

Indian Traditional Knowledge: Leeway towards Sustainable Development

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Abstract

An era of age-old traditions and knowledge, which was preserved and ingrained in the heart of our motherland since time immemorial, has given us extreme pride at its disclosure. The tradition has kept on showcasing itself as it has been inherited through generations. India's traditional knowledge has remained a by-product of its glorious past. With the passage of time, this knowledge has been intervened and erroneously used by the outer world by making false claims in the absence of a proper mechanism to protect our traditional knowledge. The sudden awakening of our country after losing its inherent recognition regarding the traditional knowledge of turmeric as a healing agent and neem as an antifungal agent manifested the need for its immediate conservation. The subsequent preservation of our traditional knowledge has further promoted a world of sustainable and ecological development. This paper attempts to study our Indian traditional knowledge and the pressing need to protect such an ingrained culture. The researchers have studied techniques to protect and conserve our traditional knowledge and uphold the rights of its holders and pride of the local indigenous communities. The international provision has also been dealt with regard to specific provisions and conventions providing protection to such knowledge in the international community. The researchers have concluded by disclosing the loopholes where traditional knowledge fails to get a ticket of an intellectual property right despite its impeccable contributions towards sustainable development.

Keywords: Traditional knowledge, Indigenous knowledge, Sustainable development, Indigenous and local communities, Bio-piracy, Patent, TRIPS, Convention on biological diversity (CBD), Sui-generis, Traditional knowledge digital library (TKDL)

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INTRODUCTION

*Ma te huruhuru ka rere te manu.
A bird can only fly if it has feathers [1].*

The role of traditional knowledge is the same as the feathers. Traditional knowledge is an enabling component of development.... Our cultural artefacts, our whole cultural fabric, rely on every single interlocking part of the fabric. Our knowledge system is a very integral part of that. So, we have to have access to it. Not just to preserve it, not because it makes us feel good to have it; we have to be able to use it. Without my tikanga Maori, I'm just another person. And, if I am just another person, I've failed in my duty to my grandchildren and their grandchildren by not transmitting these values to them.

-Whaimutu Dewes

Environmental concerns have reached the zenith of political agenda throughout the world. In almost all world political gatherings, issues which are taking the center stage of discussion are how to avoid further environmental degradation or how to protect threatened habitats and preserve endangered species of plants and animals from imminent extinction. The idea that respect for the long-term requirements of nature must be incorporated into development projects is inherent in the now popular term *sustainable development*. In these scenarios, traditional knowledge comes into picture as an enabler of sustainable development. Traditional knowledge plays a very crucial role in providing a leeway for the greater sustainable development practices and acts as a facilitator of sustainable development in indigenous and local communities.

Due to humanity's troubled relationship with the Earth, a series of questions have been raised on how to protect our environment and how to live more sustainably. Earlier, it was believed that modern science or technology would provide the answer but it has now become undoubtedly clear that traditional knowledge also has critical insight and practices to offer. This paper will examine the claim that traditional knowledge is critically relevant to the sustainable development and protection of biological diversity. It starts by examining the concepts of traditional knowledge and sustainable development and subsequently outlines the essential links between the two. It goes on to explore the importance of traditional knowledge in supporting sustainable development practices as well as the contributions of traditional knowledge for human welfare and development. This paper also explores the international provisions on traditional indigenous knowledge, followed by the methods of protection and conservation of traditional knowledge.

SUSTAINING THE TRADITIONAL KNOWLEDGE

The term *traditional knowledge* (TK) interchangeably used as *indigenous knowledge* (IK) defines any information, knowledge, innovation, or practices of native local communities, which are significant in ensuring the conservation and sustainable use of biodiversity [2]. It includes all species of plants, animals and micro-organisms and variations between them that form intangible components of the ecosystem. [3]. This type of knowledge is developed and transferred from generation to generation in the form of stories, songs, cultural values, traditional laws, local languages, rituals, healing arts, and agricultural practices, for the collective good of communities [4].

Traditional knowledge or traditional ecological knowledge is important not just for its own sake but for its potential to help design more effective conservation of biodiversity and for ecological systems in general through the knowledge possessed by a group or individual about an environment. Groups like hunters, gatherers, agriculturists, herders

possess such traditional knowledge. Such knowledge is often adapted to local culture and environment and plays a significant role in the daily lives of the majority of people nationally as well as globally and is considered to be an essential part of cultural identities [5]. These traditional communities and indigenous people generally have a profound knowledge and understanding of their environment and its ecology, forming a substantial basis for the conservation and for sustainable use of global biodiversity, closely interlinked with cultural and biological diversity [6]. Since a plethora of manuscripts or texts lies with the so called *vaidyas* and *munis*, therefore, all traditional knowledge is not in public domain [7].

Beginning around the mid-twentieth century, the international community began a progressive migration towards recognition of the need for sustainable development, and appreciation for the importance of TK held by indigenous local communities (ILCs) in achieving such a profound policy objective [8].

INDIAN TRADITIONAL KNOWLEDGE

India is basically a country blessed with colossal culture and ethnic diversity. It includes agricultural, meteorologically, ecological, governance, social welfare, medicinal and pharmaceutical, legal and jurisprudential, magic, architecture, sculpture, textile manufacture, metallurgy and food technology [9]. This TK is coded as well as non-coded in the texts of Indian medicine systems such as Ayurveda, Unani, and Siddha, and in the oral undocumented traditions [10].

India since long has been a victim of bio-piracy, which refers to unauthorized use of (a) biological resources such as plants, animals, micro-organisms, etc., (b) traditional communities' knowledge on biological resources. Bio-piracy also connotes the meaning of an unequal sharing of benefits between a patent holder and the indigenous community whose knowledge and resources have been utilized. There are various Indian traditional products, which are subjected to bio-piracy by multinational companies ranging from neem to basmati and turmeric to macca and also many more.

Indian traditional knowledge, i.e., neem, turmeric, basmati are some of the examples of genetic resources originating in India, over which intellectual property rights were asserted by a few multinational corporations belonging mainly to USA and European countries.

Neem Patent

It all started with neem patent challenge, which was initiated in solidarity with Neem campaign of India, which was launched in 1993 by farmers in India who feared that their genetic resources and traditional knowledge were coming increasingly under foreign control through legal mechanism of patents [11]. Neem has been used for treatment of various diseases such as leprosy, diabetes, ulcers, etc. The twigs of neem provide dermatological cure. It is also used as an antifungal agent. This traditional knowledge traces its source from the Indian Ayurvedic texts [12].

Basmati Patent

The Indian government put a fight against the patent granted for basmati rice to a US-based company RiceTec, following which a US court ruled that the company did invent new technologies and that the patent is valid. India then re-approached the issue as one of the nomenclature and attempted to protect the name 'Basmati' as a geographical indicator (GI). India proved that not only the grain but the seed producing the grain was cultivated in the region of India and Pakistan. Basmati case was a clear violation of Article 22 of the TRIPS Agreement, which talks about the protection of Geographical Indication. Basmati rice gets full protection under the Geographical Indication Act as a traditional knowledge of India [13].

Turmeric Patent

Turmeric presents a similar case, where two researchers of Indian origin had been granted patent of turmeric in University of Mississippi on the use of turmeric as a wound-healing agent [14]. The claimed subject was the "turmeric powder and its administration" both oral and topical [15]. Subsequently, the patent was challenged by Council of Scientific and Industrial Research (CSIR) as India provided

evidence in the form of documents in various texts like Urdu, Hindi, Sanskrit, etc., to the United States Patent and Trademark Office (USPTO) about the age-old use of turmeric in the Indian households, and the patent was revoked on the ground that the alleged invention was actually a part of public-domain knowledge in India.

Thus, India has concentrated on the techniques to protect its ingrained knowledge from the outer world and secured its glory and knowledge by making every possible effort to hold its head high.

TRADITIONAL INDIGENOUS KNOWLEDGE: BEYOND BOUNDARIES

The world has recognized local indigenous communities and their traditional knowledge under the umbrella of three major international conventions, namely, The TRIPS Agreement, Convention on Biological Diversity (CBD), and the 2010 Nagoya Protocol. They established an authoritative international system for the recognition and conservation of traditional knowledge.

The TRIPS Agreement is a key international agreement promoting the harmonization of national IPR regimes. This agreement does not specifically assert a distinct recognition to traditional indigenous knowledge neither does it make reference to the protection of traditional knowledge but Article 27.3(b) of this agreement talks about *sui generis* provision, which creates a window of relief. It says that plant varieties have to be eligible for protection either through patent or *sui generis* provision. It means that claims of traditional knowledge protection are rooted in the local community, which is of its own kind and it should be used for the protection of indigenous knowledge. The loophole which needs to be plugged is that the WTO members are not required to recognize rights in other countries that go beyond the minimum standards established by TRIPS framework. Thus, even when countries do undertake *sui generis* legislation to protect a category of knowledge it very often fails to get protected at the global level as there are no global commitments to

this legislation outside the boundaries of the legislating country [16].

A fierce debate is in the air and ideas put forward by various disclosures such as disclosure as a TRIPS obligation, disclosure through WIPO that domestic laws should have the authority to ask the inventors in any patent office of the world to disclose their genetic resources and traditional knowledge when they apply for a patent [17]. This would keep a check on patents, which have been granted ostensibly to inventors and the interests of the local indigenous communities will thus be safe.

Convention on Biological Diversity (CBD) is the only major international convention that assigns ownership of biodiversity to indigenous communities and individuals, albeit through the state and asserts their right to protect this knowledge [18]. The three relevant articles of this convention, which recognizes traditional knowledge, are:

1. *Article 8(j)* says that the state must preserve and maintain the traditional knowledge of their local indigenous communities which embodies traditional lifestyles for conservation and sustainable use of biological diversity, and the knowledge holders must promote sharing of its benefits.
2. *Article 18.4* says that the state must develop models for the development and use of technologies, including traditional & indigenous technologies.
3. *Article 16* recognizes traditional knowledge as 'key technology' for effective practices of conservation and sustainable use of biodiversity [19].

The Nagoya Protocol, 2010, broadens the horizons of CBD thereby establishing a concrete system determining access and benefit-sharing. Even Article 29 of The UN Draft Declaration on Rights of Indigenous Peoples (UNDRIP) says that the people from the local indigenous communities have a special right of complete ownership, control, and protection of their science, technology, and cultural expressions.

Still, the ambit of traditional knowledge has not been given an adequate or direct

recognition in the international arena since traditional knowledge is counted as a discovery rather than an invention. The statutory criteria that the product or the process must be an invention is a litmus test to become a subject of IPR, which traditional knowledge often fails to comply with.

TRADITIONAL KNOWLEDGE PROTECTION: A RATIONALE FOR BIO-PIRACY

Traditional knowledge has been subject to much exploitation through its industrial and commercial use without the knowledge or consent of its holder; therefore, its conservation becomes an issue of paramount importance. Local indigenous communities must protect their traditional knowledge to further promote sustainable development. India has built its own roadmap for the preservation of the same.

Traditional Knowledge Digital Library (TKDL)

According to the records, around 2000 patents per year relating to Indian medicinal systems were fallibly granted around the world [20]. The need to establish TKDL arose after India's efforts to revoke a patent granted by the United States Patent and Trademark Office (USPTO) on the wound-healing properties of turmeric and the patent granted by the European Patent Office (EPO) on the bio-pesticidal properties of neem. TKDL is a digital knowledge repository and a database containing 34 million pages of formatted information on about 2,260,000 Indian medicinal formulations in multiple languages [21]. India being a pioneer in this field brings this out with the help of information technology tools and technical knowledge classification system (TKCS).

The mechanism through which it works is simple. India has signed TKDL access agreements with various countries and when patent applications are filed on the basis of wrong claims of prior art a "third-party observation" can be filed and made easily searchable. This keeps a check on patents filed upon wrong claims with the help of an integrated global bio-piracy watch system that allows monitoring of patent applications. India

has successfully withdrawn or cancelled 36 patents related to India's traditional knowledge.

TKDL has set a benchmark for other countries and organizations that have shown interest in creating their own TKDL system based on Indian TKDL [22]. India innovated a weapon to protect and safeguard its age-old traditional knowledge which was on the verge of being depleted and further promoted sustainable development of its traditions.

OTHER INDIAN INITIATIVES

- **National Biodiversity Act, 2002**

This act of 2002 was passed in order to comply with the Convention of Biological Diversity, 1992. After the opening up of the economy post 1990s, threats of bio-piracy were rampant in the country and to get a shield to this, a strong legislation was required to stop the piracy of the indigenous resources of the country. The act aimed towards the protection of indigenous traditional knowledge of the local communities and fair and equitable sharing of the benefits arising out of utilization of genetic resources.

- **Protection of Plant Varieties and Farmers Rights Act, 2001**

This Act of 2001 is one of its own kind which recognizes and rewards the contribution of breeders and farmers to the development of new crop varieties. Benefit sharing is an important mechanism to ensure the rights of traditional knowledge holders. All applicants who register for new varieties are required to disclose the source of their varieties, which has been used for breeding. This helps in the protection of the traditional knowledge [23].

- **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.**

- ***Sui Generis* Legislation**

It is a system which would also protect the interests or rights of traditional knowledge holders through its elements of disclosure of country of origin of its genetic and biological resources. Indian Parliament has passed *sui generis* law such as The Indian Biological Diversity Act, 2002, with a policy objective to provide for the conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits

arising out of the use of biological resources and knowledge [24].

India has stepped ahead to prevent bio-piracy of its age-old traditions through its own effective ways. Conservation of traditional knowledge is the need of the hour for every such community who professes to preserve its traditions and wants to prevent its exploitation by the developed world.

CONCLUSION AND SUGGESTION

With the passage of time, traditional knowledge is considered as a conduit for sustainable development. Its immense contribution to society to shower benefits is a boon. Even though a great amount of intellect is involved, it fails to get a ticket for intellectual property. The basic reason is it is considered as a discovery rather than an invention. The characteristic of traditional knowledge being inter-generational makes it easily available in the public domain and considers it as obvious and that is the main reason why it does not get a ticket for an intellectual property right. Countries create their own legislation (*sui generis*) to protect their traditional knowledge but it does not get recognized internationally because of lack of a strong international legislation or commitment to support the claims. Provision of prior informed consent, provision of contractual agreements, and provision of disclosure of origin of biological/genetic resources is the best system of law for the protection of traditional knowledge. Thus, at present, documentation of traditional knowledge and international recognition is needed for the effective implementation of *sui generis* laws at the national level.

It is suggested that such provisions should be created where a local indigenous community which claims to have a traditional knowledge gets a right of intellectual property over such knowledge in the community on adequate verification by the lawful authority. This would deter other communities, countries, etc., which make false claims over the traditional knowledge and gain undue advantage from that. This would get the traditional knowledge a ticket for IPR and would thus attain the aspects of sustainable development.

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