

INDIAN TRADITIONAL MEDICINAL KNOWLEDGE: A CRITICAL ANALYSIS

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ABSTRACT

India is very rich in traditional knowledge, especially in terms of traditional medicinal knowledge. Traditional medical structures are totally based on medicinal plants. So, they play a significant role in the health of large populations, particularly in developing countries. In developed countries, the use of herbal products derived from them is on the rise as well. To get the most out of these systems and understand how they work, it is essential to have a basic understanding of their various aspects. One of the world's best-known traditional medicine systems is Indian. Throughout the ages, Indian Traditional Medicine has played a significant part in the health care service and welfare of human beings. Traditional medicinal knowledge is abundant in India, and it can be discovered in Indian woodlands and other sites. Multinational businesses are rushing to seize control of valuable bio-products, filing patents on everything that moves. For these reasons, biopiracy is increasing day by day. Other countries have patented the neem tree, tulsi, and turmeric, among other things, for monetary reasons. The Indian government's Council for Scientific and Industrial Research plays a key role in documenting traditional medicinal knowledge in the Traditional Knowledge Digital Library. Through this paper, I am trying to shed light on the fact that, like any other intellectual property rights, there is a need for an effective and strong law for the protection of traditional medicinal knowledge. Other countries are taking advantage of the Indian traditional medicinal knowledge system because in India, focus is totally given to copy rights, patents, trademarks, etc. There is no separate law for traditional medicinal knowledge. It is high time to focus on Indian Traditional Medicinal Knowledge for the benefit of the Indian people as well as for the protection of biopiracy if we want to develop economically."

Keywords: TMK, Indigenous knowledge, Bio piracy, IPR, TKDL, CBD

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INTRODUCTION

In the field of medicine especially when it comes to Indian Traditional Medicine, now is the time to pay attention. Local folklore about medicinal plants has been passed down from generation to generation among tribal families and societies since the dawn of time. Due to a lack of documentation of Traditional Knowledge, patents are frequently given to people who were not traditionally the owners of this right. One of the world's oldest traditional knowledge systems is India's traditional medicinal system. Global health care has long relied on traditional systems of medicine, which is evident. They have and will continue to play a significant role in the present and future. Homoeopathy is one of the six recognised medical systems in India in this area. Indians and the rest of the world benefit from traditional knowledge. Though Homoeopathy arrived in India in the 18th century, it quickly merged into Indian culture and became enriched like any other traditional system, earning it a place among Indian medical systems. Authorities have not provided a precise definition. The World Health Organization outlines traditional medicine as indigenous people's knowledge, skills, and practices. Medicinal plant knowledge has persisted in the form of local folklore passed down from generation to generation among tribal families and cultures since the beginning of time. Patents are frequently given to people that were not traditionally the owners of this right due to a lack of documentation of Traditional Knowledge. The traditional medicinal system of India is also one of the world's oldest traditional knowledge systems. Traditional systems of medicine have long played a significant part in satisfying global health care demands, as is clear. They continue to play an important part in today's world and will do so in the future.¹⁸ Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homoeopathy are the six recognized medical systems in India. Despite the fact that homoeopathy emerged in India in the 18th century, it swiftly assimilated into Indian culture and enriched like any other traditional system, earning it a place among Indian medical systems. Authorities haven't given a clear definition. The World Health Organization defines traditional medicine as indigenous people's knowledge, skills, and practices.¹⁹

TRADITIONAL MEDICINAL KNOWLEDGE

Traditional medical knowledge (TMK) is an important aspect of most local cultures' identities.

¹⁸ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2816487/>, last visited on 10th may 2020.

¹⁹ <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/traditional-medicine>, visited on 10th may 2020.

It's an important part of a community's social and physical ecosystem, and preserving it is crucial. Many attempts have been made to exploit traditional medical knowledge for industrial or commercial benefit, resulting in its misappropriation and harm to the rights of the original custodians. In the face of such threats, it is critical to devise effective strategies for protecting and safeguarding Traditional medical knowledge for long-term development and the interests of Traditional medical knowledge holders. Because India is a developing country, the preservation, protection, and promotion of the Traditional medical knowledge is very vital. Traditional medical knowledge is widely available in India and plays an important role in Indians' daily life. Traditional medical knowledge is a significant asset that is at jeopardy in many parts of the world due to a lack of paperwork and proper legislation. Third parties are using and patenting this information without Traditional medical knowledge holders' permission, and in some circumstances, the original holder has received very little or no financial gain because the third parties produce a lot of money that the original Traditional medical knowledge holder does not expect. Traditional medical knowledge has climbed to the top of the international agenda as a result of these challenges. The overall scenario needs the documentation and digitization of Traditional Knowledge -related literature, and TKDL is a godsend in this regard, demonstrating that it is an effective means of preserving and protecting Traditional Knowledge by third parties.

Demographical stage-setting Jeevani

"Jeevani" is an herbal medicine produced by experts at India's Tropical Botanic Garden and Research Institute (TBGRI).²⁰ Jeevani is based on the Kani tribe's traditional medical knowledge, which is found in the Thiruvananthapuram area of the South Indian state of Kerala. It is derived from the arogyapaacha plant (*trichopus zeylanicus*), a tiny rhizomatous perennial herb found throughout Sri Lanka, Southern India, and Malaysia. Jeevani is said to possess the following characteristics:

- Increases the quantity of polymorphonuclear granulocytes and the body's natural defences, as well as delayed type hypersensitivity reactions and antibody formation.
- Cellular immunity is activated.
- Has cholorectic and hepatoprotective properties.
- As indicated by the anti-peptic ulcer and tiredness effects, it has apoptogenic qualities.

²⁰ <https://www.cbd.int/financial/bensharing/india-kanis.pdf>, last visited on 10/11/21.”

The fruit of **arogyapaacha** plant was shared with members of an ethnobotanical expedition to the Western Ghats Kani tribals in 1987 who felt “charged and full of energy and vitality” following eating the fruit.²¹ The effects of Jeevani have been reported in the popular press.²² Further, Jeevani has apparently been included in Japanese herbal medicines.²³

TBGRI

The Tropical Botanic Garden and Research Institute was registered as an autonomous institution under the Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act, 1955. It is the largest botanical garden in Asia. It maintains a conservatory garden spread over 300 acres that is home to 50,000 accessions belonging to 12,000 genetic variants of 7,000 tropical plant species. It's R&D wing is geared towards achieving the goals of conservation and sustainable utilisation of plant diversity in tropical India. The chairman of its Governing Body is the Chief Minister of Kerala; the secretary of this body is the Director, TBGRI, in addition to whom there are 14 members. The Executive Committee of TBGRI is chaired by the Chairman of the Science, Technology and Environment Committee, Government of Kerala. The Secretary of the Executive Committee is the Director, TBGRI, and it has 4 members. Both bodies have representation from other state departments such as the Forest Department and the Planning Board.²⁴

TRADITIONAL MEDICINE AND INTELLECTUAL PROPERTY RIGHTS PERSPECTIVE

Traditional Medicine (TM) is a significant part of health care in poor nations, serving the gigantic mainstream of the population. In underdeveloped nations such as India, where more than half of the population lives in rural and is still reliant on traditional medicinal knowledge, people are unaware of contemporary health care and medicine. For the poor people who live in distant communities, Traditional Medicine becomes the only affordable and conveniently accessible treatment. The genuine trademark owners have no idea how valuable the knowledge they have is. They have no idea how to put their expertise to good use, yet

²¹ Pushpangadan, P., Rajasekhjran S., Ratheesh Kumar P.K., Velayudhan Nair V., Lakshmi N., and Sarad Amma L. rogyapacha (*Trichopus Zeylanicus*). The Ginseng of Kani Tribes of Agasthyar Hills (Kerala) for Evergreen Health and Vitality. *Ancient Sciences of Life*, 7:13-16 (1988)."

²² <https://www.wipo.int/publications/en/details.jsp?id=284>, last visited on 12-11-21."

²³ Amagayha, S., and Ogiyara, Y., *Journal of Ethnopharmacology*; 28:357 (1990)"

²⁴ Information in this para is from TBGRI, Research and Development Highlights, 1997-98, and from personal communication with Dr. Pushpangadan, Director, TBGRI."

Traditional Medicine Knowledge has helped health care providers all across the world, including big pharmaceutical companies, increase in size. Traditional treatments are usually based on medicinal herbs and centuries-old indigenous knowledge. There is no official documentation for the Traditional Medicine Knowledge. The majority of Traditional Medicine Knowledge was passed down orally from generation to generation. Because of this fundamental struggle, the protection of Traditional Medicine (TM) under intellectual property rights (IPRs) raises two major questions: to what degree can TMK be protected under the current intellectual property rights system, and to what extent can Traditional Medicine Knowledge (TMK) be protected under the current IPR system, and to what extent can Traditional Medicine Knowledge be protected under the current IPR system. Traditional Medicine Knowledge do not fit all of the criteria for IPR protection because some kinds of it may be covered by patents or other IPRs, but not all TMKs are. There have been numerous ideas to build Traditional Medicine Knowledge -specific defensive measures. Such ideas are founded on the premise that traditional knowledge holders should be compensated in the same way that innovators in the formal system of invention are compensated through IPRs. Traditional Medicine is codified in a variety of ways. Folk or tribal medicine, for example, might be characterized as codified or uncoded.

In India, traditional medicinal knowledge is generally passed down orally through folk customs from generation to generation. Folk/tribal medicine is based on traditional notions, attitudes, and practices, and is founded on century-old experiences of trials and errors, successes and failures at the household level. These are known as tribal medicines, home remedies, or folk cures and are passed down the centuries. People or communities living in indigenous territories may own Traditional Medicine in rare cases (TM). Healers, for example, use rituals as part of their traditional therapeutic methods, which allows them to keep control of their knowledge even if the materials, things, or techniques they used are disclosed. Medical information anchored in hundreds of writings is included in the codified tradition, which encompasses all areas of medicine, including "Ayurveda, Siddha, and Unani." Most pharmaceutical companies gain patents on non-original concepts that are already part of traditional knowledge in underdeveloped nations, which has created great concern in developing countries like India.²⁵ Traditional medicine is defined by the World Health Organization (WHO) as the sum of all knowledge and practices used in the diagnosis,

²⁵ R.A. Mashelkar, Intellectual Property rights and the Third World, Special Section: Science in the Third World, Current Science, Volume 81, No. 8, 25 October 2001, at page 959.

prevention, and treatment of physical, mental, and social imbalances based solely on practical experience and observations passed down verbally or in writing from generation to generation, whether explicable or not. Many of these are being used by health care professionals all across the world, including huge pharmaceutical corporations. Traditional remedies are mostly based on medicinal plants that are local to these countries, where the system has been in use for centuries. Efforts are being undertaken to acquire direct access to these plants or to employ current breeding and cultivation technologies such as tissue culture, cell culture, and transgenic technology to gain access to these plants. Concerns about intellectual property in relation to such activities have yet to be resolved. As a result, special IPRs policies to protect traditional medicinal knowledge are urgently needed. Intellectual property rights (IPRs) safeguard traditional medicine (TM), which raises two types of difficulties. To begin, how feasible is it to protect the current IPR system? Some aspects of Traditional Medicine may be covered by patents or other intellectual property rights. Many suggestions for developing unique protection techniques have also been given. Such ideas are founded on the rationale that traditional knowledge holders should be compensated in the same way that innovators in the formal innovation system are compensated through IPRs. Traditional Medicine is codified in a variety of ways. In Asia, there is a distinction to be drawn between codified systems of traditional medicine and non-codified medicinal knowledge, such as "folk," "tribe," or "indigenous" medicine.²⁶

THE 1992 CONVENTION ON BIOLOGICAL DIVERSITY AND ITS ROLE

The importance of convention in biological diversity (CBD) cannot be overstated. It's a multilateral accord. The Convention is principally concerned with biodiversity conservation and long-term utilization of its components, as well as an equitable sharing of traditional resource advantages. The main purpose of this convention is for its signatories to adopt national policies for the protection and sustainable use of biological variety. They have the potential to be a crucial document in terms of long-term growth. On June 5, 1992, the Earth Summit in Rio de Janeiro opened the Convention for signatures, and it entered into force on December 29, 1993. The treaty includes India as a signatory. Such criteria are important since India has a huge heritage of traditional medicinal knowledge.²⁷

²⁶ https://en.wikipedia.org/wiki/Convention_on_Biological_Diversity, visited on 12th may 2021.

²⁷ The Biological Diversity Act, 1992.

There are numerous issues raised by the convention, but I have attempted to describe them quickly as follows:

- a. The first issue is to quantify the incentives that are required for biological diversity conservation and sustainable utilization.
- b. There should be delimited admittance to inherited possessions and traditional knowledge, which must entail the party giving the resources' Prior Informed Consent.
- c. Benefits accruing from the marketable and other operation of inherited properties with the Contracting Party contributing such resources, rather than fair and equitable benefit sharing Both technology transfer and access are critical.
- d. There is an urgent need for technical and scientific cooperation.
- e. A Global Taxonomy Initiative should be established.
- f. Then there must be an impact evaluation.
- g. Adequate education and public awareness are also required.
- h. Appropriate allocation of financial resources.
- i. Efforts to implement treaty commitments should be reported at the national level.

IMPORTANCE OF BIOLOGICAL DIVERSITY ACT, 2002

This Act was passed by the Indian Parliament to protect India's biological variety and to establish a much-needed system for equitable benefit sharing from indigenous biological resources and knowledge. The primary purpose of this Act is to assist India in fulfilling its obligations under the Convention on Biological Diversity (CBD), to which it is a signatory. According to section 2(b) of the Act, biodiversity is defined as the inconstancy among living organisms from all sources and the ecological architecture of which they are a part, including diversity among species and eco-systems.

The National Biodiversity Authority (NBA), situated in Chennai, is one of the two sovereign institutions established under the above-mentioned Act. Second, State Biodiversity Boards have been constituted in all Indian states (SBBs). Biological management committees have been established at local levels throughout India, such as in panchayats, municipalities, and corporations, in addition to these two bodies. The main responsibilities of these boards are as follows:

- To control acts that are prohibited under the Act.

- Advising the government on biodiversity protection and biological heritage area identification.
- Take the appropriate efforts to prevent the issuing of intellectual property rights in other countries based on the exploitation of biological resources or associated traditional knowledge.

According to clause (30) of section 2 of the Income-tax Act, 1961, a foreigner who is not an Indian resident, or an external company or figure trade, must obtain permission from the NBA before obtaining any biological resources or associated knowledge from India for their research work or for commercial use. The situation is different if Indian individuals or corporations must acquire permission from the applicable State Biodiversity Board. The final result of any research utilizing biological resources from India cannot be conveyed to a foreign firm or a foreign national without the consent of the National Biodiversity Authority. There is one exception: if the study work is published in a journal or seminar, or if cooperative research is carried out by Central Government-approved institutions, no approval is required. The National Biodiversity Authority must first give approval to anyone who wants to apply for a patent or other intellectual property protection based on biological resource research. The National Biodiversity Authority may make an order for benefit sharing or royalty based on the use of such protection throughout the process of awarding such license. The Biodiversity Act's main purpose is to ensure that the benefits of biological resources and traditional knowledge are shared fairly. Benefit sharing is defined as the notion of benefit sharing with respect to a product or process generated or manufactured using knowledge for commercial purposes and shared with benefit claimants under Section 2 (a) of the Act, as read with Section 6 of the Act (2). Beneficiary claimants are the original owner of information. Anyone who violates the regulatory provisions Act faces a sentence of up to five years in prison or a fine of up to ten lakh rupees, or both. The fine will be proportionate to the harm caused if the damage exceeds 10 lakh rupees. This Act makes any offence non-bailable and cognizable.²⁸

TRADITIONAL KNOWLEDGE AND PATENT APPLICABILITY

The purpose of patents is to foster invention, and the innovations must be new, legal, and valuable to the general public. According to patent laws, Traditional Knowledge is defined as written or unwritten information that has been passed down through multiple societies and is

²⁸ The Biological Diversity Act, 2002

already in existence. Traditional Knowledge that has been documented has previous art qualities, and because it is in the public domain, there can be no restrictions or prohibitions on its commercial usage. Furthermore, according to Section 3 (p) of the Patents Act, ordinary knowledge is not to be regarded an invention or a novel idea.

To evade patent contributions to Traditional Knowledge in India, a project has been hurred to a record and circulate all Traditional Knowledge through an e-library, which is known as the Traditional Knowledge Digital Library (TKDL). TKDL provides information on scientific and traditional knowledge, which is organized according to worldwide patent categorization. Patent rules apply to undocumented Traditional Knowledge held by diverse communities, as many organizations are attempting to get ownership of such Traditional Knowledge in order to exploit it for economic advantage. In the case of undocumented TK, establishing that it is a new invention is quite straightforward in the perspective of the law. The Indian Patent Office published a circular to address this issue, stating that patents pending in the Traditional Knowledge domain will be made public online and that any objections would be resolved by the Patent Office.²⁹

The use of intellectual property rights and IP systems to make legal the exclusive use of biological resources, biological products, and patents that have existed and been used in the non-industrialized sector for centuries is referred to as bio-piracy. Bio-piracy is defined as the intentional exploitation of conventional knowledge in order to profit from it by obtaining patent protection. Due to devolution, a lack of effective legislation, a conflict between the systems, and encroachment, traditional knowledge is vulnerable to bio-piracy. Traditional knowledge can help people improve and build the greatest product or process possible without having to invest a lot of money on R&D and clinical trials. In the long run, traditional knowledge may save you a lot of time.³⁰

TRADITIONAL KNOWLEDGE AND BIOPIRACY

a. The Famous case of the Neem Patent

The global firm W.R. Grace and the United States Department of Agriculture initially filed a patent for Neem in the European Patent Office in 1994. Neem's antifungal properties have been granted a patent. In this case, a method for suppressing fungal development in plants was

²⁹ <http://www.ipindia.nic.in/writereaddata/Portal/IPOGuidelinesManuals>, visited on 15th may 2020.

³⁰ https://www.wipo.int/wipo_magazine/en/2011/03/article_0002.html, visited on 12th may 2020.

patented, which involved contacting a fungus with a neem oil formulation. India has lodged a protest against the grant in question. The opponent demonstrated that neem includes a wide range of chemicals and is commonly used as an astringent and antiseptic. The entire plant has been used to cure ailments ranging from diabetes to skin conditions. Neem twigs have been used as toothbrushes since ancient times. Hydrophobic extracts from neem seeds were not only known, but also employed in plants to treat skin disorders and fungal infections. The same is written in Indian Ayurvedic writings. The European Patent Office (EPO) decided that the invention was not unique or innovative, and that it was identical to prior art, and thus cancelled the patent.

b. The famous case of the Turmeric Patent

Turmeric is a tropical Indian herb used in a variety of applications, including food and medicine. Turmeric has a long list of benefits, including working as a blood purifier, healing colds and skin disorders, and being a staple in Indian cuisine. The University of Mississippi Medical Centre was given a patent on turmeric in 1995 for its wound-healing qualities. The issuance of a patent on turmeric has been met with opposition from India. Turmeric has been utilized for twisted medicinal for a long time, with evidence offered in Hindi, Sanskrit, and Urdu. As a result, the patent was rescinded by the United States Patent Office because the patent's entitlement was pledge to be deceptive and renowned.³¹

INDIA'S GOVERNMENT HAS TAKEN A NEW INITIATIVE.

Finally, India passed its first-ever Intellectual Property Rights (IPR) law, with the goal of encouraging science and technology, arts and culture, traditional knowledge, and biodiversity resources while also protecting creativity and innovation. The new IPR policy includes a variety of measures related to the strengthening of traditional knowledge.

The following factors for the preservation of traditional knowledge are outlined in the policy:³²

1. The policy's primary goal is to raise awareness about intellectual property rights in relation to traditional knowledge. The policy's major purpose is to increase public awareness of traditional knowledge, inherited belongings, traditional enlightening lexes, and folklore, as well as to identify genuine traditional knowledge bearers. Its goal is to transform the way people think about and value knowledge, as well as to make effective attempts to turn

³¹ <https://www.mondaq.com/india/patent/586384/traditional-knowledge-and-patent-issues-an-overview-of-turmeric-basmati-neem-cases>, visited on 12th may 2020.

³² <https://ipindia.gov.in/>, last visited on 12th may 2020.

information into Intellectual Property by reassuring knowledge monetization, which has never been the norm in India.

2. The IPR Policy's second purpose is to restore generations of IPRs, particularly with regard to traditional knowledge, by emphasizing the necessity of steering events toward the promotion of traditional knowledge while partaking of receptacles of such knowledge.

3. The policy's third goal is to think about some fundamental conditions for expanding the Traditional Knowledge Digital Library (TKDL). The goal of broadening the scope of the Traditional Knowledge Digital Library beyond Ayurveda, Yoga, Unani, and Siddha, which it presently covers, is to make it more useful for future research and development.

4. The fourth purpose of the IPR policy is to safeguard that oral traditional knowledge is documented besides those bearers of traditional knowledge are supported and rewarded for contributing to the advancement of knowledge systems.

5. The policy's fifth goal line is to establish operative synchronization between its office and the National Biodiversity Authority, allowing for the unswerving application of strategies for the grant of patents on discoveries based on biological possessions and accompanying Traditional Knowledge.

The government's IPR strategy is a step in the right direction toward establishing an effective IPR framework. The Policy's effective implementation can work miracles and pave the way for a slew of medical and agricultural breakthroughs based on the wealth of existing Traditional Knowledge and the emancipation of Traditional Knowledge holders.

CONCLUSION

The present study has identified a number of difficulties concerning the safeguarding of traditional knowledge but, inevitably as a result of its narrow scope, overlooks a more significant issue impacting traditional, and particularly indigenous people. Numerous indigenous communities are in desperate need of more technical and financial resources to improve their own health status, including access to affordable drugs already available for others as well as research aimed at bettering the health issues specific to Indigenous populations for which no effective remedies have yet been developed. Traditional medicinal knowledge must be protected in the same way as other intellectual property rights. Because of India's focus

on copyrights, patents, trademarks, etc., other countries are taking advantage of the Indian traditional medicinal knowledge system. Traditional medical knowledge is not protected by law. For the benefit of the Indian people and the protection of biopiracy, it is time to focus on Indian Traditional Medicinal Knowledge. Members of the treaty would be compelled by international law to implement its provisions at the national level, ensuring that Traditional Knowledge is protected for future generations. A comprehensive international legal instrument is urgently needed to protect all types of Traditional Knowledge in order to respond to the global competition scenarios that will arise in the future. The new National Intellectual Property Rights Policy promotes a neoliberal agenda of knowledge commodification that includes traditional knowledge as well. However, the primary, still unsolved challenges surrounding the safeguarding of traditional knowledge, as well as its tentative remedies, must be revisited.