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Indian Knowledge Systems and Women's Empowerment: Traditional Wisdom for Gender Equality and Social Development

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ABSTRACT: Indian Knowledge Systems (IKS) represent a diverse body of philosophical, educational, ecological, scientific, artistic, social, and cultural knowledge developed through centuries of intellectual and community practice. Within this broad knowledge tradition, women have occupied complex and sometimes contradictory positions as knowledge producers, educators, healers, artists, household managers, agricultural practitioners, philosophers, and custodians of cultural memory. This paper examines the potential of Indian Knowledge Systems to contribute to women's empowerment, gender equality, and sustainable social development. It critically explores women's participation in intellectual traditions, indigenous knowledge transmission, community-based resource management, education, health practices, crafts, agriculture, and cultural institutions. The study argues that selected principles of IKS—including knowledge decentralisation, community learning, ecological responsibility, experiential education, collective welfare, and ethical social relations—can provide culturally relevant foundations for contemporary empowerment initiatives. At the same time, traditional knowledge cannot be treated as uniformly egalitarian, since historical social structures also reproduced gender hierarchies, exclusion, and restrictions on women's autonomy. Therefore, the paper proposes a critical and transformative approach that distinguishes empowering knowledge traditions from practices that perpetuate inequality. Integrating validated elements of IKS with constitutional rights, modern education, digital inclusion, economic opportunities, and gender-sensitive policy can strengthen women's agency while preserving culturally rooted knowledge. The paper concludes that IKS can

contribute meaningfully to gender equality when interpreted through principles of dignity, autonomy, inclusion, social justice, and equal access to knowledge.

1. INTRODUCTION

Indian Knowledge Systems (IKS) constitute a broad and plural body of knowledge traditions developed through sustained processes of observation, experience, reflection, experimentation, transmission, and social practice. These traditions encompass philosophy, education, medicine, agriculture, ecology, mathematics, arts, literature, architecture, governance, ethics, and community practices. Contemporary policy discourse in India has increasingly recognised the relevance of these traditions for education, research, sustainability, and social development. The National Education Policy (NEP) 2020 specifically emphasises the integration of India's knowledge traditions into education and encourages their systematic study and contemporary application. The establishment of the Indian Knowledge Systems Division under the Ministry of Education further demonstrates the institutional importance attached to documenting, researching, preserving, and applying IKS [4], [5].

The relationship between Indian knowledge traditions and women, however, requires a nuanced examination. Women have historically participated in multiple forms of knowledge production and transmission, although their contributions have not always received equivalent recognition in formal historical narratives. Accounts of women such as Gargi and Maitreyi demonstrate the presence of women in philosophical and intellectual discourse, while women in later cultural traditions contributed substantially to literature, spirituality, education, agriculture, medicine, crafts, and community-based knowledge [1], [9]. Such examples challenge a uniformly patriarchal interpretation of India's intellectual heritage and indicate that women's engagement with knowledge has taken diverse forms across historical periods and social contexts.

At the same time, the historical position of women in Indian society cannot be understood exclusively through exceptional examples of female intellectual or spiritual achievement. Gender relations were influenced by social structures involving caste, class, family organisation, property relations, customary practices, and access to education. Consequently, women could simultaneously function as custodians of knowledge within households and communities while experiencing restricted access to formal institutions of learning, property, political participation, and decision-making. Feminist scholarship has therefore emphasised the importance of examining the relationship between gender and social structures rather than interpreting cultural traditions independently of power relations [3], [7], [11].

The concept of women's empowerment provides an appropriate framework for evaluating the contemporary relevance of IKS. Empowerment extends beyond economic independence to include education, decision-making capacity, control over resources, social recognition, political participation, self-confidence, and the ability to exercise meaningful choices. From a capability perspective, development should expand people's substantive freedoms and opportunities to lead lives they value [10]. In the Indian context, traditional knowledge may contribute to these capabilities when women are recognised as legitimate knowledge holders and when their knowledge is transformed into educational, economic, ecological, and social opportunities.

Traditional knowledge associated with agriculture, medicinal plants, food preservation, handicrafts, textiles, ecological management, animal husbandry, and community health has frequently depended on women's practical experience and intergenerational transmission. Such knowledge can potentially support contemporary livelihood development, entrepreneurship, ecological sustainability, and community resilience. Recent studies specifically examining IKS and women's empowerment have argued that indigenous agricultural practices, herbal knowledge, crafts, and community-based activities can provide pathways for economic participation and social recognition [6], [12]. However, the conversion of traditional knowledge into economic value must also address ownership, intellectual-property rights, fair remuneration, documentation, and the possibility of commercial exploitation.

The relationship between tradition and gender equality is therefore neither inherently positive nor inherently negative. Some elements of Indian knowledge traditions contain resources for agency, dignity, education, ethical responsibility, and social participation, while other historical practices have reinforced gendered restrictions and unequal power relations [1], [3], [6]. A meaningful contemporary framework must consequently avoid both the rejection of traditional knowledge as inherently regressive and its uncritical celebration as inherently egalitarian. Instead, IKS should be examined through principles of constitutional equality, human dignity, social justice, autonomy, and inclusive development.

The present paper examines how selected dimensions of Indian Knowledge Systems can contribute to women's empowerment, gender equality, and social development. It particularly focuses on women's historical role as knowledge producers and transmitters, the potential of traditional knowledge for education and livelihoods, community-based ecological and health knowledge, and the possibilities of integrating culturally rooted knowledge with contemporary institutions. The paper also critically considers caste, class, patriarchy, and unequal access to knowledge in order to develop a gender-responsive interpretation of IKS. Such an approach can reposition women not merely as beneficiaries of knowledge preservation but as active intellectual, cultural, economic, and social agents within the continuing evolution of Indian knowledge traditions.

2. LITERATURE REVIEW

2.1 Indian Knowledge Systems as a Plural Knowledge Tradition

The literature increasingly conceptualises IKS as a plural and evolving knowledge ecosystem rather than a single homogeneous body of traditional knowledge. Government documents describe Indian knowledge as encompassing intellectual traditions transmitted through textual, oral, artistic, practical, and community-based forms [4]. The contemporary institutional framework similarly emphasises interdisciplinary research and societal applications of IKS across areas including agriculture, science, technology, arts, literature, health, management, and economics [5]. This broad conceptualisation is particularly relevant to women's empowerment because much of women's knowledge historically existed outside formal textual institutions and was transmitted through practice, observation, apprenticeship, oral communication, and household or community networks.

The historical literature demonstrates that women's participation in Indian intellectual traditions has been diverse. Altekar's historical analysis identifies changing patterns in women's education, social position, and participation in Indian society across different periods [1]. Nair's examination of women and law during colonial India further demonstrates how legal and institutional transformations influenced women's status and access to social resources [9]. These studies suggest that women's relationship with knowledge cannot be separated from wider transformations in family, law, education, property, and social organisation.

2.2 Women as Knowledge Holders and Intellectual Participants

An important strand of scholarship challenges the assumption that women were historically absent from Indian intellectual traditions. References to Gargi, Maitreyi, and other women associated with philosophical and literary traditions provide evidence of women's participation in intellectual and spiritual discourse [1]. Such examples are significant because knowledge itself constitutes a source of social authority. Women's participation in intellectual debate, teaching, literature, religious practice, and cultural production demonstrates that female agency existed within several historical contexts.

However, isolated examples of prominent women cannot be generalised to the experience of all women. Chakravarti's feminist analysis of caste and gender demonstrates how patriarchal structures interacted with caste institutions and social control over women's sexuality, marriage, labour, and autonomy [3]. This perspective is particularly important for IKS research because knowledge traditions developed within historically stratified societies. Consequently, the question is not simply whether women participated in knowledge systems but **which women had access to which forms of knowledge, under what social conditions, and with what degree of authority.**

2.3 Gender, Caste, and Unequal Access to Knowledge

Gender inequality in India has historically intersected with caste, class, and economic status. Chakravarti [3] demonstrates that gender relations cannot be examined independently from caste structures, while Omvedt [11] highlights the importance of social movements and alternative frameworks for understanding women's oppression and emancipation. These perspectives challenge approaches that represent "Indian women" as a homogeneous category.

A gender-sensitive interpretation of IKS must therefore recognise differences among rural and urban women, women from different caste and tribal communities, economically disadvantaged women, and women whose knowledge remains primarily embedded in informal community practices. Contemporary scholarship similarly argues that women's traditional knowledge is frequently undervalued because informal labour and community-based knowledge do not receive the same institutional recognition as formally documented knowledge [6]. Recognition of women as knowledge holders consequently requires attention to both gender and the social location of knowledge.

2.4 Traditional Knowledge and Economic Empowerment

Traditional knowledge can contribute to women's economic empowerment when it is connected with appropriate education, entrepreneurship, markets, technology, and institutional support. Agarwal's work on gender and land rights demonstrates the central importance of access to productive resources for women's bargaining power and economic agency [2]. Traditional skills alone may not generate empowerment if women lack control over land, finance, markets, technology, or the income generated from their labour.

Recent research on IKS and women's empowerment identifies agriculture, herbal products, handicrafts, and other traditional knowledge-based activities as potential avenues for livelihood development [6]. Such activities can strengthen economic participation when women receive training, access to credit, digital platforms, market information, and institutional support. However, commercialization must be accompanied by mechanisms that recognise women's intellectual contributions and prevent the appropriation of community knowledge.

2.5 Women, Ecology, and Community Knowledge

The relationship between women, traditional knowledge, and ecological sustainability has received substantial attention in development scholarship. Shiva [13] argues that women's participation in ecological practices and resource management can provide an alternative perspective on development and environmental sustainability. Women's knowledge of seeds, food systems, medicinal plants, household resources, water, forests, and agricultural practices often develops through continuous interaction with local environments.

Such knowledge has potential contemporary relevance because sustainable development increasingly requires locally appropriate ecological practices. Nevertheless, women's environmental knowledge should not be romanticised. Its developmental potential depends upon whether women possess decision-making authority and control over resources. Empowerment therefore requires moving from the recognition of women as “custodians” of traditional knowledge towards their participation as decision-makers, innovators, entrepreneurs, researchers, and policy actors.

2.6 IKS, Education, Capability, and Social Development

Education represents one of the strongest potential connections between IKS and women's empowerment. The capability approach associates development with expanding substantive freedoms, opportunities, and human capabilities [10]. From this perspective, incorporating women's contributions to IKS into educational curricula can have value beyond cultural preservation: it can increase visibility, challenge gender stereotypes, and provide culturally relevant examples of women as thinkers, educators, innovators, and community leaders.

The contemporary policy framework for IKS also supports its incorporation into educational institutions and interdisciplinary research [4], [5]. A gender-responsive curriculum could therefore include women's contributions to philosophy, literature, agriculture, medicine, ecology, crafts, mathematics, community organisation, and social reform. Such curricular representation may contribute to both cultural continuity and gender equality by challenging the perception that knowledge production is predominantly male.

2.7 Research Gap

Although existing scholarship establishes important connections among IKS, women's knowledge, gender relations, education, livelihoods, and sustainability, several gaps remain. First, much of the literature treats women's participation descriptively without systematically examining how traditional knowledge translates into measurable dimensions of empowerment. Second, historical discussions frequently emphasise prominent women while giving comparatively less attention to ordinary women's community-based and occupational knowledge. Third, the intersection of gender with caste, class, geography, and economic status requires greater analytical attention. Fourth, there is a need to distinguish between knowledge traditions that can expand women's capabilities and social practices that reproduce gender inequality.

The emerging literature on IKS and women's empowerment has begun to address these concerns by emphasising critical reinterpretation, culturally sensitive policy, women's entrepreneurship, and the integration of traditional knowledge with contemporary development strategies [6]. The present study builds on this literature by approaching IKS as a dynamic and contested knowledge framework. It argues that the contribution of traditional wisdom to gender equality depends not on

preserving every traditional practice, but on critically identifying, validating, documenting, and applying those dimensions of knowledge that enhance women's autonomy, capabilities, dignity, participation, and social recognition. This perspective provides a foundation for examining IKS as a potential resource for gender-responsive and sustainable social development.

3. TRADITIONAL WISDOM AS A RESOURCE FOR WOMEN'S EMPOWERMENT

Indian Knowledge Systems can contribute to women's empowerment when traditional knowledge is understood not merely as inherited cultural material but as a living intellectual and practical resource. Women have historically participated in knowledge practices associated with agriculture, food systems, healthcare, crafts, ecological management, education, cultural production, and community organisation. The contemporary relevance of these practices lies in their potential to strengthen capabilities, livelihood opportunities, social participation, and cultural confidence. However, empowerment occurs only when women possess meaningful control over the knowledge, resources, institutions, and benefits associated with these practices [2], [6], [10].

3.1 Knowledge and the Development of Individual Agency

Knowledge is closely associated with agency because it enables individuals to understand their environment, make informed decisions, solve problems, and negotiate social relationships. Women's traditional knowledge has frequently developed through direct engagement with household production, agriculture, biodiversity, nutrition, health practices, crafts, and community activities. Such experiential knowledge represents accumulated intellectual labour rather than merely routine domestic activity.

Recognising women as knowledge holders can challenge the historical separation between “formal” knowledge and “women's practical knowledge.” When women's experiential knowledge is documented and incorporated into educational and institutional frameworks, it can enhance social recognition and strengthen women's confidence in their own intellectual capabilities [1], [6]. The empowerment potential becomes greater when women participate in decisions concerning how their knowledge is documented, taught, commercialised, or adapted.

The capability perspective provides a useful theoretical foundation for this process. Sen [12] argues that development should be understood in terms of expanding substantive freedoms and capabilities rather than simply increasing material income. From this perspective, the value of IKS lies not only in preserving traditional practices but in expanding women's opportunities to acquire knowledge, exercise choices, generate livelihoods, participate in institutions, and influence decisions affecting their lives.

3.2 Experiential Learning and Women-Centred Education

Traditional Indian learning practices frequently emphasised observation, apprenticeship, practice, oral transmission, dialogue, and learning through direct experience. These approaches have contemporary relevance for women who may benefit from flexible and community-based forms of education. Integrating IKS into formal and non-formal education can connect academic learning with local knowledge and lived experience.

The National Education Policy 2020 advocates multidisciplinary education and greater engagement with India's knowledge traditions [4]. A gender-responsive interpretation of this framework could incorporate women's contributions to agriculture, ecology, medicine, literature, handicrafts, food preservation, architecture, and community organisation. Such representation would provide learners with a broader understanding of women as knowledge producers rather than exclusively as recipients of knowledge.

Education based on local knowledge can also improve the relevance of skill development programmes. For example, traditional textile practices can be connected with contemporary design education; indigenous agricultural knowledge can be linked with sustainable agriculture programmes; and traditional plant knowledge can be examined alongside modern botanical and pharmacological research. The objective should not be to replace scientific validation with traditional authority but to establish productive dialogue between different knowledge systems.

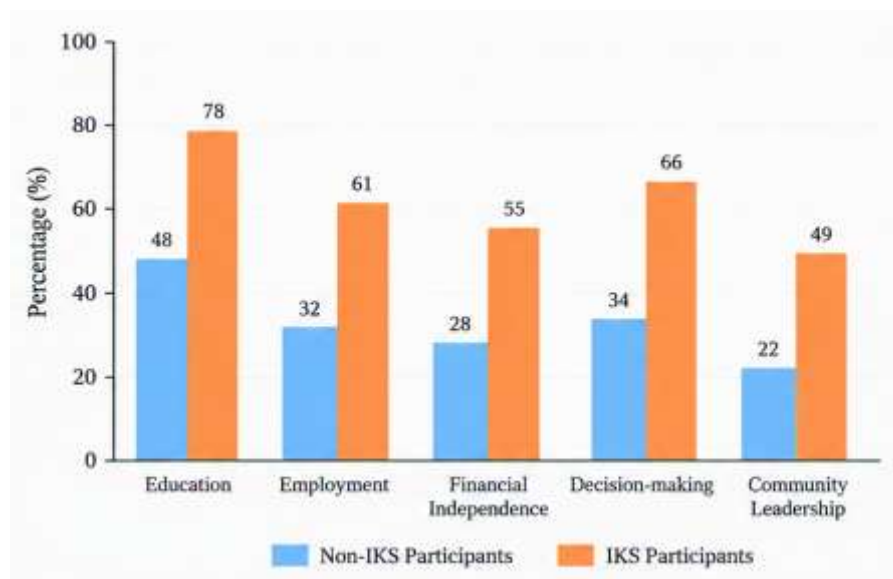


Figure 1. Comparative empowerment outcomes among women participating and not participating in Indian Knowledge Systems-related activities.

3.3 Traditional Livelihood Knowledge and Economic Empowerment

Economic empowerment requires more than participation in productive activities. Women must also have access to productive assets, financial resources, markets, technology, and control over income. Agarwal [2] demonstrates the importance of resource ownership and bargaining power in determining women's economic position. Therefore, traditional skills become empowering only when women can convert those skills into secure and fairly compensated economic opportunities.

Traditional crafts, weaving, embroidery, food processing, seed preservation, herbal products, ecological products, and indigenous agricultural practices can provide foundations for women-led enterprises. Digital commerce can further expand market access by connecting local producers with geographically dispersed consumers. However, commercialization can also create new forms of inequality if intermediaries capture most of the value while women remain poorly compensated.

A sustainable IKS-based livelihood model should therefore incorporate five interconnected components: knowledge recognition, skill enhancement, financial access, market participation, and ownership of income. Women's traditional knowledge should be treated as an economic and intellectual asset rather than an invisible extension of unpaid labour.

Table 1. Potential pathways from traditional knowledge to women's empowerment

IKS domain	Women's traditional contribution	Contemporary opportunity	Empowerment outcome
Agriculture	Seed selection, crop knowledge, food processing	Sustainable agriculture and agri-enterprises	Income and decision-making
Medicinal and plant knowledge	Identification and household use of plants	Validated herbal and wellness enterprises	Skill recognition and entrepreneurship
Textiles and crafts	Weaving, embroidery, natural materials	Design, e-commerce and cultural industries	Employment and market participation
Food traditions	Preservation, processing and nutrition knowledge	Food enterprises and value-added products	Financial independence
Ecological knowledge	Biodiversity and resource management	Conservation and sustainable development	Community leadership
Cultural knowledge	Oral traditions, songs, rituals and storytelling	Cultural education and creative industries	Social recognition and identity

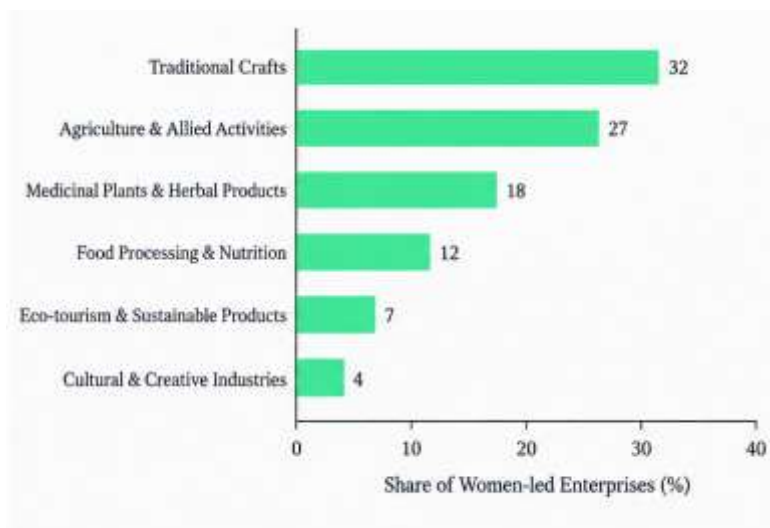


Figure 2. Distribution of women-led enterprises across traditional knowledge-based livelihood sectors.

3.4 Community Participation and Collective Decision-Making

Many Indian knowledge practices have historically been embedded within communities rather than isolated individual ownership structures. Community-based knowledge can therefore provide a foundation for collective participation. Women's self-help groups, producer organisations, cooperatives, local institutions, and community enterprises can transform dispersed traditional skills into collective economic and social capabilities.

Collective organisation is particularly important where individual women have limited bargaining power. Groups can facilitate access to credit, training, markets, technology, government programmes, and institutional networks. Collective participation also creates opportunities for women to move from performing traditional activities to influencing decisions about resources and development.

The relationship between collective action and empowerment is consistent with broader feminist development scholarship, which emphasises that empowerment involves changes in access to resources as well as changes in social relations and decision-making authority [2], [3]. Consequently, IKS-based development programmes should include women in planning and governance rather than merely using them as implementers of predetermined projects.

3.5 Ecological Knowledge and Sustainable Women-Led Development

The relationship between women and ecological knowledge is particularly relevant to contemporary sustainability challenges. Women involved in agriculture, forestry, livestock management, food preparation, and household resource management often possess detailed knowledge of local species, seasonal cycles, seeds, soil conditions, food varieties, and resource availability. Shiva [13] has emphasised the significance of women's ecological knowledge within debates concerning development and environmental sustainability.

The contemporary application of such knowledge should nevertheless involve systematic validation. Traditional ecological practices can provide hypotheses and locally adapted solutions, but their environmental effectiveness should be assessed using appropriate scientific methods. This creates a productive interface between IKS and modern environmental science.

Women can also become important actors in biodiversity conservation when they participate in village-level planning, seed banks, ecological restoration, water management, and sustainable agricultural initiatives. Such participation changes their role from passive beneficiaries to active environmental decision-makers.

3.6 Cultural Identity, Self-Confidence, and Social Recognition

Empowerment has a cultural and psychological dimension in addition to its economic and political dimensions. Recognition of women's intellectual and cultural contributions can strengthen their sense of identity and social value. Women who are

recognised as custodians, innovators, teachers, artisans, farmers, healers, artists, or ecological experts can acquire greater legitimacy within their communities.

The preservation of intangible cultural heritage also depends heavily upon intergenerational transmission [14]. Women frequently participate in this transmission through language, food traditions, crafts, music, storytelling, rituals, and practical knowledge. Recognising these contributions can increase the visibility of women's cultural labour.

Nevertheless, cultural recognition should not require women to remain confined to traditional roles. The objective should be to provide women with the freedom to preserve, transform, commercialise, reinterpret, or discontinue particular practices according to their choices. In this sense, cultural empowerment and individual autonomy must operate together.

Table 2. Dimensions of empowerment supported by IKS

Dimension	Contribution of IKS	Expected empowerment effect
Educational	Experiential and culturally relevant learning	Increased knowledge and confidence
Economic	Traditional skills and livelihood practices	Employment and entrepreneurship
Social	Community participation and knowledge recognition	Greater social status
Ecological	Local environmental knowledge	Participation in sustainability decisions
Cultural	Preservation and reinterpretation of heritage	Identity and cultural confidence
Institutional	Participation in knowledge documentation and governance	Decision-making authority

4. CRITICAL PERSPECTIVES ON GENDER, TRADITION, AND INDIAN KNOWLEDGE SYSTEMS

The empowerment potential of Indian Knowledge Systems must be examined critically because traditional knowledge is not inherently synonymous with gender equality. Indian society has historically contained multiple and sometimes conflicting social structures. Women have occupied positions of intellectual authority in some contexts while simultaneously experiencing restrictions in education, property ownership, mobility, marriage, political participation, and social autonomy in others [1], [3], [9]. Consequently, an academically credible interpretation of IKS requires both recognition of women's historical contributions and examination of the structures that constrained them.

4.1 Distinguishing Empowering Traditions from Restrictive Practices

A central analytical issue is the distinction between knowledge and the social practices surrounding knowledge. A traditional practice may contain valuable ecological, medicinal, artistic, or educational knowledge while simultaneously being embedded in unequal gender relations. Preservation of the knowledge therefore does not require preservation of every associated social practice.

For example, a traditional craft may provide valuable technical knowledge but women artisans may receive low wages or lack control over market transactions. Similarly, traditional agricultural knowledge may be highly sophisticated while women performing agricultural labour may have limited ownership of land. This distinction is essential because otherwise cultural preservation can inadvertently reproduce inequality.

A gender-responsive IKS framework should therefore evaluate traditional practices according to criteria such as autonomy, dignity, equal participation, economic benefit, safety, educational access, and decision-making power. Practices that strengthen these dimensions can be supported and adapted, whereas practices that systematically restrict women's rights require critical transformation.

4.2 Patriarchy and Unequal Access to Knowledge

Historical access to knowledge was influenced by social institutions and power structures. Although examples of women participating in intellectual traditions demonstrate that female scholarship existed, they do not establish universal equality of

educational opportunity. Altekar [1] documents significant historical changes in women's educational and social position, while feminist scholarship demonstrates how patriarchal institutions structured women's access to resources and authority [3], [7].

This distinction is particularly important when reconstructing the history of IKS. Formal textual traditions may disproportionately reflect the contributions of socially privileged groups, whereas women's practical knowledge was often transmitted orally and remained undocumented. The resulting historical record may therefore underestimate women's intellectual contributions.

Contemporary IKS scholarship should respond by actively documenting women's knowledge, particularly knowledge held by rural, tribal, artisanal, agricultural, and economically marginalised communities. Documentation should involve women themselves and should not transform community knowledge into externally controlled intellectual property.

4.3 Caste, Class, Region, and the Intersectionality of Women's Experiences

Gender cannot be treated as an isolated category. Chakravarti [3] demonstrates the importance of examining gender through caste relations, while broader feminist scholarship has highlighted the unequal experiences of women across social and economic groups. The knowledge possessed by a woman and the value assigned to that knowledge may depend significantly on her caste, class, occupation, region, education, and access to institutional power.

For instance, elite textual knowledge and the practical knowledge of agricultural or artisan communities may receive very different forms of social recognition despite both representing accumulated intellectual experience. A comprehensive IKS framework should therefore move beyond a narrow focus on historically prominent women and include the knowledge contributions of ordinary women whose expertise has sustained households and communities over generations.

This approach also prevents the homogenisation of Indian women. Empowerment strategies appropriate for an urban educated woman may not be appropriate for a rural agricultural worker, tribal knowledge holder, artisan, or small-scale entrepreneur. IKS-based programmes should consequently be locally contextualised and participatory.

4.4 The Risk of Romanticising Traditional Knowledge

Romanticising tradition can be as problematic as dismissing it. Treating all traditional practices as inherently sustainable, scientific, inclusive, or gender-just can prevent critical evaluation. Traditional knowledge developed under particular historical and environmental circumstances and may not always be appropriate under contemporary demographic, technological, economic, and ecological conditions.

Similarly, the representation of women as natural custodians of culture or ecology can unintentionally reinforce gender stereotypes. Women's participation in ecological or domestic knowledge should be valued because it reflects expertise and agency, not because women are assumed to possess an inherently closer relationship with nature.

A more rigorous approach treats IKS as a knowledge resource that can be tested, adapted, combined, and improved. Traditional knowledge can generate valuable insights, while contemporary science can provide mechanisms for validation and refinement. This dialogic approach avoids both technological dismissal and cultural romanticisation.

4.5 Constitutional Equality and Human Rights as Interpretive Frameworks

The contemporary application of IKS must operate within constitutional principles of equality, dignity, liberty, and non-discrimination. Cultural heritage cannot provide justification for practices that deny fundamental rights. India's contemporary gender framework therefore requires traditional knowledge to be interpreted in harmony with constitutional commitments and broader human-rights principles.

Nussbaum's capability approach similarly emphasises substantive opportunities for human flourishing [10]. From this perspective, the preservation of culture should enhance rather than restrict individual capabilities. Women should have the freedom to participate in traditional practices, modify them, pursue alternative occupations, acquire modern education, and make independent decisions.

This principle establishes an important boundary for IKS-based development: **cultural continuity is valuable, but women's autonomy is not subordinate to cultural continuity**. A gender-just approach preserves knowledge while allowing its forms, meanings, and applications to evolve.

4.6 Reconstructing Tradition Through a Gender-Just Perspective

The most productive approach is neither to reject tradition nor to accept it uncritically. Instead, IKS can be reconstructed through a gender-just interpretive framework. This involves identifying historically significant contributions by women, recovering undocumented community knowledge, validating useful practices, eliminating discriminatory components, and creating contemporary opportunities for women to use traditional knowledge according to their own choices.

The process can be understood through four interconnected stages: **recognition, validation, transformation, and empowerment**. Recognition identifies women as legitimate knowledge holders. Validation evaluates the technical, ecological, cultural, or social value of the knowledge. Transformation adapts the knowledge to contemporary conditions while addressing discriminatory structures. Empowerment ensures that women receive educational, economic, institutional, and intellectual benefits from its application.

Table 3. Critical framework for gender-responsive interpretation of IKS

Analytical issue	Conventional approach	Gender-responsive approach
Tradition	Preserve existing practices	Preserve valuable knowledge while reforming harmful practices
Women	Knowledge transmitters	Knowledge holders, innovators and decision-makers
Education	Transmission of inherited knowledge	Critical and experiential learning
Economy	Traditional skills as household activities	Skills as owned and fairly compensated economic assets
Culture	Fixed heritage	Living knowledge capable of reinterpretation
Science	Separate from traditional knowledge	Dialogue, validation and complementary application
Social structure	Treat community as homogeneous	Address caste, class, region and economic differences
Empowerment	Participation in activities	Control over resources, income, knowledge and decisions

A gender-responsive reconstruction of IKS therefore requires a shift from **preservation alone to participatory knowledge development**. Women should be involved in research, documentation, curriculum design, entrepreneurship, intellectual-property discussions, cultural institutions, environmental programmes, and policy formulation. This approach aligns cultural preservation with contemporary objectives of gender equality and sustainable development.

The critical perspective also establishes the theoretical foundation for contemporary application. IKS can contribute to women's empowerment most effectively when traditional knowledge is combined with modern education, digital technologies, scientific validation, financial inclusion, institutional support, and legal safeguards. The objective is not to reproduce historical social arrangements but to draw upon useful knowledge resources while expanding women's freedoms and capabilities [4], [5], [10], [12].

5. CONTEMPORARY APPLICATIONS OF IKS FOR GENDER EQUALITY AND SOCIAL DEVELOPMENT

5.1 Integrating IKS into Women's Education and Skill Development

The integration of Indian Knowledge Systems into women's education can connect formal learning with locally relevant knowledge and occupational practices. Curriculum development should include women's contributions to agriculture, medicine, ecology, crafts, literature, architecture, food systems, and community knowledge. Skill-development programmes can combine traditional expertise with contemporary design, scientific validation, digital literacy, financial management, and entrepreneurship. Such integration can increase the practical relevance of education while strengthening recognition of women

as knowledge producers. The National Education Policy 2020 provides an institutional basis for incorporating Indian knowledge traditions within multidisciplinary education and research [4]. A gender-responsive implementation should ensure that women are represented not only as subjects of traditional knowledge but also as teachers, researchers, practitioners, and innovators.

5.2 Digital Platforms for Documentation and Dissemination of Women's Knowledge

Digital technologies can significantly expand the visibility and preservation of women's traditional knowledge. Digital archives, audiovisual documentation, online learning platforms, virtual museums, geographical databases, and community-controlled knowledge repositories can record practices that have traditionally been transmitted orally. Documentation should include the name and community of the knowledge holder, historical context, method of transmission, geographical association, and conditions governing access and use. Importantly, digitisation should not result in unrestricted appropriation of community knowledge. Women and their communities should participate in decisions regarding documentation, access, attribution, commercialisation, and intellectual-property protection. UNESCO's framework for safeguarding intangible cultural heritage emphasises the importance of community participation in maintaining living heritage [14].

5.3 Traditional Skills, Entrepreneurship, and Rural Economic Development

Traditional skills can become significant economic resources when combined with entrepreneurship, quality improvement, market access, branding, and digital commerce. Women engaged in weaving, embroidery, pottery, food processing, natural-product preparation, agricultural processing, and other knowledge-intensive activities can establish individual or collective enterprises. However, economic empowerment requires control over the resulting income. Programmes should therefore prioritise direct market access, transparent pricing, access to credit, digital payment systems, producer cooperatives, and intellectual-property awareness. Land and productive-resource ownership remain particularly important because economic activity without control over productive assets may produce income without substantially changing women's bargaining position [2].

5.4 Women-Led Ecological Conservation and Sustainable Resource Management

Women's traditional ecological knowledge can support biodiversity conservation, sustainable agriculture, seed preservation, water management, food diversity, and climate-resilient livelihoods. Programmes involving women in community seed banks, biodiversity registers, organic farming, forest-resource management, and local conservation initiatives can connect IKS with contemporary sustainability objectives. Shiva [13] highlights the importance of women's ecological knowledge in understanding alternative approaches to development. Nevertheless, ecological programmes should avoid assigning women additional unpaid responsibilities. Participation should be accompanied by institutional authority, financial compensation, training, and access to decision-making structures.

5.5 Community Health, Nutrition, and Well-Being

Women have historically played important roles in household nutrition, food preparation, childcare, maternal practices, and community-based health knowledge. Traditional knowledge concerning locally available foods, plants, dietary practices, and preventive health can contribute to community well-being when appropriately evaluated. Such knowledge should complement rather than replace evidence-based healthcare. Documentation and scientific assessment can identify practices that are safe and potentially beneficial while excluding practices that may create health risks. Women's participation in community health programmes can simultaneously improve knowledge transmission and strengthen their social recognition as community health resources.

5.6 Institutional and Policy Support for Women Knowledge Holders

Institutional support is necessary to convert recognition into sustainable empowerment. Government agencies, universities, research institutions, local bodies, women's organisations, cooperatives, and private enterprises can collaborate to create knowledge documentation programmes, fellowships, training centres, innovation laboratories, cultural enterprises, and research projects. Policy interventions should ensure that women receive attribution and appropriate economic benefits from the use of their knowledge. The National Education Policy 2020 and the emerging institutional architecture for IKS provide opportunities for such interdisciplinary interventions [4], [5].

Table 4. Contemporary application framework for IKS-based women's empowerment

Application area	Intervention	Primary beneficiaries	Expected outcome
Education	IKS-integrated curriculum and skill programmes	Students and women practitioners	Knowledge and employability
Digitalisation	Community-controlled digital documentation	Knowledge holders	Preservation and visibility
Entrepreneurship	Training, finance and market access	Women artisans and producers	Income and enterprise development
Agriculture	Traditional knowledge + scientific practices	Rural women	Productivity and resilience
Ecology	Women-led conservation programmes	Local communities	Biodiversity and sustainability
Health	Validated traditional health knowledge	Women and households	Improved health awareness
Research	University-community collaboration	Knowledge holders and researchers	Innovation and evidence generation
Policy	Recognition and intellectual-property safeguards	Women knowledge holders	Rights and equitable benefits

6. STRATEGIES FOR A GENDER-RESPONSIVE INDIAN KNOWLEDGE FRAMEWORK

6.1 Gender-Sensitive Documentation of Traditional Knowledge

The first strategic requirement is systematic documentation of women's knowledge. Universities and research institutions should develop participatory documentation methodologies that identify women knowledge holders and record their contributions with appropriate attribution. Documentation should include both textual and audiovisual formats because many knowledge traditions are practice-based. Community consent should be obtained before public dissemination, particularly where knowledge has cultural, medicinal, ecological, or commercial significance.

6.2 Recognition and Protection of Women's Intellectual Contributions

Women's traditional knowledge should be recognised as intellectual and productive labour. Existing intellectual-property mechanisms and community-based protection frameworks should be examined to determine appropriate forms of attribution, benefit sharing, and protection from unauthorised commercial exploitation. Recognition should extend beyond famous historical figures to farmers, artisans, healers, craft practitioners, educators, and community knowledge holders. Such recognition can correct the historical invisibility of women's contributions and provide a stronger foundation for intergenerational transmission.

6.3 Curriculum Development and Higher Education

Higher education institutions can establish interdisciplinary IKS programmes connecting humanities, social sciences, natural sciences, technology, management, and gender studies. Courses should examine both the contributions and limitations of traditional knowledge systems. Women's historical intellectual contributions should be incorporated into textbooks, case studies, research projects, and field-based learning. Students should be encouraged to critically evaluate traditional practices through historical, scientific, ethical, and gender perspectives rather than treating tradition as either unquestionable authority or obsolete knowledge.

6.4 Entrepreneurship, Financial Inclusion, and Market Access

Women knowledge holders require access to finance, technology, markets, intellectual-property awareness, business training, and institutional networks. Self-help groups and producer organisations can provide collective bargaining advantages, while

digital platforms can reduce dependence on intermediaries. Entrepreneurship programmes should measure not merely the number of women trained but also enterprise survival, income control, asset ownership, market access, and participation in business decisions. These indicators provide a more meaningful assessment of empowerment than participation statistics alone.

6.5 Intergenerational Knowledge Transfer and Community Participation

Rapid social and economic transformation can weaken intergenerational transmission of traditional knowledge. Programmes should therefore create structured opportunities for experienced women practitioners to teach younger generations through apprenticeships, community workshops, university collaborations, and digital learning. Young women should not simply reproduce inherited practices; they should be encouraged to reinterpret and innovate. Intergenerational exchange can consequently preserve cultural continuity while enabling adaptation to contemporary social and economic conditions.

6.6 Monitoring Empowerment Through Measurable Social Indicators

IKS-based programmes should incorporate measurable indicators to determine whether traditional knowledge actually improves women's empowerment. Useful indicators include educational attainment, employment, personal income, control over income, access to productive assets, enterprise ownership, participation in household decisions, community leadership, digital access, knowledge recognition, and participation in institutional governance. Sen's capability-oriented approach suggests that development assessment should focus on substantive opportunities and freedoms rather than outputs alone [10]. Accordingly, a programme that trains women in traditional skills but leaves them without control over income or decisions should not automatically be classified as an empowerment success.

Table 5. Proposed indicators for evaluating IKS-based women's empowerment

Dimension	Indicator	Measurement focus
Education	Training and educational attainment	Knowledge acquisition
Economic	Personal income and enterprise ownership	Financial independence
Resource control	Land, equipment and productive assets	Economic agency
Decision-making	Household and community participation	Agency
Digital	Access to digital tools and markets	Technological inclusion
Social	Leadership and public participation	Social empowerment
Cultural	Recognition and documentation of knowledge	Knowledge visibility
Institutional	Participation in policy and research	Governance
Sustainability	Participation in ecological initiatives	Environmental agency

A comprehensive implementation model should connect these dimensions rather than treating them as independent outcomes. **Education** provides knowledge and skills; **institutional recognition** converts knowledge into social legitimacy; **finance and market access** create economic opportunities; **resource ownership** strengthens bargaining power; and **decision-making participation** converts economic and social gains into sustained agency. This integrated framework is consistent with the broader understanding of empowerment as a multidimensional process involving resources, agency, and achievements [2], [10].

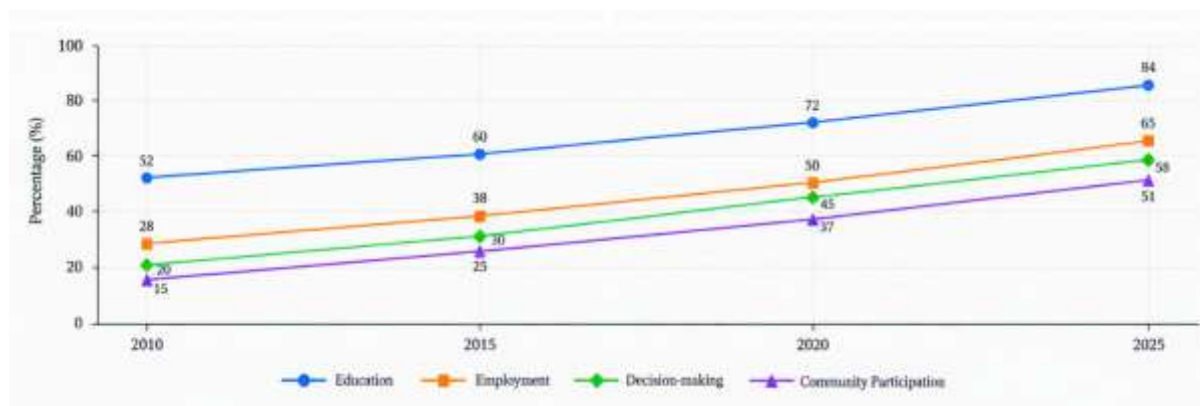


Figure 3. Longitudinal trends in education, employment, decision-making, and community participation associated with women's empowerment, 2010–2025.

7. CONCLUSION

Indian Knowledge Systems offer significant possibilities for advancing women's empowerment when traditional knowledge is critically examined, scientifically validated, and connected with contemporary education, entrepreneurship, technology, and institutional support. Women should be recognised as knowledge producers, innovators, and decision-makers rather than merely custodians of tradition. At the same time, gender inequality, caste, class, and patriarchal restrictions embedded within historical contexts must be critically addressed. A gender-responsive IKS framework should prioritise autonomy, dignity, equal opportunity, fair economic returns, intellectual recognition, and participation in decision-making. Integrating traditional wisdom with constitutional equality and modern development approaches can transform IKS into a meaningful resource for inclusive and sustainable social development.

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