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PRESERVING TRADITIONAL KNOWLEDGE: INTERNATIONAL AND NATIONAL PERSPECTIVES WITHIN INTELLECTUAL PROPERTY LAW

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INTRODUCTION

Traditional knowledge can be broadly defined as the knowledge that an indigenous community or simply a group of people has access to and relies on for their survival. Since such knowledge forms part of the culture and traditions of such communities or persons, it needs to be preserved and maintained. The contributions of people of a specific society over time lead to the evolution of traditional knowledge. It was expanded upon, improved upon, and modified until it was useful information for the particular community and endured the test of time.

Traditional Knowledge (TK), indigenous knowledge (IK), traditional environmental knowledge (TEK) and local knowledge commonly understood as matured long-standing traditions and practices of some regional, indigenous, or local communities. Traditional knowledge also includes the wisdom, knowledge, and teachings of such communities.¹

The knowledge, skills, and practises that are created, maintained, and passed down from generation to generation within a community—often serving as an integral element of its cultural or spiritual identity—are referred to as traditional knowledge (TK). Traditional knowledge can be found in areas including agriculture, science, technology, ecology, medicine, and knowledge pertaining to biodiversity. The term "traditional knowledge" refers to any type of information that has been used by a particular group over a long period of time and for many generations.

It is difficult to define the term Traditional Knowledge but there are some definitions. Traditional knowledge is *“a body of knowledge built by a group of people through generations*

¹[Knowledge And Traditional Knowledge - 792 Words | Bartleby](#)

living in close contact with nature. It includes a system of classification, a set of empirical observations about the local environment, and a system of self-management that governs resource use."²The WIPO has given a definition to Traditional knowledge "*knowledge, skills, practices, and know-how that are developed, perpetuated, and passed down from generation to generation within a community, frequently as part of the community's cultural or spiritual identity*".

Daniel Gervais has noted the following elements of traditional knowledge to mean knowledge:³

- a) which is traditionally only to the extent that its creation and use are part of the cultural tradition of a community- traditional; therefore traditional, does not necessarily mean that the knowledge is ancient or static;
- b) is representative of the cultural values of people and, thus is held collectively;
- c) is not limited to any specific field technologies or the arts;
- d) Traditional knowledge is important both for humans and the environment. It makes the people self-sufficient, is a preserver of biodiversity, and can provide a source of income.

Over a period of time various persons have defined traditional knowledge. In the words of Berkes "Traditional Knowledge" is a cumulative body of knowledge and beliefs handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment. Four categories of creative works are typically considered to be within traditional knowledge: Stories, epics, legends, folktales, poetry, riddles, etc. Verbal expressions; musical expressions; folk songs and instrumental music; corporeal expressions; dances, games, ceremonies paintings, sculptures, ceramics, mosaics, jewellery, tiles, fabrics, carpets, costumes, musical instruments, etc. Traditional vision contains convictions, outlooks, behaviours, adjustments, arts, spirituality, and additional forms of traditional expression and experience that fit in with the original communities' conceptions of the world.

FEATURES OF TRADITIONAL KNOWLEDGE

- 1) **HOLISTIC IN NATURE:**The heavenly health, culture, arts, crafts, dancing, and peoples' languages all reflect traditional knowledge. It is integral to traditional people's way of life and cannot be dissociated from them. Any division, in the eyes of the traditional people, is disrespectful to their spiritual values and beliefs. Additionally, it is intricately related to

²Martha Johnson of the Dene Cultural Institute in Canada.

³ Daniel Gervais, The TRIPs agreement-drafting history and analysis 5 (2003).

geography, resources, culture, and tradition. Indigenous legacy consists of all its elements like knowledge, cultural expressions, biodiversity, and customary lands and they are all interconnected and interdependent.

- 2) **UNDOCUMENTED:** The majority of traditional knowledge is undocumented and is often transmitted from generation to generation orally. The majority of traditional information, whether it is knowledge about songs, agriculture, medicine, or other topics is passed down verbally without any attempt to document it. Because it is sometimes undocumented, it can be quite challenging to determine the exact date of origin. Because traditional knowledge has been passed down orally from generation to generation, it can be challenging for those who possess it to distinguish between aspects that are self-evident and non-obvious inventions. The traditional knowledge system is also unsystematic; they contained a vast treasure house of knowledge in simple poetry on agriculture, horticulture, soil science, climate meteorology, mines, minerals, astronomy, hydrology, mathematics, plants and herbs, Ayurveda, sports and games, ethics and principles. This undocumented body of knowledge is also a part of the great heritage of humankind.
- 3) **DYNAMIC:** Traditional Knowledge, which serves as the foundation for daily decision-making, is dynamic and constantly being moulded and altered by invention and practise as well as accepted to local circumstances. Every day, it is being developed and constructed. Traditional knowledge's methods and expertise are dynamic and evolving. It is not just taught using a straightforward manner and passed down from one generation to the next; rather, it is dynamic by nature and is constantly being verified and adjusted.
- 4) **INFLUENCED BY ECONOMIC AND CULTURAL CONDITIONS:** Traditional or indigenous knowledge always influenced by the economic and cultural factor of the community. It varies between two communities because of these reasons. Traditional people, since they are economically weak, do not go for scientific medicine. This condition invariably influences them to go for searching for new medicine available in the biodiversity.
- 5) **HELD COLLECTIVELY:** Traditional knowledge is a broad notion that includes a number of different elements. It is typically created in response to and in interaction with the creator's interaction with their cultural context. The majority of traditional knowledge is typically regarded as being representative of cultural ideals.

PROTECTION OF TRADITIONAL KNOWLEDGE –

INTERNATIONAL

Several initiatives were taken at the international level for the protection of traditional knowledge. For the Recognition of Indigenous People on an International Level, the first attempt internationally to protect the rights of the indigenous people began when the International Labor Organization (ILO) convened a Conference Concerning the Protection of Indigenous and Other Tribal and Semi-Tribal Populations in Independent Countries, 1957.⁴ This was the first conference to attempt to promote better social and economic conditions for the indigenous populations. But it “does not envisage a place in the long term for robust, politically significant cultural and association patterns of indigenous groups. They are considered very secondary and as a mere beneficiary of rights and protections. The ILO Convention No. 169, Concerning Indigenous and Tribal Peoples in Independent Countries, 1989, revised this Convention. The revised Convention is the first to define ‘indigenous people’. It *defined the indigenous people as those who inhabited a country or area within a country at the time of conquest, colonization, or the establishment of present state boundaries, and who, “irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.”*⁵ It asserts that they have the right to take part in this decision-making process, and that their contribution will be valuable to the country in which they live.

There was a Campaign jointly conducted by UNESCO and WIPO in 1980 to put in place a set of norms for protection of expressions of folklore against illicit exploitation and other prejudicial actions. Attempt was to create an international treaty but it could achieve only enunciation of general principles in wide and ambiguous terms for guidance of national legal system. It was known to be The Model Provision for National Laws on Protection of Expression of Folklore against illicit Exploitation and other Prejudicial Actions, 1985. It defined Folklore as it generally consist of Traditional knowledge. the limitation of this document is that the definition of expression of folklore include only verbal expression, musical expression, expression by action an tangible expression but in the case of Folk medicines, agriculture, techniques of manufacture, designs etc were unprotected. This is one of the reason for the non-implementation of these norms by the nations. There are also attempts taken for the protection of traditional knowledge

⁴Conference No.107 of the ILO.

⁵[Convention C169 - Indigenous and Tribal Peoples Convention, 1989 \(No. 169\) \(ilo.org\)](https://www.ilo.org/convention/C169-Indigenous-and-Tribal-Peoples-Convention,1989(No.169)(ilo.org))

international. The first convention that include the protection of TK is the Convention on Biological Diversity,1992.

Convention On Biological Diversity, 1992

Important issues relating to the indigenous people and preservation of property was taken up in the Convention on Biological Diversity, 1992 which desired to enhance and complement existing international arrangements for the conservation of biological diversity.

In the preamble of the Convention, it states that “Recognizing the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components”. It gives an impression that the subject mater is not only “knowledge” but also “innovation and practices” that are traditional in nature. Also, in the Bonn Guidelines on Access to Genetic Resources and Benefit Sharing, In 2002, State parties to the Convention on Biological Diversity (the CBD) formally adopted the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization (the Bonn Guidelines). The Sixth Session of the CBD Conference of the Parties (COP-6) at The Hague in April 2002 was attended by some 2000 government and non-government officials from 166 countries. The objectives of the CBD are to conserve biological diversity, sustainably use its components, and fairly and equitably share the benefits arising from the utilization of genetic resources, including through the access and transfer of technology and taking into account all resource and technological rights and funding.⁶

Article 8(j) emphasizes the approval and the involvement of the tribes. The Convention mandates the acknowledgement of the rights of the holders of the knowledge in case of its use.

The obligations include:

- to respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities;
- to promote the wider application of it with the approval and involvement of the holders of such knowledge, innovations and practices; and

⁶N.S. Gopalakrishnan, Protection of Traditional Knowledge The Needfor a Sui Generis Law in India,(2005) Page | 9

- to encourage equitable sharing of benefits arising from the utilization of such knowledge, innovations and practices.

Though not specific, the requirement of their involvement and approval before the use of their knowledge and the obligation to share the benefits make it clear that the Convention recognizes the ownership of this knowledge base by the community. The Convention, of course, gives the individual nations the freedom to decide the mechanism through which this can be achieved.⁷

The issue here is the ownership of traditional knowledge, that from the above Article it states that “knowledge, innovation and practices” that are protected must belong to the communities. By this provision it gives an impression that the provision recognizes the communities as the owners of knowledge system. The word Holder instead of owner shows confusion. The Nagoya Protocol on access to genetic resources and fair and equitable sharing of benefits arising from their utilization to the Convention on Biological Diversity clarifies that “holder” means “owner” and the ownership of TK is with relevant communities. Article 15 specifies that prior informed consent of the indigenous people is mandatory, and Article 17 mandates the States to facilitate exchange of information. This Convention established that the resources that were concentrated with one or more societies ought to be used for the benefit of mankind.

The convention -- Critiques:

1) Reverse Determination

It is interesting to note that CBD’s objective to share the resources of the world arises at a time when these resources have become valuable. The Convention does not address the benefits to either the Community or the individual holders respectively. The technology transfer clause in the CBD is incomplete for want of modus. The cost to the community in having to share such information has not been detailed. The benefit the community would derive, if at all, from such sharing is unclear from Articles 15 and 16. This Convention does not incorporate the reverse determination, which is a mandatory declaration that the indigenous people should be compensated by vesting intellectual property or its equivalent rights over the knowledge acquired from them. Strangely, the CBD expects that resources are to be shared for the benefit of ‘mankind’ and that the most downtrodden societies of the world should enable the benefit.

⁷N.S. Gopalakrishnan, Diversity-Related Intellectual Property Rights-C.4~~ Final Art, The Convention on Biological Diversity and the Challenges, XVIII Academy Law Review, 281, 1994.

2) Prior Informed Consent

Prior informed consent is a concept detailed in the CBD to ensure that the consent of the indigenous people is received before the resources are shared. It is unclear whether the indigenous people should be informed about the possibility of taking a monopoly intellectual property right over their resource before the resources are accessed. The indigenous people may not give consent so easily if they are aware of the monetary benefits received from taking their resources. 'Prior informed consent' has not been defined under the CBD.

3) Right to Withhold Information

The CBD on the one hand speaks about mandatory sharing of information. On the other hand, the Convention discusses prior informed consent. It is not clear which prevails over the other. If the holders of the knowledge were to refuse consent after understanding the consequences, it is unclear whether the use of the knowledge would amount to a violation of the CBD.

4) Right Not to Disclose

The issue whether the right to privacy includes the right not to disclose knowledge in possession has to be clarified. This also raises the question as to whether one's right to privacy can be considered violated where the knowledge was acquired and used without consent or by indirect sources.

5) Trade Secrets and CBD

Further clarification of the right to privacy becomes all the more important if traditional knowledge is sought to be protected as a trade secret.

6) Ownership Factors

None of the Conventions address the ownership factor, which is important to ensure fairness in benefit sharing. Issues on benefit sharing are bound to arise where members of a community are scattered.

TRADE RELATED ASPECTS OF INTELLECTUAL PROPERTY (TRIPS)

TRIPS has some provisions having limited application to the protection of traditional knowledge. The obligation to protect geographical indications can be used to protect traditional

knowledge if associated with the indication used for production and sale of goods. It is made clear that a given quality, reputation or other characteristics of the goods essentially attributable to their geographical origin are to be considered in identifying the geographical indications for protection.⁸ Thus it may be possible to protect through geographical indications the traditional knowledge associated with goods. It is well accepted that it is the collective right of use that is recognized in geographical indications. Many valuable knowledge bases of indigenous and local communities are still kept as secrets. TRIPS mandates the protection of undisclosed information of commercial value. The undisclosed information is treated as the private property of the person or group of persons holding it secret. These provisions can equally be extended to traditionally undisclosed information as well. But the protection will be to the person or group of persons who are keeping it secret rather than to the community as a whole. The increasing demand to expressly recognize and protect traditional knowledge under TRIPS led to the World Trade Organization Ministerial Declaration at Doha instructing the Council for TRIPS to examine and report on the interrelationship between the TRIPS Agreement, the Convention on Biological Diversity and the protection of traditional knowledge and folklore. Thus, it is clear that there is a general agreement in the international community that there is a need to recognize traditional knowledge. It is also evident that, wherever possible, it must be identified with the community, treating the members thereof as the holders of such knowledge if it is confined to the community. It is the notion of collective enjoyment of property by the members of the community that is reflected in these norms. The concern is to recognize it and to take measures to ensure that communities are involved in the preservation and development of it and that proper benefits are open to them in case of commercial exploitation by others. There are no uniform norms regarding the protection of different types of traditional knowledge owned by local communities. The reason for this state of affairs is that the international community has never had the occasion to look at the protection of traditional knowledge in its entirety.

Article 27(3) (b) provides that members shall provide for the protection of plant varieties either by patents or by effective sui generis system or by any combination thereof. In relation to this, the member states can make a sui generis system to protect their traditional knowledge. TRIPs have given the member countries the discretion either to implement a patent system for the protection of plant varieties or to adopt their own sui generis system. A sui generis system would allow WTO members to adopt their own system of protection for plant varieties.

⁸Article 22(1) of TRIPS Agreement.

UNITED NATIONS DECLARATION ON THE RIGHTS OF PEASANTS AND OTHER PEOPLE WORKING IN RURAL AREAS

- In Article 18(3), with respect to the international obligation to combat climate change, Peasants and other working in rural areas have the right to contribute to design and implementation of national and local climate change adaptation and mitigation policies, including through the use of practices and traditional knowledge. in Article 19 (1) (a), in accordance with Article 28 of the present statement, it states that peasants and other individuals employed in rural regions have a right to seeds, including a right to the protection of traditional knowledge pertaining to plant genetic resources for food and agriculture.
- Article 26, it provides the freedom to enjoy one's own culture and to pursue it freely without hindrance or any form of prejudice is guaranteed to peasants and other workers in rural areas. Additionally, they have the right to uphold, express, control, safeguard, and develop their traditional knowledge, which includes their way of life, their means of production or technology, as well as their traditions and customs.
- The state shall respect, and take measures to recognize and protect the rights of peasants and other working in rural areas relating to their traditional knowledge and eliminate discrimination against the traditional knowledge, practices and technologies of peasants and others working in rural areas.⁹

UN DECLARATION ON THE RIGHTS OF INDIGENOUS PERSONS

UN declaration on Rights of Indigenous persons was adopted by UN general assembly during its 62 session on 13th September 2007. Though a General assembly declaration is not a legally binding instrument, this declaration can be regarded as a dynamic development for setting a standard for protection of rights of indigenous persons. General assembly recognized the urgent need to respect and promote the inherent rights of indigenous peoples which they derived from

⁹Article 26(3), United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas, 2018

their social structures. The declaration emphasizes on the rights of indigenous persons to maintain and strengthen their own institutions, cultures and tradition so as to foster their development. It urges the parties to make mechanism for prevention and redress of any action which has the effect of depriving indigenous people of their integrity or their cultural values or identities. Art 24 recognizes the right to their traditional medicines and provides for conservation of their vital medicinal plants animals and minerals. Art 31 is an important attempt to protect TK. It asks the states to take all effective measure to recognize and protect the cultural heritage, traditional knowledge, traditional cultural expression as well as the manifestations of their sciences, technology, and cultures. This declaration is indeed a dynamic measure of international legal norms regarding the protection of TK and also it necessitates the need for an international treaty for the protection of TK.

PROTECTION OF TRADITIONAL KNOWLEDGE – NATIONAL

The protection afforded to the traditional knowledge may be of various types depending upon various factors like the notion, values and respect the holding communities have for their traditional knowledge: whether the communities want to reap the benefits from the knowledge or they simply want to prevent others from expropriating it

- 1) **Positive protection:** Through this type of protection TK holder can acquire an IPR or any other alternative rights provided under sui-generis system. They can take action against misuse of TK. This form of protection focuses on the empowerment of traditional knowledge holders and caters to actual needs of TK holders. This form of protection promotes Prior Informed Consent; equitable benefit sharing from the use of traditional knowledge and repress misappropriation of traditional knowledge.

- Prior Informed Consent (PIC):

PIC is the permission taken from original holders of biological resources and related traditional knowledge to access and commercial exploitation of resource and associated knowledge. PIC would helpful in combating the problem of biological resource management. Any company or any individual who want to use biological resources for commercial purpose has to obtain the prior informed consent of all communities and all members of each community who have used and contributed collectively to the innovation in biodiversity related knowledge prior to physically accessing the resource. PIC would lead to equitable benefit sharing and prevent the misuse of TK.

- **Benefit Sharing:**

Benefit sharing refers to an agreement of sharing benefits (both monetary and nonmonetary) resulting from commercially exploiting the biological resources and associated knowledge of a traditional community with that community. These monetary and nonmonetary benefits include setting of a trust fund for a particular group of beneficiaries, technology transfer, providing employment opportunities, developing local infrastructure, capacity building and scientific collaboration.

Equitable benefit sharing agreements are promising in giving full recognition and protection to the rights of indigenous and local communities to their knowledge and genetic resources. To check bio-piracy and to protect the rights of indigenous people, effective PIC and equitable benefit-sharing agreements should be enforced.

2) **Defensive Protection:** This kind of system provides safeguards against illegitimate intellectual property rights acquired by third parties over traditional knowledge. These safeguards are:

- Requirement of disclosure of origin of genetic resources and associated TK relevant to the invention in the patent application.
- Preparing a database containing complete information about traditional knowledge in a scientific and technical form and accessible to patent examiners. Such a database will be helpful in determining novelty of the invention in question.

BIOLOGICAL DIVERSITY ACT, 2002

It was enacted to meet obligations under CBD for the preservation of biological diversity in India, and provides a mechanism for equitable sharing of benefits arising out of the use of traditional biological resources and knowledge. Also, to secure sharing of benefits with local people as conservers of biological resources and holders of knowledge and information relating to the use of biological resources. The legislation addresses the basic concerns of;

- access to biological resources
- collection and utilization of biological resources
- sharing of benefits arising out of such access
- protection from biopiracy

The measures to be taken for the protection of the knowledge of the local community are mentioned in section 36 of the Act.

The legislation provides for the establishment of the National Biodiversity Authority (NBA)

under section 8, State Biodiversity Board (SBB) under section 22 of the act and Biodiversity Management Committees (BMCs) at local community level. The legislation also provides for promotion of conservation, sustainable use and documentation of biodiversity through biodiversity registers. Information and data from research cannot be transferred without the approval of the NBA.

PATENT (AMENDMENT) ACT,2005

Section 3 of Patent Act deals with subject matters that are not patentable. In 2005 amendment, sub-clause (p) was added into section 3 which depicts an invention which in effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components are not patentable. This will not prevent patent protection for new products and process based on traditional knowledge- eg- express provision on patentability of micro organisms. For example, the patent application for a process for preparing an improved Chyawanprash discloses the process which involves cutting, roasting and mixing of dry fruits and then adding it to the Chyawanprash, which under Section 3(p) of Patents Act 1970 (as amended in 2005) is not an invention. This invention is based on traditional knowledge so not patentable under the Act.

The Patent Act 1970 has provisions that require disclosure of TK which is the basis of invention in question. Section 10 (contents of specification) of the Act provides for the disclosure of source and geographical origin of any biological material used for the invention in the specification. Section 10 (4) (d)- provided (ii) (D)- “disclose the source and geographical origin of the biological material in the specification, when used in an invention”. In section 251(k), 2(k) and 64 1(q) of the Act, have been incorporated to include anticipation of invention by available local knowledge including oral knowledge as one of the grounds for both pre-grant and post-grant opposition. Also, revocation of patent under section the clause (j) of subsection 1 and 2 of section 25 of the Act and 641(p), it has been mentioned to consider non-disclosure or wrongful disclosure of source and geographical origin of biological material used for the invention as a ground for opposition and revocation of patent.

BIO- PIRACY

In recent years patenting of traditional knowledge based products have been a great concern. TK based products were given patent even ignoring the novelty and inventive step when compared

with relevant prior art. This use of TK as a basis for making products of commercial value, which are then patented without sharing any benefit with the source of the TK is termed as „bio-piracy“. It is the appropriation of the knowledge and genetic resources of farming and indigenous communities by individuals or institutions seeking exclusive monopoly over these resources and knowledge.

Bio piracy can be described as grant of wrong patents to invention that are neither novel nor inventive having regard to traditional knowledge already in public domain. Such patents may be granted due to the lack of documentation or recognition of TK as a prior art. Bio piracy may also happen in cases where patents are granted according to the existing national legislations which does not recognize certain form of public disclosure as prior art. There are some cases related to bio-piracy.

CASE LAWS:

1) **TURMERIC PATENT CASE¹⁰**

In the year 1995, US awarded patent on turmeric to University of Mississippi medical center for “Wound Healing Property”. The Indian Council of Scientific and Industrial Research (CSIR) requested the US Patent and Trademark Office to re-examine the patent. CSIR also argued that Turmeric has been used for thousands of years for healing wounds and rashes and therefore its medical use was not novel. This claim was supported with documentary evidence of TK, including an ancient Sanskrit text and a paper published in 1953 in the Journal of Indian Medical Association. USPTO upheld the CSIR objection and revoked the patent.

2) **THE NEEM CASE¹¹**

The patent for neem was first filed by W R Grace and the Department of Agriculture, USA in European Patent office. The said patent is a method of controlling fungi on plants comprising of contacting the fungi with a neem oil formulation. India filed a legal opposition against the grant of patent by New Delhi based research foundation for science, technology and ecology, in co-operation with the international federation of organic agriculture movements. India argued that the barks, leaves, flowers, seeds is used to treat a variety of diseases ranging from leprosy to diabetes, skin disorders and ulcers. Also neem twigs are used as antiseptic tooth brushes since

¹⁰US Patent no: 5401504, 5135796,5047100

¹¹ patent no 5420318, 5391779 and 5371254 & W.R. Grace’s EPO patent 0436257

time immemorial- submitted documentary evidences from ayurvedic text. The EPO identified the lack of novelty, inventive step and possibly form a relevant prior art and revoked the patent.

3) **BASMATI PATENT CASE**¹²

US patent office granted a patent to RICETEC for a strain of Basmati rice, an aromatic rice grown in india and Pakistan for centuries. In 1997, in its patent application- RICETEC also acknowledged that “good quality basmati rice traditionally come from northern india and Pakistan” n that company went on claiming that it had invented certain NOVEL. Basmati lines and grains which make possible the production of high quality, higher yielding Basmati rice worldwide. US allowed patent application. Three strains development by RICETEC are allowed patent protection and they are eligible to label its strain as “Superior Basmati Rice”.

VARIOUS INITIATIVES TAKEN BY GOVERNMENT OF INDIA TO DOCUMENT TRADITIONAL KNOWLEDGE

1) **TRADITIONAL KNOWLEDGE DIGITAL LIBRARY (TKDL)-2006**

It is a pioneer initiative of the Indian Government to protect Indian traditional medicinal knowledge and prevent its misappropriation at international patent offices. The Grant of Turmeric patent by US ,1995 , Neem 1994 etc. The problem related to Indian TK is that india’s traditional medicinal knowledge exist in languages such as Sanskrit, hindi, Arabic, urdu, tamiletc that too in ancient dialects that are no more in practice. Thus the published Indian TK literature is neither accessible nor understood by patent examiners at international patent officies. TKDL has overcome the language barrier by systematically and scientifically converting and structuring the available contents of the ancient text on Indian systems of medicines; Ayurveda, Siddha, unani and sowarigpa as well as yoga into 5 international languages, namely, English, Japanese, French, german and Spanish. Now more than 3.6lakh formulations/practices have been transcribed into TKDL Database. TKDL has proved boon to protection of TK from bio-piracy. Some examples are:

- **India foiled Chinese bid to patent 'pudina' – mint**

India has foiled a major Chinese bio-piracy bid to patent the use of medicinal plants 'pudina' (Mint, Family –Lamiaceae) and 'kalamegha' (Andrographis,-family Acanthaceae,) for the treatment of H5N1 avian influenza or bird flu. A Chinese pharmaceutical company- LIVZON - a

¹²US 5663484.

patent application (no.EP1849473) with EPO in 2007 undertitle- “Chinese traditional medicine composition for treatment of avian influenza, method for preparation, and application” using pudina and kalamegha.

The CSIR with the help of Traditional Knowledge Digital Library (TKDL), searched out formulations from ancient Ayurveda and Unani texts, that contain 'pudina' and 'kalamegha' as ingredients. These formulations have been widely used to cure influenza and epidemic fevers since ages in India. EPO after scrutinizing the evidence upheld the rejection patent application in 2010.

- **India foiled bio piracy bid by Natreon Inc, America**

American multinational company Natreon Inc, filed patent application (no.EP1906980) in the EPO under the title ‘method of treatment or management of stress’ in 2006. In this application the applicant claimed the treatment of anxiety induced stress, depression induced stress, sleep deprivation induced stress, thermic change induced stress and gastric ulcer induced stress with Ashwagandha (*Withaniasomnifera*) as novel. In 2009 the Director, TKDL informed and submitted documented proof to EPO that threw light on the fact that *Withaniasomnifera* has been used for treatment of depression, insomnia, gastritis, gastric ulcer and convulsions since ages. In 2010 EPO upheld the decision of rejection of patent application.

- 2) **People’s Biodiversity Register**: The Registers document comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them. Preparation of these registers includes activities like identifying local resource user groups, field visits, mapping the landscape and discussion on biodiversity management with local people. Biodiversity registers are prepared at block, district or state level by local people with help of NGO educational institute or researchers. The Biodiversity Act 2002 recognizes these registers as a valid and authentic way to establish prior art and as a basis for evaluating IPR applications.
- 3) **National Innovation Foundation (NIF)**: NIF was set up by the Department of Science and Technology, Government of India, in February 2000 at Ahmadabad and collaborates with Honey Bee network. The objective of NIF is to provide institutional support in scouting, spawning, sustaining and scaling up grassroots green innovations as well as outstanding traditional knowledge and helping their transition to self supporting activities. It provides a platform to

foster innovators who have solved a technological problem through their own intellect without or with little government or industry help.

- 4) **Honey bee Network**: Honey Bee Network has world's largest database on grass root innovations. This network is run by SRISTI (Society for Research and Initiatives for Sustainable Technologies & Institutions, Ahmedabad). Its objective is to encourage grassroots innovations, secure IPRs for small innovators and to ensure benefit sharing to original innovators and knowledge providers.

CONCLUSION

The existing international intellectual property system does not fully protect traditional knowledge and traditional cultural expressions, many communities and governments have called for an international legal instrument providing sui generis protection. An international legal instrument would define what is meant by traditional knowledge and traditional cultural expressions, what the rights holders would be, how competing claims by communities would be resolved, and what rights and exceptions ought to apply. One reason for lack of clarity about the rationale for protection systems is the different meanings given to the concept of protection. Some understand this concept in the context of IPRs, where protection essentially means to exclude unauthorized use by third parties. Others regard protection as a tool to preserve TK from uses that may erode it or negatively affect the life or culture of the communities that have developed and applied it.

The limitation of IP system is that there are essentially two main concerns with regard to the protection and commercialization of TK in India using the intellectual property system: The current IP system allows individuals to protect their inventions and IPRs, but does not allow communities to collectively protect their knowledge in all areas; and in those areas where collective IP registration is possible, communities are not exercising their rights. As a result, in both India and International, TK is not generally protected using the IP system.

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