PART II:
CLIMATE CHANGE AND HUMAN RIGHTS

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Climate Change and Human Rights

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Homines enim sunt hac lege generati, qui tuerentur illum globum.
Cicero, Somnium Scipionis

Abstract

Today, climate change occurs to a large and measurable extent through the production of warming gases, called *greenhouse gases*, and simultaneously through the depletion of the ozone layer by humans. The consequences are serious threats to human life, health, property and freedom of action – all representing human rights.

To capture the essence of this process, human rights will not be discussed as a fixed canon of well-defined legal rights, but rather as a moral concept which is open to innovation.

The submission sets out to identify the nexus between human rights and climate change brought about by humans. It looks at what spheres of life are seen as needing and worthy of protection, for which legal recognition should, therefore, be claimed. In a further step, with a view to human rights, the submission also examines the existing legal regime regarding climate change, and concludes that the human rights regime and the climate change regime aim at different goals. Only recently have these two regimes been linked – an approach the submission advocates should be taken further. The submission then examines the existing human rights framework as well as access to justice in human rights matters and the execution of human rights judgments by international tribunals. Finally, the conflict of the human rights of gas emitters and climate change victims is looked at, and greater protection for victims is advocated in consideration of underlying moral values.

A. Background to Climate Change

Climate change has occurred naturally throughout the ages, and continues to occur without human interference.[1] But climate change events caused by "human forcings"[2] have become an increasing concern worldwide. However, it is scientifically challenging to make the relevant distinctions as the discerning criteria are difficult to establish. Moreover, the extent of climate change cannot serve as a yardstick. Ice ages, for example, show that, over time, climate change has been significant without human interference. Nonetheless, in recent years, human activities can be clearly identified as being the most significant contribution to climate change.

Climate change occurs to a large and measurable extent through the production of warming gases called *greenhouse gases* (GHGs) and, simultaneously, through the depletion of the ozone layer.[3] The ozone layer, which lies within the earth's atmosphere, filters sunlight and thereby protects the earth from ultraviolet radiation.[4] These two sources of climate change are interlinked:[5] the depletion of the ozone layer is in itself a major contributing factor to global warming,[6] and GHGs contribute to causing ozone layer depletion. Other nitrous oxides, carbon monoxide and source gases for aerosols (carbonyl sulphide/OCS and carbon disulphide/CS_2)[7] are further causes of ozone layer depletion.

The GHGs[8] are carbon dioxide (CO_2), methanol (CH_4), nitrous oxide (CN_2O), halocarbons (CFC substances, mainly CFC_2 halons), sulphur hexafluoride (SF_6) and water vapour. Halocarbons are used as coolants in refrigeration processes, propellants in spray cans, solvents, components in plastic foam and agents in medical equipment sterilisation.[9] In 1750, carbon dioxide was present in the atmosphere at a concentration of 280 parts per

1 *Climate change* is defined as "significant variations of the mean state of climate relevant variables"; see Swain et al. (2011:14).
2 (ibid.).
3 See Kindt & Menefee (1989:261–282).
4 The degradation or loss of this protection has a long-term, irreversible effect on human health and agriculture.
5 Birnie et al. (2009:336).
6 Kindt & Menefee (1989:277–282).
7 (ibid.).
8 As defined in Annex B of the Kyoto Protocol, ILM 37 (1998:22).
9 Kindt & Menefee (1989:277–282).

million (ppm); by 2005, the concentration was at 379 ppm.[10] Concentrations of methanol increased from 715 ppm to 1,774 ppm in the same period.[11] The warming potential of methanol is 70 times greater than that of carbon dioxide.[12]

The emission of GHGs and the other ozone-depleting agents is mainly due to industrialisation based on the burning of fossil fuels. However, global warming is notably also caused by deforestation: since forests serve as sinks which are break down agencies for carbon dioxide, deforestation also causes climate change. Deforestation, in turn, is caused by, among other things, acid rain,[13] which contains the same aforementioned substances that are responsible for the greenhouse effect and ozone layer depletion. What are the consequences of this?

Experts estimate temperature rises of 6.4°C by 2099, and sea level rises of 65 cm by 2200[14] –caused exclusively by human activities. These increases will be traced to the melting of ice caps on glaciers and on the continent of Antarctica, among other factors. Climate changes of such magnitude can change the face of the earth and, especially, human life to an extent as yet unknown. The experts' predictions are grisly. Sea-level rise will destroy living space, commercial space and infrastructure such as harbours, streets and industrial plants; in the Pacific, a number of islands will be submerged and forever lost, and vast expanses of fertile land will no longer be usable; while water resources will be depleted worldwide.[15] Salt water will increase, which will consequently threaten river ecosystems and salinise agricultural lands to an extent that will make them unusable.[16] The capacity of ecosystems to store water will be affected due to increased evaporation because of temperature rises, and floods and droughts will result.[17] Scarcity of water and food will cause famines.[18] Increased evaporation and changing rain patterns will cause desertification with all its attendant effects on agriculture and human settlements. Oases in deserts will disappear and, with them, their populations; entire towns in many countries will be abandoned.

10 IPCC (1995:14–20). See also IPCC (2007).
11 IPCC (1995:14–20).
12 (ibid.).
13 Birnie et al. (2009:336).
14 IPCC (1995:14–20).
15 Swain et al. (2011:21).
16 (ibid.).
17 (ibid.:15, 17).
18 (ibid.:17).

It is estimated that the United States will lose 50–80 per cent of its coastal wetlands by 2100. Fisheries in lakes or lagoons such as the coastal backwaters of western India and Sri Lanka – and, with them, many livelihoods – are threatened. Entire plant and animal species, including some of those used for agriculture, will face extinction.[19] Agricultural losses in West Africa are expected to reach up to 4 per cent, and in Egypt between 11 per cent (rice) and 28 per cent (soy beans).[20]

Dwindling water supplies will fuel violence in the form of armed conflicts between countries, and uprooted groups will battle for the control of remaining agricultural lands. Internecine strife within countries will arise in the quest to secure shares of resources that are becoming scarcer. For example, this is feared for the Nile Valley, the Jordan Basin, the Aral Sea Basin and the Chad Lake Basin.[21] A negative impact on labour productivity, health and agriculture and an increase in crime are widely seen as very likely.

Major migratory movements will be triggered – upsetting the economies of a number of countries, causing internal unrest there, and engendering crimes against life and property. In some countries, the individuals or groups affected will be forced to sell themselves into slavery or comparable conditions in order to survive. Diseases will spread into areas where they are hitherto unknown and where they will find no natural defences, particularly temperature barriers or enemies. This is feared especially for malaria, which is expected to creep up to the highlands of East Africa and cause tens of thousands of deaths, especially among children.

The impacts of these anticipated changes can be very different on different groups and peoples. It is precisely those groups that are already marginalised – such as the poor, women, children, the handicapped and indigenous ethnic minorities – that could be "disproportionately affected"[22] and marginalised even further.

Also, on a country level, such impacts will be unevenly felt. Unfortunately, the poorest and least-developed countries will suffer the most. The worst hit will be African countries,[23] not only because of their geographic position, but also because they are the poorest and the least structured. They suffer from endemic poverty, imperfect and at the same time complex and

19 IPCC (1995:14–20).
20 (ibid.:448).
21 Swain et al. (2011:19).
22 Mwebaza (2009:227–261, 233).
23 Ruppel & Ruppel-Schlichting (2012:32–71).

non-transparent institutions and governance,[24] a deficient infrastructure and limited access to markets, as well as undercapitalisation.[25] Such countries, therefore, lack the necessary mechanisms to counteract the impacts of climate change; and, in emergency situations, the observance of human rights tends to be more difficult[26] and human rights violations far more severe.

As the world climate has already warmed significantly, and since the warming effect is threatening to increase even more, the internationally identified goal is not to reduce but to stabilise warmth. This goal may be considered ambitious, as stabilising the output of GHGs at their present level would already inevitably lead to an increase in such gases, simply by accumulation.

One of the problems is to assess, with scientific certainty, what impacts the remaining GHG production has, and where those impacts will be felt. For example, it seems clear that a sea level rise of a few centimetres will impact countries differently; and with the difference in factual impact might come a difference in legal impact – which may also vary from country to country on the same factual impact. Thus, differing or identical factual impacts may have varying legal impacts.

In sum, to describe the scenario with which we are confronted, we should note that climate change is caused by an increase in GHGs. The depletion of the ozone layer – partly by those gases and partly by others – adds to the global warming and climate change effect. Another factor contributing to climate change is the degradation or elimination of forests which act as carbon sinks and, thus, reduce GHGs. The reduction of these sinks is caused mainly by deforestation and air pollution, the latter manifesting itself as acid rain that destroys forests.

A great number of countries have in the past few decades come to realise the severity of the problem, and have been taking measures in one way or another.[27] The international community is also continuously addressing it on a multilateral level.

24 Mwebaza (2009:229).
25 (ibid.:228).
26 ICHRP (2008:4–5).
27 For an overview, see KAS (2011).

B. The History of Human Rights

As this submission focuses on the human rights aspects of climate change, we have to restrict ourselves to looking at human behaviour, since rights and laws in general can only deal with human behaviour and its consequences. Climate change caused by geophysical factors, such as those which occur during an ice age, can and should be considered in this context only as contingencies that might give rise to the need for legal responses. With respect to the human rights aspects of climate change, we are dealing with the human factors in its causes as well as its consequences. Human rights play a significant role in both of them.

What is the nexus between climate change and human rights? In order to answer this question, we have to look first at what *human rights* are. The idea of human rights entered the world of international law only in 1948 with the United Nations Universal Declaration of Human Rights (UDHR).[28] This Declaration is only programmatic, however, and expresses the will to protect spheres it calls *human rights*. The Declaration reflects the shocking experiences of two World Wars and of atrocities committed against humans in many countries.

The concept of *human rights*, however, is much older, and originated in the era of enlightenment in political philosophy. Once centralised political power became more and more despotic due to the increased potential to monopolise revenue, and as prominent thinkers spearheaded a widespread movement of those who felt oppressed by state power, the intellectual focus shifted away from the protection of the individual by the state and onto protection from the state.

This happened against the backdrop of philosophical enlightenment in the wake of the Renaissance and was marked by enlarged economic power bases, bringing forth philosophical concepts in which the individual took centre stage.

An economically and, hence, politically more powerful bourgeoisie demanded protection from the interference of arbitrary despotism, and with that, they demanded spheres of freedom which guaranteed life and property, as well as personal freedom and the freedom to conduct certain activities.

28 United Nations (UN) General Assembly Official Records (GAOR), Third Session, Resolutions Part I, 71.

These demands were based on the idea of *natural law* – which can be traced to Aristotle, Cicero and St Thomas Aquinas – and reason, in line with the political and philosophical shift from community and state to the capabilities and possibilities of the individual whose rights of action were assessed and weighed against her/his duties towards the state. The relationship between the individual and the state was also reflected in classical literature and in philosophical-theological thought, and was embedded in cosmological conjectures. Claims were made for the individual to enjoy a sphere of absolute freedom from interference by the state, and defence mechanisms against interference with that sphere were reflected. The enjoyment of these freedoms – then named *human rights* – was seen as part of human nature, protected by natural law and, thus, inalienable. Notably, the concept and the claims incorporated in it originated in the philosophical realm of ethics, not in law. We shall revert to this aspect later.

The idea of human rights received its first introduction into the legal world in the US Constitution, which came into effect in 1789 and the French Revolution, which began in the same year. Also in 1789, the French Revolution's Declaration of the Rights of Men was elaborated. In 1791, the first ten amendments to the US Constitution were enacted and came to be known as the Bill of Rights. These amendments were adopted after the Declaration of Independence of 1776 had already made a programmatic statement about the "pursuit of happiness" and "certain inalienable rights".

In the wake of the French Revolution, however, human rights did not become part of French legislation. Yet the idea continued to be discussed in Europe. In the US, the enshrinement of such rights in the Constitution prevails to this day.

In the late 19th and early 20th Centuries, many European and American states incorporated rights into their constitutions that are in essence congruent with what are known as human rights in international instruments today, but are in most cases named differently. The term *human right*, as a legal concept, refers generally to rights under international law.

As mentioned above, the process of introducing human rights in international legal instruments started with the 1948 UDHR.[29] Also as stated above, this document was devised as a reaction to cruelties committed against our fellow human beings in the 20th Century and was programmatic in nature. Although the UDHR was a milestone achievement, it did not establish spe-

29 (ibid.).

cific rights as such. Moreover, there was no legal definition of *human right* that would distinguish such rights from others, and give them a special legal quality. Nonetheless, there was a general understanding that human rights were of a fundamental nature. However, the Conventions that followed the UDHR strove to protect specific rights – which were then named *human rights*. Since then, two important general Conventions – the International Covenant on Civil and Political Rights (ICCPR)[30] of 1966, which represented the first body of human rights specifically established as such, and the International Covenant on Social, Economic and Cultural Rights (ICESCR)[31] – as well as numerous specific ones, such as the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW)[32] and the Convention on the Rights of the Child (CRC)[33] have made human rights part of international law. The ICCPR and the ICESCR are the most thematically comprehensive bodies of international human rights law.

C. The Sources of the Moral Aspect

The prevailing philosophical concept behind human rights is still the same since their first conceptualisation in the 17th Century. They are seen as part of human nature and as inalienable. As the term *human right* is not a factual and verifiable description of anything tangible but a normative deontic postulate, its recognition is a view based on consensus. This could be seen as problematic as neither human nature nor the extent of human rights is clearly defined – and neither is probably definable. In practice, this lack of definability has led and continues to lead to extensive innovation in creating new human rights, a process which is ongoing and which reflects changes not only in factual conditions, but also in societal conditions and restrictions on human actions, as well as changes in philosophical and political thought and their bearing on the idea of human nature and human rights. On the other hand, the lack of definability leaves human rights vulnerable to changes in ethical and even political views.

30 UN Treaty Series, International Legal Materials, 999 (1967:368).
31 UN Treaty Series, International Legal Materials, 993 (1967:360).
32 UN Treaty Series, International Legal Materials, 1249 (1967:13).
33 UN GAOR, 44th Session, Resolutions, 166.

These findings prompt a brief reflection on the nature of human rights. Human rights originate in the sphere of ethics, not law.[34] They are "ethical pronouncements"[35] in political connotations. Amartya Sen quotes Jeremy Bentham,[36] who says such rights are not a "child of the law",[37] meaning that they are not laws in the legal sense; for this reason, Bentham calls them "nonsense on stilts".[38] Sen, however, points out that Bentham fails to see that human rights – even though they bear the name *rights* – do not originally belong to the legal sphere but to the moral one. Sen goes on to quote Herbert Hart,[39] who says that human rights belong to a "branch of morality"[40] and give rise to legal rules. Sen concludes by comparing Bentham's view of a human right as a "child of the law" with Hart's, which Sen paraphrases as human rights being "parents of the law".[41]

Looking at the two apparently opposing views outlined by Sen, one can discern that Bentham fails to see beyond the legal sphere to which he limits the term *right* and, hence, misses the departing point for human rights. Hart, on the other hand, looks at the origin and nature of human rights and perceives them as a legal concept grounded in ethics.

It is only by looking at human rights as moral propositions that we can understand the meaning their creators gave them. Of course, as Sen also observes,[42] there are motivational connections between moral and legal rights. But if we look closely, most legal rights – not just human rights – originate as moral propositions before being incorporated into legislation. These origins give them acceptance and legitimise them. Once they become legislation they are seen as legal rights, with their moral basis continuing to legitimise them. What distinguishes legal human rights from other legal rights is that their moral basis is not only seen as legitimising: it also does not step out of the foreground, and remains their principal aspect. Incorporating or not incorporating them in legal norms is basically seen as respectively giving or not giving them their deserved legitimate form. Human rights are discussed more as legitimate rights than as legal rights. Thus, the con-

34 Sen (2009:355–366).
35 (ibid.:359).
36 Bentham (quoted in Sen 2009:362).
37 Bowring (1843:362, 523).
38 (ibid.:501); see also Sen (2009:356).
39 Sen (2009:363).
40 Hart (1955:363).
41 Sen (2009:363).
42 (ibid.).

tinuous emergence of new and generally socially accepted moral norms determines the extent of human rights, and allows for ongoing innovation that keeps pace with humankind's societal development.

To capture the essence of this process, in the following discussion, the notion *human rights* will not be discussed as a fixed canon of well-defined rights, but rather as a concept open to innovation. The need for spheres of freedom and their protection changes in accordance with the factual and societal environment. Thus, human rights will first be discussed as spheres of freedom required by societies, claimed from governments, and reflecting factual restrictions and prevailing concepts. We will look first at what spheres of life are presently regarded as worthy of protection from climate change and its causes and consequences, and which can and should, therefore, claim legal recognition.

Human rights enshrined in legal instruments and, thus, formally accepted and identifiable as such will be discussed in a second step, where we will look at the substantive extent of existing legal human rights protection codified in international instruments, and at the spheres of life that they protect. In this step, we will identify the existing legal situation regarding recognised human rights. We will then look at international instruments, international customary law and, briefly, at individual countries' constitutions.

As our approach to human rights is principally an ethical one, and is not exclusively legalistic, we will not limit ourselves to focusing on existing legal rights but will also consider moral demands and further needs for legal rights. Therefore, in a third and last step, we will also assess whether additional or modified rights might be necessary for an effective protection of freedoms threatened by the new environmental phenomenon of climate change, and which we are under a moral obligation to protect.

D. The Content of the Moral Aspect

Having looked at the moral sources of human rights, we can now proceed to examine their substantive ethical content. What do they aim to protect? Here, we shall look at the spheres of human life which are threatened by climate change today and in the foreseeable future, and which, from a moral point of view, are or should be legally protected.

The most violent threat climate change presents is to life and health. Climate change does not destroy life per se, but by destroying human habitats and the agricultural bases of farming, it destroys the foundations of one's

livelihood and life. Through increasing temperatures, water dries up and plants and pastures die. People starve and die as a consequence. It is estimated[43] that the increase in deaths caused by climate change already exceeds 15,000 per year. Deaths are largely being – and will continue to be – caused by the flooding of agricultural lands and human dwellings, as well as by starvation by way of diminishing agricultural land, the lack of water caused by droughts and desertification, and especially through diseases, malaria being the biggest culprit.

In all these cases, death will be caused by climate change, which is in turn caused by human activities. This means that those specific activities are costing lives and are, thus, active violations of the right to life. The most vulnerable and defenceless when it comes to these violations are children[44] or indigenous peoples without lobbies.[45] There can be no doubt that the right to life is the most basic that any person has; and it is a moral obligation for any state to protect the lives not only of its citizens, but of every individual existing within its boundaries. Thus, there is a moral claim against states to actively protect each person from activities that can cause her/his death, and those that are more deeply affected can rightfully claim increased protection.

Another human right which can be violated is the right to health. It is safe to say that the causes of death mentioned above are also causes of health prejudice when consequences of human activities reach a mitigated harmful level. Arguably, what can be said about protection from activities that can cause death can also be said about protection from health hazards, especially since those are the same activities whose impacts are – by design or by accident –somewhat weaker. Even if one argues that, in an industrial society, prejudice to health is inevitable to a certain extent, and that the exact course of causation of each emission cannot be determined, incremental overall increases in GHG emissions can well be linked causally to health prejudice.

For these reasons, every state has a moral obligation to protect human rights. What makes it difficult to assess the extent of the necessity of this protection – considering that zero emissions causes zero negative consequences – is that any protective measure may threaten the human rights of

43 Mwebaza (2009:236), with further references.

44 Article 6 of the CRC therefore specifically protects children's right to life.

45 See, for example, the decision in *Maya Indigenous Community of the Toledo District v Belize*, Case 12.053, Report No. 40/04, Inter-American Court of Human Rights, OEA/Ser. L/V/ii.122 Doc. 5 Rev. 1 (2004:126).

GHG emitters as well as those of consumers: and they, too, are entitled to the same consideration as anyone else. This issue will be looked at in a general context later herein; what can meanwhile be said here is that the extent of protection has to be determined reasonably.

Further moral human rights that may be threatened are claims to secure the substances of survival, such as food, water and shelter. These claims are being discussed as specific rights,[46] mainly in the sphere of legal rights. In effect, they are necessary ancillary claims to the right to life and health. Without them, life is impossible – or, in the case of the right to shelter, at least devoid of human dignity.

The second sphere of freedom affected is that of enjoying personal property. Rising water levels submerge land and, thus, destroy property. Desertification caused by rising temperatures makes land useless. So do uncontrollable diseases. Human dwellings, commercial real estate and infrastructure will be destroyed or will have to be abandoned. Arable land and pastures dry up, and animals and plants die. There can be no doubt that property is the material basis of well-being and, therefore, of paramount importance to humankind, and that any state is under a moral obligation to protect it.

The corresponding material basis of human life is a person's ability to earn a living. In most cases, this is done on markets. People's abilities enable them and their interests motivate them to do so. The possibility of interacting on markets gives people's lives purpose and meaning to a large extent. Seen from a macro level, that possibility is the essence of any economy: it secures the survival and wealth not only of countries, but of humankind as a whole.

The freedom to exercise commercial activities can be violated by existing businesses being destroyed or business opportunities being frustrated through the destruction of agricultural space in the wake of climate change. These repercussions are brought about in two ways. The first entails agricultural businesses dying or shrinking. The second entails dehabitation and emigration reducing the number of potential customers for any business, whether agricultural or not. Markets simply fade away and, with them, opportunities in all lines of business. With diminishing markets, the set-back on individuals' commercial opportunities takes on a new dimension: it creates an emergent negative effect by allowing the micro level to influence the macro level. By limiting individual economic activities, the size of the econ-

46 UN Committee on Economic, Social and Cultural Rights, General Comment No. 15; see also Mwebaza (2009:236–237).

omy as a whole shrinks. People get poorer. This state of the economy again influences the individual. In a shrinking economy, on average, each individual loses opportunities[47] and wealth.

As the same phenomenon influences the position of individuals and of groups (an economy being a group that consists of individuals), it should be treated as a human rights violation on both the micro and macro level. On the macro level, the phenomena described above in this section as human rights violations on the micro level present a threat to the right to prosperity or, as far as developing countries are concerned, to development (into prosperous economies). By the same token, the right to life and health and their ancillary rights to food, water and shelter can of course be – and indeed are – seen on a macro level, and be named the "right to a healthy environment", i.e. an environment that is propitious to life.[48]

Thus, we can identify several areas in which moral rights that are seen as legitimately important to people's lives can be affected by climate change:

- The individual's health and life, including the necessary substances to maintain those, namely food, water and shelter
- The individual's (productive) property
- The possibilities open for the individual to earn a living
- The group's economic development, and
- The group's environment.

In the following section we will look at how moral rights and obligations translate into legal rights and obligations, and how they are protected under the existing legal regime.

E. The Law-based Climate Change Regime

Proceeding from the specific to the general, we will first look at the present international climate change regime to determine which human rights can be discovered in or deduced from its instruments.

The law-based climate change regime will be regarded as a framework which we will examine to see whether specific human rights emerge from it. Considering the interconnectedness between climate and other environ-

47 Coleman (1990:23–28).

48 However, the claims to a right to a healthy environment are wider. They include all rights to ensure a generally toxin-free environment.

mental factors relevant to climate change, such as carbon sinks, (de)forestation, and air pollution through acid rain which leads to deforestation, we also need to look at the environment-related legal regime as far as it relates to climate change.

The beginning of documented international concern with environmental issues was marked by the 1972 Declaration of the United Nations Conference on the Human Environment (also known as the *Stockholm Declaration*). This Declaration remained programmatic, and is important mainly as the starting point for environmental negotiations and treaties.

In 1979, the Geneva Convention on Long-range Transboundary Air Pollution[49] was concluded. It addresses the degradation of forests in Europe by acid rain, which at the time had taken on an alarming dimension, and had begun reducing Europe's carbon sink capacities. The Convention represents the first legal acknowledgement of the "air mass as a shared resource",[50] and deals with regionally compounded pollution rather than individual cases – a new approach in international law. Its purpose was mainly that of notification, assessment, and prevention. It was quite successful, and led to a decrease in acid rain and an increase in European forestation. However, it was successful only because governments willingly cooperated with each other, convinced of the necessity of such collaboration.

The next step was the 1985 Vienna Convention for the Protection of the Ozone Layer,[51] whose purpose was to deal with the rapid depletion of the world's ozone layer, which in turn accelerates climate change. It was a framework treaty with no significant concrete obligations for the signatories. Its emphasis lay on monitoring, research and technology transfer to developing countries.

This was followed by the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer,[52] which for the first time focused on the reduction and eventual phasing out of GHGs by way of reducing the profitability of chlorofluorocarbon (CFC) substances (halons). This Protocol provided special treatment for developing countries, incentives to reduce gases by 50 per cent by 1998, and for developing countries to receive technology transfers relating to the substitution of CFCs. It created further incentives for non-parties to sign, as it imposed restrictions on trade with them. CFCs were

49 UN Treaty Series, International Legal Materials, 18 (1979:1442).
50 Birnie et al. (2009:344).
51 UN Treaty Series, International Legal Materials, 26 (1987:1529).
52 UN Treaty Series, International Legal Materials, 26 (1987:1550).

listed in the Montreal Protocol as substances that were subject to international control. The Protocol has since been amended several times to include new substances, but not all co-signatories have ratified the amendments.

A problem that arises in this context is a conflict with Article XX b of the General Agreement on Tariffs and Trade (GATT),[53] which guarantees free trade – a right that can only be restricted if human life or health are at stake. Thus, it is not possible to restrict imports solely because they are not coherent with environmentally responsible productive standards. An important case in point is sustainable forestry.[54] Irresponsible logging has reduced important carbon sinks to a dangerous extent. This could only be stopped under Article XX b if it were "necessary" to protect lives or health. However, World Trade Organization (WTO) institutions have so far interpreted "necessary" restrictively;[55] hence, logging and its consequences do not fall under Article XX b so as to avoid the protection of local industries under the guise of environmental trade measures,[56] especially if such measures are unilateral. Furthermore, all cases decided by WTO institutions had to do with environmental hazards, not climate change. The necessary protection measures can, of course, be argued from case to case, but there is no sufficiently concrete jurisprudence to establish the required guidelines.[57] Moreover, causality between specific gas emissions and specific threats to health or even life will, in most cases, be extremely difficult – if not impossible to prove. To overcome this hurdle, the WTO resolved that, in environmental cases, there need only be a "reasonable connection"[58] established between actual risk potentials and trade-restrictive measures, which has to be assessed on a case-by-case basis.[59]

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53 UN Treaty Series, International Legal Materials, 55 (1979:187).

54 Kibel (1996:736).

55 GATT Dispute Settlement Panel, United States, Restrictions on Imports of Tuna 1994 WL907620 para. 5.19; and Thailand, Restrictions on Internal Taxes on Importation of Cigarettes, GATT BISD 375/200 (1990).

56 Foster (1998).

57 GATT Dispute Settlement Panel, United States, Restrictions on Imports of Tuna 1994 WL907620 para. 5.19; and Thailand, Restrictions on Internal Taxes on Importation of Cigarettes, GATT BISD 375/200 (1990). The 1992 UN Conference on Environment and Development in Rio de Janeiro also produced the Forest Principles, namely a statement of principle on sustainable forestry. Unfortunately, that statement remained a statement.

58 See Appellate Body Report, European Communities – Measures concerning Meat and Meat Products (Hormones), Dispute Settlement 26.

59 (ibid.). The case decided dealt with the effects of hormones in meat.

The first UN Convention to specifically address climate change was the 1992 UN Conference on Environment and Development in Rio de Janeiro (also known as the *Earth Summit*), which produced the UN Framework Convention on Climate Change[60] (UNFCCC). This Convention was accompanied by the Declaration of the UN Conference on Environment and Development (Rio Declaration,[61] which could be seen as a programmatic preamble), and Agenda 21, a comprehensive work of recommendations to governments. The UNFCCC establishes a small number of guiding principles relating to the international climate change regime. For example, the principle of "common but differentiated responsibility" establishes individual degrees of emission standards for each country. However, using this principle, developed – and, therefore, emission-rich – countries can simply relocate their production facilities to less-developed, emission-poor countries. This they have done to some extent, hence neutralising the UNFCCC provision.[62] The Convention's intention was to stabilise GHG emissions, using the year 1990 as a point of reference. Other principles established in the Convention were the "right to sustainable development" and "intergenerational equity"; these principles, which try to balance the preservation of a livable environment with economic development, were by then clearly seen as antagonistic. The Convention was based on the idea of cost-effectiveness in order to offer incentives for compliance in order to make the latter financially workable. Noteworthy are its efforts to create comprehensive carbon sinks as a countermeasure, and its concern with providing technology to developing countries.

The Convention's Article 4(2)d provides for regular meetings of the states parties ("Conference of Parties" or *COP*). The COP to the UNFCCC was instituted as the supervising body to effect the review and development of the UNFCCC's execution at certain intervals (the last having been the Qatar COP18 meeting in December 2012). A permanent Secretariat was also established. The stakeholders soon recognised the insufficiency of the UNFCCC provisions to significantly reduce the greenhouse effect:[63] even at continued emissions on the 1990 level, GHG concentrations would inevitably rise for two centuries.[64]

60 UN Treaty Series, International Legal Materials, 31 (1992:851).
61 (ibid.:876).
62 Birnie et al. (2009:357).
63 This was recognised at the latest at the 1995 Berlin follow-up COP; see IPCC (1995).
64 Birnie et al. (2009:360).

This led to the 1997 Protocol to the Framework Convention on Climate Change (the Kyoto Protocol),[65] so far the most comprehensive international instrument regarding climate change. For the first time, the Protocol quantifies restrictions on emissions seeing the necessity of going below the 1990 level used by the UNFCCC as a yardstick. The Protocol lays down different levels for each country, and provides for carbon sinks to be offset. Its validity period expired in 2012, however.

A novelty of the Kyoto Protocol is its so-called flexibility mechanisms. The clean development mechanism, for example, allows industrialised countries to carry out emission-reducing projects in developing countries and receive emission credits in doing so. The joint implementation mechanism allows an agglomeration of countries to behave as a single emission-reducing agent, thus allowing them to operate on average outputs. Another example is the emission trading mechanism, which means gas emission debits can be traded with other countries, provided that the trading is supplemented by domestic emission-reducing activities.

It was soon discovered that even these emission reductions and the flexibility mechanisms were "overwhelmingly inadequate";[66] hence, the perceived necessity of amendments led to further consultations. The Bali meeting in 2007 increased the possibilities of technology transfer and specifically addressed deforestation. Today, it is clear that global warming is still not being adequately combated.[67]

If we look at this framework of Conventions making up the international climate change regime from the perspective of human rights, we cannot detect any of the latter rights – with the exception of the recognition of a right to development in Principle 3 of the Rio Declaration. Thus, it is probably safe to say that human rights are not explicitly established under this regime. From a moral point of view, this might come as an unpleasant surprise. But it is due to the fact that human rights regimes and climate change regimes have developed separately and largely without taking notice of each other over time, with a view to different goals.[68] The Cancun COP in 2010 was the first time a decision was made to link human rights and climate

65 UN Treaty Series, International Legal Materials, 37 (1998:22).
66 Birnie et al. (2009:371).
67 See the contributions in Helm & Cameron (2009).
68 McInerney-Lankford et al. (2011:8–10).

change.[69] This initiated the slow shift in focus to the interlinking of human rights with climate change.

F. Policy Approaches

However, as Rose Mwebaza points out, international law uses a "dichotomy in approach"[70] and comprises both formal human rights and the "soft-law policy-oriented approach"[71] of the UNFCCC, which sets policy goals without creating specific, enforceable obligations. If we look at those policy goals, we can see the overarching objective to reduce emissions – which would be the primary tool for reducing the climate-change-induced violations of human rights or the threat thereof. However, the framework of Conventions also contains 'soft-law' policy mechanisms securing the attainment of those goals that incorporate a 'hard-law' element as those goals represent specific obligations. Soft-law policy mechanisms are designed to secure the attainment of those goals by creating an attainment-friendly environment. For example, states parties are obliged to install human rights commissions that have a watchdog function, even though they have no enforcement mechanisms at their disposal.

Then there are accountability mechanisms such as reports, monitoring, research, inspections and compliance committees that have been enshrined in a number of Conventions. Provisions for public participation also secure that the affected have a voice. A milestone on this route is the 1998 Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters[72] (Aarhus Convention), which is designed to give effect to certain provisions of the 1992 Rio Convention, particularly Article 10.[73] The Aarhus Convention only has regional scope, but the significance of its legal concepts can and should be seen as global.[74] Article 4 of the latter Convention gives *quivis ex populo* a right to information. This enables widespread public information to serve as a base for voicing concerns. On the other hand, participatory rights in pro-

69 Cancun Decision 1/CP. 16.
70 Mwebaza (2009:231).
71 (ibid.).
72 UN Treaty Series, International Legal Materials, 37 (1998:999).
73 Article 10 deals with the participation of the concerned public.
74 Annan (2000).

ceedings were only given to "the public concerned",[75] *concerned* being a term which is rather broadly defined as "affected or likely to be affected".[76]

It is being argued that the principles laid down in the Aarhus Convention and Principle 10 of the Rio Declaration have become part of customary human rights law.[77] The jurisprudence of the Human Rights Court of the European Union (EU), in particular, has given rise to this opinion.[78] The court held that a breach of participatory rights is, in certain cases, a breach of the right to life. Also, national law in a number of countries grants certain participatory rights in legislative procedures dealing with human rights.[79]

The development of participatory rights should be warmly welcomed, and their recognition as part of international customary law regarded as highly desirable. This way, the parties concerned have a major say in the lawmaking process and can influence its outcome inn public discourse – on a national level as well as by determining their countries' international position.

As further 'hard-law' elements in 'soft-law' policy provisions, social security and health systems[80] certainly have a mitigating effect on the consequences of climate change as they can considerably cushion its negative impacts.

Complementary to such 'hard-law' elements is the international climate change framework that establishes a policy goal for developed nations to assist in reducing emission impacts such as human rights violations. This goal can be seen as having been expressed in Article 3 of the UNFCCC and Article 7 of the Rio Declaration ("common but differentiated responsibilities"). The obligation to pursue a policy of assistance, especially financial,

75 Aarhus Convention, Article 2(5).

76 (ibid.).

77 Birnie et al. (2009:295), with arguments based on the decisions in *Taskin v Turkey*, 42 *European Human Rights Reports* 50 (2006) 118; *Ilmari Lansman & Others v Finland*, International Committee on Civil and Political Rights, Comment No. 511/1992, 286; *The Social and Economic Rights Action Center & Others v Nigeria* (*Ogoniland* case), African Commission on Human and Peoples' Rights Comments No. 547/1993.

78 *Taskin v Turkey,* 42 *European Human Rights Reports* 50 (2006) 118; *Öneryildiz v Turkey*, European Court of Human Rights (2004:657). See also Birnie et al. (2009:296).

79 Birnie et al. (2009:297–298).

80 Article 12d, ICESCR.

to those who are not that favourably equipped to deal with worldwide impacts can be subsumed under these Articles.[81]

Furthermore, certain guidelines – however vague – can be deduced from the framework of Conventions. The World Charter for Nature[82] states that "all areas of the earth … are subject to principles of conservation". It is disputable whether the atmosphere falls under the term *earth*, but sinks certainly do. Also, the principle of sustainability and the balancing of growth and environmental protection in the Rio Declaration and subsequent agreements can be cited here.

Birnie et al.[83] argue that, from the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, it can be deduced that "many states regard the hostile modification of the atmosphere as contrary to international law" – an argument that might be seen as linking the realm of policy to the sphere of law.

If one considers that moral obligations press for the legal protection of human rights against the consequences of human activities leading to climate change, it is important for the international legal framework to give certain guidelines for national policies. However, as this framework does not include specific human rights in the form of claims and obligations, we have now reached the point where we have to identify existing and recognised human rights in other international instruments in order to assess their ability to protect humankind against climate change.

G. The Reach of Human Rights Laws

To this effect, we will examine the existing body of laws pertaining to human rights in the three tiers of their categorisation, namely international instruments, international customary law, and national legislation.

Our first step will be to examine the structure and, with this, the reach of such rights. Legal rights incorporated into international instruments which are considered human rights are commonly divided into three groups, i.e. first-, second- and third-generation human rights. This distinction is mainly historical, and does not necessarily represent a methodological approach.

81 However, to assert, as Mbewaza (2009:243) does, that an obligation for financial support falls "squarely" under it, appears somewhat far-fetched.
82 UN Treaty Series, International Legal Materials, 23 (1983:455).
83 Birnie et al. (2009:340).

First-generation rights are the classical liberties. They emerged over a period of several hundred years in societies dealing with authoritarian states, and create a defence against the state's encroachments on the individual, on property, or on freedom of action. As such rights are designed to create an inviolable space that was seen as so fundamental to life, it was interpreted as inherent and inalienable to the human being. Those rights are negative in character, defensive rights. They are created to serve as stop signs for state power. However, of course, not all negative, defensive, rights are human rights. Since legal human rights are not defined as such – although they are rooted in moral claims, a legal right can explicitly be created as a human right in an instrument, by jurisprudence or, in some cases, even by the prevailing opinion among prominent jurists, but a legal right has to be elevated to a human right. Human rights are incorporated into UN Conventions, treaties of other intergovernmental bodies such as the EU or the African Union, or in national constitutions.

In the course of time, it was considered that human rights which consisted of negative rights were insufficient to protect the individual's sphere of freedom as many deprivations of civil liberties did not come about due to the state but due to third parties – or even represented restrictions by forces of nature. Thus, a so-called second generation of human rights has emerged. These consist of active rights, i.e. claims against the state 'to do' rather than 'to abstain from doing'. They are claims to protective action. Furthermore, those claiming second-generation human rights could now include groups. Second-generation human rights, therefore, are not defence rights but positive claims. They grant a right to protective action by the state against either human encroachment or the consequences of natural causes to secure the enjoyment of certain protected positions, namely freedoms. They have their factual limits in the limited resources of the state actors against whom they are directed, or in those state actors' allocation schemes relating to resources (which are discretionary, but have to pass the test of reasonability). The second comprehensive UN human rights Convention mentioned above, namely the ICESCR, contains not only important first-generation but also a number of second-generation human rights.

If one looks at the second-generation human rights which represent claims against the state to protect individuals or groups, it becomes clear that the borderline between them and 'soft-law' policy goals is blurred. For example, the policy goal to provide shelter for those rendered homeless from desertification caused by climate change, on the one hand, and the human right to shelter, on the other, converge on the limits of the state to provide such

shelter. Human rights of the second generation should always be seen under the condition of sufficient funds being available, while the allocation of funds is largely a policy matter. The *Grootboom* case in South Africa illustrates this.[84] The claimant, who lived in a shack, successfully sued the government under the applicable constitutional provision for adequate housing. The government could not comply due to inadequate funds, and the claimant died years later – still in her shack. The problem of dealing with such factual limits to human rights can be avoided, for example, by the methodical approach the German constitution takes in linking law and policy: it merely states that Germany is a "social state",[85] without giving explicit second-generation human rights. This allows ample room for judicial discretion by the German Federal Constitutional Court regarding the outlines of the concept of the *social state*, and for policymaking by the political institutions regulating the concept's details.

The dividing line between first- and second-generation human rights can, in certain cases, be disputed. A human right can be violated by a state action such as parastatals emitting GHGs; a state omission such as not preventing emissions of GHGs by private parties; and a state omission to take preventive measures to avoid GHG effects[86] as consequences of emissions.[87]

In Germany as well as in the US, it was argued that a state action in favour of a wrongdoer was an active state encroachment on human rights. The US Supreme Court qualified a court judgement sanctioning a discriminatory agreement between private parties as a "state action",[88] and saw the judgment as an encroachment on civil (human) rights. The German Federal Constitutional Court took the same view regarding a restraining order by a Ger-

84 *Government of the Republic of South Africa v Grootboom & Others*, 2001 (1) SA 46 CC.

85 Article 20(1), Grundgesetz ("Basic Law").

86 Cases before the EU Courts include *Öneryildiz v Turkey*, European Court of Human Rights (2004:657); *Fadayeva v Russia* (2005), www.elaw.org/node/2032; *Taskin v Turkey*, 42 *European Human Rights Reports* 50 (2006); see also Birnie et al. (2009:284).

87 Of course, those effects that originate from human behaviour, such as the emission of gases, have to be distinguished from natural causes – which are much rarer. As human rights are claims to respect or protect certain positions, they cannot be violated by events of nature (a flood cannot 'violate', in a legal sense, the right to life), but rather by human omissions to protect individuals or groups from natural events or mitigate the latter's causes and effects.

88 In 334 US 1, 1948.

man court, which had ordered an individual not to publicly incite the boycott of a movie by an allegedly politically discredited director.[89]

This principle of state responsibility has been strongly endorsed by the European Court of Human Rights, which states firmly that the state not being the operator or owner of emission facilities is irrelevant in environmental cases.[90] This view applies to GHG emitters too. Any wrongful state action – by administrations or courts – in favour of an emitter, such as giving out wrongful licences for industrial plants[91] which emit GHGs, can be seen as an active encroachment on the established human rights of others, regardless of the causality in each specific case.

In the course of time, however, the protection offered by second-generation human rights was also widely regarded as inadequate. There emerged a further need, namely that of protecting specific group interests, which led to a third generation of human rights. The third generation consists of the rights of groups, not individuals. They reflect collective claims such as the one to development, or to a healthy and protected environment. This third type of human rights presents the difficulty of identifying the party against which the claim is directed, as well as with identifying the content of the claim.[92]

Looking at this structure of the three generations of human rights, we can see that, in the evolution of human rights, all such rights are essentially claims to protect the freedom of certain spheres of life. Yet, structurally, human rights are not absolute, like property rights are; instead they are claims to abstain, to respect, and – in their second generation – to protect delineated spheres.

Using this understanding as a point of departure, we can distinguish four types of human rights claims:

- Restraining claims by individuals against states to refrain from encroachments
- Such restraining claims by groups

89 BverfGE 7, 198, 203.

90 Cases before the EU Courts include *Öneryildiz v Turkey*, European Court of Human Rights (2004:657); *Fadayeva v Russia* (2005), www.elaw.org/node/2032; *Taskin v Turkey*, 42 *European Human Rights Reports* 50 (2006); see also Birnie et al. (2009:284).

91 Di Fabio (2009:37–48).

92 Ruppel (2009:101–119).

- Claims by individuals against states to take specific action, and
- Such claims by groups.

Therefore, a human right cannot be invoked as such by the injured party against simply any encroacher – even though the legal system has to be structured so as to ensure a claimant can enjoy her/his sphere of freedom against encroachments committed, no matter by whom – as it is the responsibility of a state to prevent encroachments on human rights.[93] As a rule, this prevention is done in national legislation.

H. Human Rights Law – The Substantive Content

After having dealt with the structure of human rights in the legal sphere, we shall now look at the substantive content of human rights in international law and in national legislation.

In international law, the following UN instruments contain human rights:

- **General Declaration of Human Rights:** Article 17 covers the right to property. This includes an institutional, albeit programmatic, guarantee of protection from collectivism and nationalisation as well as a guarantee of the protection of specific existing property rights
- **ICCPR:**[94] Article 6 deals with the right to life, which is also specifically recognised for children in Article 6 of the Convention on the Rights of the Child;[95] Article 23 covers the protection of the family, which can be seen as protecting breadwinners from forced migration; Article 27 recognises the right of indigenous people to live according to their cultural traditions,[96] which includes the right to preserve the substances such as ecosystems (forests, water basins and the like) which enable such lifestyles. The preservation offered under Article 27 is also induced by indigenous customary law, which includes ancient wisdom in dealing with ecosystems, and[97]

93 *The Social and Economic Rights Action Center & Others v Nigeria* (*Ogoniland* case), African Commission on Human and Peoples' Rights, Comments No. 547/1993.
94 UN Treaty Series 171, 999.
95 UN Treaty Series, International Legal Materials, 20 (1989:1448).
96 See the decision in *llmari Lansman & Others v Finland*, CCPR/C/52/D/511/1992 (1994), UN Human Rights Committee.
97 Hinz (2012:1–28); Ruppel (2011:308–316); see also the contributions in Hinz & Ruppel (2008).

- **ICESCR:** Article 1.1 covers the prohibition of deprivation of individuals' means of existence; Article 6 covers the right to economic activities; and Article 11 deals with the right to food and, specifically, recognises the right to shelter. As the Committee on Economic, Social and Cultural Rights concretised in General Comment No. 12,[98] Article 11 does not only comprise a right to adequate food, i.e. a right not to be undernourished, but also to be able to procure food in dignity, meaning that one has the right not to be subject to inhumane treatment in the legitimate quest for food in order not to die from starvation. In Article 12, the right to health is guaranteed. Article 12(2) specifically obliges signatory states to protect children (which corresponds with Article 24 of the Convention on the Rights of the Child) and births, to improve hygienic standards, to prevent and combat diseases, and to provide medical services.

A right to water can be subsumed under Article 12 of the ICESCR as a special case. This case is seen as so important that it is considered by the UN Committee on Economic, Social and Cultural Rights as a right in itself. The Committee states that water has to be "sufficient, safe, acceptable, physically accessible and affordable".[99] It is noteworthy, however, that this concretisation has not yet been incorporated into the international Convention framework. Hopefully it will become part of international customary law over time, unless it is made part of a Convention.

A right to development was recognised by the UN General Assembly in Article 1(1) of the 1986 Resolution on the Declaration of the Right to Development,[100] and enshrined in Article 3 of the Rio Declaration. This is a third-generation human right. However, it has only been incorporated into the international Convention framework on the programmatic level of the Rio Declaration; hence, its legally binding effects are less clear.

98 UN Committee on Economic, Social and Cultural Rights, *General Comments*, 5 December 1999, HRI/GEN/1/Rev. 9 (Vol. I), available at http://www2.ohchr.org/english/bodies/icm-mc/.../HRI.GEN.1.Rev 9_sp.doc, last accessed 8 February 2013.

99 General Comment No. 15.

100 A/Res/41/128.

A number of regional instruments also incorporate human rights. These include the following:

- **Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights):**[101] Article 2(1)1 covers the right to life. This Convention was concluded in 1950 before climate change or even the environment per se became a concern. However, the EU Court of Human Rights held that it had to be interpreted according to today's standards,[102] which includes today's threats such as climate change.[103]
- **Additional Protocol to the European Convention on Human Rights:**[104] Article 1 deals with the protection of property (which corresponds with Article 17 of the Charter of the Fundamental Rights of the European Union).[105]
- **Charter of the Fundamental Rights of the European Union:** Article 16 deals with freedom of enterprise. Article 37 states that a "… high level of environmental protection … must be … ensured in accordance with the principle of sustainable development".[106]
- **European Social Charter:**[107] Article 12 deals with the right to social security. This includes effective protection from the consequences of (climate) disasters.
- **American Convention on Human Rights:**[108] Article 21 covers the protection of property.
- **African Charter on Human and Peoples' Rights:**[109] Article 14 specifies the right to property, while Article 16 deals with the right to health. This Charter also contains explicitly certain interesting group rights, namely Article 22, which covers the right of peoples to development, and

101 UN Treaty Series, 213, 221.
102 *Soering v United Kingdom*, 11 *European Human Rights Reports* 439 (1989) 275; *Öcalan v Turkey*, 37 *European Human Rights Reports* 10 (2003) 275.
103 This view is also specifically asserted in the jurisprudence of the Indian Supreme Court; see, for example, *Bandhua Mukti v Union of India* (1984) 3 SCC (Supreme Court Cases India) 161; *MC Mehta v Union of India* (1997) 2 SCC 87; *Jagganath v Union of India* (1997) 2 SCC 87.
104 European Treaty Series No. 9.
105 Official Journal of the European Communities 2000/C 364/01.
106 European Treaty Series No. 9.
107 UN Treaty Series 529, 89.
108 OAS Official Records OEA/Ser.K/XVI/I.I, Document 65, Rev. 1, Corr. 2.
109 UN Treaty Series, International Legal Materials, 21 (1982:52).

Article 24, the right of peoples to a satisfactory environment and one that is propitious to development.[110] Unfortunately, this Charter ranks as the least observed by its members.

- **Arab Charter on Human Rights:**[111] Article 37 specifies the right to development, while Article 38 recognises the right to a healthy environment. Also enshrined is the right to property via Article 31.

Departing from the *Trail Smelter* case,[112] a doctrine – albeit contested by many authors[113] –has been established that states are under an obligation not to allow within their jurisdiction any activities that could harm other states,[114] including individuals in other states.

The doctrine was established to deal with compensation cases, but in an *argumentum a maiore ad minus*, one can safely deduce that, where an obligation to compensate exists, there is also an obligation to safeguard from the very evils that call for such compensation. In the said case, a Canadian smelter enterprise exhausted toxic fumes that caused damage in the neighbouring US state of Washington. The case went to international arbitration, and the arbitrators held that states were under an obligation to prevent their territories from being used to cause harm in other countries.

This has since become established doctrine in international law as the principle of good neighbourliness. The European Court of Human Rights affirmed states' obligation not to allow the causation of negative effects outside their territory, and held them responsible for such effects.[115] In the *Corfu Channel* case,[116] a British ship hit an Albanian mine in the Channel of Corfu and sank. The International Court of Justice held that Albania was liable because it had an obligation to prevent activities in its waters causing

110 See the decision of the African Commission on Human and Peoples' Rights in *The Social and Economic Rights Center & Others v Nigeria* (*Ogoniland* case).

111 League of Arab States, Arab Charter on Human Rights, 15 September 1994, available at http://www.unhcr.org/refworld/docid/3ae6b38540.html, last accessed 8 February 2013.

112 Reports of International Arbitral Awards, *American Journal of International Law*, 3 (1939:182).

113 Birnie et al. (2009:217).

114 See *Cyprus v Turkey* (2001 European Court of Human Rights No. 25781/94). However, legislation on individual international liability is only in its first stages of development; see Declaration of the United Nations Conference on the Human Environment, UN Doc. A/Conf/48/14/Rev. 1, Principle 22.

115 *Cyprus v Turkey*.

116 International Court of Justice Reports (1949:18–22).

harm to others. In this case, Albania should have warned the victim – provided it had a valid reason to have the mine in place. In both cases, human rights were violated, namely the right to health and the right to property.

Article 2 of the Rio Declaration[117] obliges states not to allow activities that cause harm to the environment in other states. This can be seen as an enshrinement of the principle of good neighbourliness in a legal instrument for specific circumstances, even though climate change cannot safely be subsumed under the notion *environment* and the right to a healthy environment is not (yet) generally recognised as part of customary international law.[118] But the underlying principle – not to cause transboundary harm – can and should be applied analogously to climate. I am not referring here to the debate on the legal status of the atmosphere,[119] since the potential harm is global and is effected by gas emissions – no matter how one qualifies the intermediary agents (in this case, the atmosphere).

Furthermore, the principle of "reasonable use"[120] has become an underlying interpretative principle in environmental law, and can also be adduced to climate change law.[121]

These general underlying principles, emphasised by the standards adopted in the 1987 Montreal Protocol and the 1997 Kyoto Protocol as well, can be seen as a strong current in international law. However, international customary law is still not a generally recognised source of human rights.

We can conclude by observing that all moral human rights obligations are enshrined unequivocally in international law – with the exception of the right to a healthy environment,[122] which has undisputed legal status only for Africa and the Arab states. But this latter right is precisely a human right that specifically addresses climate change; for this reason it is desirable, as stated above, to incorporate it unequivocally into international law. A healthy environment is one of the most basic conditions for life.

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117 Report of the UN Conference on Environment and Development (UN Doc.A/Conf. 151/26/Rev. 1).

118 Birnie et al. (2009:336). See also Churchill & Freestone (1991:340).

119 Birnie et al. (2009:339).

120 (ibid.:201). See also *United Kingdom & Germany v Iceland*, International Court of Justice Reports (1974:3, 174).

121 Guruswamy et al. (1999).

122 This right was specifically seen by the European Court of Human Rights as enshrined in the EU Convention; see *Kyriatos v Greece,* European Court of Human Rights (2003:242).

On a national level, we can see that many countries have human rights or basic rights embedded in their constitutions.[123] The following may serve as examples:

- Article 95(1) of the Namibian Constitution deals with ecosystems and sustainable resources, and protecting the environment as a whole
- Section 24 of the Constitution of the Republic of South Africa protects a "healthy environment and sustainable development"
- Article 69(1)a of the Kenyan Constitution obliges the state to ensure conservation of the environment, and Article 69(1)f even calls for systems of environmental impact assessment
- In a programmatic manner, Article 20a of the German Basic Law protects the natural foundations of life
- Article 48A of the Indian Constitution declares that "the state shall endeavour to protect and improve the environment". This provision allows Indian courts to interpret human rights in an environmental light[124]
- Article 225 of the Brazilian Constitution states that "everyone has the right to … a healthy environment"
- Article 56 of the Turkish Constitution is almost identical to the aforementioned provision in the Brazilian Constitution, and
- Article 42 of the Russian Constitution grants every person the right to a favourable environment.

I. Individual Protection of Human Rights – Standing in Courts

To approach the problem of how individuals and groups can be protected against human rights violations, we begin by asking which legal actions they can take in the case of such violations. For recognised human rights incorporated into international instruments, this can only be determined by looking at the law that embodies specific human rights.

Parties to international agreements can only be states (or international organisations chartered by states). Human rights originate as contractual

123 Listed in Birnie et al. (2009:275, Footnote 35).

124 This view is also specifically asserted in the jurisprudence of the Indian Supreme Court; see, for example, *Bandhua Mukti v Union of India* (1984) 3 SCC (Supreme Court Cases India) 161; *MC Mehta v Union of India* (1997) 2 SCC 87; *Jagganath v Union of India* (1997) 2 SCC 87. See also *Charan Lal Sahu v Union of India* (1986) 2 SCC 176; *MC Mehta v Kamal Nath* (2000) 6 SCC 213.

obligations by one state towards another, considering that human rights are incorporated into international agreements. Obligations under agreements are obligations of the parties to the agreement; and claims under an agreement are claims of a party to the agreement against another party to such agreement. The problem this structure of international law presents is that only "injured states"[125] have standing before international courts. In exceptional cases,[126] international law allows the standing of states to bring claims on behalf of the international community. This is when goods that are considered global commons are involved. This principle has so far not been discussed with specific regard to climate change, but the prevailing opinion now seems to be[127] that Conventions protecting any recognised global goals, especially those seen as global commons, give any state party a standing.

In order to give individuals or groups enforceable human rights claims and standing against states, the latter have to transform international Conventions into domestic law. A state's failure to protect or abstain from encroachments then becomes a breach of domestic law. Such domestication gives individuals or groups a direct claim against states and standing before their domestic courts.

However, as we have seen, human rights are not only part of international law: most countries have constitutions containing a substantive body of human rights or basic laws. Of course, these are directly binding on the individual states and claims can be brought directly against those states. Consequently, a violation of domestic law can be brought before a domestic court – notwithstanding the fact that a breach of domestic law in such cases also constitutes a breach of international treaties.[128] In international courts, individuals or certain groups have standing to sue a state only if they are specifically accorded a standing in international Conventions. A state, however, cannot be sued in a domestic court for violating an obligation under international law which has not been domesticated, unless norms in international

125 Article 42, International Law Commission, *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, November 2001, Supplement No. 10 (A/56/10), chp.IV.E.1, available at http://www.unhcr.org/refworld/docid/3ddb8f804.html, last accessed 8 February 2013.

126 *Barcelona Traction* case*,* International Court of Justice Reports (1970:3, 15).

127 Article 4, International Law Commission, *Draft Articles on Responsibility of States for Internationally Wrongful Acts*, November 2001, Supplement No. 10 (A/56/10), chp.IV.E.1, available at http://www.unhcr.org/refworld/docid/3ddb8f804.html, last accessed 8 February 2013.

128 *Taskin v Turkey*, 42 *European Human Rights Reports* 50 (2006) 117.

instruments specifically provide for suing the state that is party to the Convention in its own courts for violations of specific norms of the relevant international instruments, and provided that the state concerned agreed in the relevant Convention to such a procedure. In the case of such self-executing norms, a claim can only be brought against states to comply with the relevant international instruments.

A third group of norms in international instruments goes even further. To enhance the protection of individuals and groups, certain treaties establish international courts of law directly accessible to individual or groups of citizens of countries that are parties to a specific Convention. The most important is the standing of individuals before the European Court of Human Rights and the UN Human Rights Committee. In such cases, of course, domestication of the international law in question is not necessary. Actions can be brought against states. Moreover, since 2009, the Optional Protocol to the ICCPR[129] and the Optional Protocol to the ICESCR[130] are open for state signature. These two Optional Protocols provide for aggrieved parties to petition the UN Human Rights Committee about human rights violations, provided all local remedies have been exhausted.

The jurisdiction of the aforementioned institutions depends on the extent of the treaties establishing them. They effectively circumvent national court systems as well as national legislation and, thus, are in practice often a comparatively very effective remedy for complainants in countries with defective court systems, such as those in many African countries. The extent of the jurisdiction of these institutions also refers to the extent of standing before them. As a rule, only citizens of signatory states have standing there[131] and, in most cases, domestic remedies first have to be exhausted.

Lastly, it has to be mentioned that the Charter of Fundamental Rights of the European Union also includes the right of states to complain about human rights treaty violations by other states. However, the practical importance of this provision is very limited.

The issue of standing can be summed up as follows: departing from the principle that only states have standing to bring international claims,[132] we

129 UN Treaty Series 999, 302.
130 A/Res/63/117.
131 In many cases, this applies to domestic fora too.
132 Birnie et al. (2009:232). See also International Law Commission, 2001, Articles on State Responsibility, Article 42.

can distinguish three points of conjecture regarding the standing of individuals and groups:

- **Do domestic groups have standing in domestic fora?** This question is answered by national law for domestic law, and in each individual international Convention regarding self-executing norms.
- **Do foreign individuals or groups have standing in domestic courts?** This question is also determined by national legislation. However, based on the principle of non-discrimination,[133] foreigners have to be given equal access to national remedies.[134] However, the principle might be restricted under the provisions of domestic private international law, especially those regarding 'forum-shopping' and in countries with a tradition of common law, where the *forum non conveniens* rule gives courts discretion in admitting actions, and
- **Do individuals or groups have standing in international fora?** The specific norms in international treaties dealing with an individual or group's standing in international tribunals are explicit about this in each instrument concerned.

J. Individual Protection of Human Rights – Compliance and Enforcement of Judgments

The specific impact of any given emission on climate change is, in most cases, not measurable in any other state. This makes it largely impossible to sue any specific wrongdoer or any state on the grounds of human rights violations. This holds true for human rights violations under international Conventions as well as under customary law. Under customary international law, individual compensation claims as well as claims for injunctions can only be brought if a specific emitter can be identified[135] and a breach of customary law could possibly have occurred.

In many cases, the factual problem of identifying emitters leaves such claims without any chances of success. Thus, what needs to be emphasised is the conclusion of collective protection mechanisms, ways and means to

133 Organisation for Economic Co-operation and Development (OECD) Council Recommendations C74 (224), C(76) 75. See also Francioni (2001).

134 Article 26, ICCPR.

135 Trail Smelter Arbitration (*US v Canada*, 3 (1941) UNRIAA 1938–81; *Corfu Channel* case (*United Kingdom v Albania*), ICJ 1949, 4.

ensure state compliance with them, and compliance with court rulings against states based on them.

How can national compliance with (international) court rulings on human rights be ensured once a claim has been adjudicated? There is currently no international mechanism in place to ensure states comply with the rulings by international courts or tribunals.

The existing structure of human rights gives individuals and groups only the following options for enforcing court rulings in their favour:

- When a state has domesticated a treaty and it has become domestic law, domestic enforcement laws apply with regard to rulings of a domestic court
- The self-executing norms of a treaty give the individual or group standing to sue the state party to the treaty before a domestic court; domestic enforcement laws apply in such cases too, and
- Certain norms in treaties give individuals or groups standing before an international tribunal or court. Any enforcement of such courts' rulings has to be domestic in these cases, too. However, some states seem reluctant to execute international judgments against themselves,[136] thus violating international treaties.

In this context, it should be mentioned that supervisory bodies established by treaties, such as the states parties to the Montreal Protocol or the Compliance Committee for the Kyoto Protocol, represent compliance mechanisms which produce lower-level effects. Those effects are related to Conventions themselves, not court rulings on them. The means at the disposal of such bodies to ensure state party compliance do not go beyond persuasion and diplomatic pressure. Under the Kyoto Protocol Compliance Mechanism, state treaty rights can be suspended. Another albeit less effective means of attaining compliance is by way of contractual reporting obligations, as many states in Asia, Latin America and Africa do not comply fully with their reporting duties – mostly due to a lack of resources.

136 This need not be related to climate change. For example, the Zimbabwean Government refused to execute a judgment by the Southern African Development Community Tribunal ordering the restitution of private property expropriated by the state or compensation for it. Rulings in national courts backed the government's view.

K. Reconciling Clashing Human Rights and the Way Forward

As discussed earlier, the victim's perspective is only one side of the human rights coin when it comes to climate change. The flipside is that, by reducing the sources for human-activity-induced causes of climate change, i.e. GHG emissions and deforestation, and by reducing the degree of human rights violations of victims of temperature rises, the human rights of GHG emitters may be encroached on. The latter rights are freedom of commerce and action and, to a certain extent, property rights, as an established business represents a property whose production capacity would be throttled – not to speak of the devaluation of commercial real estate.

In addition, group rights to economic development might also be involved since economic output would suffer from a reduction in commercial activities that produce GHGs. It has already been stated that freedom of commerce and property rights and the right to development are law-based human rights backed by corresponding underlying moral values.

To make things more complicated, putting a halt to deforestation and the destruction of other carbon sinks that help protect the rights of victims of temperature rises may, on the other hand, also encroach on the possible rights of (legal) forest loggers, timber merchants, and other entrepreneurial sink destroyers. These rights are the ones mentioned above, namely the right to freedom of commerce, the right to property, and the group right to development.

It becomes clear that the extent of a human rights protection regime within the climate change regime needs to be flexible and should mitigate any opposition between human rights, which confront each other in a zero-sum game.

When we now consider remedying the human rights of climate change victims, namely the individual rights to life, health, property and commercial activity, and the group rights to development, and add the right to a healthy environment, we have to take into consideration that the protection of climate change victims' human rights will in many cases consist in a restriction of emitters' gainful commercial activities. In some cases, of course, this restriction could lead to a devaluation of individuals' property and a slowdown of national economies.

As the GHGs described above are almost exclusively emitted through industrial activities or the use of industrially manufactured products, and as we have to note that a major part of harmful GHGs are produced by activities protected through human rights, we need to consider the problem of violating

human rights by protecting human rights very seriously. As a forced reduction of the production of GHGs represents a violation of human rights, it has to be weighed carefully against the human rights of the GHG producers. Moreover, we have to consider that a forced reduction of GHGs can violate the human rights of groups – particularly the human right to development, which is the right of a group that consists not only of GHG producers but also of the victims of climate change (some of whom might find themselves on both sides of the struggle) and of non-affected third parties – as development involves entire economies.

On the other hand, it appears difficult to find a general and abstract formula with respect to how much prejudice to life, health, property and commercial gain can be tolerated when it comes to maintaining and enhancing individual gains and economic growth. If it were only a matter of weighing gain against gain, this problem might be solved quantitatively, in the sense that whoever has the higher turnover has the right of way. However, in practically all cases, there are many more aspects to consider. Only one of them is the time frame of the consequences in question. How long should a polluter be allowed to realise gains and contribute to developing the economy? How long does it take for natural resources to be replenished? Can such time frames be judged adequately at all?

What do higher gains mean in comparison with the loss of home and livelihood and the threat of death by starvation, or the migration of uprooted people which cannot be dealt with and which weaken economies and political systems and cause humanitarian disasters – not to speak of crime and civil and inter-state wars?

A particularly problematic aspect of this balancing of protected positions is that it cannot be carried out with regard to individuals or countries. One cannot give Victim A preference over Polluter B on a general basis. We are dealing with mass effects; therefore, we have to consider the problem on a global scale. Moreover, we can only look for global solutions as it is not possible to establish the extent to which each polluter or each country contributes to specific human rights violations and damages. Thus, actions against polluters or states aiming at compensation are in many cases bound to fail because it is difficult to prove violations and damages. Thus, it is of paramount importance to make states responsible for not permitting emissions in excess of certain counts, while being aware that each state has to

limit itself to a certain agreed amount of emissions in order to achieve an acceptable global count.[137]

The balancing problem then presents itself on two levels: the first occurs when the overall country count is established; the second appears on the national level, when one has to determine who is allowed to contribute to a combined national emission count, and to what extent they are permitted to do so.

One way to deal with the balancing problem is by way of participatory rights. These can be seen as procedural, not substantive, human rights. Participatory rights ensure that groups or even the individuals concerned can participate in the lawmaking process by voicing their interests and opinions, and in this way determine the outcome of legislation dealing with human rights. Thus, interests can be openly discussed; moreover, the balancing of interests is an open issue. Hence, such interests can be more thoroughly scrutinised so that the outcome of legislation and the extent of human rights protection are less controversial.

Whether a participatory right can be seen as annexed to the human right to a decent environment or whether it should be regarded separately, as a non-human right of its own,[138] can be left to academic discussion. What is important is that such participatory rights help greatly in balancing conflicting human rights in a pacifying way. For example, the 1998 Aarhus Convention[139] mentioned earlier gives the "concerned public"[140] participatory rights in such decisions. Interest groups can, therefore, exercise great influence in negotiating compromises in respect of each individual country.

However, as with all legislative decision-making processes, the last word lies with the decision-makers. How can they, in the final analysis, balance these rights with each other? In order to answer this, we have to look at the need to protect the interests behind these rights, and we have to do this within the limits of existing legal provisions as well as moral parameters.

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137 There can be no doubt that this, in itself, limits national sovereignty. But as gases and climate know no national boundaries, the principle of national sovereignty as the basic principle of international law (and realpolitik, for that matter) clearly has to be modified. See also Werner Scholtz with the contribution on *Greening Permanent Sovereignty through the Common Concern in the Climate Change Regime: Awake Custodial Sovereignty!* (in Volume II of this publication).

138 Birnie et al. (2009:290).

139 UN Treaty Series, International Legal Materials, 37 (1998:999).

140 (ibid.:Article 2(5)).

Generally speaking, the interest of a producer to increase her/his gains and, correspondingly, of an economy to grow, reflects less basic needs than the interest of individuals not to die or be entirely dispossessed and deprived of a livelihood, and of groups to have their environment as their theatre of life changed in a way that makes living profoundly difficult and unpleasant – if not impossible.

Therefore, emitters' interests are generally less worthy of protection.[141] Of course, a reasonably assessed critical mass is also always crucial. For example, if the consequences of emissions-induced climate change are marginal, e.g. 1 cm of sea level rise set against massive economic advantages (capital gains and the creation of jobs), the economic advantages will prevail and get priority.[142]

However, assessing impacts is just as difficult as assessing critical masses, as this involves a value judgment. The guidelines for such judgements are set out in GATT Article XX b, which was mentioned above with reference to the reduction of carbon sinks by the timber trade; but these guides are very vague. The pivotal criterion in Article XX b is the term *necessary*. Assessing necessities in this context of conflicting rights relies heavily on values and interests not expressed in GATT. To make things worse, there are no decisions available as guidelines. As GATT's purpose is to promote free trade, the instrument cannot be construed as regulating commerce with a view to preventing climate change; thus, its view of climate change will have to be construed cautiously and restrictively.

Yet the international climate regime – as expressed by and in the cited climate Conventions at large – does establish very general principles for balancing the interests and values at stake,[143] and which should be used for further regulations and decisions in individual cases.

One such principle seems to be to stop any further increase in emissions. This purpose also reflects on the interpretation of human rights: such rights have to be protected against infringements beyond the ones caused by already existing emissions.

I do not see that the approach to limit increases in emissions clashes with fundamental human rights concepts. All human rights are subject to limita-

141 *Pine Valley Developments Ltd v Ireland* (1991), European Court of Human Rights, *International Environmental Law Review* (2001:287). See also *Katsoulis & Others v Greece* (2004), European Court of Human Rights, at 287.

142 *Hatton v United Kingdom* (2003), European Court of Human Rights, at 126.

143 See Chapter 6 therein for guidelines for national policies.

tions by other people's rights as long as their core is not tampered with. For instance, if the future should reveal that a sufficiently large number of people living on low-lying islands in the Pacific are threatened with submersion caused by GHG emissions, a worldwide reaction might be required to protect their fundamental human rights.

The UN Committee on Economic, Social and Cultural Rights notes that states have a "core minimum obligation" to ensure a minimum standard of living.[144] Of course, this has an effect on budgetary allocations, as states have to operate with scarce resources.

If one considers that the continuation of existing levels of emissions poses serious threats to basic human rights, the way forward has to be to create further and more compelling and precise instruments to reduce the present level of emissions. Of course, this might cause business and property losses. However, firstly, these are losses incurred by groups of people with assets and opportunities, and economies will suffer to a moderate extent; these carry less weight than the loss of life, health, and shelter and – on a much more basic level –assets and opportunities as well. Secondly, adjusting emitters' activities to the required standards is much easier – and more feasible – than, say, farming on farmland that has suffered desertification. However, there should always be a mechanism in place to deal with the conflict between the two sets of interests.

Or, in more general words, the interests of humankind should be given general preference to individual interests.[145] This needs a policy shift to more awareness about human rights issues and more responsibility[146] from a global perspective, which should underpin any further legal instruments.

References

Annan, Kofi, 2000, Foreword, in: Economic Commission for Europe, *The Aarhus Convention: An Implementation Guide*, Geneva, United Nations Economic Commission for Europe.

Bentham, Jeremy, 1843, Anarchical Fallacies, Being an Examination of the Declaration of Rights Issued during the French Revolution (1792), republished in Bowring, John (Ed.), *The Works of Jeremy Bentham*, Edinburgh, William Tait, II (1843), 362, 523.

144 UN Committee on Economic, Social and Cultural Rights, General Comment No. 14 (2000).

145 Msafiri (2007:60–63).

146 (ibid.).

Birnie, Particia, Alan Boyle & Catherine Redgwell, 2009, *International Law and the Environment* (Third Edition), New York, Oxford University Press.

Bowring, John (Ed.), 1843, *The Works of Jeremy Bentham*, Edinburgh, William Tait, II (1843).

Churchill, Robin & David Freestone, 1991, *International Law and Global Climate Change*, London, Graham & Trotman.

Coleman, S. James, 1990, *Foundations of Social Theory*, Cambridge, Mass, The Belknap Press of Harvard University Press.

Di Fabio, Udo, 2009, Grundrechte als Argument – Drittwirkungslehre und Wertordnungsidee, in: Herdegen, Matthias, Hans Hugo Klein, Juergen Papier & Rupert Scholz (Eds), *Staatsrecht und Politik: Festschrift für Roman Herzog zum 75. Geburtstag,* München, C.H. Beck, 35–48.

Foster, Mark Edward, 1998, Trade and Environment: Making Room for Environmental Trade Measures within the GATT, *Southern California Law Review* 71, 393–443.

Francioni, Francesco, 2001, *Environment, Human Rights and International Trade*, Oxford, Hart Publishing.

Guruswamy, Lakshwam D., Geoffrey W.R. Palmer, Burns H. Weston, & Jonathan C. Carlson, 1999, *International Environmental Law and World Order: A Problem-oriented Coursebook* (Second Edition), St Paul, MN, West Group.

Hart, Herbert, 1955, Are There Any Natural Rights?, *The Philosophical Review* 64, 175–191.

Helm, Dieter & Hepburn Cameron (Eds), 2009, *The Economics and Politics of Climate Change*, Oxford, Oxford University Press.

Hinz, Manfred O., 2012, Agenda 21 – On the Legal Obligation to Strengthen Local Levels of Societies (including Traditional Authorities) in Support of Sustainable Development, in: Hinz, Manfred O., Oliver C. Ruppel & Clever Mapaure (Eds), *Knowledge Lives in the Lake: Case Studies in Environmental and Customary Law from Southern Africa,* Windhoek, Namibia Scientific Society, 1–28.

Hinz, Manfred O. & Oliver C. Ruppel (Eds), 2008, *Biodiversity and the Ancestors: Challenges to Customary and Environmental Law: Case Studies from Namibia*, Windhoek, Namibia Scientific Society.

ICHRP/International Council on Human Rights Policy, 2008, *Climate Change and Human Rights – A Rough Guide*, Geneva, ICHRP.

IPCC/Intergovernmental Panel on Climate Change, 1995, *Climate Change 1995 – The Science of Climate Change*, Contribution of WGI to the Second Assessment Report of the Intergovernmental Panel on Climate*,* Houghton, John T., Luiz G. Meira Filho, Bruce A. Callander, Nigel Harris, Arie Kattenberg & Kathy Maskell (Eds), Cambridge, Cambridge University Press.

IPCC/Intergovernmental Panel on Climate Change, 2007, Summary for Policymakers, in: Susan Solomon, Dahe Qin, Martin Manning, Zhenlin Chen, Melinda Marquis, Kristen B. Averyt, Melinda Tignor & Henry L. Miller (Eds), *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge, Cambridge University Press, 1-18.

KAS/Konrad Adenauer Stiftung (Eds), 2011, *Report 2011*, St Augustin/Berlin, KAS.

Kibel, Paul S., 1996, Reconstructing the Marketplace: The International Timber Trade and Forest Protection, *New York University Environmental Law Journal* 5, 735–795.

Kindt, John Warren & Samuel Pyeatt Menefee, 1989, The Vexing Problem of Ozone Depletion in International Law and Policy, *Texas International Law Journal* 24, 261–282.

McInerney-Lankford, Siobhan, Marc Darrow & Lavanja Rajamani, 2011, *Human Rights and Climate Change: A Review of the International Legal Dimensions*, Washington, DC, The World Bank.

Msafiri, Aidan, 2007, *Towards a Credible Environmental Ethics for Africa: A Tanzanian Perspective*, Nairobi, Catholic University of East Africa (CUEA) Publications.

Mwebaza, Rose, 2009, Climate Change and the International Human Rights Framework in Africa, in: Mwebaza, Rose and Luis J. Kotze (Eds), *Environmental Governance and Climate Change in Africa: Legal Perspectives,* Institute for Security Studies (ISS) Monograph 167, Pretoria, ISS, 227–262.

Ruppel, Oliver C., 2009, Third-generation Human Rights and the Protection of the Environment in Namibia, in: Horn, Nico & Anton Boesl (Eds), *Human Rights and the Rule of Law in Namibia*, Windhoek, Macmillan, 101–120.

Ruppel, Oliver C., 2011, Climate Change and Human Vulnerability in Africa, in: Ruppel, Oliver C. & Katharina Ruppel-Schlichting (Eds), *Environmental Law and Policy in Namibia*, Windhoek, Orumbonde Press, 308–315.

Ruppel, Oliver C. and Katharina Ruppel-Schlichting, 2012, Climate Change and Human Security: Relevant for Regional Integration in SADC?, in: Hartzenberg, Trudi, Gerhard Erasmus & André du Pisani (Eds), *Monitoring Regional Integration in Southern Africa: Yearbook 2011*, Stellenbosch/Johannesburg, The Trade Law Centre for Southern Africa (tralac) & Konrad-Adenauer-Stiftung, 32–71.

Sen, Amartya, 2009, *The Idea of Justice*, London, Penguin Books.

Swain, Ashok, Swain Ranjula Bali, Anders Thamnér & Florian Krampe, 2011, *Climate Change and the Risk of Violent Conflicts in Southern Africa,* Uppsala/Pretoria, Center for Sustainable Development, Uppsala University/Global Crisis Solutions.