



# A Legal Analysis Of Implementation Of Indian Knowledge System Vis-À-Vis Right To Health

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## Abstract

The Indian Knowledge System (IKS) is comprised of various traditional medicine systems, including Ayurveda, Yoga, Unani, Siddha, and Sowa-Rigpa. These historic practices have evolved over centuries and provide a unique and holistic means of healthcare with the potential to transform our perceptions and responses to human health. With its immense ability to evolve the right to health, not only in India but also globally, the IKS offers a significant opportunity for the world community to gain from traditional wisdom and knowledge.

Nonetheless, the safeguarding and protection of the IKS are instrumental in its sustainability as well as the avoidance of misappropriation of traditional knowledge. This paper conducts an in-depth analysis of the existing legal and policy framework in India, which is intended to protect the IKS from exploitation and unauthorized use of traditional knowledge. In so doing, the critique addresses whether the current legal and policy framework serves to protect the IKS from exploitation and ensure that traditional knowledge is used sustainably to deliver healthcare.

The article argues that the implementation of an effective legal framework, combined with sound implementation and collaborative research, is key to translating the complete potential of the IKS into translating the right to health. It is essential that the approach is multidimensional and includes not just the formulation of effective laws and policies but also that it forms institutional mechanisms for the protection and promotion of traditional knowledge. In addition, joint research and innovation are the key to unlocking the potential of the IKS and incorporating it into contemporary healthcare systems.

**Keywords:** Indian Knowledge System (IKS), Right to Health, Legal Protection, Traditional Medicine, Ayurveda, Intellectual Property Rights, Traditional Knowledge Digital Library (TKDL), Access to Healthcare, Bio-piracy.

## Introduction

The basic right to health is guaranteed by Article 25 of the Universal Declaration of Human Rights and impliedly recognized in Article 21 of the Indian Constitution, includes the right to receive quality, affordable, and appropriate healthcare services to all. The present-day medical progress does not diminish the essential

position of Indian Knowledge System (IKS) classical medical systems within healthcare delivery systems particularly in economically disadvantaged areas.

The IKS functions through its comprehensive medical approaches that emphasize disease prevention while utilizing natural substances to offer health therapies which suit different patient needs. IKS healthcare philosophy derives from the belief that it provides more comprehensive health assessment through its ability to address physical, mental, and spiritual health dimensions of individuals. The preventive care aspect of IKS serves to promote healthy living and disease prevention as well as disease risk reduction for low-resource settings.

The Indian Knowledge System bases its operations on locally accessible natural resources which serve as the primary ingredients for medicinal product development. The utilization of local materials not only supports independence from external resources but it simultaneously helps to safeguard traditional knowledge systems and promotes sustainable development.<sup>3</sup> The growing business interest in IKS has raised concerns because unauthorized use of traditional knowledge (TK) through bio-piracy exists as a threat. The community runs the risk of losing control over their heritage because the unauthorized application of traditional knowledge enables outsiders to exploit their resources.

The protection of IKS through legal frameworks must exist to maintain its benefits for present and forthcoming generations. Powerful laws along with regulatory mechanisms should be established to protect traditional knowledge owners' rights through proper identification. Through this approach traditional knowledge protection will prevent its unauthorized use while simultaneously preserving biological resources and distributing IKS benefits equally among all involved parties.<sup>4</sup> The protection of IKS remains essential because it assists in achieving the fundamental human right to health which supports the well-being and self-respect of every individual. Through its protection IKS will enable us to equalize health outcomes while making quality and affordable healthcare services available to everyone according to their cultural preferences.

### **Indian Knowledge System- Background**

Indian Knowledge Systems (IKS) comprised of the indigenous knowledge, practices, and policies that are inbuilt in India's culture and history. It is also a part of various fields like philosophy, science, medicine, the arts, and daily life. Indian Knowledge Systems (IKS) is an amalgamation of vast and complex knowledge that is rooted from ancient literature and traditional practices that have been developing from ages. The synoptic worldview of IKS demonstrates that knowledge exists in interconnected relationships with nature and human well-being and spirituality and ethics which reflects the cultural depth of India.

The Indian Knowledge Systems (IKS) consists of various subjects and fields that moulded the development of the Indian civilization. The natural healing system Ayurveda has existed for over 3000 years and continues to influence healthcare approaches throughout the world. Yoga emerged from the early Vedic writings to unite body movements with breathing exercises and mental practices which developed into a worldwide practice for stress management and mindfulness enhancement.<sup>5</sup> The origin of Indian Knowledge Systems (IKS) can be traced back to the various religious scriptures like Vedas and Upanishads, Mahabharata, and Ramayana. These texts contain mathematical and astronomical knowledge and understanding which is combined with metallurgical procedures. The concept of zero and algebraic methods is also the mathematical work of Indian scholars Aryabhata and Bhaskara whereas Charaka and Sushruta invented frameworks for surgical techniques and pharmaceutical medicines.

The important characteristic of IKS is that it is a people-centric approach, focusing on sustainability and harmony with nature. IKS favours an integrated approach that merges individual needs with community development while protecting nature from some contemporary reductionist knowledge systems.<sup>6</sup> The Indian traditional agriculture practices of using organic fertilizers and crop rotation present ecological solutions to current issues like climate change and biodiversity degradation.

During the contemporary global networked world IKS is gaining fresh popularity for its ability to protect cultural traditions while promoting new developments. The Indian government established the Indian Knowledge Systems Division within the Ministry of Education to promote IKS through educational integration which connects ancient wisdom to modern scientific approaches. The educational revolution simultaneously decolonizes traditional learning systems while addressing global challenges through the development of sustainable technology based on ancient IKS principles including windmill biomimicry and solar architectural designs.<sup>7</sup> Indian Knowledge Systems represent a valuable intellectual asset from India's extensive historical background that delivers contemporary wisdom for current global challenges. The combination of traditional knowledge systems with scientific advancement through preservation and development leads to inclusive and equitable sustainable futures. The worldwide approval of IKS remains insufficient because limited legal safeguards have permitted occurrences of misappropriation including the turmeric and neem patent cases. These cases demonstrate that unguarded IKS systems obstruct the health rights since they prevent people from using traditional treatments and weaken community management of natural resources. This research addresses the gap by exploring how legal mechanisms can protect IKS and advance health rights.

### Objectives

1. The research aims to investigate the legal provisions which safeguard Indigenous Knowledge Systems (IKS) in India.
2. The analysis evaluates how these legal safeguards influence the improvement of health rights.
3. The study examines the obstacles before providing recommendations for policy improvements.

### Methodology

The study approach uses doctrinal legal methods to evaluate statutes and case decisions as well as policy documentation from primary sources. The research examined various secondary sources which included academic papers and organizational reports along with TKDL data from India and WHO and WIPO sources.

The research achieved depth through a case study method which involved the examination of two essential cases: the Neem patent dispute and the Yoga-related IP claims. The research team conducted desktop research between 2022 and 2023 through legal databases and official reports for data collection purposes. The research incorporated ethical considerations which involved protecting indigenous knowledge holders' rights and preventing cultural appropriation through analysis.

### Legal Frameworks for IKS Protection

This research focuses exclusively on Indian contexts yet uses Brazilian and South African practices to verify its conclusions. The legal environment in India provides comprehensive and strong defence mechanisms for Indigenous Knowledge Systems (IKS) through multiple legal instruments that protect traditional practices and heritage passed down over multiple generations. The traditional medical systems of Ayurveda, Yoga and Unani medicine and agricultural practices are the vital components of India's culture and heritage.<sup>8</sup> The Indian government uses a network of established laws with policies and institutions to provide protection against the theft and misuse and biopiracy of essential resources.

The Council of Scientific and Industrial Research (CSIR) and the AYUSH Department established the Traditional Knowledge Digital Library (TKDL) in 2001 as the foundation of this protective framework. The TKDL functions as a leading digital database which records and stores more than 300,000 formulations derived from Indian traditional knowledge practices.<sup>9</sup> The library contains information derived from classic medical texts such as Charaka Samhita and Sushruta Samhita together with other traditional manuscripts which describe healing methods and medical preparations. Through its translation and encoding process into

English, French, German, Spanish and Japanese, the TKDL enables international patent offices to access traditional knowledge without permitting them to file unauthorized patents.

The initiation of TKDL emerged strategically as a response to worldwide issues especially following a 1995 patent that a U.S.-based company received for using turmeric in wound healing which demonstrated the risk of biopiracy. The TKDL functions as a core defence system protecting Indian intellectual property rights since its foundation. Through its operations the TKDL has successfully blocked more than 200 global patent applications by presenting proof that these inventions originated from existing traditional knowledge systems.<sup>10</sup> This is supported by India's broader legal framework, including the Patents Act of 1970 (as amended), which excludes traditional knowledge from patentability; India has enforced the two key legislations related to its natural resources, namely, the Biological Diversity Act of 2002, which is designed to control availability of biological resources and guarantee equitable benefits sharing from their use whereas the Geographical Indications of Goods (Registration and Protection) Act of 1999 safeguards products with unique regional origins, such as Darjeeling tea and Kashmiri saffron.

TKDL's work goes beyond documentation because it actively supports innovative development and worldwide partnership initiatives. The organization works to connect traditional knowledge with contemporary science by establishing strategic relationships with World Intellectual Property Organization along with various international organizations. The TKDL database provides formulations which pharmaceutical companies use for new drug research that leads to potential medications while both preserving traditional knowledge benefits and recognizing the source communities.<sup>11</sup>

In summary, India's commitment to protecting IKS through initiatives like the TKDL exemplifies a balanced approach that honours cultural heritage while engaging with the global knowledge economy. As IKS continues to gain recognition worldwide, such measures ensure that these treasures remain safeguarded against exploitation, paving the way for their ethical and sustainable utilization.

### Case Studies

There are various cases of traditional knowledge exploitation discussed time to time:

#### • **The Turmeric Patent Case:**

In this case, turmeric was patented for wound healing by a company based in US. India opposed this patent as it was part of an Ayurvedic text that talks about wound healing through turmeric. Successfully, the Council of Scientific and Industrial Research (CSIR) confirmed the turmeric properties to be part of Indian Traditional Knowledge. This case was a successful event that became an important event in unauthorized use of IKS.<sup>12</sup>

- Similar to Turmeric Patent Case, the neem tree, which holds various medicinal properties, also experienced the same patent issue. The sacred neem tree which holds medicinal and insecticidal uses in India. Multiple international companies successfully patented neem-based products although traditional Indian medicine and agricultural practices had long utilized neem. Legal challenges against these patents emphasized the threat faced by Indian traditional knowledge because they revealed previous documentation of the knowledge.<sup>13</sup>
- **Basmati Rice Case:** Another attempt was made to get "Basmati" patented by US company which endangered Indian Basmati rice exports. The attempt to patent Basmati created uncertainties about market rivalry and the demolition of the Indian brand related to the rice. The Indian government, with various negotiations, settled the issue with the company.<sup>14</sup>
- **The Hoodia Gordonii case** remains significant as a warning even though its origins do not link directly to India. The British company patented the succulent plant that the San people of South Africa traditionally used

to suppress appetite. The British company reached an extensive benefit-sharing accord with the San people regarding traditional knowledge use to establish proper benefit allocation.

## **Impact on the Right to Health**

The implementation of Indigenous Knowledge Systems (IKS) safeguarding affects how people access their health rights. The safeguarding of medical knowledge systems enables the delivery of affordable healthcare services to communities through indigenous-based programs. The Indian public healthcare system integrated Ayurveda medical practices following the 2017 National Health Policy.<sup>15</sup> The healthcare policy integrates traditional treatments for remote areas, which results in lower medical costs for underprivileged communities (MoHFW, 2017). Traditional knowledge protection faces multiple legal obstacles that prevent knowledge monopolization. The current legal framework exists to defend turmeric usage in its natural state to maintain its value as an affordable anti-inflammatory remedy for all users. IKS is the foundation for the preventive healthcare services as it provides medical remedies that are culturally approved and accessible to all. Research conducted by the Traditional Knowledge Digital Library (TKDL) demonstrates how legal measures are successful in preventing biopiracy through practical documentation. A database maintained by the TKDL contains evidence of more than 1,000 cases where traditional knowledge has been protected from patents to maintain health-related resources. The development of health rights protection stems from the new doors that open through traditional medicine alternatives.<sup>16</sup>

IKS works successfully in providing remedies for the long-term diseases and mental health situations. The WHO has also recognized the benefits and stress and anxiety management of yoga and its impact on overall well-being of all. The safeguarding of IKS creates new possibilities for expanding traditional healthcare research that could produce innovative methods which respect cultural traditions.

The current system faces significant barriers that prevent the complete implementation of Indigenous Knowledge System (IKS) protection benefits. The current legal structures experience difficulty in reaching their goals because officials do not have enough resources to enforce them. The Intellectual Property Office of India stated that only 20% of IKS-related patent applications get successfully opposed by enforcement mechanisms which fail to protect cultural knowledge.<sup>17</sup> The majority of marginalized groups including tribal communities who serve as IKS knowledge holders do not understand how to use intellectual property protections and available legal systems. The absence of education causes these groups to miss out on knowledge commercialization benefits which leads to worsening health disparities. The implementation of targeted educational initiatives alongside community engagement programs stands as a necessary step to link IKS protection to concrete healthcare improvements that benefit every community but especially those who face the most vulnerability. The acceptance and utilization of IKS in healthcare systems requires organizations to resolve standardization problems along with quality control obstacles and integration issues with modern medical practices.

## **Benefits of Legal Protection**

### **Focusing on preventing exploitation and ensuring fair benefit sharing:**

Legal protections for IKS create a symbiotic relationship between cultural preservation and health advancement. By preventing the misappropriation, commercial exploitation, and unauthorized use of Indigenous Knowledge Systems (IKS), legal frameworks safeguard the integrity of cultural heritage. The indigenous communities can have control over the traditional knowledge and practices for upcoming generations.<sup>18</sup> While providing these communities economical and financial advantages from their IPRs, it enables a legal system for equitable benefit distribution which in turn help these communities to invest in health advancement, education, and community development.

### **Focusing on the role of legal protection in promoting research and development:**

Through legal protection, the IKS can be made a part of the mainstream health care system. The research and development will lead to discoveries and innovations of treatments in the healthcare sector, which will be a more holistic approach towards health. The establishment of unauthorised use of the traditional knowledge system will lead to collaboration between the indigenous community holders and researchers. This process will result in the discovery of new medical treatments originating from traditional systems, simultaneously providing recognition and financial benefits to such owners.<sup>19</sup>

The legal framework helps in establishing the research transparency and responsibility to stop misuse these traditional systems and allows their proper integration into contemporary healthcare practices, which results in medical progress.

### **Legal mechanisms establish an indirect support system for biodiversity conservation efforts:**

Sustainable resource management requires the transmission of essential ecological knowledge about regional plants together with animal populations and natural systems which Indigenous communities extensively maintain. IKS protection serves as a defensive measure to safeguard valuable information which results in biodiversity preservation and the protection of essential resources that support community health and well-being. By protecting the food resources and herbal remedies, this system creates a link between traditional agricultural practices and health progress.

Legal systems ensure efficient functioning in preserving cultural heritage and equal access to medical facilities. The protection of traditional knowledge systems leads to community ownership of knowledge and traditions, thus empowering autonomy, and cultural conservation.

### **Challenges and Gaps**

There are several advancements for protection of Indigenous Knowledge Systems (IKS) and intellectual property (IP), however, several challenges and gaps remain that weaken effective implementation. These issues evolve from innate tensions between global IP frameworks and the holistic nature of IKS, as well as barriers for its enforcement. Addressing these problems requires a holistic approach that merges innovation with social and cultural needs.<sup>20</sup>

- It is a multifaceted challenge to bridge the gap between the Indian Knowledge System and the Right to Health. The traditional medicine systems like Ayurveda, Siddha, and Unani has been a part of rich and diverse tradition of India, that can make substantial contributions to healthcare system. Yet their ethical and effective incorporation into mainstream healthcare service delivery is hindered by a synergy of related factors that require cautious attention and planned interventions. A notable example is the development of drugs derived from the neem tree (*Azadirachta indica*); a plant central to Indian traditional medicine. Patents on neem-based products have sparked debates about access, as they could restrict affordable healthcare in developing countries where such knowledge originated.

- Another major problem is the lack of proper legal recognition and standardization of IKS practice. The lack of complete legal frameworks for accreditation, certification, and practice standards creates disparities in quality control, dosage, and therapeutic uses.<sup>21</sup> Such non-standardization generates public distrust of traditional remedies as being ineffective and unsafe, which prevents their greater use and acceptability.

- Added to this problem is the small institutional support base and inadequate funding of research in implementing rigorously validated traditional approaches. The deficiency in well-controlled clinical trials and scientific studies that measure the safety, efficacy, and mechanisms of action of IKS therapies puts

policymakers and practitioners reluctant to integrate them completely. there is lack of scientific evidence of the integration guidelines regarding IKS.

- The efficient implementation of integrated healthcare programs is hindered by administrative red tape, restrictions in information and funds flow, and lack of coordination among present day and conventional healthcare methods. It is critical to reorganize these procedures and make genuine cooperation possible.

- Due to the inadequate enforcement provisions of the Biological Diversity Act, the indigenous knowledge is at risk of biopiracy. Improper enforcement allows dishonest organizations to use and exploit traditional knowledge without sharing benefits with the indigenous knowledge owners, despite the fact that the Act is intended to the preservation of India's biological resources and the traditional knowledge connected with them.<sup>22</sup> Enforcement must be made stronger, and strong benefit-sharing mechanisms have to be established.

- Access and equity concerns add complexity to the integration of IKS. Health care quality for indigenous groups remains limited because they encounter barriers to accessing treatment including traditional knowledge systems (IKS). The major concern is that the commercialisation has resulted into the exploitation of the traditional knowledge and the equitable distribution of benefits among indigenous groups. To create right and justifiable integration practices, such communities must directly get benefited from the application of their knowledge.

Ongoing IP framework reforms require attention because the existing system fails to adequately support communal IKS aspects while addressing practical implementation problems. Through international cooperation efforts and strengthened enforcement systems and ethical priority implementation, policymakers can establish a more inclusive structure that respects diverse cultures and encourages fair innovation practices.

## Recommendations

These suggestions are offered to address issues about the preservation of traditional knowledge, biodiversity conservation, and international collaboration. The actions focus on the strengthening of the enforcement mechanisms, promotion of community involvement, and forming international cooperations that produce long-term benefits.

### • Strengthen Enforcement Mechanisms:

The key step is to enhance the funding for the Traditional Knowledge Digital Library (TKDL) and other authorities. The TKDL performs the important function of recording and protecting traditional knowledge about medicinal plants and agricultural practices and cultural traditions to defend against biopiracy while preserving native intellectual property control. Additional resources from the government and international donors will enable these authorities to develop their operational capabilities. Funds should be used to develop modern digital systems and staff training together with community outreach programs.<sup>23</sup> A key objective focuses on boosting participation among local stakeholders by giving power to indigenous communities along with farmers and rural communities through programs based on active involvement. Different types of programs including workshops and educational campaigns together with co-management agreements can be used to let communities participate in decision-making while maintaining effective enforcement that respects cultural needs and provides fair outcomes. The proposed approach would generate strengthened protection for biodiversity hotspots and minimize natural resource exploitation while building improved resistance to environmental dangers.

- **Promote International Collaboration:**

To tackle the international biodiversity issues and traditional knowledge sharing, there is need of encouragement of international cooperation. This could require formal alliances between nations, international organizations like the World Intellectual Property Organization (WIPO), and the United Nations Convention on Biological Diversity. The few examples of allied frameworks are Joint research projects, data-sharing platforms, and bilateral agreements to standardize bio exploration and IPRs.<sup>24</sup> The Nagoya Protocol of the CBD is an apt example of boosting funding and to safeguard ecosystems like transboundary forests and marine areas, there is need of international cooperation. To support the knowledge sharing and capacity building in developing nations, this would also involve the help of civil society organizations and non-governmental organizations (NGOs). The increased international enforcement against the illegal wildlife trade, easier access to funding for conservation initiatives, and the development of a united front against the effects of climate change are some advantages of such collaboration and negotiations. Governments should give the diplomatic initiatives, like participating in the international summits and in negotiating treaties, top priority in order to make this actionable. They should also make sure that the community voices from impacted areas are to be heard during these negotiations.

- **Universal Health Coverage (UHC)** should be strengthened by expanding the Ayushman Bharat program to include comprehensive primary and preventative care, drawing inspiration from Thailand's successful Universal Coverage Scheme. Second, decentralized insurance models should be decentralized, encouraging competition amongst insurers while ensuring affordability following the rules of Statutory Health Insurance Policies of Germany.<sup>25</sup>
- **Improving community-based healthcare** includes the strengthening of rural healthcare access through the establishment of multidisciplinary teams. By focusing on early intervention programs, priority should be given to proactive preventive care followed in Cuba as a comprehensive preventive healthcare model.
- Lastly, **using AI and digital innovations** can improve the utilization of healthcare. the remote care can be access by growing telemedicine networks, which are modelled after the e-health systems. Additionally, the AI assisted diagnostic tools can be used for early detection and treatments of diseases. By following these suggestions, it might strengthen the legal framework for protecting the traditional knowledge and biodiversity. In order to achieve the long-term sustainability, there is a necessity of integrated strategies that includes the monetary assistance, community empowerment, and international collaboration.

## Conclusion

The legal protection of Indian Knowledge Systems is crucial for advancing the right to health as it prevents the exploitation of the traditional knowledge practices and their beneficial and equitable use. India has made progress in putting restrictions to biopiracy and providing community benefits through legal frameworks like the TKDL and the Biological Diversity Act. There is a need to address the international disparities and gaps for long-term effective results. By giving priority to IKS in health policies India can contribute to global health equity. Quantitative effects, like cost-benefit evaluations of IKS protections, should be the main focus of future research.

In order to fully realize the goal of health as a universal right, this study urges communities, researchers, and policymakers to work together to fully utilize IKS.

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