ARE PATENTS ENOUGH TO PROTECT TRADITIONAL KNOWLEDGE? INDIAN AND INTERNATIONAL PERSPECTIVE

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ABSTRACT

Indigenous and local communities preserve traditional knowledge, which is essential to human development and ecological interdependence. TK encompasses fields like traditional medicine, agriculture, and cultural expressions. Global intellectual property rights and technological developments, however, have brought up complicated questions about TK's legal protection under the patent system. In order to address issues of equitable resource distribution, misappropriation prevention, and cultural heritage protection, this study examines the connection between TK and patent law. Unauthorised commercialization, economic inequality, and the loss of cultural identity are some of the issues that Indigenous communities must deal with. The study looks into the consequences of patenting inventions derived from TK through an examination of notable national and international cases. In order to protect traditional knowledge, it assesses legal principles found in the Patents Act of 1970 and other synonymous legislations. The study also covers the moral dilemmas raised by biopiracy and the requirement for laws that strike a balance between indigenous rights and innovation. By analysing legal frameworks, case studies, and community perspectives, this research highlights opportunities as well as challenges, contributing to the discussion on patent protection of traditional knowledge and emphasising the need for solid legal frameworks.

Keywords: Traditional Knowledge, Patent Law, Cultural Heritage, Intellectual Property, Biopiracy, Innovation, Misappropriation.

TRADITIONAL KNOWLEDGE AND ITS POSSIBLE PROTECTION OPTIONS

"Traditional knowledge is the information that people in a given community, based on experience and adaptation to a local culture and environment, have developed over time, and

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continue to develop. This knowledge is used to sustain the community and its culture and to maintain the genetic resources necessary for the continued survival of the community."[1]

Stephen A. Hansen and Justin W. VanFleet in their handbook[2] examine the Possible Intellectual Property Protection Options for Traditional Knowledge and they are as follows:

1. Patents
2. Petty Patent Models
3. Plant Patents
4. Plant Variety Certificates
5. Traditional Knowledge Registries
6. Trade Secrets
7. Trademarks
8. Geographical Indicators
9. Prior Art and Defensive Disclosure
10. Prior Informed Consent
11. Sui Generis Protection Systems
12. Access and Benefit-Sharing
13. Contracts – the Basics
14. Protected/Conservation Areas

Although all of these areas are required to be looked into in order to understand the kinds of protection provided to traditional knowledge holders, in this study, we'll be focusing mainly on Patents, Petty Patent Models and Plant Patents.

PATENTS

A patent grants a limited time (often around 20 years) legal exclusivity over the use, manufacturing, and sale of an innovation, discovery, or invention. The right to have exclusive control over the development, use, and financial gains from a patented product is known as a monopoly. New designs or techniques for carrying out a task, or the introduction of entirely

[1] Hansen, Stephen and VanFleet, Justin, *Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity*, (AAAS, 2003)
[2] Ibid

novel uses for an already-existing object, are examples of inventions and innovations. Most inventions and innovations are found via some kind of experimentation.

Three requirements must typically be met for an invention or innovation to be eligible for patent protection:

1. Novelty
2. Non-obviousness
3. Industrial application

All three requirements must be satisfied; if any of them is shown to be false, the patent application will be denied.

The "newness" of an established invention is referred to as novelty. When there is no prior art, something is novel. The collection of knowledge that existed prior to an invention being discovered or being made public through the filing of a patent application is known as prior art.

The existence of an innovative step is referred to as non-obviousness. An invention or innovation must not have been obvious to anyone with "ordinary skill in the art" at the time of creation in order for there to be an inventive step.

The term "industrial application" or "utility" describes the possibility of a market for knowledge that has been patented. The patented material must either be in high demand or have the potential to be in high demand in order to satisfy this requirement.

As was already mentioned, one of a patent's main advantages is that it gives you a brief monopoly. The patent holder has complete control over how the patented product is used, made, and sold thanks to this monopoly. Depending on the level of market demand for the new innovation or invention, this entitlement may be extremely profitable.

A single application can be used to simultaneously file for patents in several PCT member nations thanks to the Patent Cooperation Treaty (PCT).

Patents have a number of potentially harmful aspects. First, the invention or innovation must be fully disclosed, or made public, in order to apply for a patent. The patent application publication is made publicly available shortly after the patent is approved, thereby bringing the

information into the public domain. A patent in the US is released to the public eighteen months following approval. A patent might not be the best intellectual property (IP) solution for TK if the information is regarded as a trade secret. The World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) contains protection mechanisms for trade secrets. Second, by the standards of the patent office, the innovation or invention must be novel. According to each nation's definition of novelty in patent law, the patent applicant must demonstrate that the innovation or invention is not a part of the existing prior art base. TK might be regarded as a de facto member of the prior art base in many nations. This task needs to be demonstrated even if it's easy or moderately challenging. Thirdly, it's critical to remember that the patent application procedure can be costly and time-consuming. It is estimated that the average cost to obtain a United States patent is between $5,000 and $10,000, or more. In addition, the responsibility of protecting a patent against infringement rests with the patent holder after one is granted.

PETTY PATENT MODELS

Petty patents provide protections identical to those of patents, but they are limited to knowledge involving a less complex inventive step. Even so, the knowledge needs to satisfy the requirements for novelty and industrial application. A petty patent usually has a shorter term of protection than a standard patent, ranging from four to six years. Only a few nations allow petty patents, and the TRIPs Agreement makes no mention of them as a minimal level of intellectual property protection. Petty patents, however, are being pushed for inclusion in the TRIPs Agreement by certain nations. Since TK isn't usually as well documented as Western science, petty patents might be more appropriate for it. Even though petty patents aren't universally accepted as the smallest form of intellectual property protection, some nations have implemented the system to safeguard traditional knowledge. For instance, Kenyan law mentions a particular kind of petty patent to safeguard native claims to traditional herbal medicine. Petty patents have a limited current application, but if they were used more widely, they might provide TK with a workable solution for intellectual property protection.

PLANT PATENTS

All nations are required by the TRIPs Agreement to enact policies aimed at safeguarding novel plant varieties. Plant patents are a kind of protection for novel plant varieties. In contrast to European patent law, anyone who discovers or invents a new and distinct variety of plants and

subsequently reproduces them asexually is eligible to receive a patent under US law. Other than plants propagated by tubers or discovered in an uncultivated state, this comprises newly discovered seedlings, cultivated sports, mutants, and hybrids. Indigenous communities may benefit from or be threatened by a number of inconsistencies in the plant patenting system. First, there's a lack of a unified concept or method for defining what constitutes a novel plant variety.

Plant varieties have been cultivated and maintained for many generations by numerous indigenous communities. In light of this, are these plant varieties novel or inventive according to the US Patent Office? Most likely not. However, a lot of newly discovered plant varieties are just minor adjustments to already-existing plant species that were created (cultivated) by native populations.

BIOPIRACY[3]

"Biopiracy" has no agreed-upon definition. According to the Action Group on Erosion, Technology and Concentration (ETC Group), it is "the appropriation of farming and indigenous communities' knowledge and genetic resources by individuals or institutions seeking exclusive monopoly control (usually patents or plant breeders' rights) over these resources and knowledge."

"Biopiracy" has been defined as the following:

a) The awarding of "incorrect" patents: These patents relate to inventions that are either not very inventive or not very novel in light of traditional knowledge that is already in the public domain. These patents might be approved as a result of mistakes made during the review process or just because the patent examiner was not provided with the information. Either it is unwritten knowledge or it is written down but cannot be accessed with the tools the examiner has at their disposal. Some of these issues are being addressed by a WIPO-led initiative to catalogue and categorise traditional knowledge.

[3] Commission on Intellectual Property Rights, Integrating Intellectual Property Rights and Development Policy: Report of the Commission on Intellectual Property Rights (London Edition, September 2002)

b) 'Right' patents being awarded: Innovations originating from a community's genetic resources or traditional knowledge may legitimately be granted patents under national law.

On the basis of the following arguments, one could claim that this is "biopiracy."

- The standards for patenting are too low. For example, patents are granted for inventions that are essentially just discoveries. Alternately, some public disclosures of traditional knowledge might not be recognised as prior art by the national patent regime (such as that in the US).
- Nothing may have been done to secure the prior informed consent (PIC) of the communities that provided the knowledge or resource or to share the benefits of commercialization so that they are fairly compensated in line with the CBD's principles, even if the patent represents a true invention, however defined.

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According to the Guidelines For Processing Of Patent Applications relating to Traditional Knowledge And Biological Material[4], by definition, traditional knowledge is public domain, so any patent application relating to TK does not meet the requirements of section 2(1)(j) of the Patents Act, 1970, which states that "invention means a new product or process involving an inventive step and capable of industrial application"[5].

Sections 3 (b), (c), (d), (f), (h), (i), and (j) are also relevant to patent applications using traditional knowledge and/or biological material as provided by the aforementioned guidelines.

In the case of Dhanpat Seth and Ors. Vs. Nil Kamal Plastic Crates Ltd.[6], an old device called a "KILTA" that was initially constructed of bamboo before the respondents in the said case started producing it with plastic adding removable nylon straps with buckles. In the end, it was decided in the aforementioned ruling that the produced product had to be entirely new and that the plaintiffs were not automatically entitled to an injunction simply because they were granted a patent in their favour. In the judgement, it was also ultimately held that the plaintiffs' device

[4] Ibid
[5] The Patent Act, § 2(1)(j), 1970 (India)
[6] Dhanpat Seth and Ors. vs. Nil kamal Plastic Crates Ltd. (03.08.2006 - HPHC) MANU/HP/0066/2006

was not an invention but rather an outcome of traditional knowledge and the combination/duplication of well-known goods like polymers.

In this case of Institute for Inner Studies and Ors. vs. Charlotte Anderson and Ors.[7], in order to prevent the defendants from promoting Pranic Healing teachings, techniques, practises, and courses, as well as any other techniques, practises, courses, and other teachings created by the Master Choe Kok Sui ("Master"), the plaintiffs have filed the current lawsuit, seeking a declaration, permanent injunction, mandatory injunction, as well as damages against the defendants.

It was contended by the Hon'ble Court that the novel processes, methods, principles, and manner of performing the art or exercise are all the subjects of the patent law and not the Copyright. Therefore, it would be a significant invasion of the public domain to give the monopoly over performance art or exercising techniques that are reportedly pre-existing in India's ancient history as traditional knowledge without first evaluating the novelty in any relevant art or technique. Historical facts are neither copyrightable nor patentable.

In the case of Natural Remedies Private Limited and Ors. vs. Indian Herbs Research and Supply Co. Ltd. and Ors.[8], the plaintiff filed the lawsuit in an effort to get a decree of permanent injunction prohibiting the defendants from creating, producing, or distributing the product 'Livoliv-250' in violation of the plaintiff's market-protected patent rights for their product 'Zigbir' as well as other consequential remedy.

The defendants contended that according to the plaintiff's own admission, the herbal substances utilised in the formulation of Zigbir and Livoliv-250 are widely available and cultivated in India. The plaintiff's Zigbir is the powdered version of these well-known herbs, which are widely cultivated throughout India and have historically been utilised by Vaids/Hakims, traditional village veterinarians and the general public for the uses stated in the Zigbir literature/package in accordance to their traditional knowledge and ancient Vedic wisdom. As a result, the composition of herbs and the method for powdering them into a usable form are in no way inventions that can be patented. It was held in the Hon'ble Court that all the four herbs used by the plaintiff in preparation for Zigbir are found commonly all over India and all of

[7] Institute for Inner Studies and Ors. vs. Charlotte Anderson and Ors. (10.01.2014 - DELHC) : MANU/DE/0084/2014
[8] Natural Remedies Private Limited and Ors. vs. Indian Herbs Research and Supply Co. Ltd. and Ors. (09.12.2011 - KARHC) : MANU/KA/2739/2011

them are well known for a particular curative effect, therefore, this is a case of admixture and the patent granted to the plaintiff is liable to be revoked as the same is obtained by misrepresentation and because there was no inventive step adopted during the manufacture of Zigbir.

There have been certain controversial cases related to traditional knowledge. One of those such cases is the infamous Turmeric Case[9] in which a US patent on "use of turmeric in wound healing" was awarded to two Indian citizens working at the University of Mississippi Medical Centre in 1995. The US Patent and Trademark Office (USPTO) was contacted by the Indian Council of Scientific and Industrial Research (CSIR) to re-examine the patent. According to CSIR, the medical usage of turmeric is not new because it has been used for hundreds of years to treat wounds and rashes. The documentary roof of traditional knowledge, such as an old Sanskrit manuscript and a 1953 paper published in the Journal of the Indian Medical Association, was used to support their assertion. The USPTO upheld the CSIR objections and revoked the patent despite the patentees' arguments.

The Neem Case[10] was similar to the above-mentioned case except the subject matter was the traditionally known Neem tree. In this case, a European Patent for a "method for controlling fungi on plants by the aid of a hydrophobic extracted neem oil" was granted by the EPO (European Patent Office) to the US Corporation W.R. Grace and the USDA (United States Department Of Agriculture) in 1994. An alliance of foreign NGOs and representatives of Indian farmers opposed the patent in court in 1995. They provided proof that the fungicidal properties of neem seed extracts had been understood and utilised for generations in Indian agriculture to safeguard crops, proving that the invention at question was not novel. The EPO concluded in 1999 that "all features of the present claim have been disclosed to the public prior to the patent application... and [the patent] was considered not to involve an inventive step" based on the evidence. The patent was revoked in the year 2000 by the EPO.

In the case of the Hoodia Cactus[11], The Hoodia cactus has long been used by the San people of southern Africa's Kalahari Desert to stave off hunger and thirst during extended hunting expeditions. This use of Hoodia was discovered in 1937 by a Dutch anthropologist who was researching the San. Only recently have researchers at the South African Council for Scientific

[9] Commission (n 3)
[10] Institute (n 4)
[11] Institute (n 4)

and Industrial Research (CSIR) discovered his report and started looking into the plant. The appetite suppressant in Hoodia, known as P57, was patented by CSIR in 1995. They granted Phytopharm, a UK biotech company, a licence to use P57 in 1997. In exchange for up to $32 million in royalty and milestone payments, Pfizer acquired Phytopharm's rights to develop and market P57 as a potential weight-loss drug and cure in 1998.

When the San People learned that their traditional knowledge would be used without their consent, they threatened legal action against the CSIR for "biopiracy." They asserted that CSIR had violated the Convention on Biodiversity's norms, which call for the prior informed permission of all parties, including the original discoverers and users, and that their traditional knowledge had been utilised. Phytopharm searched widely but was unable to track down any of the "knowledge holders". The last San were reportedly at the time residing 1500 kilometers away from their tribal grounds in a tent camp. The CSIR asserted that they had intended to share the findings of the research and the benefits with the San, but they first needed to ensure the medicine was effective.

An agreement was made between the CSIR and the San in March 2002, according to which the San will get a portion of any future royalties. The San are regarded as the custodians of traditional knowledge related to the Hoodia plant.

RELEVANT LAWS RELATED TO TRADITIONAL KNOWLEDGE

1. The Patents Act, 1970 [India]

The term ‘Traditional Knowledge’ is mentioned only once in Section 3 of The Patents Act, 1970 which talks about inventions that are not patentable.

Section 3(p):

An invention which in effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components.

The term has not been explicitly defined in the act and, therefore, it derives its meaning and boundaries from the decided case laws and guidelines provided by The Office of the Controller General of Patents, Designs, and Trademarks[12].

2. Geographical Indications of Goods (Registration and Protection) Act, 1999 [India]

By protecting goods associated with particular regions that represent cultural practices and traditional methods, the Geographical Indications of Goods (Registration and Protection) Act, 1999, protects traditional knowledge. This law protects the integrity and authenticity of traditional products by promoting cultural heritage, guaranteeing economic benefits for local communities and prohibiting the misappropriation of geographical names.

3. Protection of Plant Varieties and Farmers Rights Act, 2001 [India]

In order to preserve traditional knowledge, the Protection of Plant Varieties and Farmers' Rights Act, 2001, recognises and protects the agricultural contributions made by regional and Indigenous people. In addition to protecting plant varieties created through conventional methods, it gives farmers the freedom to save, use, trade, and sell their seeds. Farmers' livelihoods and the preservation of biodiversity are supported by this act, which guarantees benefit-sharing and recognises the significance of traditional knowledge in plant breeding and agricultural practices.

4. Convention on Biological Diversity, 1992 (CBD) [International]

Article 8(j):

Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant to 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;

[12] Office of the Controller General of Patents, Designs, and Trademarks, Guidelines for Processing of Patent Applications Relating to Traditional Knowledge and Biological Material <https://ipindia.gov.in/writereaddata/Portal/IPOGuidelinesManuals/1_39_1_5-tk-guidelines.pdf> accessed 28th January, 2024

- India's efforts to achieve the goals set forth in the 1992 United Nations Convention on Biological Diversity (CBD), which recognises states' sovereign rights to use their own biological resources, gave rise to the Biological Diversity Act, 2002 [India].

5. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) [International]

In relation to traditional knowledge, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) upholds indigenous peoples' rights to preserve, manage, safeguard, and advance their cultural heritage, which includes traditional knowledge. It highlights that their knowledge and resources can only be used with their free, prior, and informed consent. The UNDRIP encourages respect for indigenous contributions to biodiversity and cultural diversity and supports the preservation of traditional practices, even though it is not legally binding.

6. Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity [International]

By creating a framework for access to genetic resources and guaranteeing that indigenous communities receive just compensation, the Nagoya Protocol has an impact on traditional knowledge. It places a strong emphasis on mutually agreed terms and prior informed consent when using traditional knowledge related to genetic resources. This protocol recognises the importance of traditional knowledge in the preservation of biodiversity, which advances sustainable development and supports the protection of indigenous rights.

USING THE CURRENT INTELLECTUAL PROPERTY SYSTEM TO SAFEGUARD AND ADVANCE TRADITIONAL KNOWLEDGE[13]

A report named '*Integrating Intellectual Property Rights and Development Policy*' by the Commission of Intellectual Property Rights[14] explains that there are growing numbers of examples showing how the existing intellectual property framework can be used to either stop the misuse of traditional knowledge or commercialise it. For instance, Australian Aboriginal and Torres Strait Islander artists have been granted national certification for their trademarks.

[13] Commission (n 3)
[14] Ibid

This certification mark, also known as the Label of Authenticity, is meant to aid in the marketing of their artistic and cultural products, just like any other trademark. It also serves to discourage the sale of goods that make false claims to be of Aboriginal origin. Additional instances of how IP tools have been used to promote and protect traditional knowledge and folklore have been provided by a number of countries in recent surveys regarding the protection of traditional knowledge and folklore. These include the use of industrial designs to protect the exterior appearance of items like headdresses and carpets in Kazakhstan; the use of geographical indications to protect traditional products like liquors, sauces, and teas in Venezuela and Vietnam; and the use of copyright protection in Canada to protect tradition-based creations like masks, totem poles, and sound recordings of Aboriginal artists.

With their ability to be collectively owned and have an endless lifespan, trademarks and geographical indications provide workable solutions for the preservation of traditional knowledge. But rather than safeguarding the underlying information, their main function is to stop marks from being misused. Other intellectual property rights are less appropriate for this use, especially those that have time restrictions or require novelty. Significant obstacles are posed by the high costs of acquiring and defending rights, particularly for local communities in developing nations. IP rights are important, but more research is needed to determine how effective and significant they are in preserving traditional knowledge. Given the difficulties small businesses in developed countries face, it's possible that local communities won't be able to gain much from these systems.

CONCLUSION

The legal recognition of traditional knowledge under patent law is a complex and multifaceted issue that intertwines the domains of intellectual property, cultural heritage, and indigenous rights. This analytical study has sought to navigate this intricate landscape, examining the challenges, opportunities, and potential improvements in the field. Through this exploration, several key insights and conclusions emerge.

First and foremost, it is evident that traditional knowledge, held by indigenous and local communities, plays a vital role in human history, culture, and sustainable practices. It is a valuable source of wisdom and innovation that must be protected and preserved for the benefit of both the custodian communities and the broader global society.

However, the patent system, designed to foster innovation and economic development, has, in some cases, inadvertently placed traditional knowledge at risk of misappropriation, exploitation, and commercialization without the consent or benefit of the knowledge holders. This conflict underscores the need for stronger legal frameworks that can balance the rights of inventors and the rights of indigenous and local communities.

The existing international and national legal mechanisms for safeguarding traditional knowledge within patent law, while a step in the right direction, are often challenged by gaps, ambiguities, and limited enforcement. Enhancements are required to ensure that traditional knowledge is recognized, protected, and fairly rewarded.

Recommendations put forward in this study suggest strengthening legal protections, enhancing educational initiatives, integrating prior informed consent and benefit-sharing mechanisms, and exploring alternative legal mechanisms. International cooperation, ethical considerations, and the use of digital tools and technology also hold promise in improving the recognition of traditional knowledge within patent systems.

The journey to achieving comprehensive recognition and protection of traditional knowledge under patent law is ongoing, and it is incumbent upon the global community to embrace this challenge, forging a path forward that respects the past while shaping a more equitable and sustainable future.