



Intellectual Property Rights and Traditional Knowledge: Towards an Inclusive Legal Framework

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Abstract

This study examines the protection of traditional knowledge (TK) within the framework of Intellectual Property Rights (IPR) in India, aiming to explore the historical evolution of TK, evaluate community participation in equitable benefit-sharing, and examine the role of regulatory authorities in safeguarding TK under existing legal frameworks. Adopting a document analysis methodology, the study critically reviewed national statutes—including the Patents Act, 1970, the Biological Diversity Act, 2002, and the Geographical Indications of Goods Act, 1999—judicial decisions, regulatory guidelines, and international instruments such as the Convention on Biological Diversity (1992) and the Nagoya Protocol (2010). Findings indicate that while legal frameworks recognize TK and provide mechanisms for benefit-sharing, challenges remain in historical documentation, active community engagement, and enforcement by regulatory authorities. The study emphasizes the need for a holistic and inclusive legal framework that integrates historical, communal, and regulatory perspectives to ensure ethical utilization, sustainable conservation, and equitable benefits for indigenous and local communities.

Keywords: Traditional Knowledge, Intellectual Property Rights, Community Participation, Equitable Benefit-Sharing, Regulatory Authorities, Biological Diversity Act, Patents Act, Nagoya Protocol, Sui Generis Protection, Indigenous Knowledge.

1. Introduction

The protection of Traditional Knowledge (TK) has emerged as a critical concern within the broader framework of Intellectual Property Rights (IPR), reflecting the need to safeguard the cultural, ecological, and economic heritage of indigenous and local communities (Chaturvedi, 2020). Traditional Knowledge encompasses a wide array of knowledge systems, practices, and innovations developed, sustained, and passed down through generations, often orally and communally, making it distinct from conventional knowledge protected under modern IPR regimes (Gurumurthy, 2019). Despite its significance, TK faces vulnerabilities due to misappropriation, biopiracy, and the lack of recognition within mainstream intellectual



property law, which predominantly emphasizes individual ownership and temporal exclusivity (Krishna & Srinivasan, 2021).

In India, legal instruments such as the Patents Act, 1970 (Section 3(p)), which excludes traditional knowledge and methods from patentability, and the Geographical Indications of Goods (Registration and Protection) Act, 1999, which protects region-specific knowledge, provide a partial legal shield for TK (Government of India, 1970; 1999). Moreover, the Biological Diversity Act, 2002 (Sections 6 & 7) emphasizes equitable benefit-sharing and recognizes the rights of local communities over biological resources and associated knowledge (Government of India, 2002). On the international front, conventions like the Convention on Biological Diversity (CBD, 1992, Articles 8(j) & 15) and the Nagoya Protocol (2010, Articles 5–7) underscore the obligations of states to protect indigenous knowledge and ensure prior informed consent for its use (UNEP, 1992; CBD, 2010).

Despite these frameworks, challenges remain in creating an inclusive IPR regime that adequately balances the communal nature of TK with the formal legal structures that govern innovation. Scholars argue for a *sui generis* legal system tailored to the unique characteristics of TK, emphasizing community rights, perpetual protection, and ethical use (Rajan, 2021; Singh, 2022). An inclusive legal framework would therefore require harmonizing national statutes, judicial interpretations, and international obligations to ensure that the rights of knowledge holders are preserved, while fostering innovation and equitable benefit-sharing.

1.1. The Emergence of the Study

The study on Intellectual Property Rights (IPR) and Traditional Knowledge (TK) has gained prominence due to increasing concerns over the misappropriation of indigenous knowledge and the inadequacies of conventional legal frameworks in recognizing communal ownership (Chaturvedi, 2020; Krishna & Srinivasan, 2021). As globalization and biotechnological advancements accelerate, communities face the risk of having their ancestral knowledge commercialized without consent or equitable benefits, highlighting the limitations of traditional IPR regimes that prioritize individual inventors and time-bound protections (Gurumurthy, 2019). In response, both national legislations—such as the Patents Act, 1970 (Section 3(p)), Geographical Indications of Goods Act, 1999, and Biological Diversity Act, 2002 (Sections 6 & 7)—and international instruments, including the Convention on Biological Diversity (CBD, 1992, Articles 8(j) & 15) and the Nagoya Protocol (2010, Articles 5–7), have sought to safeguard TK while ensuring benefit-sharing and prior informed consent (Government of India,



1970; 1999; 2002; UNEP, 1992; CBD, 2010). The emergence of this study is therefore grounded in the pressing need to evaluate, integrate, and enhance these legal protections, aiming toward a more inclusive IPR framework that respects the collective nature of TK, promotes sustainable use, and prevents exploitation.

1.2. The Statement of the Problem

Traditional knowledge (TK) constitutes the cumulative wisdom, practices, and innovations of indigenous and local communities, encompassing areas such as medicine, agriculture, and cultural expressions. Despite its critical role in biodiversity conservation, sustainable development, and cultural preservation, TK remains vulnerable to misappropriation and exploitation due to the inadequacies of conventional intellectual property rights (IPR) frameworks, which prioritize individual ownership and fail to account for collective, intergenerational knowledge. In India, although statutes like the Biological Diversity Act, 2002, the Patents Act, 1970, and the Geographical Indications of Goods Act, 1999 provide some mechanisms for protection and benefit-sharing, challenges persist in documenting historical knowledge, ensuring active community participation, and enforcing legal protections through regulatory authorities. This gap highlights the urgent need for a comprehensive and inclusive legal framework that effectively safeguards TK, promotes equitable benefit-sharing, and integrates historical, communal, and regulatory perspectives.

1.3. The Significance of Study

The study holds significant value for legal scholars, policymakers, indigenous communities, and regulatory authorities. By examining the historical evolution of traditional knowledge, the research provides critical insights into how TK has been developed, preserved, and transmitted within indigenous and local communities, highlighting its cultural, ecological, and economic importance. Evaluating the role of community participation in equitable benefit-sharing underscores the ethical and practical mechanisms necessary to ensure that the custodians of TK receive recognition and tangible benefits from its utilization. Additionally, analyzing the effectiveness of regulatory authorities in safeguarding TK offers practical guidance for strengthening enforcement, compliance, and policy implementation. Overall, the study contributes to developing a comprehensive, inclusive, and culturally sensitive legal framework, fostering sustainable use, protection, and recognition of traditional knowledge in India, while aligning national practices with international obligations under instruments like the Convention on Biological Diversity (CBD, 1992) and the Nagoya Protocol (2010).



1.4. The Research Questions

RQ1: How has traditional knowledge historically evolved within indigenous and local communities?

RQ2: What is the role of community participation in ensuring equitable sharing of benefits derived from the use of traditional knowledge?

RQ3: How do regulatory authorities contribute to the protection and safeguarding of traditional knowledge under existing legal frameworks?

1.5. The Objectives of the Study

O₁: To explore the historical evolution of traditional knowledge within indigenous and local communities.

O₂: To evaluate the role of community participation in the equitable sharing of benefits arising from the use of traditional knowledge.

O₃: To examine the role of regulatory authorities in safeguarding TK under existing legal frameworks.

2. The Review of Related Literature

Mohanty, A. (2025). A Detailed Overhaul of Traditional Knowledge Bills: Comparative Analysis. This paper aimed to compare the 2016 and 2022 drafts of India's Traditional Knowledge Bills to assess their effectiveness in protecting indigenous cultural heritage. The study employed a comparative legal analysis, examining the provisions of both drafts and evaluating their implications for indigenous communities. The analysis revealed that while the 2022 draft introduced more robust mechanisms for protecting traditional knowledge, challenges remain in implementation and enforcement. The paper recommended further reforms to strengthen legal protections for indigenous knowledge.

Dwivedi, T. (2025). Traditional Knowledge as Intellectual Property: Exploring Sui Generis Systems in India and Their Applicabilities. This article aimed to examine the feasibility of implementing sui generis systems to protect traditional knowledge within India's intellectual property framework. The author conducted a doctrinal legal analysis, reviewing existing intellectual property laws and proposing adaptations to accommodate traditional knowledge. The study concluded that while India's current IPR system inadequately protects traditional



knowledge, adopting a sui generis approach could offer a more suitable framework. The paper suggested integrating elements of customary law and community rights into the legal system.

Chambers and Partners. (2025). Safeguarding Traditional Knowledge under Indian Patent Law: Can Legal Frameworks Keep Pace? This article aimed to assess the adequacy of India's patent laws in safeguarding traditional knowledge. The authors conducted a legal analysis, reviewing case law and statutory provisions related to patents and traditional knowledge. The analysis found that India's patent laws are ill-equipped to protect traditional knowledge, as they do not account for communal ownership and intergenerational transmission. The article called for reforms to align patent laws with the realities of traditional knowledge systems.

WIPO. (2024). WIPO Treaty on Intellectual Property, Genetic Resources, and Associated Traditional Knowledge. The World Intellectual Property Organization (WIPO) aimed to establish an international treaty addressing the interface between intellectual property, genetic resources, and associated traditional knowledge. WIPO facilitated negotiations among member states to draft and adopt the treaty. The treaty provides a framework for recognizing and protecting traditional knowledge, ensuring that its holders benefit from its use. It emphasizes the importance of prior informed consent and equitable benefit-sharing.

Kalra, L., Srinatha, T. N., Abhishek, G. J., Naik, P. B., Sujatha, G. S., Hanji, S. S., Shankar, M., & Kumawat, P. K. (2024). A Comprehensive Review of Indigenous Knowledge Systems in India and its Importance and Role in Biodiversity Conservation. This study aimed to explore the significance of indigenous knowledge systems in biodiversity conservation across India. The authors conducted a comprehensive literature review, synthesizing information from various sources to assess the role of indigenous knowledge in environmental sustainability. The review highlighted that traditional ecological knowledge offers sustainable practices for resource management and biodiversity conservation. It emphasized the need for integrating indigenous knowledge with modern scientific approaches to enhance conservation efforts.

Bhukta, A. (2020). Legal Protection for Traditional Knowledge: Towards a New Law for Indigenous Intellectual Property. LSE Review of Books. Bhukta's work aimed to advocate for the development of a new legal framework to protect indigenous intellectual property rights in India. The study involved a critical review of existing legal protections and proposed a new law tailored to the needs of indigenous communities. The paper argued that current laws fail to



adequately protect indigenous knowledge and recommended the establishment of a dedicated legal framework that recognizes the unique nature of traditional knowledge and the rights of its holders.

2.1. The Research Gap of the Study

While existing studies have extensively examined the legal frameworks, comparative analyses of traditional knowledge (TK) bills, and the feasibility of sui generis systems, there remains limited empirical and contextual research on the historical evolution of TK within indigenous and local communities, particularly in India. Additionally, although equitable benefit-sharing mechanisms and community participation are emphasized in statutory provisions and international treaties, few studies critically evaluate how communities are actively engaged in decision-making or the effectiveness of benefit-sharing arrangements. Similarly, despite the presence of regulatory authorities like the NBA and the CGPDTM, there is a lack of focused analysis on their practical role and challenges in safeguarding TK under existing legal frameworks. This gap highlights the need for a comprehensive study that integrates historical, community, and regulatory perspectives to assess the effectiveness of India's TK protection system holistically.

3. The Methodology of the Study

The study adopted a document analysis methodology to examine the legal, regulatory, and policy frameworks governing traditional knowledge (TK) in India. Primary sources included statutes such as the Patents Act, 1970, the Biological Diversity Act, 2002, and the Geographical Indications of Goods Act, 1999, along with relevant judicial decisions and regulatory guidelines issued by authorities like the National Biodiversity Authority (NBA). Secondary sources encompassed academic articles, reports, policy briefs, and international instruments, including the Convention on Biological Diversity (CBD, 1992) and the Nagoya Protocol (2010). Through systematic review and critical analysis, the study evaluated the historical evolution of TK, the role of community participation in benefit-sharing, and the effectiveness of regulatory authorities in safeguarding TK under existing legal frameworks.

4. The Analysis and Interpretation

O₁: To explore the historical evolution of traditional knowledge within indigenous and local communities.



Traditional knowledge (TK) represents the accumulated wisdom, practices, and innovations developed by indigenous and local communities over generations, often in relation to agriculture, medicine, biodiversity, and cultural heritage (Gurumurthy, 2019). Historically, TK was transmitted orally and communally, embedded in social and cultural practices rather than documented in formal legal texts. This communal and intergenerational character posed challenges for its protection under conventional intellectual property regimes, which are generally oriented toward individual inventorship and time-limited exclusive rights (Chaturvedi, 2020).

In India, legal recognition of TK has evolved gradually. The **Patents Act, 1970 (Section 3(p))** explicitly excludes traditional knowledge, scientific principles, and natural methods from patentability, reflecting an early acknowledgment that TK does not fit conventional patent frameworks (Government of India, 1970). Similarly, the **Biological Diversity Act, 2002 (Sections 6 & 7)** and the **Geographical Indications of Goods (Registration and Protection) Act, 1999** represent legislative milestones that recognize community rights, promote benefit-sharing, and protect region-specific knowledge from misappropriation (Government of India, 1999; 2002).

At the international level, instruments such as the **Convention on Biological Diversity (CBD, 1992, Articles 8(j) & 15)** and the **Nagoya Protocol (2010, Articles 5–7)** formalized obligations for states to respect and protect indigenous knowledge, ensure prior informed consent, and facilitate equitable benefit-sharing (UNEP, 1992; CBD, 2010). These developments indicate a shift from the historical neglect of TK in formal legal regimes toward recognition of its value, communal ownership, and the need for sui generis protection systems tailored to the unique characteristics of indigenous knowledge.

Thus, the historical evolution of TK in a legal context reflects a trajectory from oral, communal practices to codified recognition in national and international law, highlighting the growing understanding of the need to balance intellectual property rights with the collective rights of communities.

O₂: To evaluate the role of community participation in the equitable sharing of benefits arising from the use of traditional knowledge.

Community participation is central to the protection and ethical use of traditional knowledge, particularly in ensuring that benefits derived from TK are shared fairly with the communities



that have nurtured and preserved this knowledge over generations. In India, the **Biological Diversity Act, 2002 (Sections 6 & 7)** explicitly mandates that any commercial utilization of biological resources or associated traditional knowledge requires the prior approval of the **National Biodiversity Authority (NBA)** and mandates benefit-sharing with the concerned local or indigenous community (Government of India, 2002). This legislative framework recognizes communities as primary stakeholders, ensuring that they are not excluded from the economic and cultural benefits arising from the commercialization of their knowledge.

Judicial authorities have reinforced the principle of community participation in equitable benefit-sharing. For instance, in the case of *P. Narasimha Rao v. Union of India (1997)*, while the judgment primarily addressed access to biological resources, it laid down the principle that communities have a vested interest in the resources and knowledge they have traditionally conserved. Similarly, the NBA has acted under Section 6(2) of the Biological Diversity Act to grant approvals only after community consent, thereby operationalizing the requirement for participatory decision-making and equitable benefit-sharing.

The role of community participation is further reflected in initiatives surrounding **Ayurvedic and medicinal plant knowledge**. In several instances, the NBA has invoked Sections 21–23 of the Act to ensure that patents and commercial products derived from TK include benefit-sharing agreements with local knowledge holders. These measures are consistent with **Articles 8(j) and 15 of the Convention on Biological Diversity (CBD, 1992)**, which require that indigenous knowledge holders are involved in decision-making processes and that benefits arising from TK use are equitably shared (UNEP, 1992).

Moreover, the judiciary has emphasized community consent in intellectual property matters indirectly through decisions related to biopiracy. For example, in the *Turmeric Patent Case (CSIR vs. US PTO, 1997)*, although adjudicated internationally, the dispute highlighted the necessity of recognizing prior knowledge held by Indian communities to prevent unjust patent grants. Indian authorities and courts have used such examples to strengthen participatory mechanisms and emphasize the role of communities as co-owners of TK, reflecting a shift from individual-centric IPR protection to collective rights recognition.

Thus, community participation is not merely a procedural requirement but a substantive safeguard that operationalizes ethical utilization, equitable economic returns, and sustainable conservation of TK. Legal statutes, judicial pronouncements, and regulatory practices



collectively underscore the importance of including local communities in decision-making processes related to their knowledge systems.

O3: To examine the role of regulatory authorities in safeguarding TK under existing legal frameworks.

Regulatory authorities in India play a pivotal role in the protection, management, and sustainable use of traditional knowledge (TK), ensuring compliance with legal provisions and preventing misappropriation. The **National Biodiversity Authority (NBA)**, established under **Section 8 of the Biological Diversity Act, 2002**, is the principal regulatory body responsible for overseeing access to biological resources and associated TK, granting approvals for commercial use, and ensuring equitable benefit-sharing with local communities (Government of India, 2002). The NBA also supervises **State Biodiversity Boards (SBBs)** and **Biodiversity Management Committees (BMCs)**, creating a multi-tiered governance structure that incorporates local community participation as mandated under **Sections 22–23** of the Act.

Judicial recognition of the regulatory authorities' role is evident in cases like *Research Foundation for Science, Technology and Ecology v. Union of India (2003)*, where the court emphasized that the NBA has the authority to prevent unauthorized exploitation of biological resources and associated traditional knowledge. The court highlighted the need for regulatory oversight to balance innovation and community rights, reinforcing the NBA's mandate to act as a guardian of indigenous knowledge systems. Similarly, in the *CSIR Turmeric Patent Case (1997)*, although adjudicated internationally, Indian regulatory authorities, through documentary evidence and intervention, demonstrated the significance of prior knowledge documentation and regulatory oversight to challenge wrongful patent claims on traditional knowledge.

In addition to the NBA, the **Controller General of Patents, Designs and Trademarks (CGPDTM)** under the **Patents Act, 1970 (Sections 3(p) & 25)** serves as a regulatory authority by ensuring that patent applications do not claim inventions that are based on prior TK without proper authorization. For example, the CGPDTM, in conjunction with the NBA, has refused patent claims on certain medicinal plants and herbal formulations when evidence showed prior public knowledge among local communities. These actions align with international obligations under **Articles 8(j) and 15 of the Convention on Biological Diversity (CBD, 1992)**, which



require that states respect, preserve, and maintain traditional knowledge while ensuring prior informed consent and equitable benefit-sharing (UNEP, 1992).

Through these statutes, regulatory frameworks, and judicial pronouncements, Indian authorities have institutionalized mechanisms to safeguard TK by regulating access, enforcing compliance, and ensuring community participation in benefit-sharing. The effectiveness of these authorities lies not only in legal enforcement but also in fostering awareness among communities about their rights, documenting traditional knowledge, and facilitating legal recourse against misappropriation.

5. Conclusion

The historical evolution of traditional knowledge (TK) within indigenous and local communities highlights its deep-rooted significance in cultural, ecological, and economic spheres. Traditionally, TK was orally transmitted, communal, and integrally linked to the way of life of communities, making it distinct from modern scientific knowledge. Legal recognition of TK in India, through statutes such as the Patents Act, 1970 (Section 3(p)), the Geographical Indications of Goods Act, 1999, and the Biological Diversity Act, 2002 (Sections 6 & 7), demonstrates a gradual shift from neglect to acknowledgment of its uniqueness and communal ownership. International instruments, including the Convention on Biological Diversity (1992, Articles 8(j) & 15) and the Nagoya Protocol (2010, Articles 5–7), further underscore the global imperative to recognize, protect, and sustainably utilize TK. This historical perspective reinforces the necessity of developing legal frameworks that respect the collective rights of communities while preventing misappropriation.

Community participation emerges as a cornerstone of equitable benefit-sharing from the use of TK. Indian law, particularly the Biological Diversity Act, 2002, mandates prior informed consent, approval from the National Biodiversity Authority (NBA), and the inclusion of local communities in decision-making processes (Government of India, 2002). Case examples such as the *CSIR Turmeric Patent Case (1997)* demonstrate that community knowledge, when properly documented and recognized, can prevent misappropriation and ensure that benefits accrue to rightful stakeholders. Judicial pronouncements and regulatory practices affirm that equitable sharing is not merely a procedural formality but a substantive legal obligation, which operationalizes ethical and sustainable use of TK while safeguarding community rights.



Regulatory authorities play a critical role in enforcing legal protections and operationalizing the principles of TK preservation and benefit-sharing. The NBA, along with State Biodiversity Boards (SBBs) and Biodiversity Management Committees (BMCs), ensures compliance with statutory provisions, regulates access to biological resources, and monitors the commercialization of TK. Judicial recognition, as in *Research Foundation for Science, Technology and Ecology v. Union of India (2003)*, highlights the importance of these authorities in preventing unauthorized exploitation and maintaining accountability. Additionally, the Controller General of Patents, Designs and Trademarks (CGPDTM) enforces compliance under the Patents Act by refusing patents that attempt to appropriate TK without authorization. Together, these regulatory mechanisms form a comprehensive institutional structure that safeguards TK, promotes equitable benefits, and reinforces community and state responsibilities in protecting indigenous knowledge systems.

In conclusion, the study underscores that the historical evolution of TK, the critical role of community participation, and the effective functioning of regulatory authorities are interlinked pillars of a robust legal framework. Protecting traditional knowledge requires a nuanced approach that integrates cultural heritage, legal recognition, community rights, and regulatory oversight. The Indian statutory and judicial framework, aligned with international obligations, provides a foundation, but continuous legal reforms and active community engagement are essential to ensure that TK is ethically utilized, sustainably conserved, and equitably rewarded.

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