PROTECTION OF TRADITIONAL KNOWLEDGE AND BENEFIT SHARING

Lisha Singh, Amity University, Noida, UP

ABSTRACT

Traditional Knowledge (TK) constitutes a vital component of the cultural, intellectual, and ecological heritage of indigenous and local communities across the world. It encompasses a wide array of practices, innovations, and knowledge systems developed over generations, particularly in areas such as medicine, agriculture, biodiversity conservation, and ecological sustainability. Despite its immense value, traditional knowledge remains inadequately protected under existing intellectual property frameworks, leading to widespread concerns regarding its misappropriation and exploitation.

The growing phenomenon of biopiracy has highlighted the vulnerability of traditional knowledge systems. Corporations and researchers have often extracted biological resources and associated knowledge from indigenous communities without proper authorization or compensation. Such practices not only undermine the rights of knowledge holders but also raise serious ethical and legal concerns at the international level. The inadequacy of conventional intellectual property laws primarily designed to protect individual, novel, and time-bound innovations further exacerbates this issue, as traditional knowledge is typically collective, ancient, and orally transmitted.

This dissertation critically examines the legal and institutional frameworks developed to address the protection of traditional knowledge and the equitable sharing of benefits arising from its utilization. It explores key international instruments such as the Convention on Biological Diversity (CBD) and the Nagoya Protocol, which have introduced the concept of Access and Benefit Sharing (ABS) as a mechanism to ensure fairness and justice. These frameworks emphasize principles such as prior informed consent and mutually agreed terms, aiming to empower indigenous communities and safeguard their rights.

The study also provides a detailed analysis of national efforts, particularly in India, where initiatives such as the Traditional Knowledge Digital Library (TKDL) and the Biological Diversity Act, 2002, have played a significant role in preventing the misappropriation of traditional knowledge. Landmark

case laws, including the turmeric, neem, and basmati disputes, are examined to illustrate the challenges and successes in protecting traditional knowledge within existing legal systems.

Furthermore, the dissertation evaluates the limitations of current approaches, including issues related to documentation, enforcement, and community participation. It argues for the development of a sui generis system tailored to the unique characteristics of traditional knowledge. Such a system would recognize collective ownership, ensure perpetual protection, and facilitate equitable benefit sharing.

1. INTRODUCTION TO TRADITIONAL KNOWLEDGE

Traditional Knowledge (TK) refers to the knowledge systems developed, sustained, and transmitted by indigenous and local communities over generations. It is deeply rooted in cultural traditions, ecological understanding, and social practices. Unlike modern scientific knowledge, which is often documented and institutionalized, TK is primarily transmitted orally and through practice. TK includes knowledge related to, Herbal medicine and healing systems, Agricultural techniques, Biodiversity conservation , Cultural expressions and folklore

The World Intellectual Property Organization (WIPO) defines TK as knowledge, know-how, skills, and practices developed as part of the cultural or spiritual identity of a community.[1]

A defining feature of TK is its collective ownership, meaning it belongs not to individuals but to communities. This poses significant challenges within intellectual property law, which is primarily structured around individual ownership and exclusivity.

Characteristics of Traditional Knowledge

Traditional knowledge exhibits several distinctive features:

1. Collective Nature

Unlike patents or copyrights, TK is owned collectively by a community rather than an individual. This creates difficulties in assigning legal ownership.[2]

[1] WIPO, Traditional Knowledge and Intellectual Property Background Brief.
[2] Duffield, G., Protecting Traditional Knowledge: Pathways to the Future.

2. Oral Transmission

Most traditional knowledge is transmitted orally, making it difficult to document and protect under formal legal systems.

3. Dynamic and Evolving

TK is not static; it evolves over time as communities adapt to environmental and social changes.

4. Closely Linked with Biodiversity

Traditional knowledge is often associated with biological resources, particularly in agriculture and medicine.

5. Lack of Formal Documentation

Because TK is rarely written down, it is vulnerable to misappropriation and exploitation.

Traditional knowledge plays a crucial role in several domains:

Healthcare-Systems like Ayurveda, Unani, and traditional herbal medicine rely heavily on TK. Many modern pharmaceuticals are derived from traditional remedies.[3]

Environmental Sustainability-Indigenous communities have developed sustainable practices that contribute to biodiversity conservation.

Economic Value-TK has immense commercial potential, especially in pharmaceuticals, cosmetics, and agriculture.

Cultural Identity-Traditional knowledge is an integral part of cultural heritage and identity.

Conflict with Modern Intellectual Property Systems, one of the central issues in protecting TK is its incompatibility with modern intellectual property regimes.

[3] WHO Report on Traditional Medicine, 2013.

Patent Law Requirements

To be patented, an invention must be Novel, non-obvious, industrially applicable

Traditional knowledge often fails the novelty requirement because it has existed for centuries.[4]

Ownership Issues-IP laws require identifiable inventors, whereas TK is collectively owned.

Time Limitation-Patents provide protection for a limited period, whereas TK requires perpetual protection.

Concept of Biopiracy

Biopiracy refers to the unauthorized extraction and commercialization of biological resources and traditional knowledge without compensation to the originating communities[5].It involves Patenting traditional remedies, Commercial exploitation without consent, Denial of benefits to knowledge holders. Biopiracy has become a major global concern, particularly for developing countries rich in biodiversity.

Illustrations of Biopiracy

Turmeric Case (Preliminary Introduction)

Turmeric has been used in India for centuries for wound healing. However, a patent was granted in the United States for its medicinal use, leading to controversy.

Neem Case (Preliminary Introduction)

Neem has long been used in India for its pesticidal properties, yet patents were granted abroad for similar uses.

These examples highlight the vulnerability of traditional knowledge.

Need for Legal Protection -The need for protecting traditional knowledge arises due to:

Preventing Misappropriation, Protection ensures that communities are not exploited, Ensuring

[4] TRIPS Agreement, Article 27.
[5] Shiva, V., Biopiracy: The Plunder of Nature and Knowledge.

Benefit Sharing, Communities must receive fair compensation, Protection helps maintain cultural identity, Recognizing TK can encourage further innovation.

Developing countries, particularly India, Brazil, and African nations, have been at the forefront of advocating for TK protection. India has taken significant steps, including-Enacting the Biological Diversity Act, 200, Establishing the TKDL. These initiatives aim to prevent wrongful patents and ensure equitable benefit sharing.[6]

2. LEGAL FRAMEWORK FOR PROTECTION OF TRADITIONAL KNOWLEDGE

The protection of Traditional Knowledge (TK) within formal legal systems presents a complex challenge due to its unique characteristics. Existing intellectual property (IP) regimes were designed primarily to protect individual innovation and creativity, whereas TK is collective, intergenerational, and often undocumented. As a result, there exists a significant gap between the nature of TK and the legal mechanisms available for its protection. This topic critically examines both international and national legal frameworks, highlighting their strengths, limitations, and evolving approaches toward safeguarding traditional knowledge and ensuring equitable benefit sharing. Traditional intellectual property laws include patents, copyrights, trademarks, and geographical indications. However, these mechanisms are not fully equipped to address the peculiarities of TK.

Patent law grants exclusive rights to inventors for novel, non-obvious, and industrially applicable inventions.[7] However, traditional knowledge often fails to meet these criteria:

Lack of Novelty: TK has existed for generations and is therefore considered prior art.

Collective Ownership: There is no identifiable individual inventor.

Oral Nature: Lack of documentation makes it difficult to establish prior art in patent examinations.

Despite these limitations, patents have been used sometimes improperly to claim rights over

[6] Biological Diversity Act, 2002 (India).
[7] TRIPS Agreement, Article 27.

traditional knowledge, leading to cases of biopiracy.

Copyright protects original literary and artistic works. However, it is unsuitable for TK because:

TK is not always recorded in a tangible form.

It is collectively created rather than individually authored.

Copyright protection is time-bound, whereas TK requires perpetual protection.[8]

Geographical Indications provide some protection for products linked to specific regions. For example, basmati rice is associated with India and Pakistan.

However, GIs protect products, not knowledge systems, they do not prevent misuse of underlying traditional knowledge.

Need for a Sui Generis System

Given the limitations of conventional IP laws, there is a growing demand for a sui generis (unique) system specifically designed for TK protection Such a system would, recognize collective ownership, provide perpetual protection, ensure benefit sharing, Incorporate customary laws of communities. Many countries, including India, have adopted elements of sui generis protection through legislative and policy measures.

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) sets minimum standards for IP protection across WTO member states.

However, TRIPS has been criticized for, failing to recognize traditional knowledge explicitly, allowing patents on biological resources without mandatory disclosure of origin, ignoring community rights. Article 27.3(b) permits patenting of microorganisms and biological processes, which has led to controversies regarding the patenting of life forms and associated knowledge. Convention on Biological Diversity (CBD), 1992 marked a paradigm shift by recognizing, Sovereign rights of states over biological resources, Importance of traditional knowledge, Need for equitable benefit sharing. Article 8(j) specifically calls for, Respecting,

[8] Cornish, W. & Llewelyn, D., Intellectual Property: Patents, Copyright, Trademarks and Allied Rights.

preserving, and maintaining TK, promoting its wider application with community approval, ensuring equitable sharing of benefits' CBD is the first international agreement to acknowledge the role of indigenous communities in biodiversity conservation.

Nagoya Protocol, 2010 - The Nagoya Protocol builds upon the CBD by providing a legal framework for Access and Benefit Sharing (ABS).

Key provisions include, Prior Informed Consent (PIC), Mutually Agreed Terms (MAT), Fair and equitable benefit sharing. The protocol ensures that users of genetic resources, obtain permission before access, Share benefits with the source country and communities

The World Intellectual Property Organization (WIPO) has established the Intergovernmental Committee (IGC) on Intellectual Property and Genetic Resources, Traditional Knowledge, and Folklore. The IGC aims to, Develop international legal instruments for TK protection, Address misappropriation and misuse. However, progress has been slow due to conflicting interests among developed and developing countries.

India has emerged as a global leader in protecting traditional knowledge through a combination of legislative measures and innovative mechanisms.

The Biological Diversity Act aims to, regulate access to biological resources, ensure equitable benefit sharing, Protect traditional knowledge. It establishes, National Biodiversity Authority (NBA), State Biodiversity Boards. The Act mandates prior approval for, foreign entities accessing biological resources, Transfer of research results.

The TKDL is a pioneering initiative by India to document traditional knowledge in a digital format.

Features-Contains information from Ayurveda, Unani, Siddha, and Yoga, translates knowledge into multiple languages, Provides access to international patent office's

Impact- Prevented wrongful patents, Strengthened India's position in patent disputes, Recognized as a global model

The Indian Patent Act includes provisions to prevent biopiracy, Section 3(p): Excludes traditional knowledge from patentability, Mandatory disclosure of source and geographical

origin. These provisions ensure that patents cannot be granted for existing traditional knowledge.

3. BENEFIT SHARING AND INTERNATIONAL REGIMES

The concept of benefit sharing lies at the heart of the global discourse on the protection of traditional knowledge (TK). While earlier legal regimes largely ignored the rights of indigenous and local communities, modern frameworks increasingly emphasize the need for equity and justice in the utilization of biological resources and associated knowledge.

Benefit sharing ensures that communities who have preserved and developed traditional knowledge over generations are adequately compensated when such knowledge is commercially exploited. It is closely linked with the concept of Access and Benefit Sharing (ABS), which has been institutionalized under international agreements such as the Convention on Biological Diversity (CBD) and the Nagoya Protocol.[9]

Benefit sharing refers to the fair and equitable distribution of advantages arising from the use of biological resources and traditional knowledge.

These benefits may be- Monetary Benefits like Royalties, License fees, Profit-sharing arrangements. Non-Monetary Benefits like Technology transfer, Capacity building, Research collaboration, Infrastructure development.[10] Unlike traditional IP systems that focus on exclusive ownership, benefit sharing emphasizes collective rights and distributive justice.

Rationale Behind Benefit Sharing

The need for benefit sharing arises due to- Historical Exploitation, for decades, indigenous communities have been marginalized and excluded from the benefits derived from their knowledge. Corporations have extracted resources and patented products without compensation. Ethical Considerations. Benefit sharing is rooted in principles of, Equity, Justice, Recognition of contributions. Traditional knowledge contributes significantly to industries such as pharmaceuticals, agriculture, and cosmetics. Ensuring benefit sharing helps redistribute wealth to the rightful custodians of knowledge. ABS is a legal and policy

[9] Convention on Biological Diversity, 1992.
[10] Nagoya Protocol, 2010 – Annex on Benefit Sharing.

framework that regulates access to genetic resources and ensures fair distribution of benefits.

Key Elements of ABS

1. Prior Informed Consent (PIC)-Users must obtain permission from the concerned authority or community before accessing resources.

2. Mutually Agreed Terms (MAT)- Terms of access and benefit sharing must be negotiated and agreed upon by both parties.

3. Fair and Equitable Sharing- Benefits must be shared in a manner that is just and proportionate.

International Legal Framework Governing Benefit Sharing

Convention on Biological Diversity (CBD) adopted in 1992, is the cornerstone of international efforts to regulate benefit sharing. Key objectives include, Conservation of biodiversity, Sustainable use of biological resources, Fair and equitable sharing of benefits.

Article 15 of the CBD establishes, Sovereign rights of states over their natural resources, Requirement of prior informed consent, Obligation to share benefits, Article 8(j) specifically addresses traditional knowledge and calls for its protection.

The Nagoya Protocol is a supplementary agreement to the CBD that provides a detailed framework for ABS implementation. Key Features- Legal certainty and transparency, Compliance mechanisms, Monitoring utilization of genetic resources.[11]

India has implemented ABS through the Biological Diversity Act, 2002. Key Features are Mandatory approval for access to biological resources, Benefit-sharing agreements, Involvement of local communities. Example: Kani Tribe Case, The Kani tribe of Kerala shared knowledge about a medicinal plant (Arogya Pacha), which led to the development of a drug. Benefits included, Monetary compensation and Community development initiatives. [12]Another example is Hoodia Plant (Africa) case, The San people of Southern Africa used the Hoodia plant for appetite suppression. A pharmaceutical company commercialized it without initial

[11]Nagoya Protocol, Articles 5 and 6.
[12] Pushpangadan, P., Kani Tribe Benefit Sharing Case Study.

compensation. After protests, Benefit-sharing agreements were negotiated, San community received royalties.

4. CASE LAWS AND JUDICIAL TRENDS

Judicial decisions have played a pivotal role in shaping the discourse on the protection of traditional knowledge (TK). Courts and patent offices across jurisdictions have increasingly recognized the importance of preventing the misappropriation of indigenous knowledge. This section continues the analysis of landmark cases, highlighting their legal reasoning and broader implications.

The Turmeric Case (Expanded Analysis)

In University of Mississippi Medical Centre v. Council of Scientific and Industrial Research (CSIR), a patent was granted in the United States for the use of turmeric in wound healing. [13]The Council of Scientific and Industrial Research (CSIR), India, challenged the patent on the grounds of lack of novelty. CSIR presented documented evidence from ancient Sanskrit texts and scientific articles demonstrating that turmeric had been used for centuries in India for healing purposes. The United States Patent and Trademark Office (USPTO) subsequently revoked the patent.

Legal Significance:

- Established that oral and traditional knowledge can constitute prior art
- Highlighted the importance of documentation
- Strengthened the position of developing countries in patent disputes

The Neem Case (Expanded Analysis)

The neem case involved a patent granted by the European Patent Office (EPO) to W.R. Grace and the U.S. Department of Agriculture for a fungicidal product derived from neem. Indian activists and organizations challenged the patent, arguing that neem had been traditionally

[13] USPTO, Turmeric patent revocation case (1997).

used in India for its pesticidal properties. The EPO revoked the patent on the grounds that, the invention lacked novelty, Traditional use constituted prior art

Legal Significance, Recognition of traditional practices as prior art, strengthening opposition mechanisms in patent law, Increased global awareness of biopiracy

The Basmati Rice Case (Expanded Analysis)

In this case, RiceTec Inc., a U.S.-based company, was granted a patent for certain strains of basmati rice and related methods. India challenged the patent, arguing that basmati rice is indigenous to the Indian subcontinent. Following the challenge, several claims were withdrawn or invalidated. The case highlighted the role of Geographical Indications (GIs)

Legal Significance:

- Emphasized the importance of geographical origin
- Demonstrated limitations of patent law in protecting TK
- Strengthened the case for GI protection

5. CHALLENGES, REFORMS AND FUTURE DIRECTIONS

Key Challenges in Protecting Traditional Knowledge is despite significant legal and institutional developments; the protection of traditional knowledge (TK) continues to face persistent challenges. Conventional intellectual property regimes remain ill-suited for TK due to their emphasis on individual ownership, novelty, and time-bound protection. Much of traditional knowledge is orally transmitted and undocumented, making it vulnerable to misappropriation and difficult to prove as prior art. Even where legal frameworks exist, enforcement remains inconsistent, particularly in developing countries with limited institutional capacity. Indigenous communities often lack awareness, legal literacy, and bargaining power, resulting in unequal benefit-sharing arrangements.

Suggested Reforms and Future Directions

1. Development of a Sui Generis System

A specialized legal framework tailored to the unique nature of TK is essential. Such a system should ensure perpetual protection, recognize collective ownership, and integrate customary laws.

2. Strengthening Access and Benefit Sharing (ABS)

ABS mechanisms must be made more transparent, enforceable, and community-centric to ensure equitable outcomes.

3. Enhanced International Cooperation

A binding international treaty under global institutions is necessary to harmonize standards and address cross-border misappropriation.

4. Community Empowerment

Capacity-building initiatives, legal awareness programs, and participatory governance are crucial to empower indigenous communities.

With advancements in biotechnology and digital data, new challenges such as digital sequence information (DSI) are emerging. The future of TK protection will depend on adaptive legal frameworks that can respond to technological and global changes.

CONCLUSION

The protection of traditional knowledge and the equitable sharing of benefits represent one of the most significant challenges in contemporary intellectual property law. Traditional knowledge embodies centuries of innovation, cultural identity, and ecological wisdom, yet remains inadequately protected within existing legal systems.

Through an analysis of international frameworks such as the Convention on Biological Diversity and the Nagoya Protocol, as well as national initiatives like India's Biological Diversity Act and TKDL, it is evident that substantial progress has been made. However, landmark cases such as turmeric, neem, and basmati reveal the persistent vulnerabilities and systemic gaps that allow misappropriation to occur.

The study underscores the urgent need for a sui generis system that recognizes the collective,

intergenerational nature of traditional knowledge while ensuring fair and equitable benefit sharing. Ultimately, the protection of traditional knowledge is not merely a legal obligation but a moral imperative—one that demands global cooperation, legal innovation, and the meaningful inclusion of indigenous communities in decision-making processes.

REFERENCES

1. TRIPS Agreement, WTO
2. Convention on Biological Diversity, 1992
3. Nagoya Protocol, 2010
4. Biological Diversity Act, 2002 (India)
5. WIPO Reports on Traditional Knowledge
6. Shiva, V., Biopiracy
7. Duffield, G., Protecting Traditional Knowledge
8. WHO Traditional Medicine Report