

PATENT ISSUES AND TRADITIONAL KNOWLEDGE: SPECIAL REFERENCE TO NEEM, BASMATI RICE AND TURMERIC CASE

by

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I. ABSTRACT

India is at 12th position globally in terms of mega Biodiversity.¹ India has a wealth of traditional knowledge on the qualities and uses of these biological treasures because of its unique biodiversity and natural richness, thus making Indian products more valuable than other countries products because Indian products possess Traditional Knowledge. For a sustainable growth Traditional knowledge need to be protected.² Traditional knowledge includes knowledge of plants and animals, as well as their qualities, minerals and soils, organic and inorganic combinations, medical knowledge, and folkloric expressions in the form of song, dance, poem, crafts, tale, and art work, are all part of Traditional knowledge. Traditional knowledge protects all intellectual inventions generated by ancestors and gradually developed by successive generations of a traditional civilization in the domains of science, technology, ecology, medicine, agriculture, and biodiversity.³ The desire for adequate protection of traditional knowledge has grown, whether through the implementation of a traditional IPR system or a modern sui generis system, such as traditional group rights or group land rights in order to prevent or reduce the commercial exploitation of the knowledge system.⁴ This paper will explain the concept of traditional knowledge along with how it could be protected under IPR Regime along with few cases.

KEYWORDS: TRADITIONAL KNOWLEDGE, EXPLOITATION, BIODIVERSITY

¹ <https://www.omicsonline.org/blog/2015/08/27/19447-Mega-Biodiversity-of-India.html>

² <https://www.cbd.int/undb/media/factsheets/undb-factsheet-tk-en.pdf> (Page No.2)

³ https://www.wipo.int/pressroom/en/briefs/tk_ip.html

⁴ <https://iptse.com/what-is-traditional-knowledge-and-can-ipr-protect-it/> (Page 1)

II. INTRODUCTION

Traditional knowledge refers to the knowledge base, skills, and practises that local, indigenous, and native communities have acquired and maintained. It has been kept and passed down from generation to generation as the community's spiritual and cultural identity.⁵

Knowledge of plants and animals, as well as their qualities, minerals and soils, organic and inorganic combinations, medical knowledge, and folkloric expressions in the form of song, dance, poem, crafts, tale, and art work, are all part of Traditional knowledge. Traditional knowledge protects all intellectual inventions generated by ancestors and gradually developed by successive generations of a traditional civilization in the domains of science, technology, ecology, medicine, agriculture, and biodiversity. Traditional knowledge is utilised to conserve the population and culture, as well as the genetic capital required for the community's future survival.

With the passage of time, the need to conserve traditional knowledge has grown rapidly, particularly to prevent unlawful and commercial usage. It is critical to safeguard indigenous peoples from losses due to unlawful commercial use and to assist them in preserving ancient knowledge. The protection of Traditional knowledge must be encouraged because it will increase the efficiency of its usage and can be used widely.⁶ It is also important to encourage societies to support traditional acumen for their improvement and progression.

Traditional Knowledge comprises of following examples⁷:-

1. Use of Turmeric to curb inflammation.
2. Ashwagandha (*Withania somnifera*) is used to treat cardiac problems.
3. Adopting the method of shifting-cultivation in order to protect the fertility of soil.
4. Use of yoga as a traditional healing practice.

III. LITERATURE REVIEW

In the research paper titled “**Intellectual property rights and traditional knowledge – Indian perspective**” by Ishita Chatterjee in which she tries to elaborate relationship between Traditional Knowledge and IPR along with genetic resources and how it has become such

⁵ <https://iptse.com/what-is-traditional-knowledge-and-how-to-protect-it>

⁶ <https://www.mondaq.com/india/patent/743482/ipr-vis--vis-traditional-knowledge>

⁷ <https://www.mondaq.com/india/patent/668414/traditional-knowledge-and-scope-for-patent-protection?>

complicated agenda among international organizations about genetic resources and Traditional knowledge.⁸

In the Article titled “**Relationship between the TRIPS Agreement and the Convention on Biological Diversity; Protection of Traditional Knowledge and Folklore**” by World Trade Organization in which it has been explained the role of TRIPS in safeguarding Traditional Knowledge.⁹

Speech delivered by Hon’ble Mr. Justice Vijendra Jain, titled “**Safeguarding the Traditional Knowledge in India**” he emphasized on the preservation of Indian Traditional Knowledge he further said Traditional Knowledge should be safeguarded for the benefit of all and especially for the locals who possess this knowledge, so that it’s cultural value is not diminished. The commercial exploitation should be stopped.¹⁰

In the Research paper titled “**Protection and promoting traditional knowledge in India**” by **Ruchi pant** in which she thoroughly analyzed how Geographical Indication can be used to promote bio-cultural products in the market and how these products can be produced by using Traditional Knowledge because these products are unique and belongs to the particular geographical region and particular biological resources so the importance of Traditional Knowledge is increased in order to develop these kind of products and the value of associated landscape is increased which make up the ‘biological heritage’ of indigenous people and local communities. The author ended her research work with some of the recommendations like the process of application should be simplified; enhance the capacity of GI office etc.¹¹

In the article titled “**India: Traditional Knowledge and scope for patent protection**” by **Suchi rai** in this article author explained the meaning of Traditional Knowledge and what are the defensive protection are available for the Traditional Knowledge, what are the positive protections are available. How the traditional knowledge could be patented what is traditional knowledge digital library and its features.¹²

IV. RESEARCH OBJECTIVE

The goal of this research is to offer a complete study about Traditional Knowledge.

The following are the study's objectives:

- To understand the meaning of Traditional Knowledge
- To understand the importance of protecting Traditional Knowledge
- To understand the role of IPR and International Organization
- To evaluate the legislation regarding Traditional Knowledge

⁸ <http://www.manupatra.com/roundup/363/articles/ipr%20and%20traditional%20knowledge.pdf>

⁹ https://www.wto.org/english/tratop_e/trips_e/ta_docssec4_e.htm

¹⁰ https://highcourtchd.gov.in/sub_pages/top_menu/about/events_files/apjaspeech.pdf

¹¹ <https://pubs.iied.org/sites/default/files/pdfs/migrate/16576IIED.pdf?>

¹² <https://www.mondaq.com/india/patent/668414/traditional-knowledge-and-scope-for-patent-protection?>

V. TRADITIONAL KNOWLEDGE: CRITERIA TO QUALIFY

Traditional knowledge is information that has been accumulated through generations as a result of customs. Furthermore, it frequently takes into account the expansion / adaptation of production from point to point, based on the changing needs of society. These inventions act as a supplement to present awareness as well as a shaping element of information passed on to the next generation as a result it becomes a defining essence of conventional knowledge for subsequent age group collectively.

The following are the primary elements of traditional knowledge which could be derived from above:¹³

- The traditional knowledge should be community generated.
- It should be specific to the area and culture
- The knowledge should be transferred through generations by the virtue of custom.
- The knowledge is not documented
- It is dynamic and based on innovation, adaptation and experimentation

The perfect example is what amounts to Traditional Knowledge is the usage of 'NEEM' tree which has a broad range of application in India. It has been used for ages in agricultural, human and veterinary medicine, hygiene and cosmetics, as well as an insect and pest repellent, according to Indian manuscripts dating back over 2000 years.¹⁴

VI. NEED FOR PROTECTING TRADITIONAL KNOWLEDGE

Traditional knowledge is critical to a community's survival. These knowledge systems support livelihoods. Traditional knowledge will be protected through Indian patents, which will not only prohibit exploitation but also aid in the preservation of these knowledge banks.¹⁵

¹³https://www.researchgate.net/publication/339906139_Indigenous_Agricultural_Practices_A_Supreme_Key_to_Maintaining_Biodiversity

¹⁴ <https://neemfoundation.org/about-neem/patent-on-neem>.

¹⁵ <https://iptse.com/what-is-traditional-knowledge-and-can-ipr-protect-it/>

Many of these ancient knowledge systems are passed down orally, making it difficult to pinpoint their origins. As a result, traditional knowledge systems are vulnerable to abuse and it needs to be protected.¹⁶

One of the most important reasons to safeguard traditional knowledge is to avoid its commercial exploitation.¹⁷

Bio-piracy is a major source of worry for indigenous peoples and natives. Many indigenous peoples have relied on natural components like spices and plants for medical purposes. Large companies are now using these strategies without paying credit to people who created them. Communities practicing Unani or Ayurveda are worried that the pharmaceutical industries and cosmetic businesses are profiting from their expertise (which they've accumulated over generations) without giving any credit.¹⁸

The reasons for providing security to Traditional knowledge are:-

- **Avoidance of Bio-piracy-** In certain circumstances, Traditional knowledge security tries to prevent unlawful appropriation ('bio-piracy') of conventional information and to assure benefit sharing. For example, the Government of India has proposed that a clause be included to the TRIPS Agreement that states that patents that violate Article 15¹⁹ of the CBD should not be awarded.²⁰ Improving the data accessible to patent offices for the examination of innovation and creative approaches will help avoid patents from being granted that cover Traditional knowledge too broadly.
- **Promoting usage and growth-** Encouragement of Traditional knowledge and providing it with security is a significant target in itself. The "wider application" of TK must be authorised to ensure its security. Protecting TK from theft and misappropriation, as well as providing remuneration to TK holders, might be beneficial in order to encourage the widespread use of such knowledge. One of the most important reasons to safeguard TK against destruction and loss is to encourage development.

¹⁶ ibid

¹⁷ ibid

¹⁸ ibid

¹⁹ <https://www.cbd.int/kb/record/article/6897>

²⁰ <https://scholarship.law.umn.edu/cgi/viewcontent.cgi?article=1196&context=mjil>

VII. INTELLECTUAL PROPERTY RIGHTS AND TRADITIONAL KNOWLEDGE PROTECTION

Intellectual property rights are meant to safeguard R&D investments while also encouraging creativity by giving motivation to inventors.²¹ Private entities exploit traditional knowledge and profit from our natural assets through intellectual property rights. Bio piracy has robbed rural farmers and tribal people of their natural resources and related expertise. Bio-piracy causes multiple conflicts over indigenous peoples' rights, the long-term viability of local flora and fauna, the global climate, and even the country's capacity to ensure food security.²²

The World Trade Organization's (WTO) TRIPS agreement prioritizes patent rights, whereas traditional information holders' rights are overlooked.²³ Despite numerous flaws in the current IPR system, there are still certain essential principles that may be employed in either direction, i.e. as a constructive security and/or defensive mechanism to safeguard conventional information. To safeguard indigenous peoples' rights, biological resources, and associated knowledge, International treaties and national IPR regulations should be pushed.

A. The Patents Act, 1970

The patent legislation is used to ensure the protection of technical solutions that are scientifically relevant, universally novel, and need a creative stage. Patent applications based on traditional knowledge that violate the law may be refused under Section 25 (1) (d), (f), (k)²⁴

The Patent Act of 1970, which is the source of the innovation in dispute, has provisions requiring TK to be declared. The source and geographical origin of every biological material

²¹ <https://www.khuranaandkhurana.com/2021/03/10/the-role-of-intellectual-property-rights-in-economic-development/>

²² <https://www.intechopen.com/chapters/78249>

²³ <https://grain.org/article/entries/20-trips-versus-cbd>

²⁴ The Patents Act, 1970

employed for the invention must be disclosed in the specification, according to Section 10(4) (ii) (D)²⁵.

B. The Copyright Act, 1957

The method of speech and expression is protected by copyright, not the ideas themselves. Section 14²⁶ authorises the proprietor of the copyright to do any of the actions laid down. Copyright can be used to protect TK holders' innovative demonstrations, particularly those created by indigenous and indigenous artists, against unauthorised replication and misuse. Moral rights govern the connection between creators, artists, and authors and their work.²⁷

C. The Protection of Plant Varieties and Farmer's Rights Act, 2001

This act took effect in September 2001. This is a one-of-a-kind statute developed to meet the requirements of the WTO's TRIPS agreement. Novel variety, current variety, principally derived variety, and cultivator's variety are the criteria for plant varieties that are eligible for protection. Farmers and tribal groups grow and maintain a variety of indigenous crops using conventional farming methods. The core component of the legislation is the notion of an effective profit-sharing arrangement between the provider and the user of plant genetic resources. A plant breeder's right (PBR) on a new variety can be obtained if it meets the key criteria of distinct, stable, uniformity, and novelty. Traditional plant diversity can also provide PBR.²⁸

D. Geographical Indications of Goods (Registration and Protection) Act, 1999

Local people jointly own TK, and GI is the most appropriate format for preserving Traditional Knowledge. The Geographical Indications of Products (Regulations and Protection) Act fights for a community in a specific location. GI security is valid for ten

²⁵ *ibid*

²⁶ The Copyright Act, 1957

²⁷ The Copyright Act, 1957 (Section 57)

²⁸ PPV & FR Act, Section 2(j)

years,²⁹ but it may be renewed an unlimited number of times to protect GI indefinitely. Product production procedures are improving throughout time in order to provide a higher quality product. Traditional therapeutic products can also be protected by GIs.

E. Biological Diversity Act, 2002

India, as a signatory to the Convention on Biological Diversity (CBD), thought it was fair to give the convention's conclusion. India then passed the Biological Variety Act of 2002, which encourages the preservation of biological diversity, the sustainable use of its elements, and the equitable sharing of revenues derived from the exploitation of natural resources.³⁰

The regulation addresses the essential challenges of:-

- Natural resources have the right to be used.
- Natural resource gathering and consumption
- Dividing the earnings generated by such an entry
- Defending against biopiracy.

At the local community level, the law provides for the development of the National Biodiversity Authority (NBA) under section 8, the State Biodiversity Board (SBB) under section 22 of the Act, and Biodiversity Management Committees (BMCs). Without prior authorization from the NBA, no one may file for any intellectual property rights in or outside India for any discovery based on study or information about an Indian natural reserve.³¹

The legislation establishes a framework for property rights with a strong emphasis on access to biological resources outside of India. The Act also stipulates that the profit derived from the commercial use of TK be shared among those involved for developing, enhancing, and utilising it.³²

VIII. TRADITIONAL KNOWLEDGE PROTECTION FROM INTERNATIONAL REGIME

The need of preserving indigenous and local communities' information, uniqueness, and customs is increasingly becoming more widely recognised across the world. The first attempt to protect traditional knowledge under the IP regime was made in 1978 by WIPO and the

²⁹ The GI (Registration and protection) Act, 1999 (Section 18 (1))

³⁰ Biological Diversity Act, 2002 (Section 2 (c))

³¹ Biological Diversity Act, Section 3, 4 & 6 ; Biological Diversity Rules, Rule 18 (2004).

³² Biological Diversity Act, Section 21.

United Nations Educational, Scientific and Cultural Organization (UNESCO), which led to the further fortification of folklore expressions against unlawful exploitations and other detrimental conducts in 1982. The conservation of traditional information has grown in importance since the ratification of the Convention on Biological Diversity (CBD) in 1992.

A. World Health Organization (WHO)

The WHO's contribution to traditional knowledge relates to its work in traditional medicine. As the economic and commercial significance of traditional knowledge, particularly knowledge of traditional medicine and medicinal plants, has become more acknowledged, the WHO's goal, as stated in its constitution, is to attain the best quality of health for all inhabitants with an increasing number of WHO member nations concerned about the need to safeguard it and ensure that any threats are mitigated. The profit derived from its use is distributed fairly.

WHO Traditional Medicine Strategy, from 2002 to 2005, contains four main components:

- Traditional and complementary or alternative medications should be included into the national health system.
- Provide estimates, monitoring, and assistance for successful regulation in the areas of safety, competence, and excellence.
- Ensure that TM/ CAM, as well as essential herbal drugs, are available and affordable.
- Encourage suppliers and customers to utilise TM/CAM in a clinically sound manner.

B. Convention on Biological Diversity (CBD)

The Convention on Biological Diversity (CBD) was signed on June 5, 1992. It was the result of United Nations Environment Programme (UNEP) discussions in Rio de Janeiro in 1992. The CBD, which is managed by the United Nations Environment Programme (UNEP), defines criteria for environmental protection while assuring continued economic growth, with a focus on biodiversity conservation, sustainable usage, and fair distribution of revenues from the use of natural assets.

The CBD also recognises the importance of traditional genetic asset utilisation in the long-term preservation of biological diversity. . It establishes the right to exploit biological transfer from developing countries and underlines that IPRs must not obstruct biodiversity conservation and sustainable usage.³³

Provisions relating to promotion, establishment of commerce, and utilisation of indigenous and traditional information and machinery are also incorporated into the CBD's will.³⁴

C. World Intellectual Property Organization (WIPO)

WIPO's work on TK and folklore began in 1978, when it collaborated with UNESCO to develop the Sui generic model for national folklore preservation. In 1998, WIPO launched a new plan that included a fact-finding contact expedition to 28 countries in the IP and TK fields, resulting in a worldwide assessment of IP demands and TK holders' goals. The WIPO General Assembly established the IGC during its 26th meeting. It has also done an outstanding job of developing a wide range of papers, such as model provisions for genetic resource contracts, the Conventional Information Protection documentation toolkit, and work on the principles of a prospective sui generis scheme for the security of conventional knowledge.

IX. INADEQUACY OF THE LEGAL SYSTEM THAT ADDRESSES TRADITIONAL KNOWLEDGE

A. GENERAL ISSUES RELATING TO THE PROTECTION OF TRADITIONAL KNOWLEDGE

Conventional information is especially vulnerable to bio piracy due to devolution, invasion, the bio prospecting rush, a lack of suitable legal structure, and a conflict of systems. Conventional knowledge is generally associated with natural assets and is typically an indescribable part of such a natural reserve. TK has the potential to be transformed into economic benefits by providing a procedure/indication for developing beneficial procedures and processes for the benefit of mankind.

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³³ Daniel Gervais, "The Trips Agreement: Drafting History and Analysis", 4th Ed. (Sweet & Maxwell), 2012

³⁴ G Chin Khan Muan, "Traditional Knowledge and Convention of Biological Diversity", available at <http://www.aippfoundation.org/R+ID/TK%20&%20cbd.pdf>.

In general, traditional data is associated with natural assets and is always an ineffable component of such a natural reserve. TK has the potential to be transformed into economic benefits by providing a technique / indication for developing beneficial procedures and systems for the benefit of humanity.

Neem: For centuries, a tree famed in India has been used as a natural insecticide and medicinal. Ancient Indian Ayurvedic scriptures reference the Neem tree and its medical therapeutic powers. The European Patent Office (EPO) has withdrawn patent number 436257 for the Neem tree pesticide derived from the seed, which was awarded to the United States of America and the global corporation W.R. Grace. "Despite Neem's long history, over 12 US patents for Neem-based emulsions and solutions have lately been issued."³⁵

Turmeric: In 1993, the United States Patent and Trademark Office granted the University of Mississippi Medical Centre patent rights to treat a wound by administering turmeric to a patient with a wound. A request for re-examination of the granted patent was submitted, along with roughly two dozen references, resulting in early success.³⁶

Rice: Another instance that caused a lot of confusion was a patent granted by the USPTO to an American firm named Rice Tec for 'Basmati rice grains.' Basmati rice is a sweet-smelling kind of rice that is commonly farmed in India and Pakistan. The issuance of this invention resulted in a slew of IP concerns outside of patent law, such as trademarks and geographical indications. A re-examination request was submitted with proclamations from two scientists, as well as various magazines on Basmati rice and rice research in India, one of which convinced the USPTO that Rice Tec's essential claims were not clear.³⁷

X. SUGGESTIONS TO ENSURE EFFECTIVE PROTECTION OF TRADITIONAL KNOWLEDGE

- To secure the legitimate use of hereditary resources and conventional proficiency, national and international regulatory frameworks should be designed and applied in the intellectual property system.
- It is critical to maintain and strengthen political and legal flexibility in present international frameworks, as well as to reach an agreement on the design and

³⁵ <https://www.mondaq.com/india/patent/586384/traditional-knowledge-and-patent-issues-an-overview-of-turmeric-basmati-neem-cases>

³⁶ *ibid*

³⁷ *ibid*

implementation of constructive and protective arrangements to safeguard traditional information.

- Indigenous and other local populations participated actively and successfully in all debates and agreements on genetic resources and cultural information.

XI. CONCLUSION

After examining the different facets of TK, it has been discovered that, while TK is the cultural backbone of every country, it is also a rich resource that must be utilised in order to achieve economic development." However, in order to achieve socio-economic peace, it is critical that the delicate balance between preserving indigenous groups' rights and the profits emerging from the commercialization of such TK not be upset.

In India, while adequate precautions have been taken to preserve TK, the massive expanding requirements of the Indian people and restricted investment prospects have transformed TK into a latent gold mine waiting to be tapped.

Thus, commercial enterprises should gradually tap into the enormous ocean of TK to supply the expanding wants of the people of India, while respecting indigenous people's rights and India's cultural legacy. Furthermore, because present laws promote both community rights and a patent-friendly environment, the benefit-sharing agreement should be carefully supported to preserve the balance between TK holders and innovators.