

Indian Knowledge Systems and Grassroots Empowerment of Marginalized Communities

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Abstract: Indian Knowledge Systems (IKS) can now re-enter into debates around education and policy in India as tools of cultural continuity, sustainability, innovation and social development. However, the usefulness of their knowledge for the marginalized communities will rely on the linkage between knowledge recognition and rights, institutions, livelihoods, and decision-making power. In this paper, the author explores the possibility of promoting grassroot empowerment through the medium of IKS, focusing on the role of the Scheduled Tribe/Adivasi, forest dependent, rural women, artisanal and other locally rooted communities within the context of the development of IKS. The paper employs a narrative analytical approach to research, legislation and government reports to illustrate four key pathways: epistemic recognition through culturally responsive education; community control over natural resources and customary governance; livelihood improvement via value addition and collective enterprise; and the role of women as transmitters of food, health, ecological and craft knowledge. The Forest Rights Act, PESA, Van Dhan and studies of the land rights of forest women, forest collectives and Adi women show opportunities and constraints. When communities are not just the source for extractable cultural content, but they are also knowledge holders and decision makers, IKS becomes empowering. The paper thus suggests a rights-based, community-owned and ethically protected approach to IKS that has included the linkages between cultural dignity and material capability, ecological stewardship, gender justice and participation in democratic processes

Keywords: Indian Knowledge Systems, marginalized communities, Adivasi, grassroots empowerment, traditional knowledge, community governance, livelihoods

1. Introduction

Indian Knowledge Systems include the knowledge systems, practices, ethics, techniques, memory and interpretations that have been constructed around the Indian subcontinent and handed down through texts, oral traditions, art, work, and community. According to the Ministry of Education's IKS Division, IKS is knowledge that is gained from experience, observation, experimentation, analysis and communicated through various languages and traditions (Indian Knowledge Systems Division, 2026). Similarly, the National Education Policy (NEP) 2020 also states that education should be based on Indian culture and knowledge systems, and should be based on equity, multilingualism, local context, and sustainable development (Ministry of Education, 2020).

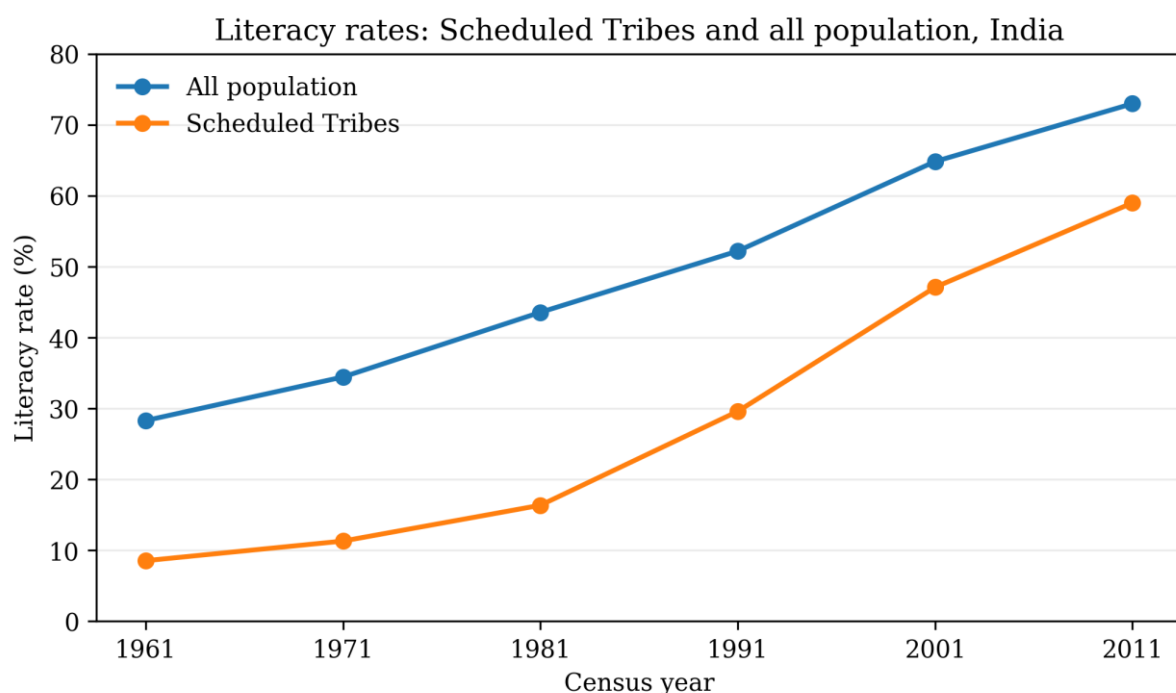
However, for marginalised communities it is not just about increased visibility of TK. It's whether that recognition enhances the agency, resource rights, bargaining power, livelihoods, educational inclusion and ability for people to influence development. Adivasi, pastoral, forest-dependent, fisher, farming, craft, and rural women's communities have a complex understanding of their ecology and practical knowledge, and they have been dispossessed, have limited access to education, are exploited by the market, and are marginalized politically. This structural contradiction is reflected in the literacy rate of Scheduled Tribes (STs) which

increased significantly from 8.53% in 1961 to 59.0% in 2011 but remained lower than that of the general population in 2011 (73.0%) (Ministry of Tribal Affairs, 2013). It is possible for there to be social exclusion without the lack of knowledge.

This paper's thesis rests on the premise that cultural recognition alone does not empower grassroots unless there is a link to redistribution and representation. A knowledge system becomes a development asset, when the holders can control access to the knowledge, contribute to the strengthening of local institutions, contribute side by side with modern science, and reap an equitable share of economic and social benefits. This framing is in line with Agrawal's (1995) caution to not assume that there is a clear separation between “indigenous” and “scientific” knowledge, and Berkes' (2018) definition of traditional ecological knowledge as a knowledge-practice-belief complex in the form of institutions. It is also in line with multiple-evidence-based approach that defines knowledge systems as being able to provide different but complementary evidence as opposed to being valid only through another (Tengö et al., 2014).

Figure 1

Literacy Rates Among Scheduled Tribes and the Total Population in India, 1961–2011



Note. Data are from the Ministry of Tribal Affairs (2013), based on the Office of the Registrar General, India. The figure uses Census data to show the long-run educational gap relevant to the paper's discussion of epistemic and institutional exclusion.

2. Conceptualizing IKS as a Grassroots Empowerment Resource

Grassroot empowerment is a term used here to describe the growth of people's and communities' capacity to make meaningful decisions, manage resources, engage in institutions, maintain cultural identity and benefit their well-being. IKS can contribute to various areas such as ecological knowledge, traditional agriculture and food systems, ethnomedicine, water management, crafts, oral traditions, local languages, collective governance, and customary dispute resolution. Gadgil et al. (1993) demonstrated early on that LEK can contribute towards biodiversity conservation, being the knowledge that is gathered over time with a specific landscape. The study findings of more recent work also demonstrate that the knowledge of a community is continuously recreated during practice, social interactions and intergenerational transmission as opposed to being handed down as a legacy to be memorized (Mohanty & Suresh, 2026).

The difference is important for policy. There is a potential danger that IKS can be marginalized to heritage objects found in textbooks, museums, festivals or databases, where communities will get symbolic visibility, but no power. It can be a capability enhancing resource if it is tied to land and forest rights, community enterprises, local language education, benefit sharing, and control of documentation. Table 1 summarizes these and the safeguards needed to ensure empowerment initiatives do not become extractive.

Table 1

IKS Domains, Empowerment Pathways, and Safeguards

IKS domain	Illustrative community knowledge/practice	Potential empowerment pathway	Key safeguard
Ecological and forest knowledge	Species use, seasonal indicators, sustainable harvesting, community conservation	Resource stewardship, forest-based livelihoods, local planning	Tenure rights; community consent; ecological limits
Agriculture and food systems	Millets, seeds, home gardens, soil/water practices, local foods	Food security, climate resilience, producer enterprises	Local seed/knowledge control; equitable markets
Health and ethnomedicine	Medicinal plants, dietary knowledge, healing practices	Accessible care, culturally responsive health promotion	Safety testing where needed; no substitution for essential clinical care
Crafts and occupational knowledge	Weaving, metalwork, natural dyes, bamboo, wood and other artisanal skills	Employment, enterprise, cultural continuity	Producer ownership; fair pricing; IP/brand protection
Oral traditions and local languages	Stories, songs, ecological memory, place names, community history	Educational inclusion, identity, intergenerational learning	Community authorship; language rights; control of sacred/confidential content
Customary governance	Gram Sabha practices, dispute resolution, collective resource rules	Political agency, accountability, locally legitimate institutions	Constitutional equality; women's participation; legal recognition

Note. This table is an author-generated synthesis of the literature reviewed in this paper; the domains overlap in practice and should not be treated as isolated knowledge categories.

3. Method

This paper is an analytical narrative review as opposed to primary field research. The sources were identified from peer-reviewed scholarships, official legislation, official documents of the Ministry of Education and the Ministry of Tribal Affairs, as well as current government programme data up to August 2026. The review focused on evidence that directly links the local or traditional knowledge to education, Natural resource governance, Women's agency, Livelihoods, and Community institutions in India. Classic conceptual works were added to establish relationships between indigenous/local knowledge and science. Given the diversity of the evidence base and its regional applicability, the paper does not presume a one-size-fits-all approach, but it does highlight any recurring mechanisms and constraints.

4. The pathways of IKS to Grassroots Empowerment

4.1 Epistemic Recognition, Education and Cultural Dignity

Epistemic recognition is the first pathway: marginalized communities are not seen as a group of people without knowledge, but as a group of people who produce and own knowledge. In the context of education, Indian languages, local contexts, arts, culture and knowledge traditions are encouraged in NEP 2020 (Ministry of Education, 2020). The IKS Division has also facilitated documentation and research on tribal medicine, traditional water practices, oral traditions, agriculture and community knowledge which show that the present IKS policy is not limited to classical books (Indian Knowledge Systems Division, 2026).

The ability of culturally responsive curricula to minimize alienation experienced by students from marginalized communities is particularly pronounced when home languages, occupations, landscapes, and community histories are demeaned by knowledge produced in the school without their input. This is particularly so in areas of significant educational disadvantage. Inclusion is not about striving away from a community what it knows and replacing it with standardized content that does not have community experts contributing to its authorship, instruction or compensation, however. A more powerful model would be for the local knowledge-holders to be co-educators, for recognizing oral and practical knowledge, creating knowledge in local languages, and linking school learning to projects in the community. This can help to enrich dignity as well as establishing bridges to scientific literacy. Agrawal (1995) warns that productive engagement is not about incorporating the knowledge of the communities into dominant institutions but rather maintaining autonomy for the communities of knowledge that hold knowledge.

4.2 The management of access to resources, customary arrangements and the conservation of the environment.

IKS is most materially empowering when knowledge is linked to rights relating to the resources to which that knowledge belongs. The Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996 (PESA) mandates respect of customary law, social and religious practices and traditional management of community resources in governance in Scheduled Areas. It provides Gram Sabhas with the responsibility of protecting traditions, cultural identity, community resources and customary dispute resolution (Government of India, 1996). Therefore, PESA is establishing a legal link between cultural knowledge and democratic self-governance.

The Forest Rights Act 2006 takes this further and establishes that the forest-dwelling Scheduled Tribes and other TFWs are rights-holders. It includes recognitions of rights for minor forest produce, community forest resources, access to biodiversity, traditional knowledge and community conservation, and makes Gram Sabha a key part of the recognition process (Government of India, 2006). The statute is important because it does not simply refer to forest knowledge as conservation information, it brings together knowledge, livelihood, tenure, and authority.

Studies on forest governance demonstrate the importance of this institutional aspect. Collective “commoning” practices had a positive impact on autonomy, collaboration, adaptive capacity and sustainable livelihoods in Gram Sabha federations in Vidarbha, as reported by Prateek and Gupta (2024). Tenure security alone was not enough, as federated institutions and social relationships enabled communities to deal with markets and state. This is an important policy lesson for IKS: capacity must exist within communities to turn knowledge and rights into lasting bargaining power.

The issue of women's empowerment under the FRA is also representative of the potential and limitations. Land rights boosted self-confidence and social mobility for some tribal women in the south of Rajasthan, including those deemed to be asset-less; however, weak services, patriarchal norms and limited access to information prevented further gains in public participation and economic status among women. (Zaidi 2019)

Rights-based recognition can then create room for empowerment, while additional investments are required for substantive results.

Table 2

Selected Policy and Institutional Architecture Linking IKS to Grassroots Empowerment

Instrument / initiative	IKS-relevant feature	Empowerment significance
NEP 2020 and IKS initiatives	Local languages, Indian knowledge traditions, community practices, multidisciplinary research	Can improve epistemic recognition and culturally responsive education if communities participate as authors and educators
PESA, 1996	Recognition of customary law, traditions, cultural identity, community resources, Gram Sabha authority	Connects cultural knowledge with local democratic governance in Scheduled Areas
Forest Rights Act, 2006	Community forest resources, minor forest produce, biodiversity access, traditional knowledge, conservation rights	Links knowledge to tenure, livelihood, collective authority and ecological stewardship
Van Dhan / PMJVM	SHG-based processing, value addition, branding and marketing of forest and other products	Can shift communities from raw-material sellers toward collective enterprise and higher value capture
TKDL and community biodiversity documentation	Defensive protection and documentation of traditional knowledge	Can deter misappropriation, but community-held knowledge additionally requires consent and benefit-sharing safeguards

Note. The table emphasizes institutional linkages rather than treating IKS as a stand-alone cultural programme. Sources include Government of India (1996, 2006), Ministry of Education (2020), and current Ministry/PIB programme information.

4.3 Livelihoods, Collective Enterprise, and Value Addition

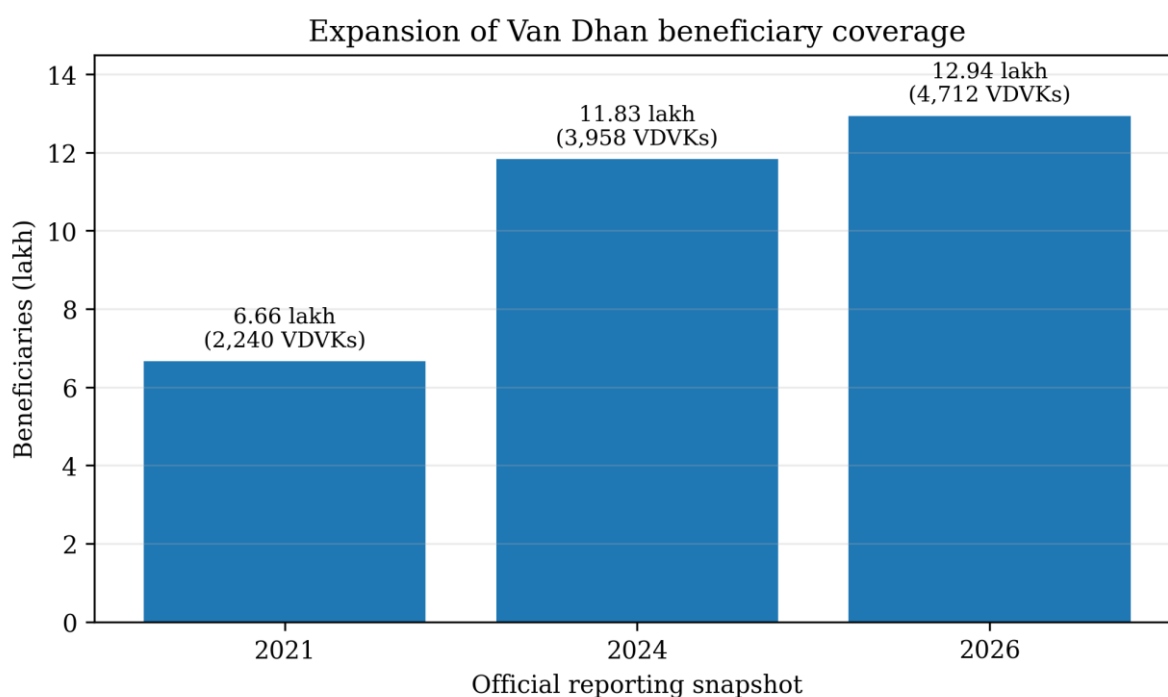
Traditional knowledge is transformed into economic empowering when communities make a transition from low value collection or production to processing, branding, cooperative enterprise and market participation. This is particularly pertinent in the case of non-timber forest products (NTFPs), traditional foods, medicinal plants, handloom handicrafts and locally adapted agriculture. In their review of rural livelihood projects in India, Ncube et al. (2026) identified that agriculture, traditional crafts, NTFP collection, self-help groups, and community institutions are some common pillars of livelihood empowerment, and market access, institutional coordination, and digital inclusion are persistent livelihood issues.

The Van Dhan programme is a good example of collective enterprise in the context of forest producing knowledge in the community, on a large scale. According to official reporting, the beneficiaries of the programme were around 6.66 lakh in 2021 when there were 2,240 VDVKS sanctioned, rising to 11.83 lakh beneficiaries with 3,958 sanctioned VDVKS in 2024, and to 12.94 lakh beneficiaries in 4,712 sanctioned VDVKS by August 2026 (Press Information Bureau, 2026). The scheme provides training, equipment, processing, packaging, branding, storage and market linkage. The empowerment potential of its forest products is not the only one; it can also be in altering the community's role in the value chain.

However, commercialization may also create new inequities. Better connected traders or firms can take the community's branding and revenue for women doing much of the collection and processing may be less. Hence, producer owned institutions, price transparency, local processing, women leadership, and collective IPG strategies (if relevant) should be priorities for enterprise models. The measure of economic empowerment should not only be based on sales, but also on who owns an enterprise, who controls income and whether ecological harvesting rules are maintained.

Figure 2

Expansion of Van Dhan Beneficiary Coverage, Selected Official Snapshots



Note. 2021 data are from TRIFED's Mission Van Dhan programme note; 2024 figures are reported by the Ministry of Tribal Affairs/PIB; 2026 figures are from the Press Information Bureau (2026). Reporting categories have evolved, so the bars should be read as official programme snapshots rather than a perfectly harmonized time series.

4.4: Knowledge of women in relation to food systems, health and intergenerational transmission

In many local food, seed, medicine, fuel, fodder and forest-product systems women are central knowledge holders, but their knowledge is often underutilized. The study by Singh et al., 2020 of the Adi women of Arunachal Pradesh reported high level of knowledge of food, ethnomedicinal plants, local ecosystems, conservation practices and income-generating species. They found that traditional food practices were significantly associated with livelihood security, biodiversity conservation and inter-generational learning. Importantly, the study also identified market disadvantages for women in the remote villages, highlighting the fact that knowledge isn't necessarily income.

Mohanty and Suresh (2026) also find that Adivasi women's forest and NTFP knowledge are mediated by communities of practice created around responsibilities and through ontological engagement with forests. There are two policy implications for such evidence. It is important to acknowledge women as experts in community resource planning, biodiversity registers, local food and nutrition programmes, and value-chain design, for a start. Second, it is necessary to regulate documentation with informed consent and benefit sharing. The social relationships in which knowledge is embedded can be undermined by their extraction, as can control over those relationships and the ecological practices that sustain them.

Culture and public systems can engage in a positive synergy with health, but precautions should be taken. Both traditional and biomedical systems can help enhance local accessibility and acceptability, and traditional medicinal knowledge can provide clinical testing, safety monitoring, and treatment procedures for diseases that are best treated using modern systems. The correct model is thus not a romantic substitution but respectful complementarity. Thomas et al. (2021) studied this health and development disparity in Attappady, where the overall social indicators in Kerala were found to be better, but still, there are significant gaps in the health and development of Indigenous women as a result. Thomas et al. (2021) found that despite having better overall social indicators in Kerala, there is a significant disparity in health and development of Indigenous women in Attappady where community strength is to be coupled with reliable public services.

5. Risks, Contradictions and Ethical Concerns

If empowerment is not an integral part of the institutional design of the contemporary revival of IKS there are several risks. First is romanticization. Traditional practices are historically located and may have internal ranking on gender, age, caste or status. Respect for community knowledge must therefore coexist with constitutional pledges for equality and rights to the individual. The second is tokenism, which is the inclusion of a few local examples, crafts or medicinal uses in curricula but does little if students maintain their linguistic exclusion, discrimination, lack of good infrastructure, or lack of higher education avenues.

Third is appropriation. Documentation can help to preserve knowledge from disappearing, but it can also facilitate access of external institutions to knowledge. The value of defensive protection against erroneous patents is clearly illustrated by the Traditional Knowledge Digital Library (TKDL) of India, which now contains over five lakh formulations, practices and has helped to reject, withdraw, amend and abandon hundreds of patents (CSIR, 2026). But, if there's codified classical knowledge, there's community-held oral knowledge, too, which poses other moral concerns. For community-held knowledge, there should be informed consent, protocols for confidential and sacred knowledge, transparency in commercial use and fair benefits.

Fourth is the risk of taking validation to be a one-way scientific endorsement. When health, safety, engineering or environmental uses must be tested, scientific testing is the required procedure, and the knowledge dialogue should be two-way. The multiple-evidence-based approach suggests an evaluation of knowledge in its own system and the development of complementarities between systems (Tengö et al., 2014). This way, there is less potential for communities to lose their epistemic authority before cooperation can take place.

6. Policy Directions: Community-Centred IKS Empowerment

The rights and representation approach should be the first step of a community-centred IKS approach. Institutions of PESA and FRA should be strengthened such that Gram Sabhas and community organizations can have real authority over resource management, documentation and local development. Community forest resource rights should be accompanied by training on governance, accounting, ecological monitoring and market negotiation. Rights that are not implemented if they are not legally recognized.

Second, local communities should be considered partners in curriculum design in the field of education policy. Schools and universities can develop paid programmes with community experts, local-language oral-historical and biodiversity projects, apprenticeship or mentoring with artisans and healers, and credit-bearing field learning. There should be specific funding dedicated to projects co-led or led by the institutions from the Scheduled Tribes, community-based organizations, women groups and local researchers at the IKS centres rather than communities should be made research subjects.

Third, livelihood programmes must have gone beyond training to community ownership of value chains. Producer collectives require access to working capital, storage, quality testing, branding, e-commerce,

transport systems and procurement systems. The Van Dhan model indicates the scale that can be achieved if value addition is organised in a collective manner, but an evaluation should be conducted to monitor the sole parameters of number of sanctioned centres and not the women's control over income, producer margins, ecological sustainability and enterprise survival.

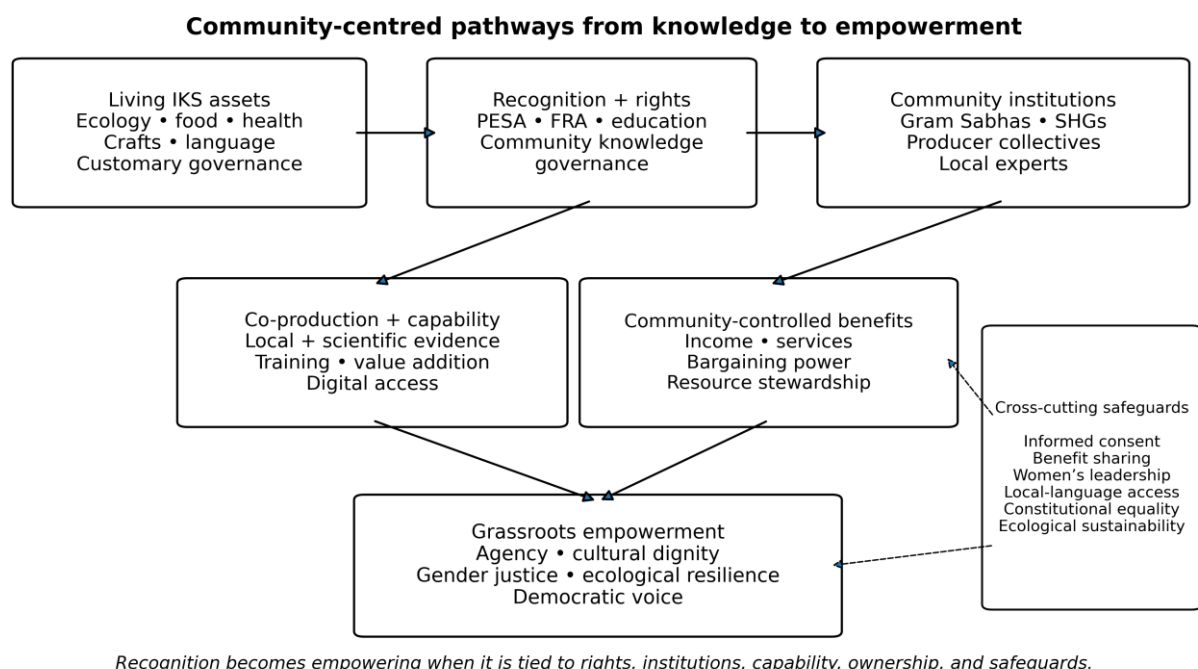
Fourth, there is an ethical protocol on Knowledge Governance. Institutions should obtain community consent prior to documenting local knowledge on medicine, ecology, agriculture or local craft, as well as determine what may be kept confidential, define who owns the knowledge and what its uses might be, and establish benefit-sharing agreements. Communities should be supported legally and technically to establish collective trademarks, geographical indications, licensing agreements, or other mechanisms suitable when it is possible to commercialize them. While defensive databases like TKDL can be helpful in the fight against misappropriation, they should be supplemented by positive measures to provide benefits to the knowledge-holding communities.

Last, but not least, the policy of IKS should support co-production with modern science and not competition between knowledge systems. Research can be joint and test soil, water, crop, health or conservation practices and still maintain community interpretation and authorship. Local indicators can be used in conjunction with scientific monitoring in participatory monitoring. This method can be especially useful in changing climate when supplements are needed to remote sensing and formal climate modeling using place-based observations.

The desired outcome is to create a plural knowledge ecosystem where the dignity of culture, empirical investigation, democratic rights and material welfare are mutually reinforcing.

Figure 3

Community-Centred IKS Empowerment Model



Note. Author-generated synthesis. The model depicts IKS empowerment as a chain from living knowledge assets to rights, institutions, capability building, and community-controlled benefits, with ethical and equality safeguards operating across all stages.

7. Conclusion

While the empowerment of the grassroots is clearly a potential contribution of Indian Knowledge Systems, this empowerment can only be meaningful if the “knowledge” of IKS is linked to the people, the territories,

the institutions and the relations that sustain it. There are lessons to be learned from community forest governance, from the ecological knowledge of women, from land rights, from traditional food systems, and from collective forest-product enterprises that underscore the value of local knowledge to bolster resilience, identity, livelihoods and democratic agency. Meanwhile, recognition without rights can turn into symbolic, documentation without consent can turn into appropriation, and commercialization without ownership can replicate exploitation.

Revivals alone are not sufficient to achieve a socially just IKS agenda. It needs the power of the community, gender-sensitive institutional frameworks, education in the local language, secure rights to resources, producer-based value chains, ethical knowledge management, and mutual learning with modern science. If these conditions are in place, IKS not only becomes cultural heritage, but also a living base for the self-determination of marginalized groups in the field of development.

References

1. Agrawal, A. (1995). Dismantling the divide between indigenous and scientific knowledge. *Development and Change*, 26(3), 413–439. <https://doi.org/10.1111/j.1467-7660.1995.tb00560.x>
2. Berkes, F. (2018). *Sacred ecology* (4th ed.). Routledge. <https://doi.org/10.4324/9781315114644>
3. Council of Scientific and Industrial Research. (2026). *Traditional Knowledge Digital Library Unit (TKDL)*. <https://www.csir.res.in/en/documents/tkdl>
4. Gadgil, M., Berkes, F., & Folke, C. (1993). Indigenous knowledge for biodiversity conservation. *Ambio*, 22(2/3), 151–156.
5. Government of India. (1996). *The Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996 (Act No. 40 of 1996)*. India Code. <https://www.indiacode.nic.in/bitstream/123456789/1973/1/a199640.pdf>
6. Government of India. (2006). *The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (Act No. 2 of 2007)*. India Code. <https://www.indiacode.nic.in/bitstream/123456789/2070/1/200702.pdf>
7. Indian Knowledge Systems Division. (2026). *About Indian Knowledge Systems Division*. Ministry of Education, Government of India. <https://iksindia.org/>
8. Ministry of Education. (2020). *National Education Policy 2020*. Government of India. https://dsel.education.gov.in/sites/default/files/update/NEP_Final_English.pdf
9. Ministry of Tribal Affairs. (2013). *Statistical profile of Scheduled Tribes in India 2013*. Government of India. <https://tribal.nic.in/Statistics.aspx>
10. Ministry of Tribal Affairs. (2024). *Annual report 2023–24*. Government of India. <https://tribal.nic.in/downloads/Statistics/AnnualReport/AREnglish2324.pdf>
11. Mohanty, A., & Suresh, L. (2026). Exploring community of practices and the local knowledge Adivasi women hold on forest and NTFPs in Gundurabari, Nayagrah District, Odisha. *Forum for Development Studies*, 53(1), 149–170. <https://doi.org/10.1080/08039410.2025.2474971>
12. Ncube, B., Matovu, B., & Pandey, P. (2026). Dynamics of sustainable livelihood empowerment and holistic skills development in rural India. *Discover Sustainability*. Advance online publication. <https://doi.org/10.1007/s43621-026-03566-2>
13. Prateek, G., & Gupta, D. (2024). Fostering forest commoning for rural livelihoods: Case of Gram Sabha federations in Vidarbha, India. *Forest Policy and Economics*, 168, 103292. <https://doi.org/10.1016/j.forpol.2024.103292>
14. Press Information Bureau. (2026, August 13). *Status of Van Dhan Vikas Kendra clusters*. Ministry of Tribal Affairs, Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2298790>

15. Singh, R. K., Kumar, A., Singh, A., & Singhal, P. (2020). Evidence that cultural food practices of Adi women in Arunachal Pradesh, India, improve social-ecological resilience: Insights for Sustainable Development Goals. *Ecological Processes*, 9, Article 29. <https://doi.org/10.1186/s13717-020-00232-x>
16. Tengö, M., Brondizio, E. S., Elmqvist, T., Malmer, P., & Spierenburg, M. J. (2014). Connecting diverse knowledge systems for enhanced ecosystem governance: The multiple evidence base approach. *Ambio*, 43, 579–591. <https://doi.org/10.1007/s13280-014-0501-3>
17. Thomas, S. T., Thomas, E. T., McLean, M., & Titus, T. T. (2021). Paving the way to achieving the United Nations Sustainable Development Goals for women from Indigenous communities: Lessons from Attappady, India. *Discover Sustainability*, 2, Article 4. <https://doi.org/10.1007/s43621-021-00009-y>
18. Zaidi, M. (2019). Tribal women's empowerment through the Forest Rights Act, 2006 in southern Rajasthan. *Asian Journal of Women's Studies*, 25(1), 47–75. <https://doi.org/10.1080/12259276.2019.1565637>