THE PROTECTION OF TRADITIONAL KNOWLEDGE IN INDIA: A WAY AHEAD TO MAINTAIN SUSTAINABILITY

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Abstract

In the current scenario, the world has been facing crises at the expense of growth and development that have impacted the remotest of corners of the world. Despite substantial improvements in indicators like technology, education, poverty reduction, increasing health index, etc., the world faces the burden of depleting natural resources globally to meet these demands of growth and development. This concern often poses a question of sustainability in developing countries like India, which is struggling to manage the complexities of the world because of the mass exploitation of its rich natural resources. In this aspect, it is appropriate to acknowledge the role of traditional knowledge of local communities which forms a criterion for maintaining this ecosystem without recognition and appreciation due to no proper law made to regulate the same.

This paper provides insights on the scenario wherein for the sake of growth and development, there has been an erosion of traditional knowledge in many parts of India. It has been exploited by modern science and technological bodies because of its accessibility and efficacy, specifically the knowledge regarding the treatment of different diseases, medicinal properties, etc. These increasing cases of bio-piracy are threats to the traditional knowledge of the local communities without acknowledging intellectual property rights.

However, the steps taken by the judiciary to protect the traditional knowledge of the local communities via patent laws cannot be neglected. The author by employing the doctrinal methodology of the research has analysed the steps taken by the judiciary in light of the recent judgment M/s.The Zero Brand Zone Pvt. Ltd. v. The Controller of Patents & Designs,

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for the protection of traditional knowledge of local communities via patent laws. The paper also discusses the sufficiency of patent law regarding the same and the need for sui-generis law for the increase of spread and sustainability of traditional knowledge in India.

Keywords: *Traditional Knowledge, Sustainability, Indigenous Community, Patent Law, Intellectual Property Rights*

1. Introduction

Traditional Knowledge can be termed as 'the knowledge which is developed by the local community of a given area which is transmitted from one generation to another via oral tradition, networks, communal connections etc. for proper resource management.' The World Bank also defines it as 'a large set of knowledge, experiences and skills which is developed outside the set of formal educational system' that people apply to improve and sustain their livelihoods.[1] However, the concept of traditional or indigenous knowledge has different forms, although the meaning may seem synonymous, and it is not restricted to a specific population or community. In the face of growing inequalities in environment around the world, it has been realized that these traditional knowledge systems act as an important key driver for sustainable development- 'development that meets the requirements of the present without compromising the needs of the future generations.'[2] It is pertinent to observe that the traditional knowledge and the communities are rich in political, social, economic and natural resources etc, which are pivotal for poverty reduction, better livelihood and maintaining sustainable environment.

Since time immemorial, these indigenous communities across the globe have co-existed with their traditional knowledge and their environment without any appreciation and recognition because its roots are not within formal institutions. It was via United Nations Conference on Environment and Education 1992, the Brundtland Commission that the idea of traditional/indigenous knowledge was worldwide recognized, and its efficacy was appreciated. These events proved that the knowledge should not be restricted to tribal people or traditional communities in a specific area, but it should be used for the sustainable

[1]Dr. Senapati Nayak & Smt. Rasika Lonkar, "Indian Indigenous Knowledge System and Sustainability: A Significance Way to Maintain Sustainability" 5 *International Journal of Research Publication and Reviews* 6113, 6112-6118 (April 2024).

[2]Sustainable Development, The Brundtland Report 41, *available at:* https://www.are.admin.ch/are/en/home/media/publications/sustainable-development/brundtland-report.html

development of the nations across the globe. This knowledge has time and again contributed to cater the environmental problems and ecological crisis at large. It is well established that India is rich in the cultural diversity and indigenous knowledge and over the years, it has developed its own knowledge system which passes on from one generation to another, with this India serves as a repository of traditional knowledge which is rich in all aspects of knowledge systems. Most of the Indian population meets its daily needs from the indigenous environment and the knowledge derived therein. This establishes a very close interconnection between indigenous community and their environment, and they conserve the same for sustainable use.

2. Significance of Traditional Knowledge

Traditional Knowledge connotes collective wisdom, any practices and innovations which are passed on from one generation to another within a particular indigenous community. It covers a wide range of disciplines, comprising agriculture, medicine, heritage, crafts etc. Traditional Knowledge in all these disciplines plays a major role in enhancing efficacy. Some of them have been discussed by the author as below.

2.1. Traditional Knowledge and Agriculture

Traditional Knowledge plays a pivotal role in in transforming the biodiversity into bioresources. Biodiversity and associated traditional knowledge are an important strength of the developing countries today specifically in the areas of agriculture and Horticulture.[3] Indigenous men and women from past many generations have bred races of several cash crops, food and Horticultural Crops produced out of wild plants of forests known as indigenous varieties and these act as the foundations of the advance and modern approach of plant breeding and global food security. These indigenous communities have identified and some-how managed to develop chain of genes via cross breeding and selection. These genes possess potential traits of pest and disease resistance, high salt tolerance, tolerance to waterlogging etc.[4] In order to produce these types of crops which can withstand varied climate changes like global warming across agricultural zones, international scientists visit various tropical regions and are dependent on traditional knowledge of the local community or local

[3]Prof S. Kannaiyan, "Biological Diversity and Traditional Knowledge" National Biodiversity Authority (July 19-20, 2007), *available at:* http://nbaindia.org/uploaded/docs/traditionalknowledge_190707.pdf

[4]*Id* at 6.

farmers and with the help of the blend of traditional knowledge with local varieties of crops, they will be able to produce high yielding crop varieties with a combination of pest and drought resistance which will ultimately contribute in achieving sustainable development goal as well.

2.2. Traditional Knowledge- Health care and Herbal Medicine

A well-developed system flourished in India in the Vedic period around 3000 BC. The medicine system in India, owing to the strong cultural roots is still dynamic and acts as a nucleus for providing the health and livelihood needs to many people in India specifically the tribal and rural communities. As per World Health Organization, it is estimated that 80% of the population in the world have incorporated indigenous system of healthcare at one time or the other.[5] In current years, these alternative medicines having its basis on traditional knowledge have attained lot of acceptance across the world. In India, the traditional Indian medicines are the traditional systems of healthcare which are practiced in India over decades and still majority of the people are dependent on this method of healthcare The major traditional system are Ayurveda, Yoga, Siddha, Naturopathy and Unani but there are various other alternative therapies like music, leech, photo, aroma etc in the traditional health care systems which are practiced in India.[6] Different indigenous communities are having invaluable knowledge of various herbal remedies, healing techniques that have been practiced and refined over centuries. These communities derive these remedies and herbal medicines from different genetic resources. The international market of medicinal products which are derived from the genetic resources in also huge.

The total herbal market across the globe is 201 billion dollars and this market is anticipated to grow at a CAGR of 7.22% from 2024 to 2032 and the worth be 375.60 billion dollars by 2032 and in 2024, it will account to 215.4 billion dollars.[7] Countries like China and Japan have marketed their traditional medicines abroad successfully, on the other hand, India is still struggling to make its traditional medicines market successfully abroad due to lack of proper mechanism for its protection and recognition.

[5]*World Health Organization, Integrating Traditional Medicine in Health Care, (Jan. 23, 2023), available at:* https://www.who.int/southeastasia/news/feature-stories/ detail/integrating-traditional-medicine#:~:text=More%20than% 2080%25%20of%20the, and%20acupressure%2C%20and% 20indigenous%20therapies

[6]Kannaiyan, supra Note 3, at 7.

[7]*Market Data Forecast, Global Herbal Medicine Market Size (June 2024), available at:* https://www.marketdataforecast.com/market-reports/herbal-medicine-market

2.3. Traditional Knowledge and Cultural Heritage

Heritage is often associated with the different and distinct identities of our people. It can be bestowed on us by our ancestors and by nature. Heritage can also be defined as traditional knowledge which is the creative production of language, human thought, cultural expressions and craftsmanship which are produced, acquired and inspired, for instance dances, stories, pottery, artworks, ecological, technical and agricultural knowledge and skills which are required to implement these technologies and biodiversity which comprises of animals and plants and microorganisms and varied diverse ecosystem which we have sustained and nurtured.[8]

Indian Cultural Heritage acts as a repository of community celebrations, sacred rituals, indigenous languages and ancestral wisdom. This heritage is required to be preserved as it is a reaffirmation of self-determination, sovereignty and self-determination and it also plays an important role in fostering intergenerational continuity, social cohesion and resilience within indigenous societies.[9] Cultural Heritage acknowledges the core value of indigenous knowledge system and their contribution to global diversity and sustainable development.[10]

3. The Impact of Traditional Knowledge on Sustainable Development Goals

The traditional knowledge in India can contribute significantly to achieving sustainable development goals, specifically goals relating to eradication of poverty (Goal 1) and promoting well-being and good health (Goal 3) in India.[11]

3.1. Traditional Knowledge and Eradication of Poverty

a) Traditional Livelihoods: Traditional knowledge system of India comprises of different sustainable practices of livelihood comprising of handloom weaving, small-scale industries, organic farming and handicrafts.

[8]Kannaiyan, supra Note 3, at 2.

[9]Simran Kaur Khalsa, IP and Indigenous Communities: Protecting Traditional Knowledge and Cultural Heritage (April 26, 2024, 10:15 PM), *available at:* https://depenning.com/blog/ip-and-indigenous-communities-protecting-traditional-knowledge-and-cultural-heritage/ (last visited on 09.02.2025).

[10]*Ibid*.

[11] *The 2030 Agenda for Sustainable Development*'s 17 Sustainable Development Goals (SDGs), *available at:* https://sdgs.un.org/sites/default/files/2020-09/SDG%20Resource%20Document_Targets%20Overview.pdf

Protecting and promoting their traditional knowledge will create more employment opportunities and will uplift the rural economies, thereby leading to reduction in poverty.

b) Community Based Development: Generation of traditional knowledge lays importance on community cohesion and support system like self-help groups etc., which can be leveraged to empower socially and economically marginalized communities.[12]

c) Skills Development: Traditional Knowledge comprises of skills like of artisan crafts, sustainable resource management and herbal medicine preparation. Conduction of training programmes can revive and enhance the skills which can enhance the local community's income-generating capacities.

d) Resource Management: Traditional knowledge of natural resources management like traditional water harvesting techniques, forest conservation practices and sustainable agricultural practices can help in reduction of poverty and ensuring sustainable usage of resources.[13]

3.2. Traditional Knowledge and Good Health & Well-being

(a) Herbal and Ayurvedic Medicine: Ayurvedic is an ancient Indian system of medicine which promotes holistic health via yoga, lifestyle practices, diet and natural remedies. Mixing these ayurvedic principles with modern healthcare systems can promote well being and reduce the burden of diseases.

(b) Yoga and Mental Health: Yoga, originating from India, lays importance on physical and mental well-being via beathing techniques, yoga. Promoting yoga can lead to mental health resilience and over all improvement in the well-being of the population.[14]

(c) Nutrition: Traditionally Indian Diets are nutritionally rich, so promoting indigenous food systems can cater to the problem of malnutrition and improve the overall health outcomes.

(d) Environmental Health: Traditional ecological knowledge promotes the relationship between nature and human, which is important for well-

[12]Sangita Pramanick & Jayanta Mete, *Impact of Indian Knowledge Systems on Sustainable Development Goals* (2024), *available at:* https://www.kdpublications.in

[13]*Ibid.*

[14]Khalsa, supra Note 9.

being. Practices like conservation of forest and organic farming can contribute to sustainable health and clean environments.[15]

4. A Menace of Biopiracy

It is the often termed as violation of rights of traditional and indigenous communities over their traditional knowledge and biological resources. The consequences of the biopiracy are economical and ethical as well. For instance, obtaining IPRs namely Plant Breeders Rights or patents garner monopoly control over the biological resources, traditional knowledge related to it, or commercial products which are produced based on their knowledge or resources. Once an IPR is acquired by a bio pirate, the original holders of that traditional knowledge are barred from deriving any commercial benefit out of the same, resulting into a scenario where a community will not able to sell an indigenous product that is covered by an IPR.[16] The sole monopoly is vested with the IP holder in regards to the use of the IP protected knowledge, which implies that the indigenous communities who are the original holder would have no right over the traditional knowledge or resource.[17]

Another major problem which the indigenous community faces is in relation to bioprospecting, an investigation of biological resources for new commercial uses for economic, social and global development. The problem in relation to bioprospecting is when it leads to biopiracy or environmentally unsustainable practices like collection of huge quantities of different samples from an area. This terminology 'bioprospecting' over a period has acquired a very negative aspect and is often used in a sense which implies that bioprospecting will necessarily lead to biopiracy and often the indigenous community find bioprospecting offensive reason being that it seeks to exploit the biological resources commercially and related traditional knowledge which are sacred or which the basic support for their livelihoods.[18] There are number of instances where biopiracy was exercised and the same was opposed by the indigenous communities of India.

4.1. Case Study- Neem

Neem (Azadirachta indica), a very common and famous tree species of India with high medicinal value and due to its high medicinal value, numerous patents

[15] *Id* at 190.

[16] Kannaiyan, supra Note 3.

[17] *Id* at 4.

[18] *Id* at 5.

were also filed taking this attribute as the base of the invention. This led to a huge uproar amongst the Indian users who refused to accept and challenged the two patents- (a) "to a European Patent Office- patent for fungicidal effects of neem oil(Patent No. 436 257 B1) owned by W.R. grace & Co., and (b) to the US patent for a storage- stable azadirachtin formulation (Patent No. 5124349) also owned by W.R. Grace."[19] In the year 2000, these patents were revoked by EPO because of the lack of invented step and novelty. Patenting Neem had a very substantial socio-economic impact as all the urban, rural, semi-urban indigenous communities are aware of neem's health benefits. Indigenous and heterogeneous communities were also equivocal for the opposition of patenting neem by an American Company.[20]

4.2. Case Study- Rosy Periwinkle

This is another very famous case study where biopiracy was exposed against an American Company Eli Lilly, a Pharma Company established in Arizona in 1876. It is a plant which is grown in the region of Madagascar. In 1950, researchers of this pharma company heard about the medicinal properties of this plant and collected samples from Madagascar. The researchers isolated the samples and tested the components namely vincristine and vinblastine, as unearthed from the indigenous experts of the region.[21] In this whole process of testing, they identified alkaloids which can be proved very effective in treating childhood leukaemia with its success rate been 90 percent. In this year itself, the company started marketing it and started to earn profits namely for vincristine for the company. The natives who belonged to Madagascar and who originally identified the medicinal value and properties of Rosy Periwinkle, never received any share in the profits earned by the company because of lack of efficiency in the laws for benefit sharing.[22]

4.3. Vulnerability to Biopiracy and Traditional Communities

Various traditional and indigenous communities are vulnerable to biopiracy because they don't consider their crops, livestock from forests, seeds and related knowledge as private property but as property which belong to all

[19]Shambhu Prasad Chakrabarty & Ravneet Kaur, "A Primer to Traditional Knowledge Protection in India: The Road Ahead" 42 *Liverpool Law Review* 406 (2021)

[20]*Id* at 407.

[21]*Ibid.*

[22]William Fisher, "David L. Lange Lecture in Intellectual Property: The Puzzle of Traditional Knowledge" 7 *Duke Law Journal* 1511–1578 (2018).

in general. For majority of indigenous communities, the concept of private ownership of these natural resources are alien to them which also is one of the factors which is hindering the fruits of IPR from them. These indigenous or traditional communities are ignorant about their laws and the existing IPR regime, and even if the law is known to them, they lack power to enforce these laws for preventing biopiracy or get some form of agreement of benefit-sharing, because of the factors like illiteracy, lack of financial resources and low social status.[23]

5. Protection of Traditional Knowledge- An International Regime

5.1. The Convention on Biological Diversity (CBD, 1992)

The Convention recognizes the importance of traditional knowledge and the inherent objective of biological diversity at a global level which plays a very important role from indigenous people's perspective and the traditional communities. This Convention provides recognition to the rights of the countries via the provisions of Article 8(j) which elaborates the provisions for the maintenance of the benefits which arises by the protection of traditional or indigenous knowledge.[24] There are various other provisions of CBD as well which protect the traditional knowledge of indigenous communities and their biodiversity, for instance "Article 10 (c) – 'Encouraging and protecting customary use of the biological resources as per the traditional cultural practices which are compatible with the requirements of sustainability and conservation', Article 15 (1)-' Authority to determine the access resting with national government' and Article 15 (2)-' Each contracting party shall facilitate- tribal knowledge, life and biodiversity' in such a way that the accessibility of genetic resources for environmentally sound uses by different contracting parties and non-imposing restrictions that can be counter to the aims and objectives of CBD."[25]

5.2. World Bank

As per the World Bank, operational directive 4.20, 1991, "The identification

[23]Kaur, supra Note 19, at 5.

[24]Lakshmi Priya Vinjamuri & Rajesh Bahuguna, "Legal Protection of Traditional Knowledge for Environmental Sustainability – A Study in India vis-à-vis International Context" 17(2) *Asian Journal of Environment & Ecology* 28-36 (2022)

[25]Secretariat of the Convention on Biological Diversity, UNEP Montreal, Convention on Biological Diversity- Texts and Annexes (2011), *available at:* https://www.cbd.int/doc/legal/cbd-en.pdf.

of Indigenous peoples can be done in specific geographical areas by the presence in differing degrees of the following facets-

- Attachment to ancestral territories and to the natural resources in these areas,
- Self-identification and identification by others as members different from cultural group,
- Indigenous language distinct from national language,
- Presence of customary social and political institutions, and
- Primarily subsistence-oriented production."[26]

5.3. International Labour Organization Convention

ILO Convention on Indigenous and tribal people is one of vital instruments in relation to indigenous peoples and was adopted in 1989.[27] "The International Labor Organization's Convention in relation to tribal and indigenous peoples in independent countries which differentiates between indigenous and tribal people, highlighting the significance of self-identification[28]-

I. (a) Tribal peoples in independent countries whose economic, social and cultural conditions distinguish them from other parts of the national community, and whose status is regulated partially or in toto by their own set of customs or traditions or by special laws or regulations; (b) Peoples belonging to independent countries, often referred to as indigenous on account of their descent from the populations which inhabited the country, or a geographical area to which the country belongs, at the time of colonization or the establishment of current state boundaries and who, irrespective of their status, retain some or all of their own cultural, political, social and economic institutions.

II. (b) Self-identification as indigenous shall be regarded as a basic criterion for determining the groups to which these provisions of this convention are applicable. The importance and significance of trees and plants in these indigenous people's life is not restricted to economic viability and advantage but is ingrained in traditional, cultural perspective for preserving the age-old tradition of these people in an area."[29]

[26]The World Bank Operational Manual, 1991.

[27]IFC, Environmental, Health, and Safety Guidelines, 2007, *available at:* https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines.

[28]Bahuguna, supra Note 24, at 30.

[29]*Ibid.*

5.4. United Nations Declaration on The Rights of Indigenous People, 2007

> "Article 26 of this declaration clearly states that indigenous people have the right to own, develop and use their land, air, water, coastal seas and other resources which they have traditionally owned or occupied. This comprises the right to complete recognition of their customs, laws and traditions for development and management of resources and the right to effective measures by States to prevent any interference with encroachment upon these rights."[30]
>
> "Article 27 states that indigenous people have right to the restitution of the lands, resources and territories which they have traditionally owned or occupied or damage without their free consent. In situation where this is not possible, they have right to get fair and just compensation. Unless otherwise freely agreed upon by the concern people, compensation shall take the form of lands, resources and territories equal in size and quality."[31]

6. Sui generis Legislation and other Initiatives to Combat Biopiracy- India

Sui Generis means something exclusively and customized for a specific jurisdiction. Sui generis legislation came into force to cater the issue of traditional knowledge. The incorporation of traditional knowledge and IPR were not simple, to make this happen, two concepts evolved; a) Amending the current IPR laws and make required changes to inculcate traditional knowledge and its derivatives, and b) To come with a suitable legislation for promoting and protecting traditional knowledge within IPR.[32] The jurisdictions within World Trade Organization have made requisite alterations in their legal system for accommodating traditional knowledge within the IPR regime. India inculcated traditional knowledge by amending the current IPR laws and creating new ones. As a matter of practice, the responsibility of protecting the traditional knowledge globally vests upon WIPO of WTO who are then occupied with the responsibility for TRIPS to make strategic changes to accommodate

[30]United Nations Declaration on the Rights of Indigenous Peoples, 2007, art. 26.

[31]*Ibid.*

[32]Bahuguna, supra Note 24, at 410. Justus Wanzala, "Kenya works with communities on Genetic Resources and Traditional Knowledge Protection", *Intellectual Property Watch*, (February 17, 2017), *available at*: https://www.ip-watch.org/2017/02/15/kenya-works-communities-genetic-resources-traditional-knowledge-protection/.

traditional knowledge and traditional cultural expressions.[33] The legislations that India came to protect traditional knowledge in India are " The Geographical Indications of Goods (Registration and Protection) Act, 1999",[34] "The Biological Diversity Act, 2002",[35] and the "Protection of Plant Varieties and Farmer's Rights Act, 2001".[36]

The Sui generis systems per se have been significant in protecting traditional knowledge in most of the jurisdictions. However, WIPO was originally responsible for the protection of traditional knowledge and traditional cultural expressions worldwide. The absence of any law for the same from WIPO has been lately felt by WIPO, that is why WIPO came up with WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge in the WIPO Diplomatic Conference 2024 for giving protection to traditional knowledge and associated traditional knowledge (discussed in the later part of the paper).

6.1. Sui generis Strategies Developed in India to Protect TK

Initially, WIPO was working on complex and intertwined positions but was not able to arrive at any scientific conclusion in this relation.[37] Paris and Berne Convention, highlights that IP is territorial in nature. "The extraterritorial application of this public domain would attract the same rules that is in relation to extraterritorial application of IP and other laws."[38] The Sui generis strategies that initially developed in India, witnessed activism to protect traditional expertise from being patented in Europe and America. The controversies pertaining to Neem and basmati created enormous pressure for more simplified sui generis protection of traditional knowledge.[39]

6.2. Traditional Knowledge Digital Library (TKDL)

This was one of the strategies which was developed by government of India to combat biopiracy and it took around eight years to materialize the same

[34]The Geographical Indications of Goods (Registration and Protection) Act,1999 (Act 48 of 1999).

[35]The Biological Diversity Act, 2002 (Act 18 of 2003)

[36]The Protection of Plant Varieties and Farmer's Rights Act, 2001 (Act 53 of 2001)

[37] Fisher, Supra Note 22 at 1554.

[38]Ruth Okediji, "Traditional Knowledge and the Public Domain" Centre for International Governance Innovation Papers No. 176 (2018), *available at*: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3202976 (last visited on 20.12.2020).

[39]Bahuguna, supra Note 24, at 411.

and enhancing the efficacy. Traditional Knowledge Digital Library or TKDL was established with the aim of incorporating a list of codified traditional knowledge practices in India. This list comprises of more than thirty-five thousand formulations of medicines and are available online to cater requisite information to trademark and patent examiners in prospective jurisdictions offices, refraining them from the grant. The data in this list is available in five UN languages namely French, German, English, Spanish and Japanese.[40] After this establishment of TKDL, there has been a significant decline in the cases of biopiracy and trivial filing of patent applications in relation to Indian Systems of Medicines (ISM).

But amidst this positive development abroad, a major loophole was detected. It was found that the Patent Office in India granted various patents on ISM, turning a blind eye on TKDL.[41] After a review of such cases dating back to 2005, it revoked various patents granted which violates traditional knowledge. Later an agreement was signed by TKDL with IPO on similar lines of EPO and various patent offices of Australia, Canada, UK, US etc. As a result of the same, there has been a great economic impact on the local pharma industry in India. This success of TKDL, led to changes by WIPO. The International Patent Classification (IPC) of WIPO adopted the Traditional Knowledge Resource Classification System (TKRC), a unique TKDL classification system. "The International Patent Classification (IPC), established by the Strasbourg Agreement 1971, provides for a structure in hierarchy for independent language symbols for patent classification and utility models as per different strata of technology to which they pertain, ad a new version of the IPC enters into force each year on 1st January."[42]

Another major success was the identification of around 1155 biopiracy claims at different IPOs by the team of TKDL.[43] As a result of the same, many of them were restrained legally from same malpractice. Thus, TKDL turned out be very successful defensive process for stopping biopiracy, as

[40]Id at 413.

[41]Chidi Oguamanam, "Towards a Tiered or Differentiated Approach to Protection of Traditional Knowledge (TK) and Traditional Cultural Expressions (TCEs) in Relation to the Intellectual Property System" 23 *The African Journal of Information and Communication* 1 (2019).

[42]Harvey Brooks, "The relationship between science and technology" 23(5) Research Policy 477–486.

[43]Sen, Saikat & Raja Chakraborty, "Revival, modernization and integration of Indian traditional herbal medicine in clinical practice: Importance, challenges and future" 7 Journal of Traditional and Complementary Medicine 234–244 (2017).

they carry on their efforts to improvise their database of 150 books, on the areas like Ayurveda, Siddha, Yoga and Unani.[44]

6.3. National Innovation Foundation (NIF)

Apart from TKDL, NIF is another pioneer which proved to be successful in protecting and promoting traditional knowledge. NIF comprises of team of experts which involves in facilitating the knowledge holders for protecting their innovation as per the current IPR regime. They also provide support for the conduction of prior art searches and patent filing to people who are not aware of the legal intricacies that their TK may possess with their miraculous knowledge. NIF was established in the year 2000 by the Department of Science and Technology in order to prevent biopiracy and IP protection of TK and its ancestral knowledge and the credit for the same must be given to eminent Professor Anil Gupta of IIM, Ahmedabad. NIF has helped substantially in the last two decades from its establishment for protecting traditional knowledge.[45]

6.4. The Biological Diversity Act, 2002

This legislation mandates the formation of Biodiversity Management Cells at local bodies of all levels significantly for biodiversity conservation. A Public Biodiversity Register is prepared by BMC which covers all the information on the knowledge of biological resources and its availability in their jurisdiction and also their medicinal or any use in relation to traditional knowledge associated with them.

6.5. The National IPR Policy 2016

This policy recognizes that the monetization of knowledge is not a part of Indian culture but also contends that it is not compatible with the global regime and calls for converting knowledge into intellectual asset for which economic reward could be attained via commercialization.

6.6. Indian Knowledge System

Ministry of Education's Indian Knowledge Systems innovative cell is located at AICTE, New Delhi. It's aim is to advance the interdisciplinary study of all aspects of IKS and conserve the same for use in future for research

[44] *Ibid.*

[45] Bahuguna, supra Note 24, at 414.

and societal applications. It is also aimed at disseminating nation's rich cultural heritage and traditional knowledge in the fields of arts, management, architecture, agriculture etc.

7. Recent Developments for Protecting Traditional Knowledge

7.1. WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge

This WIPO Diplomatic Conference culminated in a treaty which is representing a consensus on the base material in comparison to the critical examination of the requirements of developing nations rich in traditional knowledge and genetic resources.[46] This treaty which avoided this conundrum for decades, now has marked shift in the IP landscape.[47] The general perspective of this treaty shows light that traditional knowledge should transition from being community held to being patented and globally shared via disclosure of source of its origin. An underlying aspect lies in the prioritization of innovation and patents over the issue of disclosure of traditional knowledge and genetic resources.[48]

This treaty's major objective is to rectify the issue of erroneous patents which used associated traditional knowledge and genetic resources as basis.[49] This aligns with the Indian approach according to the patent law, especially Section 10(4)(ii)(d), prompting questions in relation to its application at the international level and among the CBD countries in the upcoming decades.[50]

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[46]WIPO, Diplomatic Conference to Conclude an International Legal Instrument Relating to Intellectual Property, Genetic Resources and Traditional Knowledge Associated with Genetic Resources, (May 2024), available at: https://www.wipo.int/edocs/mdocs/tk/en/gratk_dc/gratk_dc_7.pdf.

[47]*Traditional Knowledge, Traditional Cultural Expressions & Genetic Resources Laws*, *available at:* https://www.wipo.int/tk/en/databases/tklaws/search_result.jsp?subject=&issue=&country/

[48]WIPO Director General Daren Tang's Opening Speech, Diplomatic Conference on Genetic Resources and Associated Traditional Knowledge, (May 13-24, 2024), *available at:* https://www.wipo.int/export/sites/www/about-wipo/en/dg_tang/docs/dg-opening-speech-tk-dipcon-13052024.pdf

[49]*Explanatory Memorandum*, Recommendation for a Council Decision Authorizing the Opening of Negotiations on an International Legal Instrument Relating to Intellectual Property, Genetic Resources, and Traditional Knowledge Associated with Genetic Resources, (Jan. 1, 2024), *available at:* https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52024PC0003.

[50]The Patents Act, 1970 (Act 39 of 1970) s. 10

This treaty can pose challenges for India, majorly due to it's compromises in access and benefit-sharing relations with disclosure of origin of genetic resources and associated traditional knowledge. These access benefit sharing links are important for ensuring that the indigenous communities and countries giving genetic resources receive equitable benefits for their use.[51] Considering India, a complete analysis is required, taking into account two diverse scenarios, India achieving the status of top innovation country, leveraging its vast traditional knowledge and biodiversity to development and research. In the second scenario, where Indian patents have less demand in the international market, the treaty imposes additional burdens without the appropriate benefits. This could lead to stifle of innovation and disadvantage position of Indian stakeholders.[52]

7.2. Case Study - M/s.The Zero Brand Zone Pvt. Ltd. v. The Controller of Patents & Design

In this case M/S The Zero Brand Zone Pvt. Ltd. appealed against the order for the rejection of the patent application for the "eco-friendly lamp comprising of Panchagavya having a combination of leaves which are used in the traditional herbal medicine".[53] The Court made observations that the objective of section 3(p) of this act is to prevent the monopoly of traditional knowledge comprising the known properties of traditionally known components. Further observations were made that traditional knowledge is not defined in the Act and went ahead with relying on the definition given by WIPO and UNESCO.

Section 3(p) prohibits the patent grant based on claimed invention/process comprising traditional knowledge directly or in effect.[54] This provision lacks clear judicial interpretation. However, the Madras High Court noted that objective of Section 3(p) is not to stifle inventions formed based on traditional knowledge but to hold that patents that may be granted to those inventions if they establish that process or product can no longer be, in effect, traditional knowledge."[55] And their lies a problem with the term "in effect". There is

[51]Dr. Anson CJ, *WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge: Concerns of India and Developing Nations- Part II*, (June 3, 2024), *available at:* https://spicyip.com/2024/06/wipo-treaty-on-intellectual-property-genetic-resources-and-associated-traditional-knowledge-concerns-of-india-and-developing-nations-part-ii.html.

[52]*Ibid.*

[53]CMA (PT) No.146 of 2023.

[54]The Patents Act, 1970 (Act 39 of 1970) s. 3(p)

[55]Vishno Sudheendra & Kevin Preji, Traditional Knowledge in Patents: Need for Clarity and Interpretation, Aug 24 2024, available at: https://spicyip.com/2024/08/traditional-knowledge-in-patents-need-for-clarity-and-interpretation.html.

no clarity in this term, and it lacks judicial interpretation. But TKDL and its principles can be referred for evaluation or clarity in such scenarios.

However, these guiding principles are restricting themselves to medicinal traditional knowledge and plants but there are no specific guidelines for those facets falling outside the purview of plants and medicinal TK, for instance like that of Panchagavya Lamp.[56] Thus, there is a need for providing clear, comprehensive guidelines and judicial interpretation to mark the corners of patentability of innovative traditional knowledge.

8. Conclusion and Suggestions

India being rich in the cultural diversity, ethnicities and knowledge makes it a repository of traditional knowledge and practices developed by the different traditional communities. Traditional Knowledge has been playing a pivotal role in deriving benefits from medicinal properties of plants, enhancing the agricultural sector of the economy and preserving cultural heritage of the economy. The impressions on the same has been seen in various instances, prominently medicinal properties of neem, medicinal value of turmeric etc. But these traditional knowledge and practices in past few years are subject to the menace of bio-piracy which makes the situation of traditional communities more vulnerable as the scientists and researchers takes advantage of their knowledge and environment and the commercialize the same without recognizing the rights of the indigenous communities and proving any share of profits to them.

Although, efforts are taken for the protection of traditional knowledge at international and national level. Internationally, various conventions are formed to protect the traditional knowledge and nationally India has developed sui generis mechanism to protect the same, but still the efficacy of the same is questioned and the rights of traditional communities are not fully recognised. Recently, WIPO culminated a treaty Intellectual Property, Genetic Resources and Associated Traditional Knowledge which mentions a clause about the full disclosure of genetic resources which in turn could be beneficial on one hand for India but on the other hand could stifle innovation and could be disadvantageous for the Indian stakeholders. In the recent judgement of The Zero Brand, the Madras High Court laid down the lack of clarity on the provision, Sec 3(p) of the Patents Act, 1970 and TKDL guidelines. Thus, there are initiatives taken by WIPO internationally and by Indian Government nationally but still there is a need to have a separate piece of legislation for governing traditional knowledge of indigenous communities do that it can be used sustainably and be beneficial for the whole of the economy.

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[56] *Ibid.*