LEGAL GAPS IN PATENTING PRACTICES PAVING THE WAY FOR EXPLOITATION OF INDIGENOUS MEDICINAL KNOWLEDGE: LESSONS FROM THE KANI TRIBE AND THE COMMERCIALIZATION OF THE JEEVANI HERB

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ABSTRACT

Despite the discovery of the Jeevani drug in 1993 by the Jawaharlal Nehru Tropical Botanical Garden and Research Institute (JNTBGRI) using the traditional knowledge shared by the Kani tribe of Kerala, remains inadequately protected due to the gaps in India's IP system. The exclusive rights to the Trichopus zeylanicus, scientifically referred to as the "Arogyapacha plant" (the source of Jeevani), are denied under the Indian Patent Act, 1970, which forbids product patents for plants. Despite the legality of process patents, Jeevani's expired in 2008 and even with decades passing, there existed no effective IP protection internationally. The benefit-sharing agreement for Jeevani, though internationally recognised by the UN for its novelty, had shortcomings. The patent application failed to include tribal informants as co-inventors, indicating the lack of integration of traditional knowledge holders into the formal IP frameworks. Furthermore, the novelty needed for IP protection was compromised by protracted delays in granting patents which allowed the unique information to spread into the public domain. As a result of which, the indigenous communities lost the benefits they could have reaped if the legal framework safeguarded their knowledge in a timely and secure manner. The impacts of inadequate IP protection also extended beyond border as companies like NutriScience Innovations trademarked Jeevani in the U.S. thereby showcasing its market potential. If India had obtained full IP protection under the Patent Cooperation Treaty by WIPO, such trademarks may have brought in more money for the Kani tribe. This paper examines gaps in India's IP framework

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regarding traditional knowledge, role of treaties like the Nagoya Protocol in protecting indigenous rights and the challenges in protecting indigenous rights. It proposes practical solutions based on lessons from the Jeevani case-study to address loopholes in India's IP laws, ensure equitable benefit-sharing, and prevent future exploitation of indigenous discoveries.

KEYWORDS: Jeevani, Indigenous communities, Traditional Knowledge, Benefit-Sharing.

INTRODUCTION

The huge store of traditional knowledge possessed by these indigenous communities are a testament to their intimate connection to nature as well as centuries worth of collected wisdom passed down from generation-generation. Through an understanding of local flora and fauna, these communities have devised remedies that meet health concerns in ways often ignored by modern medicine. The present times with globalization and increased bio-prospecting; indigenous medicinal knowledge remains an invaluable yet vulnerable resource; thus, it is regularly subject to exploitation. Moreover, such exploitation is often made easier due to loopholes in both the national and international legal framework and an inability to recognize the intellectual property rights of indigenous communities in such matters.

One such case study is that of the Kani tribe of Kerala, India, who possessed indigenous knowledge that resulted in the discovery and commercialization of Jeevani, an herbal product obtained from the plant Trichopus zeylanicus travancoricus commonly referred to as "Arogyapacha." It is from this plant that an herbal remedy was developed with rejuvenation properties that was commercially viable with institutions and pharmaceutical companies. However, although the Jeevani herb has generated a lot of money and gained international recognition, the entire process revealed serious moral and legal problems. These range from lack of inclusion of the tribe as co-inventors thereby depriving them of their rightful credit for the discovery to no international recognition to the discovery till date resulting in the erosion of the novelty of the discovery owing to exploitation of the drug by foreign companies fuelled by the dispersal of knowledge through the media.[1]

Consequently, the commercialization of Jeevani also speaks to a broader problem of patenting not meeting the unique requirements of indigenous knowledge. Modern concepts of uniqueness, innovative steps, and individual ownership have led to the development of patent

[1] Anuradha, 'Sharing with the Kanis: A Case Study from Kerala', (*Convention on Biological Diversity*) <https://www.cbd.int/financial/bensharing/india-kanis.pdf> accessed 21 December 2024

law, which is insufficient to safeguard oral, collective, and even unrecorded knowledge systems. This discrepancy has resulted in instances of biopiracy, in which businesses and research institutions use traditional knowledge without giving its original owners due credit or any form of monetary compensation.

This research paper aims to examine how patenting practices that create legal loopholes lead to the exploitation of indigenous medicinal knowledge through the case study of the Kani tribe and the Jeevani herb. It further explores how patent laws leave indigenous knowledge systems open to appropriation and questions whether the current benefit-sharing mechanisms are sufficient for equity with indigenous communities. Additionally, the study offers insights from the Jeevani case that could be used to develop a future judicial system that is more inclusive and equal to bridge the gap between conventional knowledge systems and contemporary intellectual property rules.[2]

EVOLUTIONARY HISTORY BEHIND THE DISCOVERY OF THE JEEVANI

Jeevani is an innovative herbal formulation discovered deeply interlinked with traditional knowledge of the Kani tribal community and scientific exploration led by Tropical Botanic Garden and Research Institute. A botanical expedition in 1987, a team of scientists from TBGRI accompanied members of the Kani tribe, who noticed the tribals eating fruits from a plant they called “Aarogyappacha" meaning "the green that gives strength." The Kanis ate these fruits to energize themselves on long, gruelling treks through the forest. Initially, the Kanis were reluctant to talk much about the plant; however, they eventually divulged that it came from Trichopus zeylanicus travancoricus, an endemic species found in the Western Ghats. Although the plant had been documented in botanical records, its medicinal properties had never been known outside of the Kani community.

TBGRI carried out profound research on the plant as it was adopting an ethno-pharmacological approach to traditional practices and sciences. Studies showed that its leaves contain bioactive substances such as glycolipids and non-steroidal compounds with anti-fatigue, anti-stress and immuno-enhancing principles. The results of which were taken as a challenge to create Jeevani- a polyherbal formulation where Trichopus zeylanicus and three other medicinal plants with a purpose of enhancing curative activity. The benefits were confirmed by rigorous clinical testing, and the formulation was prepared for commercialization.

[2] A.K. Gupta, ‘WIPO-UNEP Study on the Role of Intellectual Property Rights In The Sharing Of Benefits Arising From The Use Of Biological Resources And Associated Traditional Knowledge’ (2004) <https://www.wipo.int/edocs/pubdocs/en/tk/769/wipo_pub_769.pdf> accessed 21 December 2024

For its commercial launch, TBGRI granted the technology licence to AVP, which is one of the better-known manufacturers of Ayurvedic drugs. The agreement involves a one-time license fee of INR 10 lakh and a 2% royalty on future sales. However, it specifically mandates 50% share of license fee and royalty with the Kani community, as a first-ever benefit-sharing agreement in the country. This was to ensure that the Kani community was recognized in the contributions while at the same time benefiting from the commercialization of their traditional knowledge.

Despite its innovative nature, the benefit-sharing mechanism encountered many challenges. The majority of the Kani members were dissatisfied and cited inadequate consultation and representation in the decision-making process. The perception that only a select group of Kanis was involved in the negotiations further fuelled discontent. Although a trust, the Kerala Kani Samudaya Kshema Trust, was established for the administration of funds and for supervising the benefits-sharing process, it remained incapable of ensuring that proper distribution of resources occurred within all Kani settlements. These inadequacies emphasized the challenges in applying the principles of benefit-sharing in practice.

Commercialization of Jeevani also faced regulatory barriers and inter-agency conflicts. Although TBGRI had eased the licensing process, the Kerala Forest Department had opposed permission for large-scale cultivation of Trichopus zeylanicus on grounds of the ecological effects of over-exploitation. Raw material availability for the manufacture of Jeevani was thus curtailed. These were some challenges that highlighted the need to evolve responsible harvesting practices and to nurture coordination among various stakeholders with a view to finding an equilibrium between conservation and commercial objectives.[3]

Protection of intellectual property that relates to Jeevani adds one more dimension of complexity. It has been patented as a process rather than as a product, due to limitations of Indian patent laws prevailing during the times. This curtailed the scope of protection as a product itself and became vulnerable to being replicated in other parts of the world, which diminished its prospects for commercial viability across international borders. The tribal informants, who contributed their knowledge about Aarogyappacha, were not included as co-inventors in the patent application. Ethical issues of recognition of contributions arise in such

[3] 'Case for the Kani Tribe: Intellectual Property'(*Khurana and khurana*, 14 June 2023*)*, <https://www.khuranaandkhurana.com/2023/06/14/the-kani-tribe-case-study> accessed 21 December 2024

cases. The issues thus pointed to the need for more inclusive and robust IP frameworks that would account for the unique characteristics of traditional knowledge.[4]

INDIGENOUS MEDICINAL KNOWLEDGE: CULTURAL AND LEGAL DIMENSIONS

CULTURAL SIGNIFICANCE OF INDIGENOUS MEDICINAL KNOWLEDGE

Indigenous medicinal knowledge is closely associated with an indigenous society's identity, culture, and lifestyle. Such knowledge, obtained from millions of years of observation through experience living with nature, has medical importance but also constitutes cultural grounds as a core ingredient of the community's interrelation with the natural surroundings. In this way, the medicinal use of plants is joined with spiritual practices, as well as ecological stewardship and traditional rituals, with the result that its numerous aspects of relevance to indigenous society are further reinforced. Unlike the intellectual property systems that accord ownership to the individual, indigenous medicinal knowledge is collective and orally transmitted for generations. Oral traditions sustain this knowledge but simultaneously throw it open to misappropriation because it is not documented anywhere. For instance, in the case of Kani tribe's traditional use of the Arogyapacha plant; USA based company Nutriscience had already patented the Jeevani tribe in the United States thereby giving it supreme control over the production, sales and distribution over Jeevani within the USA. This could have however been prevented if Jeevani when discovered was patented internationally.[5]

Jeevani was not patented through a Patent Cooperation Treaty thereby not only giving the tribes credit for their indigenous knowledge but also giving the tribe worldwide recognition, wider sources of business collaborations, future revenue as well as upholding India’s reputation for having a very strong indigenous medicinal knowledge base. However, it is unfortunate that this collective wisdom, though priceless, remains unprotected under the existing frameworks, which sometimes causes the communities to lose ownership over their knowledge. The destruction of such traditions hurts not only the economic well-being of the communities but also upsets their cultural integrity.[6]

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[4] ‘Using Traditional Knowledge to Revive the Body and a Community’ (*IP-Advantage*) <https://www.wipo.int/web/ip-advantage/w/stories/using-traditional-knowledge-to-revive-the-body-and-a-community> accessed 21 December 2024

[5] Aditya & Associates ‘Tithi Jhariya, ‘Patents and Indigenous Knowledge- a Legal Tug of War across Generations’ (*Lexology*, 18 October 2024) <https://www.lexology.com/library/detail.aspx?g=88e00ba9-d3c8-43dc-a6af-f76d62bd0aed> accessed 21 December 2024

[6] ‘Patent Infringement of Jeevani by US Firm Known to Indian Authorities 4 Years Ago’ <http://test.pharmabiz.com/news/patent-infringement-of-jeevani-by-us-firm-known-to-indian-authorities-4-years-ago-27059> accessed 21 December 2024

GLOBAL LEGAL FRAMEWORKS GOVERNING INDIGENOUS KNOWLEDGE

The international framework has made efforts toward indigenous medicinal knowledge protection, yet its implementation remains grossly missing. The CBD deals with conserving biological diversity and fairly shares the benefits derived from genetic resources. Thus, the treaty acknowledges the role played by traditional knowledge in achieving its goals and also encourages and promotes indigenous participation in decision-making processes. It is observed, however, that most countries have encountered difficulties in executing these principles. The lack of practical mechanisms for enforcement often leaves indigenous communities excluded from meaningful participation, undermining the equitable benefit-sharing objectives of the convention.

The Nagoya Protocol, a derivative of the CBD, provides a precise framework for access and benefit-sharing in relation to genetic resources. However, such provisions are not enough; there are weak institutional support structures and poor legal infrastructure that hampers the implementation of the protocol in many jurisdictions. Indigenous communities are exploited because they lack the knowledge and tools needed to put these ideas into practice.[7]

Although the TRIPS Agreement emphasizes the protection of intellectual property rights, it has drawn criticism for prioritizing innovation and business interests over the conservation of traditional knowledge. Indigenous groups, whose knowledge systems would not fit into this pattern, face difficulties because of the emphasis on novelty and creative actions. Biopiracy, in which companies patent indigenous medicines without recognizing or paying their source, has been made possible by the lack of systems to acknowledge the community nature of traditional knowledge.

CURRENT INDIAN LEGAL FRAMEWORK

India has made several legal provisions to tackle the issue of protection of traditional knowledge especially in the backdrop of the rich biodiversity and heritage of India. The Biological Diversity Act 2002 aims to conserve biological resources along with due benefit-sharing between the parties involved. The act institutes the National Biodiversity Authority for regulating access to genetic resources and associated knowledge. It is a must for the importing entities to seek permission from the NBA before accessing the same and mandates the signing of a benefit-sharing agreement for safeguarding the interest of indigenous communities.

[7] Anil Gupta, 'Value Addition to Local Kani Tribal Knowledge: Patenting, Licensing and Benefit-Sharing' (*Indian Institute of Management Ahmedabad*, 2002) <https://ideas.repec.org/p/iim/iimawp/wp00027.html> accessed 21 December 2024

However, there have been cases where inconsistency is there in implementing the provisions of such enactments, and benefit-sharing arrangements in the delay created a huge outcry among the indigenous communities. The case of Kani tribe and commercialization of the herb Jeevani well indicates the inefficiency of such an Act's provisions when there was a significant delay before setting up benefit-sharing mechanisms. The Patent Act, 1970 (as amended) has provisions for the prevention of biopiracy and the protection of traditional knowledge. It prohibits patenting of traditional knowledge through Section 3(p). Additionally, The Traditional Knowledge Digital Library, TKDL, is also established. It is a repository of documented traditional knowledge shared with patent offices around the world to avoid unauthorised patenting. However, the Act does not recognize and protect communal ownership of traditional knowledge; thus, the communities are vulnerable to exploitation.[8]

CHALLENGES IN PROTECTING INDIGENOUS KNOWLEDGE

CLEAR DISTINCTION IN BENEFIT-SHARING MECHANISMS

One of the major issues that arose with the Kani community was the vagueness surrounding the rights of the informants and the greater community in the benefit-sharing arrangement. In the early days, informants were paid from the community trust, which gave the perception among the Kani tribals that the trust was only for a few privileged people. If funds kept for scientists and their institutions had been directly offered as compensation to informants, this unwarranted dissatisfying situation may not have arisen.[9] Although the community managed Trust Fund was established democratically and responsibly, proper awareness of the local dynamic might have been required for assured fair distribution of its benefit. It follows from this that the Nigerian BDCP example analysis gives rise to the importance of making frameworks adapt to certain institutional, cultural, and ecological settings, thereby indicating the requirement for experimental models to achieve successfully what varied communities demand.

INTELLECTUAL PROPERTY RIGHTS AND CONSERVATION CHALLENGES

The case study emphasizes the critical nature of intellectual property rights in the generation and distribution of benefits. With patents not yet granted, good revenue was realized through royalties from licensing technology that has been developed from arogyapaacha. Today it is becoming more and more apparent that concrete opportunities exist for sharing benefits

[8] Tarun Khurana, Tanya Saraswat, 'The Neem Patent Case' (*Mondaq*, 23 Februray 2023) <https://www.mondaq.com/india/patent/1286020/the-neem-patent-case> accessed 21 December 2024

[9] 'LEAD-Journal.Org - Access and Benefit Sharing from'(2021)17(1) LEAD <https://lead-journal.org/content/07001.pdf> accessed 21 December 2024

through intellectual property. Notwithstanding the absence of a product patent or any foreign patent applications, these factors were not considered within the jurisdiction of India. Furthermore, the absence of trademark registration to distinguish this product from its competitors restricted the range of available options.

The utilization of third-party trademark protection, as observed in the USA with NutriScience Innovations' Jeevani brand, showcases the need for a comprehensive IP strategy. Equally important is striking a balance between IP rights and environmental goals. Arya Vaidya Pharmacy's buy-back guarantees and cultivation activities helped to reduce unsustainable extraction hazards, which were seen in the Forest Department's early limits. This emphasizes the importance of achieving a harmonious equilibrium between benefit-sharing strategies and sustainability practices to guarantee the ongoing accessibility of resources.

INCLUSIVE STAKEHOLDER ENGAGEMENT AND COMMUNITY EMPOWERMENT

The exclusion of key stakeholders in the preliminary discussions on structures for benefit-sharing, which included the Forest Department, posed significant challenges. If they had been involved with the value chain earlier on, their subsequent resistance could possibly have been avoided. On the same note, at the local level, including the Plathis informal network of healers, were kept out of the benefit-sharing structure. Involvement and acceptance by the community are greatly enhanced if these traditional custodians of knowledge are recognized and included.[10] The situation also reveals untapped potential for non-material contributions, such as providing critical health evaluations for the marginalized tribal population. In addition, the proposed biodiversity register that seeks to document traditional knowledge raises important questions about access, permission, and implications with regard to intellectual property. Inclusive dialogue and policy instruments would help improve the model and make it more resilient and equitable in benefit-sharing while empowering and ensuring sustainable development in the community.

LACK OF FORMAL DOCUMENTATION

The problem remains that indigenous medicinal knowledge is not documented, so it's basically orally communicated. This complicates proof of existence in case companies claim patents on products inspired by indigenous remedies. Formal records are hard to maintain for indigenous communities as proof of prior use or ownership of their knowledge. This loophole allows corporations to file patents under the banner of novelty to bypass the very legal protection that

[10] Shamnad Basheer, 'Arogyapacha: A "Green" Approach to Pharmaceutical Innovation' (*SpicyIP*, 8 January 2008) <https://spicyip.com/2008/01/arogyapacha-green-approach-to.html> accessed 21 December 2024

exists for such things. Lack of documentation jeopardizes not just the intellectual rights of the indigenous community but also accentuates the need for elaborate frameworks for recording and authenticating this knowledge systematically.

INCONGRUENCE BETWEEN INDIGENOUS AND MODERN IP SYSTEMS

There also lies another more fundamental difficulty in that the indigenous systems of custom have fundamentally little in common with modern systems of intellectual property. Knowledge systems, whether indigenous or modern, vary between two different lines: communal ownership and spiritual values in one case and inventiveness leading to commercialization in another. It has made things difficult for the indigenous to assert their rights within this legal framework. The socio-cultural implications of the indigenous knowledge in most instances are often immersed in the way of life with which these people live. This is hence neglected through market-driven incentive schemes and further increases the vulnerability for exploitation of their knowledge, heritage. Strengthening their alignment must be critical, therefore, to ensure better recognition and protection of knowledge.[11]

WEAK ENFORCEMENT OF BENEFIT-SHARING AGREEMENTS

Another major challenge is weak enforcement of benefit-sharing agreements. Even though frameworks such as the Nagoya Protocol and the Biological Diversity Act contain provisions for equitable benefit sharing, poor implementation often sabotages these provisions. Lack of timely execution of the benefit-sharing arrangements erodes trust and fails to yield compensation to indigenous communities within the required time frame. For instance, the story of the Kani tribe illustrates how institutional weaknesses and lack of awareness among indigenous communities intensify their exploitation. The lack of strong enforcement mechanisms also brings forth unbalanced agreements. Consequently, indigenous communities receive very few avenues for redress, which means such frameworks would not be fruitful without a more robust institutional and advocacy framework for the rights of indigenous peoples and timely and fair benefit-sharing outcomes.

AUTHOR'S RECOMMENDATIONS TO ENHANCE IPR PROTECTION AMONG INDIGENOUS KNOWLEDGE

RECOGNIZING COLLECTIVE OWNERSHIP OF INDIGENOUS KNOWLEDGE

[11] Shamnad Basheer, 'Guest Post: Recent Developments in the "Arogyapacha: Kani" Case' (*SpicyIP*, 1 October 2008) <https://spicyip.com/2008/10/guest-post-recent-developments-in.html> accessed 21 December 2024

Traditional knowledge of the indigenous communities, including medicinal practices and botanical insights, constitutes a collective asset nurtured over generations. In contrast, modern IPRs are based on individual creativity and ownership, leaving the communal aspects inadequately addressed. The protection of indigenous knowledge systems would require establishment of legal frameworks that recognize and codify collective ownership. More than this, India should consider recognizing patents over plant products, especially if they emanate from indigenous knowledge. Unlike process patents, which protect the method of producing a product, plant product patents offer stronger protection for the tangible outcome of traditional wisdom. Such patents could be granted on a case-by-case basis, provided safeguards ensure indigenous communities are direct beneficiaries, and would thus empower these groups while keeping in line with global patent practices. This approach acknowledges the communal effort behind these discoveries and offers a mechanism for equitable benefit-sharing, fostering a stronger foundation for indigenous communities to protect and claim their intellectual assets.[12] Collective ownership requires strong mechanisms in the form of conferral of legal titles to the communities, which would allow them to bargain with a better hand and press their claims more effectively in judicial and commercial forums. Formal acknowledgment of the rights of the community over their traditional knowledge and associated biological resources will protect them from external exploitation. For example, communities holding legal titles would be empowered to actively dispute unauthorized uses of their knowledge in patent filings by ensuring that benefit-sharing arrangements are equitable. This system would need a national registry for claims of traditional knowledge, wherein indigenous groups could register their collective rights. The verification process would involve ethnobotanists, legal experts, and representatives from indigenous communities, thereby validating the claims.

The impacts of giving legal titles are multiple. First, it would enhance the bargaining power of communities, and they could negotiate fair terms with corporations and research institutions. Second, it establishes a legal framework that can deter biopiracy by mandating disclosure of origin in patent applications. India's Biological Diversity Act 2002 provides a suitable case law by mandating industries to obtain permission from the National Biodiversity Authority before using biological resources and it would strengthen that in the enforcement of the new provision. For example, "From the TKDL site itself, it is visible that TKDL has blocked over 250

[12] 'Patents Based on Traditional Knowledge Are Often "Biopiracy". A New International Treaty Will Finally Combat This' (*The Coversation*, 2 June, 2024) <https://theconversation.com/patents-based-on-traditional-knowledge-are-often-biopiracy-a-new-international-treaty-will-finally-combat-this-231272> accessed 21 December 2024

biopiracy attempts across more than a dozen jurisdictions internationally". This therefore represents the successful implementation of formal recognition systems to protect indigenous knowledge.

MANDATORY BENEFIT-SHARING WITH KNOWLEDGE HOLDERS

Often, the communities that are the legitimate sources of traditional knowledge are devalued by its commercialization. The Kani tribe made a significant yet unrecognized contribution to Jeevani. Mandatory benefit-sharing with traditional knowledge is necessary to avoid this disparity and to foster fair collaborations. The principles of PIC and MAT are very important as they ensure that indigenous peoples are informed and involved in decisions regarding the use of their knowledge. Such agreements must be negotiated transparently, with clearly defined terms regarding profit-sharing and royalties and supported by access to legal and technical expertise for the communities.[13]

Co-inventorship in patents that result from traditional knowledge is an important step toward the recognition of indigenous knowledge holders' contributions. Community trusts to manage funds from benefit-sharing agreements can ensure equitable distribution of benefits, if such trusts are transparent and inclusive. Periodic reviews and feedback mechanisms within agreements can adjust inequities or changing circumstances. Of course, there are also many challenges: identifying who exactly represents the community, who lacks the expertise to engage with legal frameworks, and how to respect cultural sensitivities. Institutionalizing compulsory benefit-sharing can empower indigenous communities as equal stakeholders in the innovation process.

SAFEGUARDING KNOWLEDGE THROUGH DOCUMENTATION

If traditional knowledge is not documented, it can be easily misappropriated; hence documentation and formal preservation and protection becomes the priority. Among them, digitization initiatives also include India's Traditional Knowledge Digital Library, which protects knowledge defensively, but that also preserves the knowledge and makes it easier to collaborate and work with the indigenous communities, as well as with a researcher, ethically. Documentation of traditional knowledge prevents unauthorized patenting as it provides prior art that has been proven by the success of TKDL in several patent applications around the world. Digital preservation of oral traditions saves them for posterity and opens up avenues for scientific and commercial collaborations.

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[13] Roy Mathew, 'A Benefit-Sharing Model That Did Not Yield Desired Results '*The Hindu'* (India, 18 October 2016)

Community consent and control are antecedents to effective documentation, whereby indigenous communities must be in charge of how their knowledge is accessed and utilized. Customary laws-registered localized registries better enable communities to administer and protect their knowledge. The combination of these local repositories with global patent databases enhances the defensive protection against biopiracy. Delay in granting patents is, however, an issue that has to be addressed very promptly. In the case of the Kani tribe and Jeevani, for instance, it took them so long that novelty was eroded as that knowledge entered the public domain during the application process. Erosion of novelty of indigenous contributions undermines their values and prevents communities from extracting maximum benefits from their intellectual assets.[14]

This problem should be taken care of by establishing a specialised body in India, which would handle its job solely on the processing patent applications related to indigenous knowledge. This body can even function in a regional branch model that ensures proper coordination between the local communities and the scientific experts. Thus, such a model would even ensure proper and culturally relevant verification of traditional knowledge claims; it would prioritize indigenous voices in all decision-making processes. This body may prevent delays, preserve novelty, and create trust between communities and regulatory systems by streamlining the patenting process. Further, this specialized body could collaborate with the already existing institutions, such as the TKDL and the National Biodiversity Authority, in order to form a holistic support system for indigenous intellectual property protection. Such an initiative would strengthen the commitment of India to preserve its valuable cultural and ecological heritage while bringing about equitable development.

CONCLUSION

Therefore, the indigenous medicinal knowledge has numerous significant challenges, as identified by the case study of the Kani. The Kani were exploited when they were asked to share their knowledge of medicinal plants, which also reflects more general issues that relate to the lack of effective legal protections. International instruments, for instance, the CBD and the Nagoya Protocol recognize the importance of protecting traditional knowledge, but implementation of these instruments has been extremely limited. This is further worsened by the lack of adequate mechanisms for enforcement, lack of adequate involvement of indigenous

[14] 'Protecting Traditional Knowledge and Intellectual Property' (26 April 2024) <https://depenning.com/blog/ip-and-indigenous-communities-protecting-traditional-knowledge-and-cultural-heritage> accessed 21 December 2024

communities in decision-making processes, and still ongoing threat of biopiracy. In India, it is even the Biological Diversity Act 2002, important for acknowledging traditional knowledge; however, it has great gaps in its implementation; notably, these are relating to fair participation and avoiding exploitation.

Thus, it is required to establish a dedicated body for the fast-track processing of indigenous knowledge patent applications. This body would focus on proper documentation, recognition of co-ownership of knowledge between indigenous communities and external entities, and equitable benefit-sharing. It could provide a structured mechanism for the registration and protection of indigenous knowledge, thus preventing exploitation and facilitating fair compensation. By learning from what happened with the Kani tribe in these cases, a body so formed will thus strengthen the legal safeguards which will then ensure cultural respect and also guarantee that indigenous people do keep control over their intellectual properties. In this manner, these people will be empowered, protected, and they will be left to reap the fruits from the utility of their indigenous knowledge.