

Indigenous Knowledge and Biopiracy

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Abstract: *Indigenous people possess important traditional knowledge that have allowed them to sustainably live and make use of biological and genetic diversity within their natural environment for generations. Traditional Knowledge naturally includes a deep understanding of ecological processes and the ability to sustainably extract useful products from the local habitat. Traditional knowledge (TK) is thus knowledge, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity. Some forms of traditional knowledge are expressed through stories, legends, folklore, rituals, songs, and even laws. Other forms of traditional knowledge are expressed through different means. Traditional knowledge (TK) - knowledge system held by indigenous communities, is often related to their surrounding natural environment like -Agriculture knowledge, scientific knowledge, technical knowledge, ecological knowledge, medicinal knowledge etc. The indigenous people of the world possess an immense knowledge of their environments, based on centuries of living close to nature. Protection of Traditional Knowledge (TK) seems to be one of the most important issues today. The discussion of the protection of Traditional Knowledge is particularly relevant for developing countries like India. TK based on biological resources is threatened by Biopiracy (theft of biological resources) by big multinational companies and pharmaceutical companies. A situation where indigenous knowledge of nature, originating with indigenous people, is used by others for profit, without permission from and with little or no compensation or recognition to the indigenous people themselves. Developed countries are exploiting developing countries genetic resources and indigenous communities traditional knowledge in the name of patents on the inventions derived from those genetic resources and this leads to biopiracy. Biopiracy operates through unfair application of patents to genetic resources and traditional knowledge.*

Keywords: Biopiracy, Biological Diversity Act, CBD, Genetic Resources, Intellectual Property Rights, Traditional Knowledge.

1. Introduction

Traditional knowledge (TK) is knowledge, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity. Some forms of traditional knowledge are expressed through stories, legends, folklore, rituals, songs, and even laws. Other forms of traditional knowledge are expressed through different means. Traditional knowledge (TK) - knowledge system held by indigenous communities, is often related to their surrounding natural environment like -Agriculture knowledge, scientific knowledge, technical knowledge, ecological knowledge, medicinal knowledge etc. The indigenous people of the world possess an immense knowledge of their environments, based on centuries of living close to nature. It is practical common sense based on teachings and experiences passed on from generation to generation. As the elders depart this life, the full richness of tradition is diminished, because some of it has not been passed on and so is lost. Indigenous and tribal people all around the world are the real custodian and holders of traditional knowledge. Up to 80% of the world's population depends on traditional medicine for its primary health care. This knowledge is indispensable for the poorest segments of society. TK also prevent land and soil degradation, fisheries, depletion, biodiversity erosion and deforestation. India is a biological diversity hotspot. Biodiversity refers to all sort of variability occurring in all living biological forms available on earth (including animals, birds, insects, microbes, plants). An estimated 90 percent of the world's biodiversity lies within the territories of indigenous peoples. 95% of medicinal products being used in India are plant based.

Research based on biodiversity is on peak now a day. This is due to: increase in the demand for medicinal plant; rising

appreciation of natural products, being non-toxic, having no side effects, easily available and affordable.

TK based on biological resources is threatened by Biopiracy (theft of biological resources) by big multinational companies and pharmaceutical companies. A situation where indigenous knowledge of nature, originating with indigenous people, is used by others for profit, without permission from and with little or no compensation or recognition to the indigenous people themselves. Developed countries are exploiting developing countries genetic resources and indigenous communities traditional knowledge in the name of patents on the inventions derived from those genetic resources and this leads to biopiracy.

Biopiracy operates through unfair application of patents to genetic resources and traditional knowledge. It is the theft of genetic materials especially plants and other biological materials by the patent process example: use of indigenous knowledge of medicinal plants for patenting by medical companies without recognizing the fact that the knowledge is not new, or invented by the patentee and thereby the piracy deprives the indigenous community to the rights to commercial exploitation of the technology that they themselves had developed.

Components of Traditional Knowledge that are especially relevant to our global survival include knowledge of:

- Food, crop varieties and agricultural/farming practice
- Sustainable management of natural resources and conservation of biological diversity
- Biologically important medicines

The conservation of species, habitat, and biodiversity are essential to the continued survival of indigenous and rural

people. By conserving the customs and habitat of indigenous persons we concurrently reduce emissions from deforestation and ecosystem degradation. Furthermore, the opportunity for cultural survival is a basic human right. The traditional knowledge is facing a problem of bio-piracy.

Threats posed by Biopiracy:

- Knowledge and /or genetic resources belonging to a region, community or country is stolen or claimed as one's own,
- The use of this knowledge or genetic resource in the area of its origin or traditional usage may be hampered,
- The patent holder will unfairly profit from the patent,
- The patent claimed and awarded illegally and unethically is bound to disturb an established system somewhere in the World.

Effects of Biopiracy:

- Biopiracy alters environment which in turn causes depletion of Biodiversity.
- Loss of biodiversity which is sometimes an irreversible often means a loss of choices.

Cases of Bio-piracy:

Neem Patent, Turmeric patent, Basmati patent, Yoga Patent, etc.

Criticism of Biopiracy

- Unfair, Unethical and a threat to the existence of indigenous cultures;
- Indigenous communities are so barred from using or exporting their biological resources and traditional knowledge that they have developed.
- Eventually causes traditional knowledge to become Extinct.

Why do we need to protect traditional knowledge?

Traditional Knowledge has been an asset and often a major source of income for many indigenous communities. Hence legal recognition of the rights of the holders of the TK who are mainly the tribal and indigenous people of India is the need of the hour. The indigenous and tribal people who is conserving biodiversity by adopting sustainable method deserves to be recognized and compensated goes without saying. We need to sensitize the people on these issues as the public awareness about TK is very low. India was the first to raise the fundamental issue at the World Intellectual Property Rights Organization (WIPO) as to why the traditional knowledge-based system should not be treated at par with the industry-based system. Until and unless the very own traditional knowledge of ours is protected, the country would have to fight for patents claimed by other countries as in the case of Haldi, Neem and Basmati.

Need for legal Protection and preservation of Traditional Knowledge

The loss of language leads to loss of knowledge and the process is accelerated by cultural change and globalization. The most common reason given for why TK protection

should be granted is the claim that companies are exploiting the biodiversity by patenting "their" knowledge.

Efforts toward curbing Biopiracy

- Curbing biopiracy is about ensuring that indigenous populations receive justice and fair compensation for the use of the knowledge and genetic materials
- Individual countries must change their laws to reflect the need for fair compensation for indigenous populations
- Empowering indigenous peoples will yield positive results
- There are international laws in place to regulate bioprospecting such as Convention on Biological Diversity
- Access to genetic resources in exchange for fair and equitable sharing of benefits
- Sharing of benefits through technology transfer, research results, training and profits can contribute to poverty reduction and sustainable development in biodiversity rich developing countries

The Convention on Biological Diversity, 1992 imposes obligation to conservation, sustainable use, sharing of information on and equitable sharing of benefits derived from biodiversity. But the method of achieving the objective is left to individual nations. Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices. Also protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements

In India there is a Traditional Knowledge Digital Library (TKDL) - A tool for prevention of misappropriations of traditional knowledge. TKDL records our age old traditional knowledge. TKDL contains more than 2.60 lakh formulations from the texts of traditional medicine systems of India which are Ayurveda, Unani and Siddha. The Library gives access to non-patent literature databases on traditional knowledge of India. TKDL covers Indian Systems of Medicine, viz., Ayurveda, Unani, Siddha and Yoga available in public domain. The abstraction is done by the subject experts. The database will provide information on modern as well as local names in a language and format understandable to Patent Examiners. It acts as a bridge between formulations existing in local languages and a Patent Examiner at a global level. Fusion of country's traditional knowledge with modern science is made. Library collects the information on traditional knowledge from the literature existing in local languages such as Sanskrit, Urdu, Arabic, Persian and Tamil in digitized format. Information will be available in five international languages: English, German, Spanish, French and Japanese. It will be mandatory for patent examiners to refer to this database before granting a patent now.

2. Conclusion

A country like India rich in Traditional Knowledge (TK) is not aware about its importance and usefulness in the present economic scenario. As a result, bio-piracy has hit down the Indians several times in different issues. Traditional knowledge is an important part of their cultural identity. Thousands of indigenous communities have been living in India by practicing the knowledge which has been passing from generation to generation. They don't know the value of their treasured culture, knowledge, practices, medicines, life style etc. And even they are ignorant about the devastating effects of bio-piracy. It becomes possible due to the indifference nature and failure of Indian legislations. Protection of traditional knowledge is necessary along with absolute sine qua non for its preservation and further development. Greater stress on commercialization raises questions with respect to its conservation. Bio-piracy is a great threat to TK. The native people lives in and around the forest depend upon the resources of the forests for their subsistence. To protect the indigenous people it is necessary to protect their knowledge and practices. Countries designing a protection system must approach it in a holistic manner, addressing issues related to equity, ethics, environment, sustainable resource use, the socio-economic set up and empowerment of indigenous peoples. There has been indiscriminate exploitation of traditional knowledge without equitable sharing of benefits and hence there is an urgent need to make amendments and to introduce new enforcements that would aim at getting rid of this unethical practice of bio-piracy. Awareness regarding Intellectual Property Rights and patents, rights of native communities must be accommodated at a greater level in our society All this has adversely affected the integrity of our cultural and ethical values as a nation. We need to foster our basic values and care for the good of others' in order to curb this evil of biopiracy. The cultural aspect to this problem is what remains least explore

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