ing TM, it can be appreciated that there can be changes to the system. An example is benefit sharing through contract law (or a prospecting agreement). TK would then be protected like the work of the individual who works for a pharmaceutical company. Money or technology transfer could compensate patent rights that would be signed over to a pharmaceutical company that would develop the drug. A share of the profits could also be stipulated in a contract. Such contracts would be drafted according to national laws, such as the Indian Biological Diversity Act. The patent system can accommodate a range of changes and retain integrity.

XIII. *CONCLUSION*

There are no simple and uncontroversial answers when dealing with the question of how to legally protect TM. IP rights can be used to protect TK in general, and TM in particular. Patents emerge as a powerful tool to protect TM, particularly when the alternatives are explored. The case is even clearer when public perception is considered. In China patents are a popular method of protecting TM.

This issue has emerged as significant only relatively recently. The 1982 WIPO model provisions did not even have a formulated conception of TK, much less TM. It was only with the CBD in 1992 that the issue came into focus. By this time there was a clear conception of benefit sharing stemming from the idea that the biological and TK resources of a nation was state property. In contrast, the Declaration of the Rights of Indigenous Peoples established that indigenous peoples themselves held these rights. This difficult to implement goal is far from realized. Yet patents can be used to achieve this goal.

International agreements, such as TRIPS, leave the issue of patenting drugs up to national authorities. Until the Patents (Amendments) Act 2005 it was not possible to obtain a product patent on a drug in India. The result is that there have been several high profile cases involving Indian TK in the US. The neem patent controversy is one example. The main issue is that non-US oral traditions are no bar to novelty in a US patent application. The geographical disparity in 35 U.S.C. §102 has been credited either with the commercialization of innovations or the destruction of TK by allowing information in the public domain to be patented. In any case US patent law is unlikely to change soon.

India has reacted defensively to American patents based on their TK. The Indian Biological Diversity Act has introduced a number of provisions that will make foreign companies deal with a central authority in order to gain access to Indian biological materials, including TK. India is also working on a database of TK to defeat patent applications for lack of novelty. While the law appears straightforward to implement, the database has raised much opposition. The stakes are high, as bio-piracy is a public concern. Yet some commentators find that the fears of mis-appropriation may be more apparent than real, as in the neem controversy:

> Neem's use as a source of pesticide could not and has not been patented. Among the three of the important patents (for derivative uses) for the use of Neem are, one for extracting a

> purer form of azhadirichtin, a second for a more storable stable form, and a third for the use of this compound for cancer treatment. None of these forms of the compound were reported to be similar to the ones found in nature. Also, the use was different from the ones known hitherto. Since these patents do not inhibit use of this compound by anyone extracted through any other method or more or less purity or stability, compensation to the local communities is not due . . .[186]

Even if a patent was obtained via misappropriated knowledge, it would not deprive local communities of their right to use their TM. The first hurdle is that it is unlikely that there would be an exact correlation between the patented substance and the locally made product. If there were an exact correlation, the community was a prior user and could prevent the patent holder from prohibiting traditional use. It may be that a community is concerned simply with non-commercial practices. Because a patent is a territorial right, TM that is appropriated and patented in the west may not damage local interests unless there was a serious intention to commercialize the invention in the west.[187] It is clearly the intention of the Indian government to allow this option. The Biological Diversity Act should prevent blatant bio-piracy by foreign companies.

The main issue is prior informed consent. A group may have no idea of the true value of its TM. If an opportunity to commercialize TM in the west was viable – particularly with a pharmaceutical company as a partner – it may be an option. Western patent laws, such as the US, play a large role internationally. It can be hoped that the newly established National Biological Authority in India can offer guidance on how TM can be patented abroad. Yet according to some, this would be acting contrary to the needs of local communities:

> . . . ethnobotanical knowledge by its very nature is integrative, holistic, and synergistic. It is most meaningful *in situ* where plants are understood in relation to the ecological and cultural environments in which they have grown, managed and used by local residents. IPR departs from such traditions by valuing the discrete properties of plants that can most easily be taken out of their natural and cultural context . . .[188]

Many of the IP group note that the survival of TM is linked with the survival of often fragile minority communities. TM is then just a part of TK, which must be preserved along with all other aspects of language, religion, and culture. When the issue of biological diversity is attached, they would suggest that a simple equation that money equals conservation is a dangerous fallacy. While this view is difficult to counter, it is also hard to appreciate how targeted money – directed at the preservation of biological diversity and TK – would be detrimental. It is difficult to imagine a simple and effective legal solution that would preserve all cultural manifestations of an indigenous community. No one would suggest that patent rights are more than one element in an overall strategy. DO and prospecting agreements fit well with patent protection. In

186 Anil Gupta, *Compensating Local Communities for Conserving Biodiversity: How much, Who Will, How and When*, published at http://sristi.org/papers/compensating (last visited Sept. 5, 2006).

187 Christopher Heath & Sabine Weidlich, *Intellectual Property: Suitable for Protecting Traditional Medicine*, I.P.Q. 77 (2003).

188 See Mugabe, supra note 153, quoting G.R. Nabhan.

contrast GI and trademark protection are only useful for commercial interests. In the latter two cases the invention would not be protected. At best they can be supplemental to patent protection for TM. Trade secret protection, in placing a veil of secrecy on medications, appears to be least desirable method to protect TM on public policy grounds. All the suggested methods of protection, to some degree, involve the commercialization of TK. Commercialization might be a foreign concept for some groups, but the decision should be for the community concerned to make rather than academics.

There may be cases where certain communities object to the commodification of any of their cultural knowledge or biological material. This does not mean that the entire concept of patent protection of TM is invalid. China has a fully functioning system of patent protection as well as a *sui generis* regime of protection. TM in China, on the basis of the large number of filed patents, seems well protected and to have a bright future. Yet given that Chinese TM is well integrated with modern science, it may not be a model that can be followed by other TM rich nations.

In sum, the main issue revolves around the needs of the moment. TM right holders should be encouraged to formulate their requirements so that appropriate contracts may be drafted. At the same time legislation, such as the Indian Biological Diversity Act, may serve as a model for other nations. Databases have yet to prove their utility. Given that the public can understand patents, for better or for worse it appears this method is the most practicable way forward.