

BIO-PIRACY OF TRADITIONAL RESOURCES: A HURDLE TO SUSTAINABLE DEVELOPMENT

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Abstract

Traditional knowledge (TK) is a living body of knowledge that is developed, preserved, and passed down from generation to generation within a community, and is typically regarded as a part of the group's cultural or spiritual identity. Biopiracy has emerged as a word to describe how developed-world firms claim ownership of, or otherwise take unfair advantage of, developing-world genetic resources, traditional knowledge, and technology. Traditional knowledge (TK) is an important aspect of most local groups' identities. It is a vital component of a society's social and physical climate, and as such, it must be protected at all costs. Attempts to manipulate TK for industrial or commercial advantage can lead to its theft and violate the legal custodians' rights. Faced with these threats, techniques and means of securing and cultivating TK for long-term growth must be developed in accordance with the interests of TK holders. The preservation, protection, and development of local community-based TK-based inventions and practices are especially important in poor nations. Their extensive knowledge of traditional knowledge and biodiversity is crucial in areas such as health care, food security, community, religion, identity, climate, trade, and development. This precious asset, however, is under threat in many regions of the world. There are concerns that this information will be utilized and retained by third parties without TK holders' explicit written approval.

Keywords: Traditional resources, traditional knowledge, bio-piracy, sustainable development, local group.

Introduction

The creation's unrestrained assembly with humankind has encouraged a number of worries about how to advance our ways. What are the ways of living more supportably and sympathetically with our parallel creatures? What variations should we bring to our financial activities to minimize and eliminate our negative environmental impacts? Are we really insightful and reasonable enough to make this happen? Gradually, it would be clear that solutions to these problems will have to come from a number of sources.

Earlier it was the assumption that modern science and technology would provide the answers,

it is now clearer than ever that traditional knowledge, perhaps even more so than modern science, has critical insights and practices to offer, if the much longer history of responsible use demonstrated by traditional peoples is to be taken as an indicator.

To begin with it has to be a discussion of the terms traditional knowledge (TK) and sustainable development (SD). It drives on to exemplify how the two are inseparably linked, as well as how TK subsidizes to diverse characteristics of human wellbeing and progress. Thereafter, it fleetingly contemplates the damage of TK and probable tactics to revive or bear it in the sunlit of the wider requirement to protect the integrity of the system. This study does not go into great length about how to protect traditional knowledge in the face of current intellectual property rights regimes, as this is a topic that has been thoroughly researched and discussed in academic and popular literature around the human civilization¹.

Indeed, it is a matter of worry that indigenous knowledge is being misused and patented by others without the consensus of TK receptacles, and that rare, if somewhat, of the returns that trail is spitted with the groups where it initiated and exists. As a result of these issues, TK has risen to the highest of the global outline, flashing a animated examination about how to uphold, shield, advance, and use TK in a sustainable manner. Innovation of Traditional Knowledge Digital Library to text and digitalize TK-related data is demonstrating to be an efficient way of safeguarding TK and evading its stealing by third parties. So far as this field in concern, India is a forerunner².

Traditional Knowledge and Traditional Resources

Traditional knowledge refers to indigenous peoples' or local communities' long-held information, wisdom, customs, and practices. Traditional wisdom has been passed down from generation to generation in many circumstances. Stories, traditions, folklore, rituals, songs, art, and even laws are used to express some forms of traditional knowledge. Other types of traditional knowledge are frequently expressed in a variety of ways. The difference between traditional knowledge and contemporary knowledge is that, unlike the latter, TK does not differentiate between any spiritual or lucid information and spiritual knowledge, intuitions, and wisdom. It's frequently part of a cosmology, and the line between "intangible" information and actual objects is frequently blurred. Indeed, custodians of traditional knowledge frequently

¹ Traditional Knowledge and Sustainable Development, <https://www.researchgate.net/publication/237374065> , (last visited on July 29 , 2022)

² WIPO, [www.wipo.int, https://www.wipo.int/export/sites/www/meetings/en/2011/wipo_tkdl_del_11/pdf/tkdl_](https://www.wipo.int/export/sites/www/meetings/en/2011/wipo_tkdl_del_11/pdf/tkdl_) (June 23, 2022, 10:30 AM)

assert that their knowledge is inextricably linked to the natural and cultural setting in which it arose, such as their traditional lands and resources, as well as their familial and community relationships³.

Traditional knowledge, innovations, and practices about animals, plants, insects, or ecosystems can provide intriguing clues and a preliminary screen for extracting certain features of genetic resources found in nature. As a result, traditional knowledge (TK) has aided the development of new goods from genetic resources by a number of enterprises, making it important to the access and benefit-sharing (ABS) idea. While Article 15 of the Convention on Biological Diversity (CBD) does not address the issue of TK, Article 8(j) of the Biodiversity Convention necessitates each Party to:

1. Awe, stand-in, and endure knowledge, individuality, and observes of indigenous and local groups indicating traditional guidelines pertinent for the management and;
2. Use of an existing array that is acceptable;
3. Approve their broader plan with the participation and consent of indigenous and local communities (ILCs).
4. Reassure unbiased distribution of profits resulting from their use by promoting their broader submission with the sanction and involvement of those who hold such knowledge, originations, and practices;
5. The link between genetic resources and TK in the context of ABS is based on Article 8(j) of the CBD's second and third duties.

As a result, the CBD recognizes the importance of TK in modern society and recognizes that holders of such knowledge, inventions, and practices must be involved and provide their approval, subject to national laws, when those knowledge, innovations, and practices are applied more widely. States are also encouraged to share the benefits derived from the use of ILCs' knowledge, innovations, and practices fairly⁴.

SUSTAINABLE DEVELOPMENT AND TRADITIONAL KNOWLEDGE:

The awareness that TK is still relevant in today's environment is growing in popularity. Traditional knowledge has been emphasized in the Stockholm Declaration, the Conventions on

³Traditional Knowledge and Sustainable Development, <https://www.researchgate.net/publication/237374065> , (March 23, 2022, 10:30 AM)

⁴IUCN, https://www.iucn.org/sites/dev/files/import/downloads/short_paper_on_art_12 (March 23, 2022, 10:30 AM)

Bio Diversity, the World Conference on Sustainability Development papers, and a host of other international conventions and forums. The WIPO Association, the UN Labor Organization (especially Conference held 169), the Food agriculture Organization, the World Health Organization, UNESCO, the United Nations Environment Program, the United Nations Development Program, UN Commission on Human Rights, and a handful of other international bodies have all emphasized it.

The World Conference on Scientific knowledge, co-founded by UNESCO as well as the International Council for Science (ICSU), in its Proclamation on Scientific knowledge and the Use of Scientific Knowledge, emphasized the importance of traditional knowledge (TK) and the need to respect and encourage its use in a variety of human endeavors (ICSU 2002).

In June 2006, the Human Rights Council supported the UN Statement on Indigenous Peoples, recommending that the UN General Assembly adopt it. As per that, respect for indigenous knowledge, customs, and ancient traditions leads to achieving the sustainable development goals as well as successful sustainable development.

The fact that the United Nations Committee on Trade and Development (UNCTAD), which principally pacts with global fiscal subjects, has specified TK noteworthy heaviness is predominantly see-through. Meanwhile the members of UNCTAD determined to discourse the subject of the use and protection of traditional knowledge in 2000, it has reinforced work on the subject, as well as fetching together 250 specialists from 80 nations to examine the matter in October-November 2000. The book that resulted contains a number of papers on various areas of TK's role in mankind wellbeing and justifiable growth⁵.

The job of TK in the traditional or principal segments of the economy is extensively acknowledged: farming and pastoralism, woodlands, piscaries, water, and natural resource-based goods like as dexterities, equipment, and housing. Considering that the majority of the worldwide people still relies on such sectors for survival and livelihood, as well as for various aspects of shelter, TK's contribution to maintaining billions of people is evident (though not necessarily recognized in most governments' policies and programs).

The purpose of TK, is progressively understandable in the subordinate and third level areas of the economy. A varied array of manufacturing items trusts on or makes use of TK in some form. Textiles, medicines, household goods, and other industries are examples of this. Health care is to varied degrees depending on TK, or a combination of TK and current knowledge, in

⁵ Supra note 3.

all systems of medicine. Bestowing to World Health Organization (WHO), traditional health care systems concentrate on medicinal plants in some form or another for the bulk of the global total (up to 80% of the population in Africa). TK also contributes to the current pharmaceutical business and modern health care, according to numerous studies, and this contribution is certain to grow as persons in the western world (including westernized people in underprivileged nations) turn out to be gradually conscious of plant-based remedies. According to the WHO, 25% of current medications are derived from plants that have been used traditionally.

Services such as nutrition delivery, edification, weather prediction and cautionary and group care are still provided by traditional institutions, and in certain situations, instead contemporary administration or company establishments are witnessing the implication of this. Once Nourishment for Labor package in Nepal converted to using local technologies and networks, major food losses in the distribution chain were abridged. The minute old establishments (including the old birth attendant) were combined with contemporary communications, maternal mortality at childbirth was considerably reduced.

TK-related products and services have also made a major and continuous contribution to the trade sector, as recognized by organizations like UNCTAD.

Though considerably more recent, there is already a rising appreciation for the part that TK could take in humankind's response to the greatest thoughtful matter it aspects today is difference in weather. The conception that societies have revised their conduct, approaches, and acquaintance arrangements to variations in their surroundings throughout hundreds and millennia is important to this conclusion. Communities alter their agriculture, forestry, fishing, and hunting and gathering practices in response to delicate or not so delicate variations in weather, intimidations from other societies or attacks, ailment and speats, and so on. Old-style arrangements seem to be motionless; hitherto they are energetic when it comes to changes. Flexibility of this kind could be a critical feature in how we as a class retort to the paraphernalia of climate alteration and TK's place in all of the aforesaid areas could deliver the choices desirable to step on the way to a further supportable way of acting with our environment. By way of a design of the leeway of this, Canadian investigators, government establishments, and indigenous peoples are cooperating on climate change research and accomplishment that syndicates TK and modern knowledge. By means of its Executive Secretary Ahmed Djoghlaif said, during the Global Professional Session on Pointers Pertinent to Indigenous Peoples, the Biodiversity Convention, and the Millennium Development Goals, parties to the CBD, are

beginning to draw attention to this issue⁶.

Biopiracy of Traditional Resources and Associated Knowledge

Numerous incidents in India have been revealed in which efforts have been undertaken to wipe out indigenous knowledge due to its peaceful availability, upsetting food safety, indigenous people's maintenance, and even shifting buyer tastes. People who profit from stealing natural properties from emerging and less developed nations ornament, while others who profit from them agonize since they are paid just trivial amounts, if at all, and are not paid at all. When cosmopolitan partnerships or corporations earn from the therapeutic and farming uses of plants familiar to indigenous or native inhabitants and deny paying off such peoples, the word Biopiracy is commonly used. Alternatively, it refers to the confiscation of rights recognized by law over native bio informatics knowledge missing damages to native people who harvest such knowledge, commonly by patents. A sum of events of larceny of old Indian knowledge has been reported, most notably in plant categories such as Haldi (Turmeric), Basmati, and Neem. According to a 1999 study, the global market value of enterprises that use biological and genetic material is expected to be between \$500 and 800 billion dollars. Traditional knowledge in the herbal medicine and pharmaceutical industries is expected to be worth roughly \$5 trillion by 2020.

The question of prejudicial abuse of indigenous people bio resources and traditional knowledge, as well as disrespect for their unwritten laws and observes, has ascended, assuming it expressly more essential to esteem and safeguard such groups' rights over such properties. At both the national and international levels, efforts are being made to frame policies and act in order to design a protection system that does not jeopardize indigenous values, cultural heritage, or the permitted distribution of knowledge, properties, and originations over possessions that have been passed down for generations. The importance of communal sovereignty over knowledge of this kind must be featured, and each nation oblige to develop its own potentials that can only be directed by global outlines⁷.

Traditional Knowledge Resource Classification (TKRC), a ground breaking controlled cataloguing arrangement for systematic prearrangement, propagation, and salvage, was developed by Dr. V.K. Gupta, Senior Consultant and Leader of India's Traditional Knowledge

⁶Supra note 3.

⁷ India's Fight Against Agricultural and Medicinal Plants Biopiracy Its Implication on Food Security Traditional Rights and Knowledge Degradation, https://www.researchgate.net/publication/330903124_ (March 23, 2022, 10:30 AM)

Digital Library (TKDL) at the Indian Council of Scientific and Industrial Research (CSIR). TKDL is a one-of-a-kind tool that helps to save the country's traditional knowledge. The World Intellectual Property Organization has ratified the TKDL that is initiated on the Global Patent Arrangements. TKDL has grown up into a catalogue with 34 million pages of ready material on 2,260,000 therapeutic preparations in diverse dialects, straddling the philological split between knowledge uttered in Sanskrit, Arabic, Persian, Urdu, and Tamil and the dialects cast-off by patent offices. They've been interpreted in English, French, German, Japanese, and Spanish, among other dialects⁸.

BIOPIRACY OF TRADITIONAL KNOWLEDGE-AN OBSTACKLE TO SUSTAINABLE DEVELOPMENT⁹:

Biopiracy is the misappropriation and commercialization of indigenous populations' genetic resources and traditional knowledge. Biopirates benefit from freely available natural goods such as plants, seeds, and leaves by replicating ways utilized by local people to feed or care for themselves for generations. Pharmaceutical, cosmetic, and agri-food companies are the most common biopirates. They use biodiversity hotspots to manufacture ostensibly "new" items and use the patent system to ensure their monopoly on them. These goods are frequently influenced by techniques and information that have been passed down through generations of local communities, sometimes for thousands of years. By duplicating old procedures, these companies save money on R&D while also securing a steady stream of revenue through special viable tradition of the progressions.

The grant of patent with respect to organic elements and life arrangements weakens the notion of shared goods, which has long been the guiding principle in natural resource management. It has turned public commodities into individual belongings by co modifying them. Intellectual Property Rights (IPRs) are a western notion designed to exploit emerging nations. Among nations of this kind, knowledge was shared amid members of public and came down from cohort to cohort, finally fetching shared knowledge.

Emerging nations are being harmed by Biopiracy shared knowledge, traditional perception, and country wide inheritance, as well as posing a menace to numerous Asian and other evolving nations' economic interests. Biopiracy has also resulted in the dilemma of national sovereignty

⁸ Ibid

⁹ Biopiracy of Traditional Knowledge – An Obstacle to Sustainable development, http://www.macollege.in/app/webroot/uploads/publishers_file/doc_64 (March 23, 2022, 10:30 AM)

being violated once an distinct person, company, or administration from other nation observes and proceeds from the patenting of genomic properties resulting from native species and local knowledge of other sovereign states. The process of stealing traditional properties denies the concept of humanity's common inheritance, as well as the nation's independent rights to its particular resources.

As a nation India is blessed with the most diverse biological resources of the globe, which encourages foreign corporations to investigate these richer resources. In the last two decades, India has been grappling with the issue of biopiracy. The biological materials developed in India have been exported and patented in other countries. People in India have reacted strongly to the issue of biopiracy because it threatens the livelihoods of the majority of people who live in rural areas and rely heavily on agriculture and traditional knowledge.

Cases on Biopiracy:

1. **Basmati Rice:** Rice Tec, Texas, USA, patented Basmati Rice in 1997 as scented rice. Four claims of its originality were recently withdrawn in response to APEDA challenges. Rice Tec's application of the word Basmati was also opposed basing on violation of trademark and desecration of Geographical Indication. The Global Centre for Technology Assessment and the Research Foundation for Science, Technology, and Ecology, on the other hand, have paraded a litigation to undermine the use of the term Basmati to rice diversities grownup in India.
2. **Turmeric:** In the United States, a patent granted to the University of Mississippi Medical Center (for wound healing) was cancelled after CSIR filed a challenge.
3. **Neem:** A patent issued to WR. Grace & Co. in the United Kingdom and the United States Department of Agriculture was vacated after a challenge.
4. **Karela, Jamum and Brinjal:** Cromak Research Inc. has been granted a patent on palatable herbal conformations negotiating the groupings of the aforesaid to reduce sugar heights.
5. **Aswagantha:** Relive International Inc. was given a patent for Aswagantha as a supplement for healthy joints, and the patent office of the United State as well granted a dozen patents on Aswagantha-related detections.

Initiatives Taken in India for Protecting Traditional Knowledge from Biopiracy

1. Traditional Knowledge Digital Library (TKDL)¹⁰:

The TKDL is India's domestic effort ensure that patent offices around the world do not grant patents for submissions based on India's millennia-old legacy of traditional knowledge, the Council of Scientific and Industrial Research (CSIR) and the Department of AYUSH have joined forces. TKDL risen, as a result of India's hard work to have the United States Patent and Trademark Office eliminated the patent on the injury-healing competences of turmeric and the European Patent Office withdraws the patent on the antimycotic appearances of neem. Though these exertions were fruitful, they were also exceptionally costly and onerous.

The TKDL has broken down these language barriers and is filling in the gaps in TK data at the most important patent headquarters. Using digital resources and a revolutionary Conventional Knowledge Resource Classification System, the TKDL has changed and converted historical materials into 34 million Advanced 4 g sheets and interpreted them into English, French, German, Japanese, and Spanish – the leading languages of the global market (TKRC)

Thanks to the TKDL, India may now protect about 0.226 million medicinal compounds at no direct cost. Patent examiners can use the database to identify applications that clearly need not satisfy the originality criteria early on. The method of scratching a patent can be expensive and onerous in absentia of a database like the TKDL. Conflicting a patent settled by a patent office takes on usual five to seven years and cost estimated between 0.2 and 0.6 million dollars. Once it is bourgeoned this by India's 0.226 million medicinal designs, it's vibrant that shielding them without a TKDL would be prohibitively expensive.

The TKDL is an inimitable, exclusive catalogue that syndicates Ayurveda, Unani, Siddha, contemporary discipline, and current medication, as well as a diversity of knowledge systems and dialects, counting Sanskrit, Arabic, Urdu, Persian, Tamil, English, Japanese, Spanish, French, and German. It is founded on a set of 148 prior art books on Indian Classifications of Medicine that cost roughly \$1,000 each. The TKDL makes these books of knowledge available to patent examiners all over the world. Sanskrit slokas can now be read by electronic means in English, French, German, Japanese, and Spanish by examiners at the EPO and other patent offices.

Each patent office that has contracted a TKDL Entree (Nondisclosure) Agreement have

¹⁰ Supra note 2.

admission to the TKDL. Patent examiners can only utilize the TKDL for searching and examining patents under such an arrangement. The TKDL's contents may only be given to third parties for citation purposes. Non-disclosure provisions are established into the TKDL Access Agreement to protect India's interests and prevent any potential misuse.

TKDL Access Agreements have been signed by India with the EPO, as well as the patent offices of Australia, Canada, Germany, the United Kingdom, and the United States. Consultations with the patent offices of New Zealand and Japan are also ongoing, with an arrangement in attitude before now accomplished.

The TKDL has a global biopiracy watch system that allows it to keep track of patent applications for Indian medical systems. It allows for the effective detection of attempts by third parties to embezzle this knowledge by filing patent submissions with patent office all over the world. It suggests that rapid and low-cost corrective action can be performed to prevent biopiracy. Too far, India is the only country that has implemented such a system.

2. People's Biodiversity Register¹¹:

It performs the following important functions:

- a. To regulate access to the country's biological resources with the goal of ensuring an equitable share of benefits arising from their use, as well as associated knowledge relating to biological resources;
- b. to conserve and sustainably use biological diversity;
- c. To regulate access to the country's biological resources with the goal
- d. of ensuring an equitable share of benefits arising from their use, as well as associated knowledge relating to biological resources;
- e. Conservation and development of areas of biological diversity importance by designating them as biological diversity heritage sites;
- f. protection and rehabilitation of threatened species; and
- g. Involvement of state government institutions in the broad scheme of the Biological Diversity Act's implementation through the formation of committees.

¹¹ Biodiversity, www.hypiodiversity.gov.in, <https://hpbiodiversity.gov.in/Pdf/PBR%20> (March 23, 2022, 10:30 AM)

3. Biodiversity Management Committee (BMCs)¹²:

The BMCs play the following important role:

- a. The BMC's main mission is to ensure biodiversity protection, sustainable use, and equitable distribution of benefits.
- b. The BMC will make it easier to create PBRs.
- c. The PBRs will comprise wide-ranging statistics on the accessibility and knowledge of homegrown biological resources, their therapeutic or other usages, and any other traditional knowledge associated with them.
- d. The BMC will be in charge of ensuring the protection of the knowledge recorded in the PBR, particularly in terms of regulating access to outside agencies and individuals.

Conclusion

As a member of the World Trade Organization, India's government has been forced to alter its laws to comply with the TRIPs Agreement, which allows for the patenting of biological materials and ideas. The revised Indian Patent Acts provide for more expansive interpretations of patentable innovations. They also enacted legislation to protect farmers' and community rights as a countermeasure. Foreign firms and other agents must go through national formalities in order to gather or use their natural resources. In the past, obtaining approval for the gathering of biological resources was a simple process. The situation, however, has altered. Material gathered by foreign companies or individuals may be patented to give them exclusive rights to use it. Emerging nations have become extra voiced in the global arena over the last two decades. They have begun to collaborate with one another, posing a barrier to technologically advanced nations. This would aid developing countries in their political negotiations with developed countries, as well as aid in the resolution of the bio-piracy problem¹³.

Traditional Knowledge (TK) is plentiful in India, yet the country is unaware of its relevance and utility in the current economic climate. As a result, bio-piracy has been a problem for the Indians on multiple occasions. Their cultural identity revolves around traditional wisdom. Thousands of indigenous cultures have lived in India for generations, passing down wisdom from generation to generation. They have no idea how valuable their valued culture,

¹²Ibid.

¹³ Supra note 9.

knowledge, traditions, medicines, and way of life are. Even they are unaware of the deadly consequences of bio-piracy. Because of the indifference and failure of Indian legislation, it is feasible. Traditional knowledge needs to be protected as a condition sine qua non for its preservation and development. Increased emphasis on commercialization raises concerns about its preservation. Biopiracy poses a significant threat to TK. The native people who live in and around the forest rely on the forest's resources for their survival. It is vital to safeguard indigenous people's knowledge and traditions in order to protect them. Countries developing a protection system must take a holistic approach, considering concerns such as equity, ethics, the environment, sustainable resource use, socioeconomic structure, and indigenous peoples' empowerment. There has been widespread exploitation of traditional knowledge without an equitable distribution of benefits, necessitating immediate changes and new enforcement measures aimed at ending this unethical practice of bio-piracy. In modern society, there needs to be a higher awareness of Intellectual Property Rights and patents, as well as native community rights. All of this has had a negative impact on the nation's cultural and ethical norms. To combat the evil of biopiracy, we must promote our basic values and concern for the well-being of others. The cultural side of this topic has received the least attention.