environmental principle of state policy in the Constitution of Namibia. The language used in Article 95 indicates that the fulfilment of the principles of state policy requires positive action on the part of Government, i.e. “[t]he State *shall* ... promote and maintain” [emphasis added]. At first sight, this creates the impression that such state principles create enforceable obligations that must be fulfilled.⁹⁸ Although this is not the case in Namibia,⁹⁹ the state is expected to promote and maintain the welfare of the people by adopting policies aimed at maintenance.

3.11 Article 100: Sovereign Ownership of Natural Resources

The land, the water, and the natural resources below and above the land, in the continental shelf and within the territorial waters as well as within the exclusive economic zone of Namibia belong to the state in terms of the Constitution, if not otherwise lawfully owned.¹⁰⁰ To this extent, the Namibian Constitution establishes sovereign state ownership of natural resources not under the control of others.¹⁰¹

95 Watz (2004:186).

96 Hinz (2001:77).

97 Du Plessis (2008:177-179).

98 Ibid.

99 Greeff – on the basis of the Caprivi Treason Trial Case *Government of the Republic of Namibia & Others v Mwilima & All Other Accused in the Caprivi Treason Trial* 2002 NR 235 (SC) – attempted to assess whether the Constitution provides an enforceable and pursuable environmental right. The author of the aforementioned article rightfully admits that “the case, in its entirety, is not applicable to the subject matter at hand”. Cf. Greeff (2012:30).

100 See Ruppel (2010h:346ff.).

101 Watz (2004:182-186).

This seems to be in line with Principle 21 of the 1972 Stockholm Declaration on the Human Environment:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction.

Principle 21 thus applies the principle of state sovereignty to the environmental realm providing the sovereign right of states to exploit and utilise natural resources according to their own national policies, and secondly, the obligation upon states not to cause environmental damage to other states or areas outside their national jurisdiction.

However, extensive natural exploitation of resources does not only bring benefits: it is also deemed to have destructive effects to ecosystems and habitats that support essential living resources. Mining activities therefore need to be monitored with regard to their impacts on human – and, thus, environmental – rights. In regard to the state ownership of natural resources, this entails that the state should accordingly take environmentally related responsibility with a special focus on the principle of sustainability and respect for the rights of present and future generations.¹⁰² This is particularly true in the light of the global economy's growing dependence on natural and exhaustible resources extracted in Africa.¹⁰³

3.12 Article 144: International Law

Namibia is party to various international human rights¹⁰⁴ and environmental covenants, treaties, conventions and protocols and is, therefore, obliged to conform to their objectives and obligations. As to the application of international law, a new approach was formulated after Independence, as embodied in the Namibian Constitution. Article 144 therein provides that

[u]nless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia.

Thus, the Constitution explicitly incorporates international law and makes it part of the law of the land. *Ab initio*, public international law is part of the law of Namibia.¹⁰⁵

102 Ruppel (2008a:119).

103 Cf. Ruppel (2012c).

104 As far as can be established, Namibia has formally recognised the African Charter on Human and Peoples' Rights in accordance with Article 143 read with Article 63(2)(d) of the Constitution. Thus, the provisions of the Charter have become binding on Namibia and form part of Namibian law in accordance with Articles 143 and 144 of the Constitution. See also Viljoen (2007:549f.).

105 See Tshosa (2001:79ff.).

No transformation or subsequent legislative act is needed.¹⁰⁶ A treaty will become binding upon Namibia in terms of Article 144 of the Constitution if the relevant international and constitutional requirements have been met.

The 1981 African (Banjul) Charter on Human and Peoples' Rights¹⁰⁷ is a human rights treaty that proclaims environmental rights in broadly qualitative terms. It protects the right of peoples both to the "best attainable state of physical and mental health" (Article 16) and to a "general satisfactory environment favourable to their development" (Article 24). Article 24 of the African Charter establishes a binding human-rights-based approach to environmental protection, linking the right to environment to the right to development.¹⁰⁸

In the *Ogoni* case, for example, the African Commission on Human and Peoples' Rights held, *inter alia*, that Article 24 of the African Charter imposed an obligation on the state to take reasonable measures to "prevent pollution and ecological degradation, to promote conservation, and to secure ecologically sustainable development and use of natural resources".¹⁰⁹ The *Ogoni* case decided by the African Commission on Human and Peoples' Rights in 2001 and communicated to the parties in 2002 is considered to be a landmark decision with regard to the effective protection of economic, social and cultural rights in Africa, particularly the protection of the right of peoples to a satisfactory environment. The *Endorois* case¹¹⁰ is considered to be another landmark decision by the African Commission on Human and Peoples' Rights. This decision delivered in November 2009, deals with the displacement of an indigenous community of approximately 60,000 people in Kenya, the Endorois, from their ancestral lands around the Lake Bogoria without proper prior consultations, adequate and effective compensation for the loss of their property, the disruption of the community's pastoral enterprise and violations of the right to practise their religion and culture, as well as the overall process of development of the Endorois people.

Article 24 of the African Charter should also be viewed together with the Bamako Convention and the first Organisation of African Unity (OAU) treaty on the environment, the Convention on the Conservation of Nature and Natural Resources, which predates the African Charter.¹¹¹ It has to be noted that Namibia is not a signatory to the original Convention. However, Namibia has signed the Revised African Convention

106 Erasmus (1991:94).

107 Hereafter African Charter.

108 Van der Linde / Louw (2003:169).

109 See Communication 155/96 available at <http://www.cesr.org/ESCR/africancommission.htm>, accessed 13 April 2010. For further details see *The Social and Economic Rights Action Center and the Center for Economic and Social Rights v Nigeria* (27 October 2000); Coomans (2003:749-760); Ebeku (2003:149-166).

110 Communication 276/03 *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council Kenya* at http://www.achpr.org/english/Decison_Communication/Kenya/Comm.%20276-03.pdf, accessed 21 January 2022.

111 Viljoen (2007:287ff.).

on the Conservation of Nature and Natural Resources. The latter was adopted by the Second Ordinary Session of the African Union (AU) Assembly of Heads of State and Government in Maputo, Mozambique, in July 2003. It has, however, not yet come into force. The Bamako Convention, which was adopted after the African Charter, was drafted in reaction to the human suffering caused by the dumping of petrochemical waste. It bans the import of waste to the continent.

The Southern African Development Community (SADC) was established in Windhoek in 1992 as the successor to the Southern African Development Coordination Conference (SADCC), which was founded in 1980. SADC's objectives include the achievement of development and economic growth; the alleviation of poverty; the enhancement of the standard and quality of life; support of the socially disadvantaged through regional integration; the evolution of common political values, systems and institutions; the promotion and defence of peace and security; and achieving the sustainable utilisation of natural resources and effective protection of the environment.¹¹²

It might appear that the promotion and protection of human rights is not SADC's top priority as an organisation – one that furthers socio-economic cooperation and integration as well as political and security cooperation among its 15 member states. However, the protection of human rights plays an essential role in economic development as it has an impact on the investment climate, which in turn contributes to growth, productivity and employment creation. Other SADC objectives such as the maintenance of democracy, peace, security and stability refer to human rights, as do the sustainable utilisation of natural resources and the effective protection of the environment. With the 2003 Declaration on Agriculture and Food Security, the SADC community has ascribed substantial importance to some specific objectives laid down in Article 5 of the SADC Treaty.¹¹³ The Declaration is of specific importance for the human right to food, and covers a broad range of human-rights-relevant issues. The SADC Tribunal is the judicial institution within SADC.¹¹⁴

The African Charter, and AU and SADC law automatically form part of Namibian law in so far as the relevant legal instruments have been adopted by the country.¹¹⁵ Despite the absence of a justiciable environmental human right in the Namibian Constitution, Government incurs environmental-rights-based duties in terms of Article 24 of the African Charter.¹¹⁶ Thus, Namibian courts are under the obligation to take

112 These are some of the SADC objectives laid down in Article 5 of the SADC Treaty.

113 Namely the promotion of sustainable and equitable economic growth and socio-economic development to ensure poverty alleviation with the ultimate objective of its eradication; the achievement of sustainable utilisation of natural resources and effective protection of the environment; and mainstreaming of gender perspectives in the process of community- and nation-building.

114 For a more detailed review of the SADC Tribunal, see Ruppel (2009a, b, c; 2012a); Ruppel / Bangamwabo (2008).

115 Ruppel (2008a:101ff.).

116 Du Plessis (2008:193).

judicial notice of the aforementioned international instruments as a source of national law.¹¹⁷ In this context, Article 144 is an important constitutional mechanism.¹¹⁸

4 Concluding Remarks

Environmental human rights cannot be seen in isolation from other human rights. They are not only protected under various international conventions but interlinked with many fundamental rights and freedoms in the Namibian Constitution. They are not only relevant under the constitutional principles of state policy but beyond. Human rights must be justiciable, and their protection must be secured through the courts.¹¹⁹ This gives citizens the right to take executive agencies to court, and the judiciary reigns as the authority to adjudicate such matters. The judiciary is most essential in the protection and promotion of environmental human rights. It leads the way in interpreting relevant legislation and settles disputes arising between citizens and/or between citizens and the state. While the inclusion of environmental concerns into human rights jurisdiction is still in its infancy in African jurisprudence, relevant rulings from other courts in the world such as the European Court of Human Rights¹²⁰ and the Indian Supreme Court¹²¹ may be taken as examples when it comes to the link between human rights and environmental concerns and the recognition and judicial enforcement of a human right to environment.

117 Ibid with further references.

118 Ruppel (2008a:108-111).

119 Bukurura (2002:21).

120 *TATAR v Romania* (Application No. 67021/01) Judgment 27 January 2009; *Okay and Others* (Application No. 36220/97) Judgment 12 July 2005; *Fadeyeva v Russia* (Application No. 55723/00) Judgment 9 June 2005; *Oneryildiz v Turkey* (Application No. 48939/99) Judgment 30 November 2004; *Moreno Gómez v Spain* (Application No. 143/02) Judgment 16 November 2004; *Taskin and others v Turkey* (Application No. 46117/99) Judgment 10 November 2004; *Hatton and Others v United Kingdom* (Application No. 36022/97) Judgment 2 October 2001, see Heselhaus / Marauhn (2005:549); *Athanassoglou and Others v Switzerland* (Application No. 27644/95) Judgment 6 April 2000; *Guerra and Others v Italy* (Application No. 14967/89) Judgment 19 February 1998; *Balmer-Schafroth and Others v Switzerland* (Application No. 22110/93) Judgment 26 August 1997, Reports 1997-IV; *López Ostra v Spain* (Application No. 6798/90) Judgment 9 December 1994; *Powell and Rayner v United Kingdom* (Application No. 9310/81) Judgment 21 February 1990.

121 One prominent example of Indian jurisdiction on environmental concerns and fundamental rights is the Delhi vehicular pollution case of *MC Mehta v Union of India* (No. 13029/1985) Judgment 28 July 1998. For further details see Rosencranz / Jackson (2003:228).

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