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Bio-Piracy and Traditional Knowledge: A Discussion on Indian Legal Perspectives

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Abstract

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 been struck down the Indians several times in different issues like turmeric, neem, basmati, etc. Still there is no absolute legal provision to curb the bio-piracy, and to protect and preserve TK. In the herb-related trade India is a big trade house, but we are not able to capitalise the precious knowledge. 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. This paper highlights the significance of TK through Indian legislations regarding the conservation, development and sustainable use of TK for the benefit of its holders.

Keywords: Traditional Knowledge, Bio-Piracy.

Introduction: In earlier ages the popular adage," knowledge is power" has revaluated and recognized in modern time as 'knowledge' is not only a source of power but also the primary source for generating wealth. This particular recognition justifies the protection of Intellectual Property (IP) created either by individuals or by communities. Traditional knowledge is a valuable and sophisticated knowledge, continuously developed over generations by tribals and rural communities in various parts of the world, and transmitted from one generation to the next all about in oral forms.

Traditional knowledge refers to knowledge, innovations and practices of indigenous (aboriginals) and local communities around the world. Thus it implies mingle of knowledge and experience integrated with a coherent value system which is wholly based on bio-resources. Traditional knowledge means and includes experiences on spiritualism, philosophy, politics, technology, all activities for livelihood, social systems, customs, traditions and external relationship of all the forest dwellers, whose lifestyle is intensely influenced by their own traditions.

Traditional knowledge is considered as the emerging area of Intellectual Property Rights. This concept has added to the category of Intellectual Property later on. For several years only the conventional forms are counted as the real Intellectual Property Rights. But when the power of 'knowledge' has been estimated, the concept of Traditional knowledge came forward. Traditional knowledge is a series of principles, resulted out of experiences which govern the indigenous people and the people of rural and tribal communities. This knowledge of bio-resources has the potentiality, to be transformed into economic wealth in today's herbal era. A shrub in the forest becomes an economic resource when local communities unveil its medicinal and healing properties. India is having approximately 8% of world's bio-diversity and one of the greater storehouses of the knowledge and has the potentiality of becoming a leader in the herbs-based global trade. Though such knowledge is not achieved any formal recognition by the international community, the growing episode of bio-piracy indicates the worthiness of the knowledge. Many agencies are profitably commercializing traditional knowledge without sharing any benefit with the community, whose knowledge has been poached upon. An estimate affirms this as, when total trade in herbal products is over US $56 billion, the payments to the communities for indigenous knowledge is less than 0.001% of the profit.

Concept of Traditional Knowledge: Traditional knowledge needs to be understood with reference to the conventional concept of technology. It is used to develop products in different sectors in much the same way, that conventional technology is used for making high-grade products. Traditional knowledge provides the know-how for making, for example a life saving drug for diabetics from medicinal plants of the forest. Again the knowledge helps in developing crop varieties suited to diverse climatic regions from the cold desert in Ladakh to the scorching sands of Rajasthan and from the flood-prone belts of Bihar to the coastal of Andhra Pradesh. Traditional knowledge also provides the know-how for example, conserving water, consuming flora and fauna, scrubs for further use.

There is no universally accepted definition of traditional knowledge. Many persons have defined this in different ways by their own intellectual opinion. Traditional knowledge is a knowledge, which is held by the members of a distinct culture and / or sometimes acquired "by means of inquiry peculiar to that culture, and concerning the culture itself on the local environment in which it exists"[1].

WIPO defines the term 'Traditional Knowledge' by referring to tradition based literacy, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks; name and symbols; undisclosed information; and all other tradition based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields. Here "Tradition-based" refers to knowledge, systems, creations, innovations and cultural expressions which have generally been transmitted from generation to generation; are generally regarded as pertaining to a particular people or its territory; and are constantly evolving in response to a changing environment[2].

The Convention on Biological Diversity (CBD) was the first international treaty to acknowledge the vital role of Traditional Knowledge, innovations and practices in biodiversity conservation and sustainable development as well as the need to guarantee their protection, whether through Intellectual Property Right protection or any other means. Efforts under the CBD towards preserving the biodiversity are as follow:

(i) Article 8 (j) of the CBD, requires the state parties to respect, pressure and maintain knowledge, innovations and practices of indigenous and local communities, and to encourage equal sharing of profits for utilization of such knowledge, innovation and practice. Traditional Knowledge can be in the form of proverbs, cultural beliefs, rituals, community law, local language, agricultural practices, songs and folklore, integrating the development and preservation of plant species and animal breeds.

(ii) Article 7 puts certain responsibilities on member nations regarding identification and monitoring the resources.

(iii) Article 15 to 19 covers the equitable benefit sharing[3].

Concept of Bio-Piracy: Bio-Piracy is understood as the theme of encroachment over the knowledge and bio-resources of indigenous communities, by individuals or organizations securing exclusive monopoly control over these resources, knowledge and practices[4] .The primary object of Intellectual Property Right is to protect and assure the rights of the intellectual personality as he / she innovates or produces a new creation. Nobody is entitled to exploit the producer; inventor etc. as he/she is the real owner of the creation. If anybody is getting some benefit by using the traditional knowledge so he/she/it has to compensate the person/community for bio prospecting. Bio-piracy usually takes place in the form of granting of wrong patents, granting of patents to inventions derived from an indigenous community's knowledge. Patents on products derived from traditional knowledge promote imitations rather than innovations. This goes against the intrinsic philosophy of the patent system, as it has developed to promote innovations that will benefit the innovator and subsequently the society. Firstly, it fosters injustice towards communities whose knowledge has been used without permission or commercial benefits accruing to them. Secondly, it promotes a monopoly without any innovation in exchange.

Issues on Indian Traditional Knowledge: Following instances can clarify how the traditional knowledge of Indians indigenous communities is exploited by the West Multi-National Companies. It is the West that has to be blamed for its large-scale indulgence in bio-piracy.

a) **"Jeevani" Controversy**: A group of scientists of the Tropical and Botanical Garden Research Institute (TBGRI) discussed the anti-fatigue properties of *arogya paccha*, a plant growing in the forest which was used by the *Kani tribals* of the Western Ghats of India. Detailed pharmacological experiment showed that the leaf of the plant contained various "glycolipids" and some other "non-steroidal compounds with profound adaptagenic" and "immune-enhancing properties". TBGRI successfully developed standardized herbal drug named 'Jeevani' which was released for commercial

exploitation in 1995 by the *Arya Vaidya Pharmacy*. TBGRI agreed to share on 50-50 basis as the license fee and royalty with the tribal community. By the efforts of TBGRI, Government and NGOs the tribals formed a registered trust. About 60% of the *Kani tribas* were members as well as beneficiaries of this trust. But the real problem was that *Kani tribals* were not a single cohesive unit. Thus there was difficult to identify the beneficiaries. This is a case of issue of material transfer and benefit sharing by an Indian Company.

b) **Neem Controversy** : In 1994 the European Patent Office granted European Patent No.0436257 to the US Corporation W.R.Grace and USDA for a "method for controlling fungi on plants by the aid of hydrophobic extracted neem oil." In 1995 representative of Indian farmers filed a complaint against the patent on the ground that the patent had been known and used for centuries in Indian agriculture to protect crops, and thus was the invention claimed was not 'novel' and 'original'. Consequently, the EPO determined that the patent is not involving an 'invention' and the patent was revoked in 2000 by the EPO.

c) **Turmeric Controversy:** In 1995, a US patent on "use of turmeric in wound healing" was awarded bearing patent no.5401504 to the University of Mississippi Medical Centre. In 1996 the Centre for Scientific and Industrial Research (CSIR) requested the U.S. Patent and Trademark Office to cancel the patent on the basis that turmeric powder is widely known about and used in India for its wound healing properties, and a number of researches have been carried out by Indian scientists which confirms the existence of the said properties. CSIR challenged the patent on the basis of absence of 'novelty' and 'non-obviousness'. Though CSIR did not succeed in proving the use of turmeric as a wound-healer bur was able to produce relevant scientific literatures including a Sanskrit text and a publication in the Journal of Indian Medical Association. Finally the patent was revoked due to non-availability of 'novelty'.

d) **Basmati Controversy:** In 1997, the US Rice breeding firm Rice Tec Inc was awarded a patent, bearing patent no.5663484 relating to "plants and seeds", seeking a monopoly over various rice lines including some characteristics similar to Basmati lines. In 2000, India requested the US Patent and Trademark Office to re-examination of the patent. Because Basmati is a variety from Punjab province of India and the annual export of Basmati is about $300 millions which represents the livelihood of thousands of farmers. Subsequently, the patentee withdraws a number of claims including Basmati type lines.

Traditional Knowledge and Legislative Responses in India: In India there is no specific law regarding protection of traditional knowledge. Only some relevant legislations are partially protect the Indian traditional knowledge. The brief account of the relevant laws regarding protection of traditional knowledge is discussed below-

(i) The Geographical Indication of Goods (Registration and Protection) Act, 1999: The aim of this Act is to protect the traditional Indian products like Basmati rice, Tea of Darjeeling and Nilgiri, Nagpur oranges, Banarasi sarees etc. This law aims at the prevention of unauthorized persons from misusing goods of a specific region. So, protection of traditional knowledge is beyond the scope of this Act.

(ii) The Protection of Plant varieties and farmers' rights Act, 2001: India decided to include farmers' rights in its legislations apart from the mandatory breeders' rights, which was the condition of the TRIPS. The farmers, rights include the right to save seeds for themselves and the right to sell seeds, even of the protected varieties, but without branding. New breeders are also under the protection. There is provision for a National Gene Fund, to which breeders will have to pay revenues for using farmer varieties. In rural India the breeding of seeds and process of conservation of seeds are practiced through the traditional knowledge. This Act is not doing prominently anything for the protection of traditional knowledge.

(iii) The Biological Diversity Act, 2002: Commensuration with the CBD, this Act establishes sovereignty and recognizes the rights of communities over bio-resources. There is provision for National Biodiversity Authority (NBA), as well as Biodiversity authorities at State and Panchayat level comprising of creators and holders of traditional knowledge.

(iv) The Patent Act (1st Amendment) Act, 1999: This Act has excluded drugs, based on the Indian System of Medicines, which are produced by the help of the Indian traditional knowledge.

(v) The Patent (2nd Amendment) Act,2002: This amendment specifically states that any invention that constitutes traditional knowledge, or derives from traditional knowledge, or duplicates such knowledge, or connects bodies of such knowledge cannot be patented. This Act provides a defensive protection to traditional knowledge.

(vi) The Designs Act, 2000: This Act prohibits registration of certain designs, which are not 'new' or 'original'; or have been already disclosed to public in tangible form prior to the filing date. This way this Act can protect certain areas of traditional knowledge.

Nothing is in Indian legal system to accommodate the protection to the traditional knowledge separately and in an independent manner. The traditional forms of intellectual property rights are not able to protect the bio-piracy directly. The limitations of the existing Intellectual Property Rights system regarding protection of traditional knowledge have been enlisted in the table belo

Types of Intellectual Property Rights devices	**Class of Traditional Knowledge to be protected**	**Limitations of the Intellectual Property Right system**
Copyright	• Folklores • Artistic forms etc.	• Requirement of fixation and authorship will not be satisfied in most cases • Protects individual works rather than styles • Duration specific
Patent	• Genetic and biological materials and practices	• Duration specific • Need of novelty and non-obviousness might not be satisfied
Design	• Textile prints etc.	• Duration specific • Protects individual works rather than styles
Plant Variety protection	• Crop varieties & breeding etc.	• Duration specific
Geographical Indication	• Products characteristic of a particular geographical region	• Very limited sphere of application
Trademarks	• Logos • Brand • Label etc.	• Very limited sphere of application
Trade Secretes	• Any form of knowledge held in secrete	• No conducive to widespread usage and exploitation

The above findings show that no unauthorized person can exploit traditional knowledge from any part of it. But still bio-piracy presents and threatens the Indian economy. However the laws are yet to become fully operational and effective. Further the existing laws are insufficient to deal with all aspects of traditional knowledge comprehensively. So, the only reference for legal protection of traditional knowledge is *sui generis* protection.

Conclusion and Suggestions: Unfortunately, now traditional knowledge has become the subject matter of bio-piracy, which ultimately threatens the subsistence of the indigenous communities. 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.

For an effective and promotional exposure of traditional knowledge, regarding its protection and restoration, following measures may be suggested.

(i) A *sui generis* legislation may be enacted to protect and preserve traditional knowledge and simultaneously to curb the bio-piracy.

(ii) A database has to be developed to include all forms of traditional knowledge, available throughout India. It should be mandatory to search this database before granting any other form of Intellectual Property.

(iii) The TKDL (Traditional Knowledge Digital Library) should be added and linked to each patent office for verification before granting of patents.

(iv) Practicing cultivation as a conservative method of bio-resources. Presently, 90-95% of industrial need in India is met from the forest.

(v) Using Biotechnology for conservation of endangered species.

(vi) Proper documentation after identification of plants from their Sanskrit names and co-relating it to present database.

(vii) Regions rich in bio-resources should not confined within the political boundaries. Initialization regarding this can also help in the preservation of traditional knowledge.

(viii) Generating awareness programmes, mainly at the Panchayat levels to enable the local communities to recognize traditional knowledge as a path for long-term sustainability for their livelihood, health and economic benefit.

Lastly, we need to react quickly and decisively to protect these knowledge systems through national policies and international agreements before further exploitation. The concluding slogan is that, "commercialization should not be a form of exploitation."

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