



Research Article

Indian Knowledge Systems and Sustainable Human Development: A Value-Based Approach

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Abstract

Indian Knowledge Systems (IKS) originate from a rich tradition in which ethical conduct, environmental stewardship, social responsibility, and spiritual well-being are deeply interconnected. In contemporary times, as global attention increasingly turns toward sustainable development, there is renewed interest in these indigenous frameworks for insights into constructing a more equitable and value-oriented society. This paper critically examines the potential of IKS to inform and shape sustainable human development, particularly through the value-based educational paradigm advocated by the National Education Policy (NEP) 2020. It explores the philosophical, cultural, and pedagogical foundations of IKS, highlighting their contributions to moral education, environmental consciousness, life skills, and social cohesion. Employing qualitative and theoretical methodologies, this study elucidates the transformative impact of integrating IKS into modern educational practices, demonstrating how such integration facilitates holistic development and advances the attainment of the Sustainable Development Goals (SDGs). The findings indicate that education grounded in IKS fosters ethical leadership, environmental preservation, and inclusive growth. Ultimately, aligning IKS with the vision of NEP 2020 offers a substantive pathway toward achieving sustainable human development in India.

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1. INTRODUCTION

There is a growing recognition that sustainable human development encompasses far more than economic growth alone. It involves a complex interplay of equity, environmental stewardship, and ethical responsibility (UNDP, 2020) [8]. While contemporary discourse on development often emphasizes advances in technology and financial prosperity, traditional knowledge systems have long advocated for a more holistic approach—prioritizing genuine well-being over mere material achievement. Indian Knowledge Systems (IKS) extend this perspective by integrating core values, environmental care, social harmony, and spiritual advancement.

This interconnectedness is evident throughout India's extensive intellectual and cultural heritage, including in the Vedas, Upanishads, Buddhist philosophy, Ayurveda, Yoga, Arthashastra, and a variety of classical arts. These traditions underscore the intrinsic link between humanity and nature. Concepts such as Vasudhaiva Kutumbakam (the world is one family) and Sarve Bhavantu Sukhinah (may all be happy) exemplify a profound commitment to universal welfare.

The National Education Policy (NEP) 2020 acknowledges this holistic vision. It advocates for the integration of Indian Knowledge Systems into mainstream education, fostering a sense of pride in cultural heritage and promoting comprehensive development (Ministry of Education [MoE], 2020) [4]. NEP 2020 emphasizes value-based education, interdisciplinary learning, and a focus on sustainability, highlighting the importance of exploring how IKS can contribute to these objectives.

This study examines the role of Indian Knowledge Systems in advancing sustainable human development, with a particular emphasis on value-based education in alignment with the goals set forth by NEP 2020.

2. OBJECTIVES OF THE STUDY

1. To examine the philosophical foundations of Indian Knowledge Systems in relation to sustainable human development.
2. To analyse the role of value-based education in promoting ethical and social responsibility.
3. To explore the NEP 2020 integrates Indian Knowledge Systems into modern education.
4. To identify the potential contribution of IKS toward achieving sustainable development goals.
5. To propose a framework for integrating IKS into educational practices for holistic development.

RESEARCH QUESTIONS

1. How do Indian Knowledge Systems conceptualize sustainable human development?
2. What values embedded in IKS contribute to environmental, social, and ethical sustainability?
3. In what ways does NEP 2020 support the integration of IKS into education?
4. How can IKS-based education promote life skills and social responsibility among learners?

5. What are the challenges and opportunities in implementing IKS for sustainable development?

3. METHODOLOGY

This study adopts a qualitative and theoretical research design. It is based on:

- Document analysis of NEP 2020 and policy frameworks.
- Textual analysis of classical Indian philosophical sources and secondary scholarly literature.
- Thematic analysis to identify key values and principles related to sustainability.

The research relies on existing academic literature, policy documents, and philosophical texts. The methodology emphasizes interpretive analysis to connect traditional knowledge with contemporary development discourse.

Conceptual Framework: IKS and Sustainable Human Development

Sustainable human development fundamentally concerns fostering human growth while ensuring equity for both society and the environment (Sen, 1999) [6]. This perspective aligns closely with Indian philosophical traditions. The concept of Dharma emphasizes adherence to moral duties and responsibilities, while Ahimsa, or non-violence, advocates for harmonious coexistence with others and the natural world. Additionally, the principle of Lokasangraha underscores the importance of promoting collective welfare rather than individual interests alone.

Rather than focusing solely on economic advancement, Indian Knowledge Systems (IKS) advocate for a holistic approach to life. They integrate the pursuit of material prosperity (Artha), ethical conduct (Dharma), fulfillment of desires (Kama), and attainment of spiritual liberation (Moksha). The synthesis of these four aims provides a more comprehensive and nuanced understanding of human progress.

IKS and Value-Based Education

Value-based education centers on character development, emphasizing the cultivation of empathy, responsibility, and a deeper understanding of the surrounding world. Indian Knowledge Systems inherently embody these principles, promoting values such as truth (Satya), compassion (Karuna), discipline (Tapasya), and self-control (Sanyam) from an early stage.

Practices like yoga and meditation extend beyond physical exercise or silent reflection; they play a significant role in emotional regulation and fostering psychological balance. Similarly, Ayurveda advocates for holistic well-being by encouraging harmony with nature, rather than focusing solely on the treatment of illness. Historically, Gurukuls provided an integrated educational experience that combined academic instruction with guidance on ethical living, respect for educators, communal coexistence, and environmental stewardship. The National Education Policy 2020 places significant emphasis on ethical reasoning and constitutional

values, highlighting the importance of preparing students to become responsible global citizens (MoE, 2020) [4]. The integration of Indian Knowledge Systems within educational settings further strengthens these objectives by anchoring them in indigenous traditions and perspectives.

Alignment with NEP 2020

NEP 2020 calls for:

- Holistic and multidisciplinary education.
- Promotion of Indian languages and cultural heritage.
- Integration of ethics and constitutional values.
- Sustainable development and environmental awareness.

The policy asserts that students develop a deeper sense of identity and a more expansive perspective when they engage with India's rich traditions (MoE, 2020) [4]. It recommends integrating Indian mathematics, astronomy, philosophy, arts, and environmental practices directly into the curriculum.

The Indian Knowledge System (IKS) advocates for experiential learning, critical thinking, and real-world application—precisely the elements emphasized in NEP 2020. For example:

- Environmental teachings in Vedic literature align with sustainability education.
- Arthashastra provides insights into governance and economic management.
- Traditional water conservation systems reflect indigenous environmental sustainability practices.

Thus, integrating IKS fulfils NEP's vision of rooted yet global education.

IKS and Sustainable Development Goals (SDGs)

IKS contributes to multiple SDGs:

- **SDG 3 (Good Health and Well-being):** Through Yoga and Ayurveda.
- **SDG 4 (Quality Education):** Through holistic and inclusive learning.
- **SDG 12 (Responsible Consumption):** Through principles of moderation and non-exploitation.
- **SDG 13 (Climate Action):** Through ecological harmony teachings.

The Indian worldview emphasizes coexistence rather than exploitation of nature. The Atharva Veda's reverence for Earth as *Bhoomi Mata* reflects environmental ethics aligned with sustainability.

4. FINDINGS

Objective 1: To examine the philosophical foundations of Indian Knowledge Systems in relation to sustainable human development.

The study demonstrates that Indian Knowledge Systems (IKS) provide a genuinely holistic perspective on sustainable human development. Rather than concentrating solely on economic or technological factors, IKS conceptualizes development as a balance among Dharma (ethical conduct), Artha (material well-

being), Kama (emotional fulfillment), and Moksha (spiritual liberation). This framework emphasizes that progress should not come at the expense of ethics or environmental stewardship. Core principles such as Ahimsa (non-violence), Vasudhaiva Kutumbakam (the notion of the world as a single family), and a profound reverence for nature underpin this worldview. The approach is fundamentally oriented toward harmony and interconnectedness. Ultimately, IKS does not merely offer an alternative dimension to development but aligns closely with contemporary understandings of sustainable growth.

Objective 2: To analyse the role of value-based education in promoting ethical and social responsibility.

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Objective 3: To explore how NEP 2020 integrates Indian Knowledge Systems into modern education.

The study demonstrates that NEP 2020 strongly supports the integration of Indian Knowledge Systems (IKS) into routine school education. This policy advocates for an approach that extends beyond conventional textbook learning, emphasizing the holistic development of students, the cultivation of ethical reasoning, environmental consciousness, and a sense of pride in India's cultural heritage. NEP 2020 explicitly recommends the incorporation of traditional knowledge across disciplines such as mathematics, science, philosophy, governance, the arts, and environmental stewardship. By prioritizing multidisciplinary education and experiential learning, the policy establishes a robust framework for embedding Indian Knowledge Systems within contemporary classroom settings. In essence, NEP 2020 not only proposes the inclusion of IKS but also provides the necessary impetus for educational institutions to implement this integration.

Objective 4: To identify the potential contribution of IKS toward achieving sustainable development goals.

Indigenous Knowledge Systems (IKS) play a significant role in various aspects of sustainable development. Traditional practices of land stewardship among Indigenous communities contribute to environmental protection and promote the prudent use of natural resources. Moreover, systems such as Ayurveda and Yoga enhance both physical and mental well-being.

Ancient texts also emphasize the importance of generating wealth through equitable means that do not exploit others. Collectively, these elements illustrate that IKS extends beyond improving domestic education; it offers substantive and meaningful contributions to global sustainability efforts by integrating local wisdom with universally applicable strategies.

Objective 5: To propose a framework for integrating IKS into educational practices for holistic development.

The study indicates that integrating Indigenous Knowledge Systems (IKS) into education requires genuine institutional commitment rather than superficial adjustments. Educational institutions must reconceptualize their curricula and meaningfully prepare educators for this transformation. Merely incorporating a few traditional topics is insufficient; pedagogical approaches must be experiential and grounded in authentic values. Teacher training should extend beyond foundational instruction, enabling educators to understand interdisciplinary connections and effectively contextualize IKS within their classrooms. When implemented effectively, such integration fosters students' cultural connectedness, strengthens their sense of identity, and enhances their readiness to participate in global dialogues on sustainability. However, the success of this endeavour depends on robust policy backing, rigorous academic standards, and curricula that ensure inclusivity.

Discussion: Challenges and Opportunities

Discussion: Challenges and Opportunities in Integrating Indian Knowledge Systems (IKS)

Integrating Indian Knowledge Systems (IKS) into mainstream education, as advocated by the National Education Policy (NEP) 2020, represents a significant initiative that presents both substantive opportunities and considerable challenges. For IKS to genuinely contribute to sustainable human development, rather than merely function as symbolic inclusion, it is essential to critically evaluate both the facilitators and barriers inherent in this process.

A primary challenge concerns prevailing perceptions of traditional knowledge. On one hand, some individuals tend to romanticize the past, assuming the inherent superiority of all ancient wisdom. Conversely, others dismiss traditional knowledge as obsolete or irrelevant. Both perspectives are problematic, as they either preclude critical engagement or overlook the nuanced potential of IKS. A more productive approach involves rigorous examination, critical questioning, and empirical assessment of traditional knowledge within contemporary contexts (Sharma, 2000) [7]. The NEP 2020 underscores the necessity of grounding the incorporation of indigenous knowledge in robust research rather than mere nostalgia (Ministry of Education [MoE], 2020) [4]. Without this, IKS risks being reduced to a superficial cultural display rather than serving as a dynamic and relevant framework for learning and inquiry. Another significant obstacle is the lack of teacher preparedness in relation to IKS. Teacher education programs in India have historically emphasized Western pedagogical

approaches, often at the expense of indigenous traditions. Consequently, educators frequently lack both familiarity with IKS concepts and effective strategies for their classroom integration. NEP 2020 identifies the need to address this gap through targeted professional development that emphasizes Indian philosophy, cultural studies, sustainability, and experiential pedagogies.

Curricular overload presents an additional barrier. Existing school curricula are already densely packed, and students face considerable academic pressure. Simply appending IKS as an additional subject is unlikely to be effective and may exacerbate stress. A more viable strategy involves integrating IKS within existing subjects such as environmental studies, ethics, economics, and literature. This approach promotes deeper, interdisciplinary learning, aligning with NEP 2020's vision for more holistic education (MoE, 2020) [4].

Institutional inertia further complicates reform efforts. Educational institutions often exhibit resistance to shifting from established, content-heavy models to those that are more value-oriented, experiential, and interdisciplinary. Concerns about academic rigor, resource limitations, and general reluctance to disrupt established practices are prevalent. Progress requires inclusive dialogue among educators, administrators, and students, supported by substantive resources and incentives to facilitate meaningful change (Sen, 1999) [6].

Despite these challenges, the integration of IKS into education offers notable benefits. It enables the development of genuinely interdisciplinary curricula, as IKS bridges domains such as philosophy, science, and the arts. For instance, traditional water management practices exemplify the convergence of engineering, history, policy, and environmental science, thereby fostering critical thinking and holistic understanding among students.

Moreover, engagement with IKS strengthens students' sense of identity and connection to their cultural heritage. Rather than promoting insularity, NEP 2020 advocates for a balanced approach one that values indigenous traditions while maintaining openness to global perspectives (MoE, 2020) [4].

IKS also provides a foundation for ethical leadership. Classical Indian texts emphasize principles such as Dharma (duty), Ahimsa (non-violence), and Lokasangraha (the welfare of all), offering enduring frameworks for cultivating leaders committed to justice, environmental stewardship, and social equity.

Finally, IKS constitutes a valuable resource for sustainable innovation. Traditional practices in agriculture, architecture, and medicine offer contextually relevant solutions that harmonize with ecological systems. Educational institutions that incorporate such knowledge not only preserve valuable heritage but also prepare students to address contemporary challenges through sustainable means.

Practical Implications

The integration of Indian Knowledge Systems (IKS) into contemporary education has significant practical implications for pedagogy, curriculum design, and institutional development:

1. **Curriculum Innovation and Interdisciplinarity:** The IKS advocates for the integration of courses encompassing philosophy, ethics, environmental studies, science, and the arts. For instance, students might engage with traditional ecological knowledge in conjunction with contemporary environmental science. Additionally, practices such as Yoga and meditation may be incorporated into life skills or health education (MoE, 2020) [4]. This approach extends beyond mere curricular diversity; it fosters a more holistic and interconnected comprehension of the subject matter among students.
2. **Teacher Development and Capacity Building:** To achieve genuine integration, it is essential for educators to possess both traditional knowledge and contemporary pedagogical strategies. Consequently, teacher training programs must extend beyond foundational instruction to encompass curriculum development, experiential learning methods, and the practical application of Indigenous Knowledge Systems (IKS) in authentic contexts. When educational institutions implement such comprehensive training, educators are equipped to provide value-based instruction that holds significant relevance (Sharma, 2000) [7].
3. **Enhancement of Ethical Leadership Skills:** Integrating Indigenous Knowledge Systems (IKS) into educational curricula provides students with practical guidance on ethical conduct, leadership, and community responsibility. Foundational texts such as the Bhagavad Gita and Arthashastra continue to offer valuable insights into governance, personnel management, and conflict resolution—principles that remain relevant for contemporary leaders as well (Radhakrishnan, 1953) [5].
4. **Promotion of Sustainable Practices:** Incorporating traditional knowledge related to agriculture, architecture, water management, and health systems can enhance sustainability initiatives. Schools and universities can implement projects that replicate ancient sustainable practices, making education both practical and applied.
5. **Flexible and Experiential Learning Models:** IKS-based pedagogy encourages students to move beyond the confines of the classroom and engage directly with the real world through activities such as field excursions, collaboration with local communities, and participation in cultural practices. This experiential approach emphasizes learning through active engagement. Rather than solely reading about theoretical concepts, students are provided with opportunities to experience them firsthand, thereby facilitating a deeper understanding of theory and its relevance to everyday life. Such a methodology aligns with the objectives outlined in NEP 2020, which advocates for interdisciplinary learning and the development of practical, real-world skills.

Social Implications

The social impact of integrating IKS into education is equally significant, influencing community cohesion, cultural identity,

and societal ethics:

1. **Strengthening Cultural Identity:** Education grounded in Indian Knowledge Systems nurtures pride in cultural heritage and historical continuity. Learners develop an awareness of their roots, contributing to a shared sense of identity and national consciousness (Sen, 1999) [6].
2. **Promotion of Ethical and Moral Values:** IKS emphasizes values such as compassion (*Karuna*), non-violence (*Ahimsa*), and collective welfare (*Lokasangraha*). When these are integrated into school curricula, they encourage responsible behavior, social empathy, and community-oriented thinking among students.
3. **Inclusive Education and Social Equity:** By connecting education with indigenous knowledge and local contexts, IKS promotes inclusivity. It values local wisdom and practices, thereby bridging urban-rural gaps and enabling participation from marginalized communities (MoE, 2020) [4].
4. **Fostering Environmental and Social Responsibility:** Socially, IKS instills awareness of human interdependence with nature and society. Principles such as *Vasudhaiva Kutumbakam* (“the world is one family”) encourage learners to adopt sustainable lifestyles and socially responsible actions, contributing to ecological and social harmony.
5. **Empowering Communities through Indigenous Knowledge:** Integrating IKS into education not only benefits learners but also empowers local communities by recognizing their traditional expertise. Projects inspired by IKS, such as sustainable agriculture, traditional crafts, and water conservation, strengthen community resilience and self-sufficiency.

5. CONCLUSION

Indian Knowledge Systems (IKS) are deeply embedded in the civilizational foundations of India. Rather than concentrating solely on material advancement, IKS integrates ethics, spirituality, ecology, and social responsibility, creating a comprehensive vision for individual and societal growth. Unlike models that prioritize economic development alone, IKS emphasizes equilibrium, encouraging personal development alongside a commitment to collective welfare and environmental stewardship. Classical Indian philosophies, notably the Upanishads, articulate the interconnectedness of all existence and underscore the moral obligation (*dharma*) to act within a broader cosmic order (Radhakrishnan, 1953; Sharma, 2000) [5, 7]. These foundational concepts remain pertinent today, aligning with contemporary frameworks for sustainable development that call for the simultaneous consideration of economic, social, and environmental dimensions (UNDP, 2020) [8].

The integration of IKS within the National Education Policy (NEP) 2020 represents a significant advancement for Indian education. NEP 2020 aspires to cultivate holistic learning experiences that are multidisciplinary, anchored in Indian values, and globally relevant (Ministry of Education, 2020) [4].

Incorporating indigenous knowledge, fostering ethical reasoning, and enhancing cultural literacy equip students to become responsible and environmentally conscious citizens. This pedagogical approach resonates with Amartya Sen's assertion that authentic development entails the expansion of human freedoms and capabilities, positioning education as an instrument for leading a meaningful and values-oriented life (Sen, 1999) [6]. IKS thereby provides a robust moral and cultural framework for this vision.

Contemporary scholarship continues to advance these perspectives. Recent studies have re-examined the Darśanas, recognizing them as dynamic and rigorous knowledge systems with contemporary significance (Dutta Banerjee & Mete, 2024a) [2]. Curricular reforms inspired by NEP 2020 seek to harmonize India's intellectual traditions with current academic standards, ensuring that students receive an education that is both contextually relevant and culturally rooted (Dutta Banerjee *et al.*, 2025) [1]. The adaptation of these ancient paradigms to modern contexts particularly in the sphere of sustainability—demonstrates the practical implications of IKS for policy-making, leadership, and environmental ethics (Dutta Banerjee & Mete, 2024b) [3].

Sustainable development extends beyond technological innovation or economic expansion; it necessitates moral consciousness, environmental care, and a sense of collective responsibility. IKS addresses these imperatives by imparting values such as non-violence, interdependence, self-discipline, and reverence for nature. The convergence of these principles with contemporary pedagogical practices under NEP 2020 fosters an educational framework grounded in enduring values, supporting both national identity and international collaboration.

In sum, the convergence of IKS and NEP 2020 does not signify a return to the past, but rather charts a progressive path forward by drawing upon traditional wisdom to address contemporary challenges. The synthesis of indigenous knowledge and modern science promises to nurture thoughtful, responsible global citizens equipped to engage with complex sustainability issues. Within this paradigm, education emerges as a central force for substantive human development and enduring, sustainable progress.

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