
ECHOES OF THE DESERT: TRADITIONAL KNOWLEDGE SYSTEMS OF RAJASTHAN AND THE PATH TO THEIR PRESERVATION THROUGH DOCUMENTATION

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ABSTRACT

Traditional Knowledge (TK) constitutes an evolving repository of cultural, ecological, and intellectual heritage, developed, preserved, and transmitted across generations by indigenous and local communities. As one of the world's most biodiverse countries, India possesses a rich and diverse repository of traditional knowledge systems. Against this broader context, this paper examines the Traditional Knowledge systems of Rajasthan, a state distinguished by its diverse ecological landscape, rich cultural heritage, and numerous indigenous and local communities. In adapting to the state's varied and often challenging environmental conditions, these communities have developed distinctive knowledge systems relating to water conservation, agriculture, traditional medicine, folk arts, biodiversity, and ecological management. These knowledge systems embody principles of resilience, adaptation, and sustainability and assume renewed significance in the context of contemporary environmental and climatic challenges. However, Rajasthan's TK remains vulnerable to erosion and loss, particularly as much of it continues to be transmitted orally. Modernisation, migration, linguistic decline, changing livelihoods, and environmental transformation have increasingly disrupted the intergenerational transmission of such knowledge. Systematic documentation is therefore essential not only for its preservation and continued transmission but also for preventing misappropriation and biopiracy. The legal and policy landscape governing TK encompasses international instruments such as the Convention on Biological Diversity and the Nagoya Protocol, alongside Indian frameworks including the Biological Diversity Act, 2002, and initiatives such as the Traditional Knowledge Digital Library (TKDL) and the Indian Knowledge Systems (IKS) initiative. The paper maps Rajasthan's diverse TK systems, examines existing institutional efforts towards their documentation and preservation, and critically evaluates the applicable legal and policy frameworks. It further undertakes a comparative examination of approaches adopted by other TK-rich states, including Kerala, Odisha, Karnataka, Tamil Nadu, Andhra Pradesh, and the North-Eastern states. Based on this analysis, the paper proposes measures to strengthen the documentation, legal protection, preservation, and intergenerational transmission of Rajasthan's Traditional Knowledge.

Keywords: Traditional Knowledge; Rajasthan; Indigenous Knowledge Systems; Documentation and Preservation; Intellectual Property Rights; Biopiracy; Biodiversity Law; Sui Generis Protection.

1. Introduction

Traditional Knowledge (TK) is like a living library, an evolving blend of cultural, ecological, and intellectual heritage developed over generations by indigenous and local communities across the world.¹ TK is deeply rooted in daily life, which spans areas like farming, medicine, crafts, natural resource use, and spiritual traditions.² It is not frozen in time but adapts with each generation, always shaped by its environment.³ For many communities, TK is vital to their food, health, livelihoods, and identity, acting as essential social capital.⁴

India, one of the world's most biodiverse countries and a cradle of crop domestication, holds an incredibly rich and varied TK tradition.⁵ This heritage is not only culturally significant but also holds practical value for modern sectors such as medicine, cosmetics, and sustainable development.⁶

This paper explores the traditional knowledge systems of Rajasthan, a state marked by its unique landscape, from the Thar Desert to the Aravalli hills, and a mix of tribal communities like the Bhil, Meena, Garasia, Sahariya, Rabari, Kathodi, and Bishnoi.⁷ These groups have developed innovative and adaptive knowledge systems, especially in water conservation, agriculture, medicine, folk arts, and ecology, shaped by the harsh, dry environment.⁸ Rajasthan's TK is a treasure trove of resilience and sustainability, making its preservation all

¹ Manya Agarwal, *Protecting Traditional Knowledge Through Intellectual Property Rights*, 5 *Indian J. Integrated Rsch. L.* 1 (2025), <https://ijirl.com/wp-content/uploads/2025/02/PROTECTING-TRADITIONAL-KNOWLEDGE-THROUGH-INTELLECTUAL-PROPERTY-RIGHTS.pdf> (last visited Aug. 27, 2026).

² World Intellectual Property Organization (WIPO), *Traditional Knowledge*, <https://www.wipo.int/en/web/traditional-knowledge/tk/index> (last visited Aug. 27, 2026).

³ Manya Agarwal, *Supra* note 1.

⁴ Dr. Niti Pathak, *Traditional Knowledge and Its Role in Biodiversity Conservation*, 9 *J. Agroecology & Nat. Resource Mgmt.* 39 (2022), https://krishisanskriti.org/vol_image/07Aug202210081806%20%20%2039-42.pdf (last visited Aug. 27, 2026).

⁵ Rachit Garg, *Traditional Knowledge in IPR*, *iPleaders* (Feb. 20, 2024), <https://blog.ipleaders.in/ipr-vis-vis-traditional-knowledge/> (last visited Aug. 27, 2026).

⁶ *Supra* note 1.

⁷ Jyotsana Singh, *Protecting Tribal Livelihoods and Cultural Rights in Rajasthan with Special Reference to Meena Tribe*, 7 *Int'l J. L. Mgmt. & Human.* 1618 (2024), <https://ijlmh.com/wp-content/uploads/Protecting-Tribal-Livelihoods-and-Cultural-Rights-in-Rajasthan-with-special-reference-to-Meena-Tribe.pdf> (last visited Aug. 27, 2026).

⁸ *Supra* note 4.

the more urgent.⁹

But this legacy is under threat. Much of Rajasthan's TK is oral, making it highly vulnerable to being lost, especially as modernisation, migration, language decline, and environmental changes erode traditional ways of life.¹⁰ Younger generations are often less interested in preserving this knowledge, increasing the risk of permanent loss.¹¹ What's at stake isn't just culture, it's the disappearance of practical wisdom that could help solve present and future challenges. That's why documentation is essential: not only to preserve TK, but also to protect it from misappropriation and biopiracy.¹²

The legal and policy context is complex. It includes global agreements like the Convention on Biological Diversity (CBD) and the Nagoya Protocol, Indian laws like the Biological Diversity Act, 2002, and initiatives such as the Traditional Knowledge Digital Library (TKDL) and the Indian Knowledge Systems (IKS) program.¹³ There's also ongoing debate about whether current intellectual property laws are enough, or if India needs a unique (*sui generis*) legal framework, reflected in proposals like the Protection of Traditional Knowledge Bills.¹⁴

This paper aims to map Rajasthan's TK systems, highlight the importance of documentation, assess current efforts by various institutions, and examine the legal frameworks in place. It will also compare Rajasthan's approach with those of other TK-rich states such as Kerala, Odisha, Karnataka, Tamil Nadu, Andhra Pradesh, and states in the North-East. Based on these findings, it will propose ways to strengthen TK documentation and preservation in Rajasthan, so this invaluable knowledge can continue to enrich future generations.

2. Traditional Knowledge Systems of Rajasthan

Rajasthan's vast and varied landscape, from the arid sands of the Thar desert to the greener

⁹ Suman Devi, Suresh Kumar, Geeta Choyal & R.K. Saran, *Traditional Practices in Water Resources Conservation in the Thar Desert of Rajasthan*, 12 *Int'l J. Food & Nutritional Sci.* (Issue 7) (2023), <https://www.ijfans.org/uploads/paper/5c06b6e52e0d1948a135904f89793f47.pdf> (last visited Aug. 27, 2026).

¹⁰ Leela Kaur, *Traditional Knowledge of Indigenous Communities of Rajasthan and Environment (A Short Review)*, 5 *ResearchGate* (2015), https://www.researchgate.net/publication/311844355_Traditional_Knowledge_of_Indigenous_Communities_of_Rajasthan_and_Environment_A_Short_Review (last visited Aug. 27, 2026).

¹¹ *Id.*

¹² *Id.*

¹³ Komal Ahuja, *Intersection of IPR and Traditional Knowledge in India*, *Bhatt & Joshi Assocs.* (Feb. 23, 2025), <https://bhattandjoshiassociates.com/intersection-of-ipr-and-traditional-knowledge-in-india/> (last visited Aug. 27, 2026).

¹⁴ *Supra* note 5.

pockets along the Aravalli hills, has shaped the way its people live and thrive. Across centuries, and through the rich cultural diversity of its tribal and rural communities, the people of this region have developed a deep, intuitive connection with their environment. This connection is reflected in their traditional knowledge systems (TKS), which are not only ingenious in design but also deeply respectful of nature.¹⁵ Whether it's harvesting water from scarce rainfall, growing crops in unforgiving soil, creating art that tells stories, healing with herbs, or predicting rain from the calls of birds, these practices are not just about survival, they are a way of life.

2.1 Water Management: Sustaining Life in Aridity

In Rajasthan, where every drop of water is precious, traditional communities mastered the art of water harvesting long before modern solutions arrived.¹⁶ These systems aren't simply feats of engineering, they are cultural artefacts that show how people have lived in harmony with their dry environment for generations.¹⁷

Some of these traditional structures include:

- **Bawari (Baori):** These are step-wells, often beautifully designed, that allow communities to access groundwater even during dry seasons.¹⁸
- **Jhalara:** Also step-well-like, but meant to collect seepage from nearby ponds. Found near temples, they are kept clean due to their sacred value.¹⁹
- **Talab/Bandhi:** Community ponds that capture rainwater and runoff. They serve a variety of purposes, from drinking water to irrigation.²⁰
- **Nadi:** Smaller percolation ponds that help recharge groundwater and provide water for household use.²¹

¹⁵ Supra note 10

¹⁶ Dr. Asha Sharma, *Traditional Practices of Environmental Conservation in Western Rajasthan*, 5 *IJCSPUB* (Issue 2) (May 2015), <https://rjpn.org/ijcspub/papers/IJCSP15B1003.pdf> (last visited Aug. 27, 2026).

¹⁷ Supra note 9.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ Supra note 16.

²¹ Pawan Sharma, Sonal Srivastava & Mahima Chandaurya, *Indigenous Knowledge and Traditional Practices*

- **Taanka (Tanki):** Common in western Rajasthan, these are underground tanks that collect rainwater from rooftops.²² Though many are privately owned now, they were once shared resources. During droughts, people often return to using them, preferring the taste and reliability of this stored rainwater.²³
- **Khadin (Dhora):** A brilliant traditional method where earthen embankments hold rainwater long enough to make the soil fertile for cultivation.²⁴ These also help recharge the groundwater.²⁵
- **Kund/Kundi:** Underground circular tanks with special catchments designed to capture and purify rainwater.²⁶
- **Johad:** Small check dams built in hilly catchments. One famous example is their revival in Alwar, which brought water back to long-dry wells.²⁷

There are many more, anicuts, bandhs, beris, kuis, tobas, Saza Kuva, rapats, each tailored to the micro-conditions of the region.²⁸

What's remarkable is not just the variety, but the deep knowledge of rainfall, topography, and hydrology that informs these systems. And water, for Rajasthani communities, is more than a resource, it is tied to rituals and festivals like Teej, and even acts of social generosity, such as gifting water.²⁹

2.2 Agriculture and Agroforestry: Resilience in the Desert

Farming in Rajasthan is not for the faint-hearted. Yet, local communities, especially tribes like

for *Water Resource Management in Rajasthan, India*, in *Water Resources Management in India* 9 (2023), https://www.researchgate.net/publication/366784228_Indigenous_Knowledge_and_Traditional_Practices_for_Water_Resource_Management_in_Rajasthan_India (last visited Aug. 27, 2026).

²² Supra note 9.

²³ R.K. Goyal & V.C. Issac, *Rainwater Harvesting Through Tanka in Hot Arid Zone of India* (Cent. Arid Zone Res. Inst., ICAR, printed by Evergreen Printers, 2009).

²⁴ Supra note 16.

²⁵ Supra note 21.

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ Supra note 9.

the Bhils, Meenas, and Bishnois, have found ways to make it work through age-old wisdom.³⁰³¹

A key feature of their approach is agroforestry, mixing trees with crops and animals in a way that supports all three.³² At the heart of this system is the Khejri tree (*Prosopis cineraria*). It's more than just a tree: its deep roots prevent soil erosion; it enriches the land by fixing nitrogen; its leaves feed cattle, and its pods, called *sangria*, are a staple in local cooking.³³ The bark is even used as medicine for skin issues.³⁴ Among the Bishnois, Khejri is sacred.³⁵

Another example is the Kesar Chhanta Pratha from Udaipur, where locals take vows, often invoking a deity, to protect forests by sprinkling saffron water.³⁶ While not all such practices are well-documented, there is growing recognition of traditional approaches to managing pests and soil fertility, pointing to untapped reservoirs of bio-agricultural knowledge.³⁷

2.3 Folk Arts and Craftsmanship: Expressions of Culture

Rajasthan's traditional arts aren't just beautiful, they are stories in colour and form, windows into a people's soul.³⁸ Many art forms serve as living records of myths, histories, festivals, and everyday life.

- **Miniature Paintings:** These detailed works evolved through influences from Gujarat, Jain traditions, and the Mughals, eventually spawning regional styles like Mewar and Marwar.³⁹ The paintings, known for their precision and use of natural colours, often

³⁰ Supra note 10.

³¹ Amir Sohail & Farhat Naz, *The Bishnoi: Revisiting Religious Environmentalism and Traditional Forest and Wildlife Management in the Thar Desert*, Env't & Soc'y Portal, Arcadia, no. 10 (Summer 2024), <https://doi.org/10.5282/rcc/9846>.

³² Supra note 16.

³³ *Id.*

³⁴ *Id.*

³⁵ *When Amrita Devi and 362 Bishnois Sacrificed Their Lives for the Khejri Tree*, Royal Rajasthan Found., (Mar. 6, 2021), <https://www.rajasthanroyals.com/foundation/sahapedia/articles/when-amrita-devi-and-362-bishnois-sacrificed-their-lives-for-the-khejri-tree> (last visited Aug. 27, 2026).

³⁶ Ashwini M. Wadhu, Omkar M. Hande & Y.D. Imran Khan, *Guardians of the Land: Harnessing Traditional Knowledge for Biodiversity Conservation, Roots & Resilience Annual Report (2023–24)*, <https://wotr.org/blog/guardians-of-the-land-harnessing-traditional-knowledge-for-biodiversity-conservation/> (last visited Aug. 27, 2026).

³⁷ Supra note 10.

³⁸ Indra et al. & Deryck O. Lodrick, *Rajasthan*, *Encyclopedia Britannica* (May 9, 2025), <https://www.britannica.com/place/Rajasthan> (last visited Aug. 27, 2026).

³⁹ Jyoti Kumari, *Foundations of Rajasthan's Cultural and Artistic Tradition: Folk Art Forms and Miniature Painting Traditions (Phad, Kavad)*, 15 *Int'l J. Dev. Rsch.* 67953 (Mar. 2025), <https://doi.org/10.37118/ijdr.29339.03.2025> (last visited Aug. 27, 2026).

depict scenes from the lives of gods, royals, and common folk.⁴⁰

- **Phad Paintings:** Large scrolls painted on cloth tell the tales of folk heroes like Pabuji and Devnarayanji.⁴¹ Created by the Joshi family of Shahpura, these paintings are used by storytellers called *Bhopas*, who sing and narrate as they unroll the visual tale.⁴²
- **Pichwai:** Rich textile paintings hung behind idols of Lord Srinathji in Nathdwara temples. These devotional works celebrate seasonal festivals and divine moods.⁴³
- **Kavad:** A portable storytelling shrine made of painted wooden panels. As the *Kawadia Bhats* open each panel, a new part of the story, often from the Ramayana or Mahabharata, is revealed.⁴⁴
- **Mandana:** Geometric designs made by women on walls and floors during festivals using mud, cow dung, and natural colours like *khadiya* (white) and *geru* (red).⁴⁵

Other crafts include textiles, embroidery (notably by the Rabaris), pottery, jewelry, leatherwork (like *Mojari* shoes), and both wood and stone carving, all imbued with local aesthetics and skill.⁴⁶

2.4 Traditional Medicine (Ethnobotany): Healing from Nature

In many parts of Rajasthan, especially among tribal and rural communities, modern healthcare is still hard to reach. Instead, people turn to nature, and to the elders who know its secrets.⁴⁷

Traditional healers, such as *Bhopas*, *Gunins*, *Jaankars*, use local plants to treat a wide range of ailments. This knowledge, often passed orally, involves specific techniques for preparing and applying herbal remedies.⁴⁸

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ Dr. Pinak Pani Nath & Shanti, *Aesthetics and Visual Connotations of Rajasthani Folk Arts: A Critical Study*, 4 *ShodhKosh J. Vis. & Performing Arts* (Issue 1) (Feb. 9, 2023), <https://doi.org/10.29121/shodhkosh.v4.i1.2023.266> (last visited Aug. 27, 2026).

⁴⁶ *Supra* note 38.

⁴⁷ *Supra* note 1.

⁴⁸ Ajay Meena & Mruthyumjaya Meda, *Folk Herbal Medicines Used by the Meena Community in Rajasthan*, 5 *Asian J. Tradit. Med.* (Nov. 2009), https://www.researchgate.net/publication/266213132_Folk_herbal_medicines_used_by_the_Meena_com

Some examples include:

- **Methi (Fenugreek):** Used for diabetes, digestion, fevers, respiratory problems, and boosting lactation. Rajasthan is a major region for its trade.⁴⁹
- **Khejri:** The bark treats skin diseases.⁵⁰
- **Bor (*Zizyphus nummularia*):** Roots aid recovery after childbirth; leaves bring down fevers; fruits help with digestion and blood purification.⁵¹
- **Aakdo (*Calotropis procera*):** Flowers as anti-venom; leaves for wounds; other parts for treating malaria. Also considered cooling.^{52,53}
- **Neem:** A multipurpose plant used in medicine, agriculture, and carpentry.⁵⁴
- **Cooling Plants:** Trees like *Bel*, *Semra*, *Gular*, and *Mehendi* are used to prevent heatstroke and keep the body cool.⁵⁵
- **Veterinary Uses:** Tamarind and *Ker* are part of folk remedies for animal care.⁵⁶

While this system remains dynamic, it faces risks from shrinking plant habitats to the erosion of intergenerational knowledge.⁵⁷

2.5 Traditional Weather and Climate Forecasting

Long before satellite maps and radar systems, Rajasthani farmers looked to the skies, birds,

munity_in_Rajasthan (last visited Aug. 27, 2026).

⁴⁹ Fenugreek, *Traditional Medicinals Herb Library*, <https://www.traditionalmedicinals.com/blogs/herb-library/fenugreek> (last visited Aug. 27, 2026).

⁵⁰ Madhuri Ramesh, *Amrita Devi Bishnoi and the Khejri*, Azim Premji Univ., <https://azimpremjiuniversity.edu.in/amrita-devi-bishnoi-and-the-khejri> (last visited Aug. 27, 2026).

⁵¹ Swati Sharma & Dipjyoti Chakraborty, *Traditional Medicinal Plants Used by Tribal Communities in Tonk District, Rajasthan*, 8 *Plant Sci. Today* 225 (Mar. 2021), <https://doi.org/10.14719/pst.2021.8.1.1077>.

⁵² Jayana Upadhyay & C.S. Kapoor, *Uses of Ethno-Medicinal and Nutritive Plants by Tribals of Dungarpur District, Rajasthan*, 15(1) *Biol. Forum – Int'l J.* 526 (2023).

⁵³ Leena Sharma & Sitaram Khandelwal, *Traditional Uses of Plants as Cooling Agents by the Tribal and Traditional Communities of Dang Region in Rajasthan, India*, 14 *Ethnobotanical Leaflets* 218 (2010).

⁵⁴ Supra note 51.

⁵⁵ Supra note 53.

⁵⁶ Supra note 51.

⁵⁷ Ankita Choudhary et al., *Medicinal Wild Herbs Diversity and Its Uses by Tribals of Hadoti Region, India*, 11(1) *J. Med. Plants Stud.* 191

(2023), <https://www.plantsjournal.com/archives/2023/vol11issue1/PartC/11-1-26-419.pdf> (last visited Aug. 27, 2026).

animals, and trees to understand the coming weather. In regions where agriculture depends on the right rains at the right time, this knowledge is critical.⁵⁸

Locals observe:

- **Animal Behaviour:** Goats flapping ears, foxes howling, or dogs barking a certain way are all seen as signs.⁵⁹
- **Birds and Insects:** The nesting of the *Red-Wattled Lapwing*, the height of weaver bird nests, or the buzzing of mosquitoes can all signal what's to come.⁶⁰
- **Sky and Atmosphere:** Cloud shapes, wind directions, and even a ring around the moon are interpreted for rain predictions.⁶¹
- **Phenology:** The blossoming of certain trees like *Flame of the Forest* is tied to expected rainfall patterns.⁶²
- **Folk Proverbs:** Centuries of observation are distilled into simple sayings. For instance: "Sukarvar ri badri, rahi shanichar jaye, barsa bina na jaya" if clouds arrive on Friday and stay through Saturday, rain is inevitable.⁶³

Modern studies have found surprising accuracy in many of these methods, particularly lapwing nesting patterns and suggest that blending traditional insights with modern forecasts could improve climate resilience, especially in remote areas.⁶⁴

3. Documenting and Preserving Traditional Knowledge in Rajasthan

Rajasthan's rich traditional knowledge (TK) systems are under serious threat, largely because

⁵⁸ Anil K. Gupta & Anjali Singh, *Traditional Intellect in Disaster Risk Mitigation: Indian Outlook – Rajasthan and Bundelkhand Icon*, 10(1) *Indian J. Traditional Knowledge* 126 (Jan. 2011), <https://www.nidm.gov.in/PDF/TrgReports/2011/September/temp/reading6.pdf> (last visited Aug. 27, 2026).

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² Akhilesh Vaishnava, *Traditional Predictors of Monsoon in Rajasthan*, 8(4) *Int'l J. Res. Tech. Innovations* (2023).

⁶³ Aparna Pareek & P.C. Trivedi, *Cultural Values and Indigenous Knowledge of Climate Change and Disaster Prediction in Rajasthan, India*, 10(1) *Indian J. Traditional Knowledge* 183 (Jan. 2011).

⁶⁴ Sandeep Acharya, *Presage Biology: Lessons from Nature in Weather Forecasting*, 10(1) *Indian J. Traditional Knowledge* 114 (Jan. 2011).

they're passed down orally and face mounting pressure from modernisation.⁶⁵ Documentation is widely seen as a key step to preserving this knowledge, helping prevent its loss and protecting it from misuse or misappropriation.⁶⁶

3.1 Current Documentation Efforts and Institutional Roles

While Rajasthan lacks a fully coordinated, state-level program to document all aspects of TK, various institutions and researchers have made important contributions.

- **Academic Research:** Scholars have produced valuable studies on specific areas of TK, such as traditional water harvesting techniques,⁶⁷ ethnobotanical uses of medicinal plants,⁶⁸ folk art traditions,⁶⁹ and even indigenous weather forecasting.⁷⁰ However, these efforts tend to be scattered, focusing on specific topics or regions, and don't amount to a comprehensive state-wide record.
- **Traditional Knowledge Digital Library (TKDL):** This national initiative protects India's codified traditional systems (like Ayurveda, Unani, Siddha, and Yoga) from biopiracy.⁷¹ While significant, TKDL's emphasis on classical texts means it has limited reach in documenting Rajasthan's more informal, orally transmitted tribal and local knowledge.⁷²
- **West Zone Cultural Centre (WZCC), Udaipur:** WZCC promotes folk and tribal arts through initiatives like *Shilpgram*, a crafts village showcasing traditional architecture and artisan practices from western India.⁷³ Events like the Shilpgram Utsav support living traditions through performance and interaction.⁷⁴ However, the focus here is on showcasing rather than systematically recording the deeper cultural knowledge behind

⁶⁵ Supra note 10.

⁶⁶ *Id.*

⁶⁷ Supra note 9.

⁶⁸ Himanshu Sharma & Ashwani Kumar, *Ethnobotanical Studies on Medicinal Plants of Rajasthan (India): A Review*, 5(7) *J. Med. Plants Res.* 1107 (Apr. 4, 2011), <http://www.academicjournals.org/JMPR>.

⁶⁹ Supra note 39.

⁷⁰ Supra note 63.

⁷¹ Subhajit Panda & Navkiran Kaur, *Harnessing Traditional Tribal Knowledge Treasure in India by Unlocking the Potential of Digital Platform*, 61 [Journal Name] 110 (Nov. 2023), <https://doi.org/10.5281/zenodo.10213022>.

⁷² Fredriksson M., *India's Traditional Knowledge Digital Library and the Politics of Patent Classifications*, 34(1) *Law & Critique* 1 (2023), <https://doi.org/10.1007/s10978-021-09299-7>.

⁷³ West Zone Cultural Centre, Udaipur – A Cultural Centre, <https://wzccindia.com/> (last visited Apr. 29, 2025).

⁷⁴ Tilak Bagchi & Pritish Chaudhuri, *Tribal Paintings of Rajasthan: A Micro-Study of Continuity and Change*, 95(3) *Man India* 463 (2025), https://serialsjournals.com/abstract/52166_8.pdf (last visited Aug. 27, 2026).

these traditions.⁷⁵

- **National Institute of Ayurveda (NIA), Jaipur:** As a Deemed University, the NIA helps preserve and advance classical Ayurveda.⁷⁶ Through bodies like the National Medicinal Plants Board (NMPB), schemes are also in place for conservation of medicinal plants.⁷⁷ Yet, like the TKDL, this focus on codified systems means much of Rajasthan's tribal ethnomedicinal knowledge remains undocumented.⁷⁸
- **Rajasthan State Biodiversity Board (RSBB):** Set up under the Biological Diversity Act, 2002, the RSBB is the key body overseeing biodiversity governance in the state.⁷⁹ It helps establish Biodiversity Management Committees (BMCs) and supports the creation of People's Biodiversity Registers (PBRs), which are vital for grassroots documentation of TK.⁸⁰
- **Other Bodies:** The State Forest Department plays a role through community-based forest management and conservation of sacred groves.⁸¹ The Rajasthan Ecotourism Policy 2021 also promotes community involvement.⁸² Tribal Research Institutes (TRIs), supported by the central government, are tasked with documenting tribal knowledge, though specific contributions from a Rajasthan-based TRI are not detailed.⁸³

3.2 Status and Effectiveness of PBRs/BMCs in Rajasthan

The Biological Diversity Act, 2002 requires every local body, like Gram Panchayats and

⁷⁵ *Id.*

⁷⁶ Prime Minister Dedicates Two National Premier Ayurveda Institutions to the Nation on the 5th Ayurveda Day, *Press Release: Press Information Bureau*, <https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1672571> (last visited Aug. 27, 2026).

⁷⁷ Government of India, Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy (AYUSH) Lok Sabha, Medicinal Aromatic Plants and Herbs, <https://eparlib.nic.in/bitstream/123456789/709568/1/7785.pdf> (last visited Aug. 27, 2026).

⁷⁸ *Supra* note 68.

⁷⁹ Rajasthan Biological Diversity, Rules, 2010.

⁸⁰ *Id.*

⁸¹ World Bank, *Rajasthan Rural Livelihood Project: Tribal Development Framework, E2583 REV, World Bank Documents & Reports*, <https://documents1.worldbank.org/curated/en/595991468269423816/pdf/E25830REVISED01b1c10BOX353791B1pdf.pdf> (last visited Aug. 27, 2026).

⁸² Rajasthan Ecotourism Policy 2021, <https://istart.rajasthan.gov.in/public/Policies/rajasthan-ecotourism-policy-2021.pdf> (last visited Aug. 27, 2026).

⁸³ Traditional Knowledge Digital Library Unit (TKDL), *Council of Scientific & Industrial Research – CSIR, Ministry of Science & Technology, Govt. of India*, <https://www.csir.res.in/documents/tkdl> (last visited Aug. 27, 2026).

Municipalities to set up Biodiversity Management Committees (BMCs).⁸⁴ One of their main tasks is to create People's Biodiversity Registers (PBRs), developed in consultation with local communities.⁸⁵ These registers document local biodiversity, including plants, animals, and traditional knowledge related to their use, conservation, and management.⁸⁶ PBRs are meant to empower communities, support biodiversity planning, and help ensure fair benefit-sharing.⁸⁷

Rajasthan has made strong progress on paper. As of 28th July 2026, 11,882 BMCs had been established, suggesting that the state has largely met the Act's structural requirements.⁸⁸

However, forming committees is only the first step. Across India, PBR efforts have faced major hurdles: lack of funds, technical gaps, limited awareness, verification challenges, and weak community participation.⁸⁹ While states like Kerala and Odisha have reported better progress, with dedicated portals and updated records,⁹⁰ similar detailed data from Rajasthan is missing. Despite the large number of BMCs, there's little publicly available information on whether PBRs in Rajasthan are actually complete, accurate, or useful.

This gap between structure and function suggests that many PBRs in Rajasthan may not yet be serving their intended purpose as effective TK documentation tools. A national PBR verification drive launched in 2023 may provide updated insights, but such data wasn't available in the reviewed materials.⁹¹

3.3 Challenges in Documenting Traditional Knowledge in Rajasthan

Documenting traditional knowledge (TK) in Rajasthan comes with a unique set of challenges:

⁸⁴ Vattikoti Praveen, Syeda Azeem Unnisa, Sadam Shivakumar & E. Revathi, *Management of Bio-Resources: An Insight Through Peoples Biodiversity Register (PBRs)*, 1 *Agric. Archives: Int'l J.* 6, 6–15 (2022), <https://doi.org/10.5281/zenodo.7198529>.

⁸⁵ Mridhu Tandon & Ritwick Dutta, *People's Biodiversity Registers (PBRs)*, Policy Paper Series (Legal Initiative for Forest and Environment, Oct. 2017), <https://thelifeindia.org.in/wp-content/uploads/2021/07/PBR-Publication.pdf> (last visited Aug. 27, 2026).

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ National Biodiversity Authority, *Biodiversity Management Committees (BMCs)*, <https://www.nbaindia.nic.in/sbbs/bmc-details-page> (last visited Apr. 29, 2025).

⁸⁹ *Supra* note 85.

⁹⁰ Kerala State Biodiversity Board, *People's Biodiversity Register (PBR)*, https://keralabiodiversity.org/?page_id=1342 (last visited Aug. 27, 2026).

⁹¹ Press Information Bureau, *National Campaign for Updation and Verification of People's Biodiversity Register Launched in Goa*, MINISTRY OF ENV'T, FOREST & CLIMATE CHANGE, <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1926651> (May 23, 2023) (last visited Aug. 27, 2026).

- **Scale and Diversity:** Rajasthan's vast geography and the cultural, linguistic diversity of its many tribal and local communities make comprehensive documentation a daunting task.⁹² TK varies widely between regions and communities.
- **Oral Nature:** Much of this knowledge is passed down orally, through songs, stories, rituals, and hands-on practice, making it hard to fully capture in written or digital formats.⁹³ It's also at high risk of being lost if these oral traditions aren't sustained.
- **Erosion of Knowledge:** Modern lifestyles, migration (especially of youth), the declining value of traditional practices, and a focus on mainstream education are leading to a gradual loss of TK.⁹⁴ Younger generations often have little interest or access to learn from elders.⁹⁵
- **Trust and Sensitivity:** Communities may be hesitant to share their knowledge due to past exploitation and biopiracy.⁹⁶ Gaining trust takes time, and ethical engagement, like obtaining Prior Informed Consent and respecting cultural norms is essential.⁹⁷
- **Resource Constraints:** Proper documentation, especially participatory efforts, needs funding, trained personnel (who understand local languages and contexts), and institutional support.⁹⁸ These are often limited, particularly for large-scale efforts like PBRs.
- **Policy and Implementation Gaps:** Although policies exist, like the mandate for PBRs under the BD Act, weak implementation, red tape, and poor coordination between government agencies can hold back progress.⁹⁹
- **Environmental Change:** Climate change and ecological degradation can make traditional practices less viable or wipe out the natural resources they depend on,

⁹² Supra note 38.

⁹³ Supra note 10.

⁹⁴ *Id.*

⁹⁵ Ouma, A., *Intergenerational Learning Processes of Traditional Medicinal Knowledge and Socio-Spatial Transformation Dynamics*, 7 FRONT. SOC. 661992 (2022), <https://doi.org/10.3389/fsoc.2022.661992>.

⁹⁶ Dr. Kommu Nagaiah, *Preserving Tribal Knowledge of Herbal Medicines and Edibles in a Digital Library – CSIR*, CSIR, Ministry of Sci. & Tech., Gov't of India, <https://www.csir.res.in/csir-science-stories/preserving-tribal-knowledge-herbal-medicines-and-edibles-digital-library> (last visited Aug. 27, 2026).

⁹⁷ *Id.*

⁹⁸ Supra note 85.

⁹⁹ Supra note 7.

speeding up knowledge loss.¹⁰⁰

- **Avoiding Romanticisation:** While valuing TK, it's important not to idealise it blindly. Documentation should critically assess practices, acknowledging any internal issues or limitations.¹⁰¹

Tackling these challenges calls for a sensitive, well-funded, and community-led approach, rooted in trust, respect, and strong institutional backing.

4. Legal and Policy Frameworks for TK Protection

The protection of traditional knowledge operates within a complex matrix of international agreements, national laws, and specific government initiatives. Understanding this framework is essential to evaluating the current state of TK protection in Rajasthan and identifying pathways for improvement.

4.1 International Obligations and Influences

Traditional knowledge (TK) protection in India, including Rajasthan, is shaped by several international treaties and guidelines that set the broader legal and ethical framework.

Convention on Biological Diversity (CBD), 1992:

This foundational treaty laid the groundwork for TK protection and equitable benefit-sharing.

- *Article 8(j)* calls on countries like India to respect, preserve, and promote the knowledge of Indigenous and local communities, with their approval and involvement.¹⁰²
- *Article 15* emphasizes national sovereignty over natural resources and mandates Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) for accessing genetic resources.¹⁰³

¹⁰⁰ Supra note 21.

¹⁰¹ *Id.*

¹⁰² *Convention on Biological Diversity*, Art. 8(j), Traditional Knowledge, Innovations and Practices, <https://www.cbd.int/traditionalknowledge> (last visited Aug. 27, 2026).

¹⁰³ Anshu Singh, *A Critical Analysis of the Doctrine of Access and Benefit Sharing*, 15 *Penacclaims* 1

The CBD inspired India's **Biological Diversity Act, 2002**.¹⁰⁴

Nagoya Protocol, 2010:

As a supplement to the CBD, it strengthens the rules for access and benefit-sharing (ABS).¹⁰⁵

- It obligates countries to set clear PIC and MAT procedures.¹⁰⁶
- Benefits, either monetary or otherwise, from using genetic resources or associated TK must be shared fairly, while respecting community rights and customs.¹⁰⁷
- It also created the ABS Clearing-House for transparency.¹⁰⁸ India's ABS rules are guided by this protocol.¹⁰⁹

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), 2001:

Focused on food security, this treaty recognizes farmers and Indigenous communities for conserving vital plant resources.¹¹⁰

- *Article 9* enshrines Farmers' Rights, including protecting TK, fair benefit-sharing, and the right to save and exchange seeds.¹¹¹
- A Multilateral System (MLS) facilitates access and benefit-sharing for key crops.¹¹²

(2021), <http://www.penacclaims.com/wp-content/uploads/2021/05/Anshu-Singh.pdf>.

¹⁰⁴ Krishnamoorthy Venkataraman & S. Latha, *Intellectual Property Rights, Traditional Knowledge and Biodiversity of India*, 13 *J. Intell. Prop. Rts.* 326, 326–35 (July 2008).

¹⁰⁵ *Access and Benefit-Sharing (Nagoya Protocol and the CBD)*, SPNHC – The Soc'y for Preservation of Nat. Hist. Collections, <https://spnhc.org/access-and-benefit-sharing-nagoya-protocol-and-the-cbd/> (last visited Aug. 27, 2026).

¹⁰⁶ *Id.*

¹⁰⁷ Supra note 103.

¹⁰⁸ *The Nagoya Protocol on Access and Benefit-Sharing*, Art. 14, Convention on Biological Diversity, <https://www.cbd.int/abs/theabsch.shtml#:~:text=Article%2014%20of%20the%20Nagoya,to%20access%20and%20benefit%2Dsharing> (last visited Aug. 27, 2026).

¹⁰⁹ Supra note 103.

¹¹⁰ *Farmers' Rights under the International Treaty on Plant Genetic Resources for Food and Agriculture*, Food & Agric. Org. of the U.N., <https://www.fao.org/plant-treaty/areas-of-work/farmers-rights/brochure/en/> (last visited Aug. 27, 2026).

¹¹¹ *Id.*

¹¹² Food & Agric. Org. of the U.N., *The Multilateral System of Access and Benefit-Sharing – Educational Module IV* (2021), <https://doi.org/10.4060/cb7984en>.

It informs India's Protection of Plant Varieties and Farmers' Rights Act, 2001.¹¹³

World Intellectual Property Organization (WIPO):

WIPO leads global talks on protecting TK within IP systems.

- The Intergovernmental Committee (IGC) has been working since 2001 to draft international legal tools for TK, TCEs, and genetic resources.¹¹⁴
- The new WIPO GRATK Treaty (2024) mandates patent applicants to disclose the use of genetic resources and associated TK.¹¹⁵
- WIPO also promotes defensive protection by supporting databases like India's TKDL and improving patent classification for TK.¹¹⁶ It defines TK as community-held knowledge passed across generations, often tied to cultural identity.¹¹⁷

UN Declaration on the Rights of Indigenous Peoples (UNDRIP), 2007:

While not legally binding, UNDRIP sets key global norms.

- *Article 31* affirms Indigenous peoples' rights to control and protect their TK, cultural heritage, and related IP.¹¹⁸
- *Articles 11 and 32* highlight cultural revitalization and the need for Free, Prior and Informed Consent (FPIC) for projects affecting Indigenous resources.¹¹⁹ Other principles include self-determination, non-discrimination, and participation in

¹¹³ Protection of Plant Varieties and Farmers' Rights Act, 2001, Act No. 53 of 2001.

¹¹⁴ *The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, Background Brief No. 2*, WIPO, <https://www.wipo.int/edocs/pubdocs/en/wipo-pub-rn2023-5-2-en-the-wipo-intergovernmental-committee-on-intellectual-property-and-genetic-resources-traditional-knowledge-and-folklore.pdf> (last visited Aug. 27, 2026).

¹¹⁵ *Id.*

¹¹⁶ *Supra* note 2.

¹¹⁷ *Id.*

¹¹⁸ *United Nations Declaration on the Rights of Indigenous Peoples* art. 31, G.A. Res. 61/295, U.N. Doc. A/RES/61/295 (Sept. 13, 2007), https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf (last visited Aug. 27, 2026).

¹¹⁹ *United Nations Declaration on the Rights of Indigenous Peoples* arts. 11 & 32, G.A. Res. 61/295, U.N. Doc. A/RES/61/295 (Sept. 13, 2007), https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf (last visited Aug. 27, 2026).

decision-making.¹²⁰

UNESCO:

Through its 2003 Convention on Safeguarding Intangible Cultural Heritage, UNESCO promotes the preservation of cultural expressions, many of which involve TK.¹²¹ It maintains global ICH lists to recognize and celebrate such practices.¹²²

4.2 National Legislative Framework

India has developed several laws to protect traditional knowledge (TK), often in line with its international commitments. These laws vary in scope, from biodiversity to seeds, patents, and cultural expressions.

Biological Diversity Act, 2002 (BDA):

This is India's main law for implementing the CBD.¹²³

- It promotes conservation, sustainable use, and fair benefit-sharing, with a three-tier setup: National Biodiversity Authority (NBA), State Boards (SBBs), and local Biodiversity Management Committees (BMCs).¹²⁴
- Access to biological resources and associated TK, especially by foreigners or for commercial use, requires NBA or SBB approval.¹²⁵
- Benefit-sharing (monetary or otherwise) is based on mutually agreed terms and routed

¹²⁰ *The UN Declaration on the Rights of Indigenous Peoples: A Quick Reference*, Indian Law Res. Ctr., <https://www.usetinc.org/wp-content/uploads/bvenuti/Annual%202016/Thumbdrive%20items/Monday/Importance%20of%20Engaging%20in%20International%20Issues/2%20-%20UNDRIP%20Summary.pdf> (last visited Aug. 27, 2026).

¹²¹ *Intangible Cultural Heritage – Working Definitions: International Round Table*, UNESCO, Piedmont, Italy, Mar. 14–17, 2001, <https://ich.unesco.org/doc/src/05305.pdf> (last visited Aug. 27, 2026).

¹²² *Intangible Cultural Heritage: Cultural Practices and Expressions of Intangible Heritage – Safeguarding Our Living Heritage*, UNESCO, <https://www.unesco.org/en/intangible-cultural-heritage/grid?hub=413> (last visited Aug. 27, 2026).

¹²³ K. Venkataraman, *Access and Benefit Sharing and the Biological Diversity Act of India: A Progress Card*, 10 *Asian Biotechnology & Dev. Rev.* 69 (2008), <https://www.cbd.int/doc/articles/2009/A-00676.pdf> (last visited Aug. 27, 2026).

¹²⁴ *The Biological Diversity Act, 2002*, No. 18 of 2003, India Code, <https://www.indiacode.nic.in/bitstream/123456789/2046/4/a2003-18.pdf> (last visited Aug. 27, 2026).

¹²⁵ *Supra* note 123.

through Biodiversity Funds.¹²⁶

- BMCs document local resources and TK via People's Biodiversity Registers (PBRs).¹²⁷
- The 2023 amendment (based on the 2021 Bill) made major changes, including exempting codified TK and AYUSH practitioners from ABS rules, decriminalizing violations, and easing benefit-sharing procedures, drawing criticism for diluting community protections.¹²⁸

Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001:

This law balances breeders' rights with farmers' rights, aligning with the ITPGRFA.¹²⁹

Farmers can save, reuse, share, and sell seeds of protected varieties (except branded ones).¹³⁰

It allows registration of farmers' varieties, waives fees, and offers recognition and rewards for conservation efforts.¹³¹

If a registered variety uses traditional material, communities can claim benefit-sharing via the National Gene Fund.¹³²

The Patents Act, 1970 (as amended):

This Act offers defensive protection to TK.

- Section 3(p) bars patents on inventions based on TK or mere combinations of known properties.¹³³

¹²⁶ Supra note 13.

¹²⁷ Supra note 124.

¹²⁸ Simrin Sirur, *Biological Diversity Bill, Which Facilitates Commercial Use of Traditional Resources, Passed in Lok Sabha*, Mongabay India (July 31, 2023), <https://india.mongabay.com/2023/07/biological-diversity-bill-which-facilitates-commercial-use-of-traditional-resources-passed-in-lok-sabha/> (last visited Aug. 27, 2026).

¹²⁹ Supra note 113.

¹³⁰ *Id.*

¹³¹ *Views, Experiences and Best Practices as an Example of Possible Options for the National Implementation of Article 9 of the International Treaty*, Submission by India (July 30, 2019), Food & Agric. Org. of the U.N., *Int'l Treaty on Plant Genetic Resources for Food & Agric.*, <https://openknowledge.fao.org/server/api/core/bitstreams/afb9feb1-dba2-4e20-b36a-84eed996c52b/content> (last visited Aug. 27, 2026).

¹³² Supra note 113.

¹³³ *The Patents Act, 1970*, No. 39 of 1970, § 3(p) (India).

- Applicants must disclose the source and origin of biological materials (Section 10(4)).¹³⁴
- TK-based anticipation or non-disclosure can be grounds for opposing or revoking a patent.¹³⁵

Geographical Indications (GI) Act, 1999:

This Act protects products tied to specific places, like Darjeeling tea or Makrana marble.¹³⁶

- It supports communities by safeguarding the name and reputation linked to regional products, often based on TK.¹³⁷
- However, it doesn't protect the underlying knowledge or methods, and enforcement remains difficult.¹³⁸

Copyright Act, 1957:

This act can safeguard expressions of TK, like folk music, art, or literature, against unauthorized use.¹³⁹ But challenges remain, especially for oral, evolving, or collective traditions that may not meet originality or fixation standards.¹⁴⁰

4.3 National Initiatives

Alongside laws, India has launched key initiatives to document, protect, and promote Traditional Knowledge (TK):

Traditional Knowledge Digital Library (TKDL):

Set up in 2001 by CSIR and the Ministry of AYUSH, TKDL is a global database of codified

¹³⁴ *The Patents Act, 1970*, No. 39 of 1970, § 10(4) (India)

¹³⁵ Supra note 104.

¹³⁶ Akanksha Saini, *A State of Documenting the Traditional Knowledge*, Econ. Advisory Council to the Prime Minister, Govt. of India (Dec. 14, 2022), <https://eacpm.gov.in/wp-content/uploads/2022/12/Documenting-Traditional-Knowledge-2.pdf> (last visited Aug. 27, 2026).

¹³⁷ *Id.*

¹³⁸ *Id.*

¹³⁹ Anu Bala, *Traditional Knowledge and Intellectual Property Rights: An Indian Perspective*, SSRN Elec. J., <https://doi.org/10.2139/ssrn.1954924> (Nov. 2011).

¹⁴⁰ *Id.*

Indian medical knowledge (Ayurveda, Unani, Siddha, Yoga).¹⁴¹ It helps prevent biopiracy by making this information accessible to patent offices as prior art.¹⁴² It has helped stop hundreds of wrongful patent claims.¹⁴³ However, TKDL focuses only on codified systems and isn't open to the public, limiting its broader protective role.¹⁴⁴

Indian Knowledge Systems (IKS) Initiative:

Launched in 2020 by the Ministry of Education, IKS supports research, education, and awareness on Indian knowledge traditions.¹⁴⁵ It funds university centres, learning materials, and outreach.¹⁴⁶ Though ambitious, it faces hurdles like curriculum design, teacher training, and concerns about promoting pseudoscience.¹⁴⁷

National IPR Policy, 2016:

This policy acknowledged TK as an asset and encouraged integrating it within IPR frameworks, balancing commercialization with respect for traditional values.¹⁴⁸

National Education Policy (NEP) 2020:

NEP aims to embed Indian knowledge and heritage, including tribal and classical languages, into all levels of education, promoting critical thinking rooted in Indian ethos.¹⁴⁹ However, effective rollout faces many practical challenges.^{150 151}

4.4 Sui Generis Protection in India: The Traditional Knowledge Bills

Recognising the gaps in conventional IPR systems for protecting TK, which is often oral,

¹⁴¹ Supra note 71.

¹⁴² Supra note 2.

¹⁴³ Supra note 96.

¹⁴⁴ Supra note 72.

¹⁴⁵ Pavan Mandavkar, *Indian Knowledge System (IKS)*, SSRN Elec. J., <https://doi.org/10.2139/ssrn.4589986> (Oct. 2023).

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ Press Info. Bureau, Ministry of Commerce & Indus., *National IPR Policy 2018*, Govt. of India, <https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1557418> (last visited Aug. 27, 2026).

¹⁴⁹ Supra note 118.

¹⁵⁰ Satyajit Baral, *Integrating Indian Knowledge Systems for Holistic Development through NEP 2020*, 13 *Indian J. Educ. Pol'y* 415, 415–20 (2024).

¹⁵¹ Dr. Laxmiram Gope, *Revitalizing Education: Bridging Tradition and Innovation in School Curriculum Post NEP 2020*, Boston Research Journals, https://bostonresearch.org/articles/Revitalizing_Education_Bridging_Tradition_and_Innovation_in_School_Curriculum_Post_Nep_2020.pdf (last visited Aug. 27, 2026).

community-owned, and evolving, India has explored sui generis legal options.¹⁵² These go beyond defensive protection (like TKDL) and aim for positive recognition and control by TK holders.¹⁵³ Two major legislative attempts have been made:

The Protection of Traditional Knowledge Bill, 2016:

India's first major attempt at a TK-specific law, it proposed a National TK Authority and community trusts to manage rights.¹⁵⁴ TK was defined broadly but excluded secret knowledge.¹⁵⁵ The Bill wasn't passed, likely due to definitional and implementation concerns.¹⁵⁶

The Protection of Traditional Knowledge Bill, 2022 (Private Member's Bill by Dr. Shashi Tharoor):

This Bill seeks in-situ protection, preservation, and sustainable development of TK.¹⁵⁷
Key Features:

- **TK Definition:** Includes codified and oral knowledge passed down for at least three generations, covering medicine, arts, skills, and more, excluding knowledge already protected by other laws.¹⁵⁸
- **Knowledge Societies:** Recognized community groups (like trusts or societies) that manage specific TK.¹⁵⁹
- **Ownership:** State governments are deemed owners; communities become custodians upon recognition.¹⁶⁰

¹⁵² Supra note 5.

¹⁵³ Supra note 2.

¹⁵⁴ Shambhu Chakrabarty & Abhisekh Rodricks, *Protection of Traditional Knowledge in India by Sui Generis Laws of Geographic Indications and The Protection of Traditional Knowledge Bill, 2022*, 13 *Indian J. Intell. Prop. L.* (Dec. 2022).

¹⁵⁵ Akriti Gupta, *Protecting Indigenous Cultural Heritage: A Comparative Study of the Traditional Knowledge Bill of 2016 and 2022*, 3 *Indian J. Integrated Research in L.* (2023), <https://ijirl.com/wp-content/uploads/2023/08/PROTECTING-INDIGENOUS-CULTURAL-HERITAGE-A-COMPARATIVE-STUDY-OF-THE-TRADITIONAL-KNOWLEDGE-BILL-OF-2016-AND-2022.pdf> (last visited Aug. 27, 2026).

¹⁵⁶ *Id.*

¹⁵⁷ *The Protection of Traditional Knowledge Bill, 2022*, Bill No. 87 of 2022 (India), introduced in Lok Sabha by Dr. Shashi Tharoor, M.P.

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

- **Licensing:** Custodians get a non-exclusive, perpetual license for use but cannot sub-license it.¹⁶¹
- **Protection Tools:** A new authority (NATK), State Boards, and a TK Docketing System (TKDS) to document and monitor TK. Misuse (like unauthorized use or patenting) is penalized.¹⁶²
- **Benefit Sharing:** Mandatory for non-members using TK commercially, with a share going to the National TK Fund for community benefit.¹⁶³

Criticisms and Concerns:

- The "three generations" rule may be hard to prove for oral traditions.¹⁶⁴
- Ambiguity in excluding TK already covered by other laws (e.g., GI Act) could create legal confusion.¹⁶⁵
- Practical challenges include recognising custodians, managing the TKDS, and ensuring real benefit sharing.¹⁶⁶
- The Bill largely excludes TK from IPR systems, which some argue limits synergy with tools like GI or copyright.¹⁶⁷
- Lack of community consultation, unclear procedures for recognition and prior informed consent (PIC), and resource constraints are also major concerns.¹⁶⁸

Overall, while the 2022 Bill marks progress, crafting a workable and inclusive sui generis system remains a complex and ongoing process.

¹⁶¹ *Id.*

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ Supra note 154.

¹⁶⁵ *Id.*

¹⁶⁶ Supra note 155.

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

4.5 Rajasthan State-Level Policies and Rules

While national laws set the broader framework, Rajasthan has introduced its own rules and policies that touch on Traditional Knowledge (TK), though often indirectly or in fragmented ways.

Rajasthan Biological Diversity Rules, 2010:

These rules implement the Biological Diversity Act, 2002 at the state level.¹⁶⁹ They outline the formation and functions of the Rajasthan State Biodiversity Board (RSBB), which advises the state government, regulates access to bio-resources, and supports biodiversity planning.¹⁷⁰ Local Biodiversity Management Committees (BMCs) are also mandated to prepare People's Biodiversity Registers (PBRs), which help document TK.¹⁷¹

Rajasthan State IPR Policy (2021–2026):

Aimed at building an IP-friendly ecosystem, this policy promotes awareness and commercialization of IPRs.¹⁷² It mentions TK in relation to the national TKDL database but offers no Rajasthan-specific plans to protect or document local or tribal TK.¹⁷³ Its focus stays on conventional IP, with limited relevance to grassroots knowledge systems.

Rajasthan Ecotourism Policy, 2021:

This policy involves local communities in eco-tourism projects, promoting cultural experiences and traditional practices.¹⁷⁴ It opens the door for using TK (like ecological know-how, crafts, and festivals) to boost community incomes.¹⁷⁵ However, safeguards are needed to prevent misuse or exploitation of this knowledge.

Rajasthan State Forest Policy:

Aligned with the National Forest Policy, it focuses on forest cover, biodiversity, and

¹⁶⁹ Supra note 79.

¹⁷⁰ *Id.*

¹⁷¹ *Id.*

¹⁷² *Rajasthan State Policy on Intellectual Property Rights 2021-2026*, Dep't of Sci. & Tech., Govt. of Rajasthan, [https://dst.rajasthan.gov.in/WRITEREADDATA/cms/Documents/202205260309576740903iprpolicy2021\(1\).pdf](https://dst.rajasthan.gov.in/WRITEREADDATA/cms/Documents/202205260309576740903iprpolicy2021(1).pdf) (last visited Aug. 27, 2026).

¹⁷³ *Id.*

¹⁷⁴ Supra note 82.

¹⁷⁵ *Id.*

community participation through Joint Forest Management and NTFP-based livelihoods.¹⁷⁶ TK plays a crucial role in these areas, though the policy doesn't explicitly centre it.

Key Gap:

Despite these scattered references, Rajasthan lacks a dedicated, cohesive policy to protect, promote, and sustainably use its rich TK, especially that of its tribal and rural communities. This piecemeal approach limits coordination across departments and contrasts with more focused TK strategies seen in other states.

5. Comparative Perspectives: TK Protection Strategies in Other Indian States

Examining the approaches taken by other Indian states towards traditional knowledge documentation and protection can offer valuable insights and potential lessons for Rajasthan. Kerala, Odisha, and Nagaland provide interesting contrasts due to their distinct socio-cultural contexts and specific initiatives.

5.1 Kerala: The Kani Tribe Model, ABS, and KSBB Role

Kerala is often cited for the pioneering benefit-sharing arrangement involving the Kani tribe and the Tropical Botanical Garden and Research Institute (TBGRI).¹⁷⁷ During a scientific expedition in 1987, TBGRI scientists learned about the anti-fatigue properties of the *Arogyapacha* plant (*Trichopus zeylanicus*) from their Kani guides.¹⁷⁸ Recognizing the commercial potential and the Kani's traditional knowledge, TBGRI developed a licensed drug ('Jeevani') and facilitated the establishment of a trust fund for the Kani community in 1997.¹⁷⁹ A share of the license fee and royalties from the drug's sales were channeled to this trust, representing one of India's earliest formal attempts at Access and Benefit Sharing (ABS) based on traditional knowledge.¹⁸⁰

The Kerala State Biodiversity Board (KSBB) plays an active role in implementing the

¹⁷⁶ *Draft of Rajasthan State Forest Policy, Version-2*, <https://ourgovdotin.wordpress.com/wp-content/uploads/2021/01/draft-rajasthan-state-forest-policy.pdf> (last visited Apr. 29, 2025).

¹⁷⁷ P. Reddy & M. Lakshmikumaran, *Protecting Traditional Knowledge Related to Biological Resources: Is Scientific Research Going to Become More Bureaucratized?*, 5 *Cold Spring Harbor Persp. Med.* a020974 (2015), <https://doi.org/10.1101/cshperspect.a020974>.

¹⁷⁸ *Id.*

¹⁷⁹ *Id.*

¹⁸⁰ *Id.*

Biological Diversity Act, including managing ABS processes.¹⁸¹ The KSBB has established procedures for seeking approval for access to biological resources for commercial utilization and emphasizes the fair and equitable sharing of benefits.¹⁸² The state also has a Kerala State Biodiversity Strategy and Action Plan (SBSAP) guiding its conservation efforts, and has undertaken initiatives like updating PBRs (developing guidelines for PBR Volume II) and preparing Local Action Plans based on PBRs.¹⁸³ Kerala's strong system of decentralized governance through Panchayati Raj institutions and Gram Sabhas also provides a potential framework for community involvement in TK management and benefit sharing, although challenges in ensuring effective tribal participation within larger Gram Sabhas exist.¹⁸⁴

While the Kani-TBGRI case is lauded as an example of successful ABS,¹⁸⁵ it also underscores the inherent complexities. Establishing a functional benefit-sharing mechanism required significant institutional effort (facilitation by TBGRI, setting up a trust), navigating intellectual property issues, defining community representation (the trust was controlled by adult Kanis, raising questions about internal equity), and ensuring the sustainable flow and distribution of benefits.¹⁸⁶ The specific context, a clearly identifiable community, a specific plant with demonstrable commercial value, and a proactive research institution, was crucial. Therefore, while demonstrating the *possibility* of ABS, the Kani model serves more as a context-specific case study highlighting the need for tailored institutional arrangements rather than a universally replicable blueprint for all TK-based benefit sharing scenarios.

5.2 Odisha: Documenting Tribal Languages & Culture

Odisha, with its significant tribal population and linguistic diversity, has placed considerable emphasis on the link between language, culture, and traditional knowledge.¹⁸⁷ The Academy of Tribal Languages and Culture (ATLC), operating under the state's ST & SC Development,

¹⁸¹ *Annual Report & Audit Report 2022-2023*, Kerala State Biodiversity Board, <https://keralabiodiversity.org/wp-content/uploads/2024/09/Annual-Report-22-23-English.pdf> (last visited Aug. 27, 2026).

¹⁸² *Access and Benefit Sharing*, Kerala State Biodiversity Board, https://keralabiodiversity.org/?page_id=742 (last visited Aug. 27, 2026).

¹⁸³ *Supra* note 181.

¹⁸⁴ R.V. Anuradha, *Sharing with the Kanis: A Case Study from Kerala, India*, Convention on Biological Diversity, <https://www.cbd.int/financial/bensharing/india-kanis.pdf> (last visited Aug. 27, 2026).

¹⁸⁵ *Supra* note 177.

¹⁸⁶ *Id.*

¹⁸⁷ *ADIVASI*, Journal of SC & ST Research and Training Institute, vol. 61, no. 1, June 2021, at https://stsc.odisha.gov.in/sites/default/files/2022-02/ADIVASI_Journal_June-2021.pdf (last visited Aug. 27, 2026).

Minorities & Backward Classes Welfare Department since 1979, plays a central role.¹⁸⁸ ATLC's primary mission is the preservation, promotion, and propagation of tribal languages, culture, traditions, arts, crafts, and beliefs.¹⁸⁹

Documentation is a key activity, encompassing tribal songs, dances, oral literature, and material culture, preserved through publications, audio-visual recordings, and photographs.¹⁹⁰ The Academy publishes an annual journal, "Banaja," which often focuses on specific themes related to tribal life, including ethnomedicine, indigenous knowledge, rituals, and art.¹⁹¹ Recognizing the threat to unwritten tribal languages (Odisha has 21 recognized tribal languages and numerous dialects), ATLC has also focused on language documentation and promotion, including developing primers and dictionaries, aligning with the National Education Policy 2020's emphasis on mother-tongue instruction.¹⁹² Broader state initiatives, potentially involving technical partners, also aim to leverage technology like digitalization and AI for documenting and promoting Odisha's cultural heritage, including tribal traditions, to a wider audience.¹⁹³

Odisha's approach, particularly through the dedicated work of ATLC, highlights the understanding that traditional knowledge is deeply embedded within specific linguistic and cultural contexts.¹⁹⁴ Preserving the language and the broader cultural framework is seen as essential for safeguarding the associated knowledge systems. This perspective contrasts with approaches that might focus primarily on documenting biological resources (as in PBRs) or protecting specific commercially viable products (like GIs), offering a more holistic, culturally grounded strategy for TK preservation.

5.3 Nagaland: Customary Law's Role in TK Governance

Nagaland presents a unique context where traditional governance systems, based on unwritten customary laws, remain highly influential, particularly in rural areas.¹⁹⁵ Each of the state's

¹⁸⁸ *About Us*, Academy of Tribal Language & Culture, Govt. of Odisha, <http://atlcodisha.in/home/banaja> (last visited Aug. 27, 2026).

¹⁸⁹ *Id.*

¹⁹⁰ *Id.*

¹⁹¹ *Id.*

¹⁹² *Supra* note 187.

¹⁹³ Parul Sharma, *Merging Tradition with Technology to Preserve Odisha, India's Cultural Heritage*, Palladium (Mar. 12, 2025), <https://thepalladiumgroup.com/news/Merging-Tradition-with-Technology-to-Preserve-Odisha-Indias-Cultural-Heritage> (last visited Aug. 27, 2026).

¹⁹⁴ *Supra* note 187.

¹⁹⁵ Walter Fernandes, Melville Pereira & Vizalenu Khatso, *Customary Laws in North East India: Impact on*

diverse Naga tribes possesses its own set of customary laws, passed down orally through generations, which regulate social conduct, resource management, land ownership, dispute resolution (often through village councils of elders), marriage, and inheritance.¹⁹⁶

Traditional knowledge related to agriculture, medicine, crafts, resource management, and cultural practices is often developed, held, managed, and transmitted within the framework of these customary laws.¹⁹⁷ Some TK may even be considered sacred or secret, with specific customary rules governing its use and dissemination.¹⁹⁸ The Nagaland State Biological Diversity Rules, 2012, acknowledge this by including a definition for "Community Intellectual Property," encompassing documented or undocumented traditional knowledge belonging to a community.¹⁹⁹

However, reliance on customary law also presents challenges. Being largely unwritten and varying between tribes makes standardization difficult.²⁰⁰ There can be conflicts with statutory laws and modern governance structures.²⁰¹ Modernization pressures, changing economic systems (like shifts towards individual land ownership promoted by state schemes), and external influences can erode the authority and practice of customary law.²⁰² Furthermore, some customary laws have been criticized for perpetuating inequalities, particularly regarding gender, such as limitations on women's inheritance rights or participation in traditional decision-making bodies.²⁰³

The Nagaland experience underscores that in regions with strong, functioning traditional governance systems, customary law effectively acts as a pre-existing, albeit informal, *sui generis* system for managing TK.²⁰⁴ Any external efforts aimed at TK protection or documentation must necessarily engage with and respect these existing community-based legal

Women, Nat'l Comm'n for Women, New Delhi, <http://ncwapps.nic.in/pdfreports/Customary%20Law.pdf> (last visited Aug. 27, 2026).

¹⁹⁶ Benchilo Odyuo & Dr. Amol Deo Chavhan, *Navigating Legal Pluralism: Understanding Naga Customary Law and the Indian Legal System in Nagaland*, 11(4) *JETIR* (Apr. 2024).

¹⁹⁷ Ravindra Singh, *Traditional Knowledge in North East India: A Perfect Case for Sui Generis Legislation*, 1 *NLUA J. Intell. Prop. Rts.* 186 (2022), <https://nluassam.ac.in/docs/Journals/IPR/vol1-issue-1/10.pdf> (last visited Aug. 27, 2026).

¹⁹⁸ *Id.*

¹⁹⁹ *The Nagaland State Biological Diversity Rules, 2012*, § 2(6), Dep't of Forest, Ecology, Env't & Wildlife, Gov't of Nagaland, <https://nsbb.nagaland.gov.in/wp-content/uploads/2021/03/Nagaland-State-Biological-Diversity-Rules-2012.pdf> (last visited Aug. 27, 2026).

²⁰⁰ *Supra* note 197.

²⁰¹ *Supra* note 195.

²⁰² *Id.*

²⁰³ *Id.*

²⁰⁴ *Supra* note 196.

norms and institutions. Simply imposing national statutory frameworks (like IPR laws or even standardized PBR formats) without considering or integrating customary law could undermine community authority, prove ineffective, or even be counterproductive.²⁰⁵ This highlights the need for context-specific approaches that recognize and potentially build upon existing local governance structures for TK.

5.4 Comparative Synthesis and Lessons for Rajasthan

A comparison of Rajasthan with selected TK-rich states reveals both commonalities and important gaps, offering useful directions for strengthening the State's approach. While Rajasthan largely relies on national frameworks and general state policies, initiatives such as Odisha's Millet Mission demonstrate the value of state-specific programmes that directly connect traditional knowledge with community livelihoods and conservation. Kerala's proposed state-level TKDL similarly reflects a more proactive approach to documentation. Rajasthan could therefore consider focused missions for areas such as traditional water harvesting, crafts, and tribal ethnomedicine. Although Rajasthan has established Biodiversity Management Committees (BMCs), the effectiveness and status of its People's Biodiversity Registers (PBRs) appear less clear than in states such as Kerala and Odisha, where PBR completion, updating, and digital access have received greater attention. Rajasthan should prioritise the completion, verification, digitisation, and periodic updating of PBRs, supported by stronger BMC training and resources and, where appropriate, decentralised governance models.

Rajasthan's TK documentation also appears to depend substantially on academic research and cultural institutions such as the West Zone Cultural Centre (WZCC), with comparatively limited evidence of systematic, state-led documentation across communities and knowledge domains. The Rajasthan State Biodiversity Board (RSBB), in collaboration with Tribal Research Institutes and universities, could undertake targeted documentation of vulnerable or economically significant TK and develop a state-level digital repository complementary to the TKDL and PBRs. Although institutions such as the RSBB, WZCC, Ayurveda Department, and National Institute of Ayurveda provide an existing foundation, stronger coordination and clearer institutional mandates are required. Kerala's State Biodiversity Board illustrates a more proactive institutional model, while Andhra Pradesh's Girijan Cooperative Corporation (GCC)

²⁰⁵ Supra note 195.

demonstrates how TK-based livelihoods can be linked with markets and fair returns. Rajasthan could similarly strengthen the RSBB's capacity for documentation and access and benefit-sharing (ABS), while improving coordination among biodiversity, tribal welfare, agriculture, cultural, and Ayurveda institutions.

Community participation and equitable benefit-sharing also require greater attention. Rajasthan has few prominent examples of formal ABS arrangements benefiting communities, unlike Kerala's Kani-Jeevani experience, which, despite its limitations, offers important lessons, or Odisha's Millet Mission, which integrates community participation with traditional agriculture. Karnataka's experience further highlights the practical challenges of implementing ABS. Rajasthan should therefore draw lessons from both successful and problematic models, ensuring meaningful community consultation, capacity building, and participation in benefit negotiations, including through free, prior and informed consent (FPIC) principles. Benefits should extend beyond monetary returns, with livelihood-oriented approaches such as Odisha's Millet Mission and Andhra Pradesh's GCC offering potentially practical models. Overall, Rajasthan possesses substantial TK wealth and the basic institutional framework, but requires a more coordinated, proactive, and state-specific strategy centred on effective PBR implementation, targeted documentation, institutional strengthening, and meaningful community empowerment.

6. Conclusion and Recommendations

Rajasthan is home to a rich diversity of Traditional Knowledge (TK), shaped by generations adapting to its arid landscapes. Whether it's water harvesting systems like taankas and johads,²⁰⁶ agroforestry centered on the resilient Khejri tree,²⁰⁷ folk paintings such as Phad and Pichwai,²⁰⁸ or the deep ethnomedicinal wisdom of communities like the Bhils and Bishnois²⁰⁹, this knowledge is a vital cultural and ecological asset.²¹⁰

Yet, this heritage faces serious threats. Much of it is passed down orally, making it vulnerable to loss amid social change, environmental degradation, and declining interest among the

²⁰⁶ Supra note 21.

²⁰⁷ Supra note 16.

²⁰⁸ Supra note 39.

²⁰⁹ Supra note 68.

²¹⁰ Supra note 10.

youth.²¹¹ While institutions like the WZCC have taken steps to document such knowledge,²¹² efforts remain scattered, especially for tribal TK that isn't formally codified. The national TKDL focuses largely on classical systems, missing much of Rajasthan's local knowledge.²¹³ Moreover, while Rajasthan has formed BMCs under the BD Act, the actual preparation and updating of PBRs, key tools for TK documentation, remains unclear and likely underdeveloped.²¹⁴

Legally, there are multiple frameworks, from global treaties like the CBD and Nagoya Protocol²¹⁵ to Indian laws like the BD Act, GI Act, and PPV&FR Act,²¹⁶ but implementation challenges persist. The 2023 amendments to the BD Act, which exempt codified systems and decriminalize violations, have sparked concerns about weakening protections for local communities.²¹⁷ Meanwhile, national attempts to create a sui generis TK law through the 2016 and 2022 Bills reflect the inadequacy of the current IPR approach but also face critique over definitions and overlap.²¹⁸ Rajasthan still lacks a dedicated state policy on TK protection.²¹⁹

Other states offer useful models. Kerala's near-universal PBR coverage and proposed TKDL,²²⁰ Nagaland's community-based conservation models, and Odisha's digital PBR portal and Millet Mission,²²¹ show how state-led initiatives, targeted efforts, and community empowerment can make a real difference. Even community-based conservation models in the North-East²²² offer insights.

Based on this analysis, the following steps are recommended:

- **Make BMCs Functional and Strengthen PBRs:** Forming BMCs is not enough, it is necessary to provide them with funding, training, and digital tools (as in Odisha)

²¹¹ *Id.*

²¹² Supra note 68.

²¹³ Supra note 72.

²¹⁴ Laasya Shekhar, *Explainer: What Is a People's Biodiversity Register?*, Mongabay-India (July 9, 2024), <https://india.mongabay.com/2024/07/explainer-what-is-a-peoples-biodiversity-register/> (last visited Aug. 27, 2026).

²¹⁵ Supra note 102.

²¹⁶ Supra note 5.

²¹⁷ Supra note 128.

²¹⁸ Supra note 157.

²¹⁹ Supra note 79.

²²⁰ Supra note 90.

²²¹ *Biodiversity Management Committees (BMC) & Peoples' Biodiversity Registers (PBR)*, Odisha Biodiversity Board, <https://www.odishabiodiversityboard.in/activity/436> (last visited Aug. 27, 2026).

²²² Supra note 197.

to prepare and update meaningful, community-driven PBRs.

- **Develop a State TK Policy:** Craft a Rajasthan-specific TK policy that coordinates efforts across departments (Biodiversity, Tribal, Forest, Culture, etc.) and aligns with both national and international frameworks.²²³
- **Launch Targeted Documentation Projects:** Focus on urgent areas, tribal medicine, endangered crafts, traditional farming. Use participatory and ethical methods (FPIC), ensure community ownership, and create a state-level repository linked with IKS.²²⁴
- **Strengthen Institutions and Coordination:** Empower the RSBB to lead on TK documentation and ABS. Facilitate collaboration between RSBB, WZCC, Tribal Institutes, and universities to pool expertise and avoid duplication.
- **Support Community-Led Conservation and Livelihoods:** Legally recognise sacred groves like orans and devbanis.²²⁵ Adapt successful models like Andhra's GCC or Odisha's millet programme to link TK with livelihoods in crafts, herbal products, traditional food, and ecotourism.²²⁶
- **Simplify and Localise ABS:** Create clear, community-friendly ABS guidelines under the BD Act. Emphasise fair, transparent benefit sharing, especially non-monetary forms like capacity building and technology transfer.
- **Integrate TK into Education and Awareness:** Implement NEP 2020 by including local TK in school and college curricula. Train teachers, develop materials in local languages, and run public campaigns to raise awareness and pride in Rajasthan's TK.²²⁷

By investing in these strategies, Rajasthan can safeguard its TK systems, not just as cultural memory, but as living traditions vital to sustainability, identity, and inclusive development.

²²³ Supra note 79.

²²⁴ Supra note 14.

²²⁵ Supra note 4.

²²⁶ Supra note 82.

²²⁷ Supra note 147.