TRADITIONAL KNOWLEDGE AND IPR IN INDIA: EMERGING ISSUES AND CHALLENGES

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ABSTRACT

Traditional Knowledge (TK) refers to the long-standing traditions and various practices of the indigenous communities. Traditional knowledge embodies culture and the knowledge of the community which is passed mostly orally from one generation to another. This knowledge can also be determined in numerous ideas along with approaches like preparing food, use of spices, domestic treatments for curing sickness, plant properties, calculation of time, preparing and using specialized tools and technologies, yoga practices etc. Each of those ideas has critical important component that is, it has historic roots and it is far regularly oral. Today, protection of traditional knowledge is a challenge as they are exposed to Bio-piracy. This happens while there's business usage of the knowledge without the sanction of the indigenous network that is related to such traditional knowledge. But, through the years Intellectual Property Rights had been formulated as monopolistic rights to guard distinctive, innovative, novel and beneficial thoughts of the human beings. In this regard protection of traditional knowledge was given significance in 1992 through the adoption of Convention on Biological Diversity (CBD) followed by the Nayoga Protocol in the year 2010.This paper aims to analyze the international and national laws meant for guiding traditional knowledge in India and discusses the challenges and drawbacks of its protection under TKDL with few suggestions for its protection.

Keywords: Traditional Knowledge, Biodiversity, Intellectual Property Rights, Biopiracy, Patent

Introduction

Intellectual Property Rights (IPR) is defined as the rights which are bestowed upon a person over the creation of his/her mind. It confers the creator with an exclusive right over the said creation. According to World Intellectual property Organization (WIPO), Intellectual Property broadly means the legal rights, which results from intellectual activity in the industrial, scientific, literary, and artistic fields. It is the intangible and incorporeal property.[1] The creation under Intellectual Property must be innovative and new. The significance of IPR was acknowledged for the first time in the World Intellectual Property Organization (WIPO) administered Paris Convention for the Protection of Industrial Property in the year 1883. The foremost question that was arose was regarding the need for the protection and promotion of Intellectual Property at national and international level. It was felt that IP protection will encourage more inventions consequently leading to the path of progressiveness. Also, IP protection will foster economic growth at both national and international level and benefit the social and cultural well-being of the people. Thus, the system of IPR strikes a balance between the interest of both- the public and the creator's interest.[2]

Along with other forms of Intellectual Property, Traditional knowledge is one of the most vital forms that has been recognized under the forms of Intellectual Property. Traditional knowledge refers to the knowledge, innovations, and practices of indigenous and local communities around the world. This knowledge is fundamental identification of autochthonous communities/groups in which it operates and is preserved. It has been the mainstay in their life especially in key sectors like food and health. It represents the historical records of human experience, observation and experiments. It is embedded in the culture, tradition, spirituality, global views and expressed in stories, songs, proverb, customary laws and language. It is passed on from generation to generation through cultural practices and rituals. These sets of understandings, interpretations and meanings are connected to language, naming and system classification and use of natural assets.[3]

[1] Sagar Kishor Savale& Varsha Kishor Savale, Intellectual Property Rights, 5 World Journals of Pharmacy and Pharmaceutical Sciences, 2529, 2530 (2016).
[2] Convention on Biological Diversity, Traditional Knowledge and the Convention on Biological Diversity, CBT, (Jan. 12, 2022, at 8:20 PM), https://www.cbd.int/traditional/intro.shtml.
[3] Prof Henrietta Marrie, "Emerging trends in the generation, transmission and protection of Traditional Knowledge", available at www.un.org , (22nd Oct, 2020)

Traditional knowledge informs decision-making on the basics of everyday life starting from hunting and fishing to agriculture and animal husbandry to the interpretation of meteorological and environmental condition phenomena and the attempt of tackling illnesses and disease. It is the premise for food preparation, education, environmental conservation and the wide selection of activities that outline the society in different parts of the world. It is dynamic as new knowledge is continuously added, adapted and altered. The systems innovate from within and internalize use and adapt external knowledge to match up local situations and thereby guarantee communities' resilience to change.[4]

Traditional Knowledge & IPR regime

Traditional Knowledge is regularly subject to unauthorized commercial misuse. A need has been arisen to protect and preserve such historic practices from being misused. However, there has been lot of debate on protection of traditional knowledge under IP regime and consists of the opposite demanding situations like whether or not it must be covered beneath the patent system, copyright or trademark; whether or not time constraints on safety granted under the IP might be relevant to traditional knowledge and if so, how a non-stop safety system might be ensured. The issue of bio piracy is also likewise a challenge which might also additionally arise while there is a commercial usage of traditional knowledge without authorization. The solution to these demanding situations lies in certain methods of protection followed. Such protection methods may be positive or defensive. Positive protection of traditional knowledge is ensured through legal standards, rules and regulations, access and benefit sharing provisions; royalties' etc. Defensive protection is ensured via steps taken to prevent acquisition of IP rights over traditional knowledge. In India the Turmeric Case[5] is the best example for such kind of protection. In this case, a patent was granted for "use of turmeric in healing wound" and claimed a method to heal wounds in an affected person by administration of required amount of turmeric. The inventors of this patent had later assigned the patent to the University of Mississippi. A re-examination application was filed against the grant of patent along with nearly two dozen references, which resulted into early success. The inventors' defense was proven to be weak in front of the latest commentaries on traditional Ayurveda texts, extracts from Compendium of Indian Medicinal Plants and nineteenth century historical texts from the library of Hamdard University, resultantly in August 1997, the USPTO ordered revocation of

[4] Id. at 2
[5] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3038276, (21st October, 2020)

the patent, which lacked novelty. Later, India adopted a mechanism to protect its traditional knowledge by way of setting up a traditional knowledge digital library in 2001 together with Ayush and CSIR.

The Neem case,[6] the first ever problem for India which raised several doubts on the so called strict patent system was concerning the grant of patent to the employer W.R. Grace. The company was granted a patent to function within America and Europe, for a formulation that held in the strong storage of chemical compound called '*azadirachtin'*, the active ingredient in the neem plant; it planned to use this chemical compound for its pesticidal properties. Ancient systems of medication like Ayurveda and Unani, determine antiviral and antibacterial properties of the neem tree also known as the "*curer of all ailments*" in Sanskrit, and prescribe the same for treating skin ailments and also as herbal pesticide. The applicant admitted in the patent application as to how the curative uses of neem were acknowledged and pointed out to the fact that storing *azadirachtin* for an extended period of time is difficult. The patent granted in US was limited, whereby the applicant was only given the exclusive right to use *azadirachtin* in the particular storage solution described in the patent. The sanctioning of patent created chaos and it was questioned through re-examination and post-grant opposition proceedings before the United States Patent and Trade Mark Office (USPTO) and the European Patent Office (EPO), respectively. Though there has been no success on the USPTO, the European Patent Office favoured the opposition stating that the patent granted, lacked in novelty and inventive step.

Yet another case that created lot of havoc was a patent granted by the USPTO to an American employer called Rice Tec for Basmati rice.[7] Basmati rice is a unique aromatic variety of rice grown in India and Pakistan. The patent granted created multiple issues besides that under the patent law i.e. under trademarks and geographical indications. Rice Tec had been granted patent for the invention of hybrid variety of rice lines that combined desirable grain traits of Basmati rice with desirable plant traits. This was due to the lower quality of Basmati rice that grew in US in comparison to the good quality of Basmati rice being cultivated in northern part of India and Pakistan and would help in growing a better crop of Basmati rice in the western

[6] https://www.countercurrents.org/bhargava140709.htm, (10th November, 2020)

[7] Nair and Kumar, "Geographical Indications: A Search for Identity", LexisNexis Butterworths, New Delhi. (2005) Rice Tec acquired the trademarks "Texmati" and "Kasmati" in the UK. India challenged the trademark by gathering affidavits from culinary experts and the London Rice Brokers, after which RiceTec decided to surrender its registration of both trademarks.

hemisphere, especially US. A request for review was filed, with declarations from scientists, alongside numerous publications on Basmati rice and studies carried out on the rice in India. This also made the USPTO to realize that core claims of Rice Tec were non-obvious. Rice Tec did not question the USPTO's decision and reduced its claims.[8]

International Conventions and Municipal Laws on Traditional Knowledge

In the past few decades, it has been ascertained that India has actively participated in TK conventions and has taken a ton of efforts to protect its TK at international level. The access to Indian traditional knowledge is also available at United States Patent and Trademark Office and European Patent Office. Also, the TKDL which is a pioneering initiative of India, under the joint collaboration of the Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha, Homoeopathy (AYUSH) and Council of Scientific and Industrial Research (CSIR), prevents the exploitation of traditional knowledge at Patent Offices worldwide.[9] This is a welcome initiative for protection of traditional knowledge in India.

The Convention on Biodiversity and the Nagoya Protocol, 2010 introduces the recognition and protection of TK at international level. The CBD provides that, parties are required to respect and maintain knowledge held by indigenous communities, and promote broader application of Traditional Knowledge based on fair and equitable benefit-sharing. It is recognized as key machinery for effective practices of conservation and sustainable use of biodiversity[10] and the procedural requirements stated under the provisions of Article 15 provides for access to genetic resources, together with those based on prior informed consent and mutually agreed terms. The Nagoya Protocol supplementary to CBD convention broadens the CBD provisions relating to access and benefit-sharing.[11] It covers the traditional knowledge associated with genetic resources enclosed under the ambit of CBD and also the uses arising from its utilization. Certain core obligations are set out for contracting parties in addition to access to genetic resources, benefits and compliances. It conjointly addresses the problems of genetic resources where indigenous and local communities have the established right to grant access to them and measures for contracting parties to ensure these communities prior informed consent, and fair

[8] https://delhiscienceforum.net/intellectual-property-rights/87-victory-on-basmati-by-amit-sen-gupta-.html , (5th November ,2020)
[9] https://www.csir.res.in/documents/tkdl (24th November 2021)
[10] Id Art 16
[11] Id

and equitable benefit sharing, keeping in mind the community laws, procedure and customary use and exchange.[12]

In India there is no substantive act or law to protect traditional knowledge unlike other categories of Intellectual Property Rights. The current Intellectual Property enactments like the Patents Act, 1970 contain provisions with respect to traditional knowledge, where under Section 25 opposition to grant of patent are often claimed if the invention claimed is anticipated for having accessible at intervals within any native or autochthonous community in India or other places. Even the provision is provided for revocation of patent application on the basis of traditional knowledge.[13] Under the Copyright Act, 1957, though specific mention about protection of traditional knowledge is not mentioned yet, Section 31A provides for protection of work which is unpublished. The copyright protection is for a limited time period and also demands certain criteria to be fulfilled. Thus, traditional knowledge is protected though not directly but indirectly under these IP regimes.

Challenges to protection of Traditional Knowledge in India

The protection of traditional knowledge in India faces several challenges like:

1. Lack of Legal Framework: India's legal framework for protecting traditional knowledge is still evolving. While there are some provisions under intellectual property law, such as the Geographical Indications of Goods Act, 1999, and the Protection of Plant Varieties and Farmers' Rights Act, 2001, these frameworks do not comprehensively cover all aspects of traditional knowledge, especially in areas like medicine, biodiversity, and cultural expressions.

2. Biopiracy: One of the main concerns is "biopiracy," where companies or individuals from other countries exploit traditional knowledge of local communities (such as indigenous medicinal practices or agricultural techniques) without proper consent or benefit-sharing. This often leads to the commercialization of traditional knowledge without recognition or compensation to the communities who originally developed it.

3. Absence of Documentation and Ownership: Traditional knowledge is often passed down orally and is not documented, which makes it difficult to prove ownership or claim rights over

[12] https://www.cbd.int/abs/about/default.shtml (24th November 2021)
[13] S 64, Patent Act (1970)

it. Without proper documentation, the knowledge can be misused or misappropriated by others.

4. Cultural Sensitivity: Traditional knowledge often has deep cultural significance and involves spiritual or sacred elements that may not fit neatly within conventional intellectual property frameworks. The use of this knowledge by outsiders may lead to its commercialization in a way that disregards its cultural or spiritual value.

5. Benefit-Sharing: Even if traditional knowledge is protected, ensuring that the benefits from its use are shared with the indigenous or local communities is challenging. There are often no mechanisms to ensure fair compensation or benefits for these communities, particularly when knowledge is used in global markets.

6. Globalization and Commercialization: The increasing globalization of markets has led to the commodification of traditional knowledge, often stripping it of its original cultural and social context. This commercialization can exploit traditional knowledge for profit, while communities do not receive a fair share of the financial benefits.

7. Overlapping Intellectual Property Rights: The existing intellectual property rights, such as patents and copyrights, may conflict with traditional knowledge protection. For instance, patents granted for inventions derived from traditional knowledge can limit the rights of the communities from which the knowledge originated.

8. Lack of Awareness and Capacity: There is often a lack of awareness among indigenous communities about the potential risks of losing their traditional knowledge, and there may also be a lack of capacity to protect it legally. Many rural or marginalized communities do not have the resources or knowledge to navigate the legal complexities surrounding traditional knowledge.

In response to these issues, India has made efforts, such as establishing the Traditional Knowledge Digital Library (TKDL) to document traditional knowledge and protect it from biopiracy. However, more comprehensive legal reforms and policies are still needed to ensure better protection and fair distribution of benefits derived from traditional knowledge.

Protection under Traditional Knowledge Digital Library (TKDL)

TKDL is an initiative of India to prevent misappropriation of country's traditional medicinal

knowledge at international patent offices on which healthcare needs of more than 75% population and livelihood of millions of people in India is dependent.[14] The Central Government through its then Planning Commission constituted a "Task Force on Conservation and Sustainable Use of Medicinal Plants" in June 1999.[15] The very objective was to identify the measures to facilitate the protection of patent rights and Intellectual Property Rights of medicinal plants. It made several recommendations and one was for creation of a library to ensure collation of traditional knowledge to be made available digitally and which is also helpful to show the world that traditional knowledge in medicine is prior art in India and any patent application based on such knowledge will not qualify for novelty.[16]Thus, this gave birth to a database of India's traditional knowledge. Traditional Knowledge Digital Library (TKDL) is a database of over 2, 50,000 formulations used in traditional medicine systems in India, like Ayurveda, Siddha, Yoga and Unani. With this India has moved towards a defensive protection in preparing shield for protection of digital library and curb the menace of bio piracy and misuse of traditional knowledge. But here mere acknowledgment is not sufficient but it should carry the equitable benefit sharing mechanism.

The expert group of TKDL surveyed and estimated that about 2000 patents concerning Indian systems of medicine were being granted wrongly every year at international level, mainly due to the fact that traditional knowledge on medicine also exists in Indian local languages and is not inclusive or accessible for patent examiners at the international patent offices.[17] The US agro chemical and biotechnology corporation Monsanto Company applied for the breeding of melon seeds resistant to closterovirus using molecular biology. This virus caused cucurbit yellow stunting disorder in melons and the leaves turned yellow reducing the plant growth. The National Biodiversity Authority challenged the grant of patent on the ground that patent was based on an Indian indigenous, melon varieties and non-compliance with the Biological Diversity Act, 2002. Thus, not all bio piracy bids are based on the Indian traditional knowledge has been foiled due to TKDL and any such attempt to credit it is preposterous.[18]

[14] http://www.tkdl.res.in/tkdl/langdefault/common/Abouttkdl.asp?GL=Eng , (visited on 26th November ,2020)
[15] www.nopr.niscair.res.in, (25th October, 2020)
[16] Prashant Reddy T.et.al, "*Create, Copy, Disrupt: India's Intellectual Property Dilemmas",* 271 (Oxford University Press, 2017)
[17] Id at 2
[18] Navadanya, "No Patents on Seed", http://no-patents-onseeds.org (21st November 2021)

The digital library though contains the voluminous documents and Indian traditional knowledge work has certain shortcomings like-

1. Limited Scope: The TKDL primarily focuses on traditional knowledge related to medicinal plants, especially those used in Ayurveda, Unani, and Siddha systems of medicine. This narrow scope leaves out many other areas of traditional knowledge, such as agricultural practices, indigenous crafts, and cultural practices, which also require protection.

2. Access and Transparency: The TKDL is not fully open to the public. Access is restricted, and it is primarily available to patent examiners and certain authorities in a bid to prevent biopiracy. While this is intended to protect traditional knowledge, it also limits the ability of local communities, researchers, or stakeholders to access and engage with the repository.

3. Dependence on Modern Legal Systems: The TKDL relies heavily on existing intellectual property frameworks (such as patents) to safeguard traditional knowledge. However, intellectual property laws are not always well-suited to protecting traditional knowledge, which is often communal, passed down orally, and not documented in a formalized way. This mismatch can hinder effective protection.

4. Lack of Community Control: The TKDL does not always involve the direct participation or consent of the communities whose knowledge is being documented. This raises concerns about whether the knowledge is being fairly represented and whether the communities will benefit from its protection. The issue of consent and benefit-sharing remains unresolved in many cases.

5. Risk of Over-Commercialization: While TKDL aims to prevent biopiracy, it also raises the concern that commercialization of the documented knowledge could still occur. There is a risk that once knowledge is digitized and made accessible, it could be exploited by large corporations for profit, without benefiting the traditional knowledge holders.

6. Technical and Legal Complexities: The TKDL, while innovative, requires a strong legal framework to back it. The complex interplay of laws relating to intellectual property, biodiversity, and cultural rights can make it difficult to navigate the protection process. Moreover, disputes over ownership and rights can be difficult to resolve when traditional knowledge is communal and not owned by individuals.

7. Potential for Misuse: Despite efforts to protect traditional knowledge, there is still a risk that it could be misused by parties who find ways to bypass the system. The absence of clear global agreements on the protection of traditional knowledge makes enforcement difficult, especially when foreign entities attempt to patent or commercialize knowledge that is part of India's cultural heritage.

8. Incomplete Documentation: The TKDL has documented a vast amount of knowledge, but it still does not encompass the full range of traditional knowledge across India's diverse cultures and communities. Knowledge from remote or underrepresented groups may not be adequately captured, leaving gaps in protection.

9. Cultural Sensitivity: Some forms of traditional knowledge have a deeply spiritual or sacred component, and putting such knowledge into a digital format may inadvertently violate the cultural or religious significance of that knowledge. Certain communities may feel uncomfortable with their sacred knowledge being made publicly available, even in a restricted format.

10. Lack of Sustainable Funding and Resources: Maintaining and expanding the TKDL requires ongoing investment in both technical infrastructure and human resources. The library may face challenges in terms of funding, personnel, and expertise to keep up with evolving technologies and the expanding scope of traditional knowledge that needs to be protected.

Thus, While the TKDL is a step forward in protecting India's traditional knowledge. Its effectiveness can be limited by the legal, ethical, and cultural complexities inherent in traditional knowledge, requiring continued refinement and community involvement.

Conclusion

As the byword goes 'Knowledge is Wealth', the exploitation of knowledge must be coupled with protection, its promotion and benefit sharing. Likewise, Traditional Knowledge requires a special protection because it contains the aesthetic culture skipped over from generation to generation. It is typically oral and lacks improper documentation.[19] India has taken many steps to protect its age old knowledge but this requires a uniform call at international level. Today, the linking of traditional knowledge with contemporary IPR system is the question of

[19] www.nopr.niscair.res.in (5th November,2020)

relevance. However, policies and ideas like National IP Policy, Digital India and Startup India can come to rescue disappearing system of traditional knowledge. Thus, the current generation ought to notice the value of age old knowledge and its protection should be the paramount consideration.

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