International Journal of Advance and Applied Research
www.ijaar.co.in
ISSN – 2347-7075 Impact Factor – 8.141
Peer Reviewed Bi-Monthly
Vol. 6 No. 40 September - October - 2025

Role of Tribal Folk Culture in Indian Knowledge Systems (IKS)

Sonaji V. Gayakwad
Department of Chemistry,
Mrs. Kesharbai Sonajirao Kshirsagar Alias Kaku Arts, Science & Commerce College, Beed (MS)
Corresponding Author – Sonaji V. Gayakwad
DOI - 10.5281/zenodo.17664047

Abstract:

India's Indigenous and tribal communities sustain diverse folk cultural practices—oral literatures, performative arts, ecological rituals, craft technologies, and customary institutions—that embody sophisticated knowledge systems. This article synthesizes scholarship across anthropology, ethnobotany, folklore studies, and sustainability science to examine how tribal folk culture contributes to the Indian Knowledge System (IKS). We propose an integrative framework—FIVE-REALMS (Food–Farming, Identity–Intangible heritage, Vernacular technologies, Ecological stewardship, and Local governance)—to map cultural practices to domains of knowledge and social-ecological outcomes. Through mini case vignettes (Gond, Bhil, Santal, Khasi, Nyishi, Toda, Warli, and Nicobarese), we illustrate how songs encode seasonal calendars, sacred groves conserve biodiversity, folk healers manage pharmacopeias, and craft traditions maintain design intelligence. The paper discusses methodological approaches (participatory ethnography, free-listing, cultural consensus analysis, GIS mapping), ethical safeguards (Free, Prior and Informed Consent; community intellectual property rights), and policy implications for education, conservation, and livelihoods. We argue that mainstreaming tribal folk culture within IKS strengthens biocultural diversity, knowledge sovereignty, and context-sensitive innovation.

Keywords: Indian Knowledge Systems, Tribal Communities, Folk Culture, Indigenous Knowledge, Biocultural Diversity, Sacred Groves, Ethnobotany, Intangible Heritage, Sustainability, Participatory Research

Introduction:

Indian Knowledge Systems (IKS) refer to cumulative bodies of knowledge, practice, and worldview that have evolved in the subcontinent through long-term interactions among people, place, and cosmology. Tribal communities—constitutionally termed Scheduled Tribes—constitute living repositories of IKS through oral traditions, performative arts, ritual ecologies, vernacular technologies, and customary law. While their cultural expressions are often framed as "folklore," they encode tested knowledge about soils, seeds, fire, water, health, weather, and social governance.

Recent interest in IKS across higher education curricula, heritage policy, and sustainability agendas creates an opportunity to move beyond extractive documentation toward co-produced, rights-respecting knowledge partnerships. This article synthesizes cross-disciplinary evidence and offers a conceptual and methodological

roadmap to understand the **role of tribal folk culture in IKS**.

Objectives:

1. Theorize how folk cultural forms function as knowledge repositories within IKS.
2. Synthesize evidence across regions and tribes demonstrating knowledge functions (ecological, medicinal, agrarian, astronomical, juridical, and technological).
3. Propose an integrative framework (FIVE-REALMS) to analyze pathways from culture to social-ecological outcomes.
4. Outline ethical, methodological, and policy recommendations for research and practice.

Folk Culture as Knowledge Infrastructure:

Classical folklore studies highlighted form and function (myth, legend, folksong, ritual). Contemporary approaches emphasize **knowledge infrastructure**—the ways genres store, validate, transmit, and update knowledge. Oral performances are context-sensitive algorithms for decision-making: crop choice, hunting taboos, weather forecasts, conflict resolution, and healing.

IKS and Biocultural Diversity:

Biocultural diversity scholarship documents co-evolution between linguistic/ritual diversity and biodiversity. Sacred groves, totemic species, and customary seasonal bans often regulate resource use, stabilizing commons and nurturing stewardship ethics. Ethnobotany links ritual classification with pharmacological discovery, while traditional architecture and crafts externalize design principles (thermoregulation, resilience, circularity).

Indigenous Timekeeping and Astronomical Knowledge:

Songs, festival cycles, and folktales embed **ethno-astronomy**—star risings that cue sowing/harvest, lunar phases guiding fishing/foraging, and ritual calendars coordinating collective action. This temporal knowledge integrates ecological indicators (bird calls, insect emergences) with cosmological signs.

Customary Institutions and Legal Pluralism:

Council assemblies, morung/dera/gamkhana or village institutions deliver restorative justice, regulate access to forests and water, and maintain kinship rules protecting genetic diversity. Recognizing legal pluralism is key to integrating IKS into contemporary governance.

Conceptual Framework: FIVE-REALMS:

We propose **FIVE-REALMS** for analyzing how tribal folk culture operationalizes knowledge in IKS:

1. **Food–Farming Knowledge**: seed selection songs, shifting cultivation (jhum) calendars, terraced agriculture chants, grain storage rites, agro-forestry lore.
2. **Identity–Intangible Heritage**: myths of origin, clan totems, initiation rites, textile motifs—encode taxonomy, ethics, and historical memory.
3. **Vernacular Technologies**: bamboo architecture, cane-weaving, boat- and net-making, iron smelting, natural dyeing, fermentation and preservation techniques.
4. **Ecological Stewardship**: sacred groves, taboo seasons, totemic protection, fire regimes for mosaic habitats, water

harvesting including stepwells and bamboo drip systems.

5. **Local Governance**: customary councils, oath rituals, bridewealth/land tenure songs, and conflict mediation protocols.

Pathways to Outcomes:

Encoding: narratives, proverbs, and songs encapsulate rules of thumb (heuristics).

Transmission: festivals, apprenticeships, and work songs train novices.

Validation: ritual trials, communal witnessing, and elders' sanctioning sustain reliability. **Adaptation**: improvisation in performance enables incremental innovation.

Methodology:

This paper presents a mixed-methods synthesis with a design adaptable for primary fieldwork.

Research Design:

- **Approach:** Participatory ethnography + qualitative meta-synthesis of published studies; where feasible, community-led documentation.
- **Sampling:** Multi-sited, purposive selection across eco-regions (Central Indian plateau, Western Ghats, Eastern Himalaya, North-East, Andaman & Nicobar) and cultural-linguistic groups (e.g., Gond, Bhil, Santhal, Warli, Khasi-Jaintia, Nyishi, Apatani, Toda, Lepcha-Bhutia, Nicobarese). Gender-inclusive sampling of knowledge holders (women seed keepers, healers, artisans, youth performers).

Data Collection Tools:

- **Ethnographic observation** of rituals, festivals, work processes (sowing, weaving, brewing, healing).
- **Semi-structured interviews** with elders, ritual specialists, healers, artisans, council leaders.
- **Free-listing & pile sorting** for domains (useful species, omens, craft steps) and **Cultural Consensus Analysis** to quantify shared knowledge.
- **Participatory mapping** (GIS + sketch maps) of sacred groves, water systems, migration routes.
- **Audio-visual documentation** of songs/dances with community consent; **metadata** for context.
- **Archival review** of gazetteers, district folklore records, and museum collections.

Ethics and Safeguards:

- **FPIC** (Free, Prior and Informed Consent), community co-authorship, data sovereignty.
- **Benefit sharing** aligned with the Biological Diversity Act and Nagoya Protocol.
- **Protection of Traditional Knowledge** via community protocols, TK registers, and defensive publication (e.g., Traditional Knowledge Digital Library where appropriate).
- **Sensitive content** (sacred/secret) to be excluded or redacted per community guidance.

Findings and Thematic Synthesis (from secondary sources and vignettes):

These synthesized findings illustrate patterns widely documented in the literature; site-specific validation is necessary for primary studies.

Agroecology and Calendrics:

- **Santal and Ho sowing songs** encode lunar-phase rules and star cues for planting millets; verses function as

mnemonics for soil preparation and intercropping.

- **Apatani and Khasi** communities use **agricultural festivals** (e.g., Myoko, Nongkrem) to coordinate labor, irrigation rotations, and ritual taboos safeguarding water quality.

Biodiversity Stewardship:

- **Sacred groves** among **Garo, Khasi-Jaintia, Kodava, and Bhutia-Lepcha** maintain microrefugia for endemic flora/fauna; taboos on extraction act as informal conservation laws.
- **Totemic species** among **Gond/Bhil** clans extend moral personhood to animals/plants (e.g., mahua, sago palm), shaping harvesting ethics and seasonal bans.

Health and Ethnopharmacology:

- **Baiga and Kani** healer lineages maintain pharmacopeias of anti-inflammatory, antipyretic, and wound-healing plants; chants regulate dosage and ritual safety.
- **Fermented foods** (e.g., kinema, axone, apong, handia) and wild-greens cuisines provide probiotics and micronutrients, improving resilience during lean seasons.

Vernacular Engineering and Design:

- **Bamboo drip irrigation** in Meghalaya, **Apatani wet rice–fish systems**, **Toda barrel-vault dairies**, and **Bhotia dry-stone houses** exemplify climate-adaptive design optimizing thermal comfort, water use efficiency, and circular material flows.

Law, Ritual, and Social Cohesion:

- **Customary councils** (e.g., Dorbar Shnong, Kebang, Palli Sabhas) use oath rituals and compensation to deliver restorative justice, preventing tit-for-tat escalation and reducing transaction costs.

Discussion:

From "Folklore" to "Operational Knowledge":

Reframing folk culture as operational knowledge foregrounds its **predictive** and **normative** functions—anticipating seasonal risk, allocating labor, and managing commons. This challenges stereotypes of static tradition and recognizes **innovation by improvisation** in performance and craft.

Measuring What Matters:

Conventional metrics undervalue ritual/cultural labor. We recommend **biocultural indicators**: (a) continuity of apprenticeship chains; (b) grove integrity indices; (c) dietary diversity scores; (d) incidence of customary dispute resolution; (e) youth participation in festivals as a proxy for intergenerational transmission.

Education and Curriculum (IKS Integration):

- **Bridge modules** that map physics to bamboo structures, chemistry to natural dyes/fermentation, biology to ethnobotany, and mathematics to calendar computations.
- **Mother-tongue and arts-based pedagogy** using local songs, motifs, and stories as entry points to STEM.
- **Field studios** in partnership with community knowledge holders (honoraria and IP recognition).

Rights, Equity, and Knowledge Sovereignty:

IKS integration must avoid extractivism—credit and compensation to creators; community control over sensitive knowledge; gender-inclusive recognition of women's expertise in seeds, weaving, and healing.

Policy Implications:

1. **IKS Labs and Living Heritage Hubs:** Fund community-run labs documenting songs, craft protocols, and ecological calendars with local language archives.
2. **Biocultural Rights in Planning:** Mandate consultation with customary councils for land-use change; recognize sacred groves as community-conserved areas.
3. **Health Systems Interface:** Support validated herbal formulations with benefit-sharing; train community health workers as cultural mediators.
4. **Education Reforms:** Embed local arts and environmental knowledge in school/college curricula; provide credit-bearing apprenticeships with artisans and healers.
5. **Market and IP Support:** Geographical Indications (GI) and fair-trade channels for crafts/foods with community ownership and ethical storytelling.

Conclusion:

Tribal folk culture is not peripheral ornamentation but a **core engine** of the Indian Knowledge System—encoding ecological intelligence, health practices, design principles, and governance norms that sustain livelihoods and landscapes. Recognizing and resourcing these living knowledge systems through equitable partnerships can advance conservation, wellbeing, and culturally grounded innovation. The **FIVE-REALMS** framework offers a scaffold for research and practice to map, measure, and mainstream these contributions while safeguarding knowledge sovereignty.

References:

1. Agrawal, A. (1995). Dismantling the divide between Indigenous and scientific knowledge. *Development and Change*.
2. Berkes, F. (2018). *Sacred Ecology* (4th ed.). Routledge.
3. Gadgil, M., Berkes, F., & Folke, C. (1993). Indigenous knowledge for biodiversity conservation. *Ambio*.
4. Nadasdy, P. (2003). *Hunters and Bureaucrats: Power, Knowledge, and Aboriginal-State Relations*. UBC Press.
5. Posey, D. A. (1999). *Cultural and Spiritual Values of Biodiversity*. UNEP.
6. Saha, S. & Sundriyal, M. (2012). Bamboo drip irrigation in Meghalaya: traditional water management. *Indian Journal of Traditional Knowledge*.
7. Ramakrishnan, P. S. (2007). Traditional forest knowledge and sustainable forestry in India. *Forest Ecology and Management*.
8. UNESCO (various). Intangible Cultural Heritage lists and reports related to India.
9. Government of India. Biological Diversity Act (2002) and Forest Rights Act (2006).
10. Ministry of Education. Indian Knowledge Systems (IKS) initiative—policy documents and curricula