

### Protection of traditional knowledge (TK)

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#### Course Content

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4. Role of Government to harness TK

#### **The need for protecting Traditional Knowledge**

Need to protect traditional knowledge have increased with changing time, especially in order to stop unauthorized and commercial misuse of such knowledge. It is important to protect the indigenous people from such loss and also help them to preserve such ancient practices. Protection to TK shall also promote its wider and efficient use.

The most difficult aspect of traditional knowledge is in its protection. There has been a lot of debate to protect traditional knowledge under IP regime but that in itself faces a lot of challenges such as; a) under which IP under which traditional knowledge can be protected, b) since every IP protection is provided for a limited period of time then how will traditional knowledge have a continuous protection. Protection of traditional knowledge is rooted in the problem of Bio-piracy. Bio-piracy occurs when there is commercial utilization of traditional knowledge without proper authorization of the indigenous or local people associated with such knowledge.

The justification for preserving traditional centers of expertise on matters of social justice and the right to retain, maintain, and regulate one's cultural heritage is for indigenous people. There's also the right to get a fair return on what those communities have developed.

Also, even non-indigenous people have a strong desire to ensure that TK is used equally because it has a lot to bring to modern society. In several ways, it is increasingly being used to assist decision making: food and diversity; health, commerce, and economic growth. There are five reasons why TK should be protected on this basis. They are:

1. Equity,
2. Biodiversity conservation,
3. Preservation of traditional practices,
4. Prevention of biopiracy, and
5. TK's significance in development.

**Equity:** Traditional knowledge produces interest that is not properly acknowledged and paid for. For example, traditional farmers have nurtured, maintained, and used plants and animals alike, they have improved the value of plant genetic resources by continuously selecting the best varieties adapted to them. This is then that seed companies collect the varieties, process, and sell for sale. Via Plant Breeders Rights, they are also permitted to preserve the varieties and can benefit from them while the farmers are left out. Farmers and scientists, therefore, rely on the genetic diversity present in crop plants that have accumulated, recorded, picked, multiplied, exchanged, and maintained variants in hundreds of generations. The irony is that scientists may defend and benefit from their inventions while the efforts of conventional farmers are ignored. Farmers do not bill for the samples the scientists and seed companies take, hence the inherent disparity in the existing system of intellectual property rights.

**Conservation of Biodiversity:** Innovations of knowledge and traditions of indigenous peoples and local societies are a demonstration of their cultures. Therefore, the preservation of human culture includes maintaining the link between people and natural existence like plants and animals. So, TK protection will help conserve the environment and encourage sustainable agriculture and food security.

**Preservation of Traditional Practices:** TK security will provide a basis for the preservation of conventional lifestyle practices and awareness. Preserving TK helps protect people's self-identification and can guarantee the continued life of indigenous and traditional people. This role certainly goes beyond the scope of protection of IPRs provided for in TRIPS or any other multilateral instruments. Protecting TK by the appropriate type of IPRs will increase the profile of the information and make it more desirable and worthy of preservation.

**Prevention of Biopiracy:** A large number of patents on genetic resources and expertise acquired from Africa and other developing countries have been issued. One example of this is the use of patent number 5, 401, 5041 which was granted for the healing properties of turmeric acid in wounds. The invention had been used for centuries in India before the USA licensed the patent. The Indian Council for Science and Industrial Research (CSIR) successfully applied for its repeal. Kenya's kiondo was patented in Japan but this was not withdrawn, the same was true of the micro-organism for fading jeans, and the energy-saving jiko just to name a few examples.

One big concern is how to prevent TK from being misappropriated. Three recommendations were advanced: TK documentation with a view to building a digital TK library. This will allow states to:

1. Check the potential misuse;
2. The requirement of proof of origin for patenting materials; and
3. Prior informed consent.

## *How to Protect Traditional Knowledge?*

There are basically three methods through which TK can be protected:

- a) Defensive Mechanism
  - b) Positive Protection
  - c) Other methods of protection
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- a) **Defensive protection:** Defensive Mechanism means steps taken to prevent acquisition of intellectual property rights over traditional knowledge. One way of protecting traditional knowledge systems is to provide legal remedies to the community that prevents exploitation of their knowledge systems. This is called defensive protection and is developed with a combination of legal remedies and strategies that can prevent third parties from exploiting the community knowledge networks. One efficient way of doing so is by making a list of existing traditional knowledge systems available to patenting authorities. These lists or ready reckoners can be referred to by patenting authorities while granting patents.
  - b) **Positive protection:** Positive protection means protecting TK by way of enacting laws, rules and regulations, access and benefit sharing provisions, royalties etc. Knowledge holders are empowered to seek remedies against misuse of traditional knowledge and also benefit from commercial windfall. Many countries have instituted specific laws that allow knowledge holders to decide what they want to do with the knowledge. They can promote their knowledge bank and amicably partner with commercial organisations to further the knowledge system.
  - c) **Other methods of protection:** There are legal remedies within the Indian judicial system that can help protect traditional knowledge. For example, equitable benefit sharing is an agreement that two parties, including indigenous communities, can sign in order to use the knowledge bank for commercial use. Another positive protection tool available to communities and third parties is the Prior Informed Consent, where a third party can seek full consent of the knowledge holder and then use the knowledge.

India, for example, followed by the well-known case of USPTO (United States Patent and Trademark Office), wherein patent was granted on healing properties of turmeric and with much difficulty CSIR (Council of Scientific and Industrial Research) proved the prior existing knowledge of such properties of turmeric with help of numerous ancient scriptures and documents, has adopted a Defensive mechanism to protect its traditional knowledge by way of setting up a Traditional Knowledge Digital Library (TKDL) in 2001, in collaboration between Ministry of Ayush and CSIR.

The digital library, although comprising of voluminous documents and work of Indian traditional knowledge, has its own shortcomings such as; translation problems, disclosure of traditional knowledge as prior art is unadvantageous since it leads to public disclosure of entire

traditional knowledge which simultaneously results to fishing expeditions, further one of the major aspect of traditional knowledge is that it is mostly passed by generations in *oral* manner, therefore, a lot of TK has no documentary record and TKDL maintains no record of oral traditional knowledge.

Furthermore, Due to the non-dissectible nature of TK, the realization of TK usually relies upon physical materials. Medicine in indigenous peoples often consists of learning which herbs heal people. Extinction of that plant species means the disappearance of the concept. The disappearance of the concept may leave the herb useless to the people. Because of this, TK protection is of two kinds, which are by no means clear-cut.

- a) ***Non-IP protection of TK*** (Non-IP protection focuses on protection of ecological resources): Non-IP protection includes establishing conservation parks, protecting endangered species, restricting development, protecting cultural remains, and conserving habitats, among other forms of protection. Moreover, the CBD, the Convention of Agriculture, and other international agreements provide protection to genetic resources or TK, and the benefit sharing mechanism.
- b) ***IP protection of TK*** (IP protection focuses on the protection of the knowledge): Indian patent laws do not permit the protection of TK under section 3 (p) of the Indian Patent Act, 1970. An invention which in effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components is not an invention and cannot be patented. However, if there is a substantial improvement in the existing TK which enables the invention to fulfil the criteria under the Indian IP law, IP protection can be sought.

The key issue in protecting TK is prior knowledge of the innovation as much of TK is already in public domain being passed on orally or through documentation through generations. This makes most TK ineligible for IP protection as majority of information is already part of "prior art" and therefore there is very little in terms of novelty which can be established for patent protection.

Unlike other categories of intellectual property rights, India has no substantive act or law to protect traditional knowledge but other IP acts contain provisions with respect to traditional knowledge such as the Patents Act, 1970, Section 25 and Section 64, gives one of the grounds for revocation of a patent application on the basis of traditional knowledge. Under the Copyright Act, 1957, has not specific mention of protecting traditional cultural, literary or artistic work or folklore but Section 31A provides for protection of unpublished Indian work, nonetheless Copyright protection in for a limited time period and also demands certain criteria to be fulfilled, therefore under this IP as well protection of traditional knowledge doesn't have much scope.

### **Role of Traditional Knowledge Digital Library (TKDL) in protecting TK**

Traditional Knowledge Digital Library is a collaborative project of the Government of India through the Council of Scientific and Industrial Research (CSIR) and the Ministry of

AYUSH, to collect information on traditional knowledge existing in India, in various languages and format as a single repository. TKDL serves as a reference of prior arts for patent examiners at International Patent Offices (IPOs). In 2001, the Government of India set up the Traditional Knowledge Digital Library (TKDL) as repository of 1200 formulations of various systems of Indian medicine, such as Ayurveda, Unani and Siddha and 1500 Yoga postures (asanas), translated into five languages – English, German, French, Spanish and Japanese. India has also signed agreements with the European Patent Office (EPO), United Kingdom Intellectual Property Office (UKIPO) and the United States Patent and Trademark Office (USPTO) to prevent the grant of invalid patents by giving patent examiners at International Patent Offices access to the TKDL database for patent search and examination.

### ***Features of TKDL:***

The two main features of TKDL are *Accessibility* and *Availability*. TKDL provides accessibility in terms of *Language, Format and Classification*. The traditional Indian knowledge exists in local languages such as Sanskrit, Urdu, Arabic, Persian, Tamil, etc. TKDL translates such traditional knowledge into the native languages of the patent examiners, and in five global languages - English, French, Spanish, German and Japanese. The *format* of TKDL is also unique and is similar to the format of the patent application, making it easily understandable for the patent examiners. The full listing for each TK entity contains a bibliography of traditional Indian documents, which in turn contains links to scanned images of these documents in the original language. TKDL has created a new classification system for the traditional knowledge, known as the Traditional Knowledge Resource Classification (TKRC), which is based on the structure of International Patent Classification (IPC). Each listing in the TKDL includes both TKRC codes and IPC codes. Another main feature is the availability of TKDL. TKDL in complete form is available only at certain national patent offices for use by patent examiners. However, a representative version of the database is available at the TKDL website. This database has 1,200 representative listings.

### **Traditional Knowledge Resource Classification (TKRC):**

Traditional Knowledge Resource Classification (TKRC) is an innovative classification system of TKDL. TKRC has structured and classified the Indian Traditional Medicine System in approximately 25,000 subgroups for Ayurveda, Unani, Siddha and Yoga. TKRC has enabled incorporation of about 200 sub-groups under A61K 36/00 as defined in the International Patent Classification instead of few sub-groups earlier available on medicinal plants under A61K 35/00; thus, enhancing the quality of search and examination of prior-art with respect to patent applications in the area of traditional knowledge.

In 2011, an International Conference was organized by World Intellectual Property Organization (WIPO) in collaboration with CSIR on 'Utilization of Traditional Knowledge Digital Library as a Model for Protection of Traditional Knowledge', at New Delhi. Pursuant to this, WIPO in collaboration with CSIR and DIPP (Ministry of Commerce and Industry), organized an 'International Study Visit to TKDL' for 19 countries interested in replication of TKDL.

TKDL has proved to be a strong tool in protecting the unlawful rights over existing knowledge of TK and having exclusive IP rights over such TK. It also demonstrates the proactive action to protect such knowledge for the current and upcoming generations for years. The idea is not to restrict the use of traditional knowledge, rather to ensure that wrong Patent Rights are not granted due to lack of access to prior art for patent examiners.

### **Significance of Protection of Traditional Knowledge in India**

TK is an integral part of strength of local community knowledge. Attempts to exploit TK owned by local communities, for industrial or commercial benefit is a major issue as it is unfair exploitation of knowledge owned by local communities, as IP protection creates monopoly of patent owners. Governments the world-over including India have enacted laws to prevent such unfair exploitation of TK. The importance of protection of TK includes,

- Traditional knowledge is important to the integrity of a community as the Livelihoods of different communities depend on these knowledge systems.
- It is also important to prevent any unauthorized and commercial misuse of such knowledge.
- Many of these traditional knowledge systems are passed down orally and tracing the origin of these systems often becomes difficult. This in turn opens the traditional knowledge systems to exploitation.
- Biopiracy is a matter of great concern for indigenous communities and natives. Many native communities have used natural ingredients such as spices and herbs for their medicinal properties. These practices are now being used by large industries without giving due credit to those who developed them. This is called bio-piracy. For example, communities practicing *Unani* or *Ayurveda* are concerned that the pharmaceutical and beauty industries are exploiting their knowledge (which they've gathered over centuries) to make huge profits.

Past few years it has been seen that India has actively participated in TK conventions and has made efforts to protect its TK at international level. Access to Indian TK is available at USPTO and EPO and CSIR is day by day improving the efficiency of TK database.

### **Value of TK in the Global Economy**

There is a growing appreciation of the value of traditional knowledge. Traditional knowledge is valuable not only to those who depend on it in their daily lives, but to modern industry and agriculture. Traditional knowledge about land and species conservation and management and revitalization of biological resources conservation is grounded in the daily lives and practices of indigenous peoples and their close understanding of their environments cultivated over thousands of years.

It has the potential to play a crucial role in sustainable development and for addressing the most pressing global problems, such as climate change, land management, land conservation, and

to strengthen scientific, technological and medical research, as evidenced in inter alia pharmaceuticals. Furthermore, traditional knowledge can offer promising avenues for achieving food security for not only indigenous peoples but for inhabitants around the globe. Many indigenous land and environmental management practices have been proven to enhance and promote biodiversity at the local level and aid in maintaining healthy ecosystems.

Educational practices that combine indigenous traditional knowledge and languages are a significant way to maintain and preserve indigenous cultures, identities, reduce illiteracy and school dropout rates, enhance learning, protect the environment, and promote wellbeing.

Traditional knowledge typically distinguishes one community from another. In some communities, traditional knowledge takes on personal and spiritual meanings. Traditional knowledge can also reflect a community's interests. Some communities depend on their traditional knowledge for survival. Traditional knowledge regarding the environment, such as taboos, proverbs and cosmological knowledge systems, may provide a conservation ethos for biodiversity preservation. This is particularly true of traditional environmental knowledge, which refers to a "particular form of place-based knowledge of the diversity and interactions among plant and animal species, landforms, watercourses, and other qualities of the biophysical environment in a given place". As an example of a society with a wealth of traditional ecological knowledge (TEK), the South American Kayapo people, have developed an extensive classification system of ecological zones of the Amazonian tropical savannah (i.e., campo / cerrado) to better manage the land.

### ***Traditional Knowledge and the UN***

Recognizing the importance of traditional knowledge, the right of indigenous peoples to promote, maintain and safeguard their traditional knowledge is enshrined in several international normative and policy instruments. The UN Declaration of the Rights of Indigenous Peoples (UNDRIP) emphasizes the protection of indigenous peoples' rights to their traditional knowledge (Article 31). The Convention on Biological Diversity (CBD) also recognizes the close ties of indigenous peoples and local communities to biological resources, and the contributions that traditional knowledge can make to the Convention and sustainable biological diversity (article 8(j)). The CBD has established a working group to address the implementation and protection of traditional knowledge to this end. Other UN entities also have relevant policies and programmes that recognize the role of traditional knowledge in securing the rights of indigenous peoples as elaborated in the UN Declaration.

The Forum's 2019 session aims to contribute to the increasing recognition and respect for traditional knowledge of indigenous peoples, based on their right to self-determination and decide their own development priorities. This is important in the context of the 2030 Agenda for Sustainable Development, which calls for leaving no one behind.

### ***Important International TK related conventions***



Taking into account the policy objectives and brief rationale for protection of intellectual property at international level, it is important to see if any lessons or parallels can be drawn in the case of protection of traditional knowledge. The nature of Traditional knowledge is such that it might not necessarily fit into the sphere of intellectual property but might be guided by existing intellectual property laws. As stated before, were several attempts to protect traditional knowledge at international level but the most profound is under the CBD. Article 8(j) of the CBD requires parties, subject to national laws to respect, preserve, and maintain the knowledge, innovations and practices of indigenous and local communities, especially those that embody traditional lifestyles relevant to the conservation and sustainable use of biodiversity. Parties must promote the wider application of these standards (with the approval and involvement of knowledge-holders) and encourage equitable benefit sharing arising from utilization of such knowledge, innovation and practices.

The Nagoya Protocol addresses traditional knowledge associated with genetic resources with provisions on access, benefit sharing and compliance. It also addresses genetic resources where indigenous and local communities have the established right to grant access to them. Contracting Parties are to take measures to ensure these communities' prior informed consent, and fair and equitable benefit sharing, keeping in mind community laws and procedures as well as customary use and exchange.

### ***Call for Sui Generis Protection and its Awareness***

There has been an increasing demand of Sui Generis system of Protection for traditional knowledge since IP protection has its own downside and loopholes. *Sui Generis* is a Latin word meaning 'of its own kind'. Sui generis instrument shall provide legal framework of protection of TK, enforcement of right of indigenous communities, prevent misuse and control of TK, provisions of ABS (access and benefit sharing) system etc.

In addition to TKDL system, India can work towards a more active approach, foremost to create awareness and understanding among people who are till date completely unaware or have very limited knowledge on Intellectual Property Rights as well as the term 'traditional knowledge'.

### **Role of Government to Harness TK**

India has a rich history of traditional medicinal practices that date back to thousands of years. These techniques and components have come into the light during recent times mainly due to the interest shown by multinationals to exploit the knowledge and benefit from the profits. In order to protect the knowledge from being patented, the government has indeed been striving hard.

Measures taken by GoI to harness traditional knowledge

- **Traditional Knowledge Digital Library**



The government has established a digital library, which contains all the information about traditional medicine, the methods and techniques. This acts as a repository of all existing traditional methods and plays an important role in proving authenticity. This library has prevented thousands of patents from being filed internationally and it also gives access to various patent agencies of the world so that they can cross check the genuineness of the patent.

- **Direct Funding**

The government has stopped funding states and other agencies for carrying out research in traditional knowledge. It has instead made CSIR the sole responsible institution to carry out such research. The funding is directly provided to CSIR. This will prevent research from being leaked to private pharma companies.

- **UNESCO Intangible Cultural Heritage**

The government has been successful in obtaining UNESCO recognition to traditional medicinal knowledge such as Ayurveda, Yoga, Sowa Rigpa, Unani etc. This has allowed India to establish link with the country of origin and prevent patenting by multinational pharma companies.

- **Strengthening IPR (Intellectual Property Rights)**

IPR laws in India have been upgraded to include all type of property rights. The new form will have provisions for protecting traditional knowledge of cultural groups. The main aim will be to protect economic interests of such groups from being exploited by third party.

### ***India's efforts in protection of traditional knowledge***

- ❖ India garnered global attention with the curious case of turmeric. In a landmark win in 1997, the Council of Scientific and Industrial Research (CSIR), India, was able to revoke a patent filed by two US-based scientists.
- ❖ The case began in 1995 when two scientists of the University of Mississippi Medical Centre were granted a patent by the US Patents and Trademarks Office (USPTO) for discovering the wound healing properties of turmeric.
- ❖ This came as a shock to India, where people have used turmeric to treat several ailments including wounds, for many generations. The CSIR then appealed to the USPTO to revoke the patent on the grounds that it was 'prior art', a kind of traditional knowledge. What followed was a battle between USPTO and CSIR. Eventually, the CSIR convinced USPTO that the healing properties of turmeric were indeed traditional knowledge. The patent was thereafter revoked.
- ❖ The episode of the turmeric patent was treated as a red flag for the exploitation of the country's traditional knowledge, especially in the field of medicine. Since then, CSIR and the government have prepared a digital library for traditional Indian medicinal knowledge. This library has been created to protect the traditional knowledge of Indian medicines and curb misappropriation at International Patent Offices.
- ❖ Over the years, the Traditional Knowledge Digital Library has systematically and scientifically recorded traditional medicinal knowledge such as *Ayurveda* and *Unani* from

ancient Indian texts. These recordings have also been translated into various global languages.

- ❖ According to the official website of the Traditional Knowledge Digital Library, there are more than 3.6 lakh formulations or practices recorded in the database.

### ***Protection of traditional knowledge on the global scale***

- ❖ The World Intellectual Property Organisation (WIPO) recognises the need for a global solution for the protection of traditional knowledge. Even as some countries provide for such protection, these protections are not available on a global platform.
- ❖ Communities from across the world are demanding a global legal tool that will provide equal rights for their traditional knowledge. This is referred to as a '*Suis Generis*' protection.
- ❖ However, to bring about such a tool, countries will need to agree on what constitutes traditional knowledge and what rights knowledge-holding communities should have. While on one hand communities want to protect their heritage from exploitation, industry experts believe that such a treasure trove of knowledge should be made available to the public.
- ❖ While countries agree that *Suis Generis* protection is imperative for traditional knowledge, not all countries agree on *how* this protection can be achieved.
- ❖ To achieve this consensus, countries must have a proactive approach and introduce policies to protect the traditional knowledge systems. Only with a concerted effort from all countries, can *Suis Generis* protection be achieved.

Given the live nature of traditional knowledge systems, it becomes difficult to define them. Without these definitions, it becomes difficult to provide protection to traditional knowledge systems, even if most countries agree that such protection is important. While designing such protection systems, it's essential to strike a balance between the interest and livelihoods of the knowledge-holding communities and the overall good of the public. With the Traditional Knowledge Digital Library, India has gone a step ahead and shown the world that with policy changes, protective mechanisms can be put in place to prevent exploitation of traditional knowledge. It's time for other countries to follow suit.

### **Questions**

1. What is the need of protecting traditional knowledge?
2. What are the different methods of protecting traditional knowledge?
3. What is the role of Traditional Knowledge Digital Library (TKDL) in protecting TK?
4. Explain the significance of protecting traditional knowledge in India?
5. What is the importance of protection of traditional knowledge globally?
6. How is the Government of India (GoI) protecting traditional knowledge of medicine from patenting?