

Reimagining the implementation of Indian Knowledge system in daily routine: An Interdisciplinary study

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Abstract

The rapid expansion of digital technology, artificial intelligence, and globalization has significantly transformed human life, creating new opportunities as well as challenges in the fields of education, health, and environmental sustainability. In this context, the Indian Knowledge System (IKS) has gained renewed significance for reviving and integrating India's traditional wisdom into contemporary society. This study examines the relevance of IKS in promoting ethical living, holistic well-being, and sustainable development through its contributions to education, health, and environmental practices. The study adopts a qualitative, conceptual research design and is based exclusively on secondary data collected from published research articles, books, government reports, policy documents, and authentic online sources. The collected data were analyzed using thematic analysis, through which recurring themes related to educational practices, healthcare traditions, environmental sustainability, and ethical living were identified, interpreted, and synthesized to examine the contemporary relevance of IKS. The thematic analysis reveals that traditional educational approaches such as experiential learning (learning by doing), the Guru–Shishya tradition, open classroom learning in natural settings, individualized instruction, oral storytelling, the drill method, and the principles of Shravana, Manana, and Nididhyasana enhance learner engagement, cognitive development, and value-based education. Similarly, themes related to health indicate that Ayurvedic home remedies, a *Sattvic* diet, yoga, and meditation contribute to preventive healthcare, stress management, mental well-being, and healthier lifestyles. Environmental themes demonstrate that eco-friendly agricultural practices, sustainable irrigation methods, the use of organic manure, reduction of single-use plastics, and sustainable resource management support environmental conservation and ecological balance. Collectively, these findings provide conceptual evidence that the integration of IKS principles can strengthen ethical values, improve holistic well-being, and promote sustainable development. The study concludes

that the practical integration of the Indian Knowledge System into contemporary educational practices, public health initiatives, and environmental policies can contribute to building a more ethical, resilient, and sustainable society. The findings also highlight the need to move beyond the theoretical understanding of IKS towards its systematic implementation in everyday life and institutional practices.

Keywords: Indian Knowledge System, Indigenous Practices, Education system, Health sector, Eco friendly practices, Contemporary period

1. Introduction

Indian Knowledge System is a repository embedded with various branches of Indian Knowledge. Which works as a bridge between ancient and modern Knowledge. Which can't be separated from each other. IKS stands for Indian Knowledge system. Which is an interdisciplinary approach of Knowledge. It includes Education, Health, Environment, Culture and Agriculture sectors in itself. Its emphasis on incorporation of indigenous knowledge of Four Vedas (Rigveda, Yajurveda, Samaveda, Atharvaveda), Six Vedangas and six Darshanas apart from Upanishads and Puranas. Which are the sources of incredible ancient knowledge. As it is an interdisciplinary approach it includes Ayurveda, Meditation and Yoga for Physical and mental wellbeing of an Individual. Traditional Mathas, Gurukuls and Madrasas were the ancient sources of providing knowledge to students as well as concept of Gurudakshina, Shrawna, Manana, Nidhiyansa are an essential part of Ancient Indian Education System. In addition to it inculcation of ancient Yogic techniques, Meditation and Dhyana can also be incorporated in present stressed life. Furthermore, it expands its roots in Environment sector also which includes Organic Farming, Organic manure, adopting ecofriendly life style. In contemporary era IKS is reintroduced and inculcated through the National Education Policy 2020 in contemporary education system. The introduction of Indian Knowledge System in the curriculum of undergraduate level aspires to reintroducing and establishing the tradition values to the Individuals of contemporary generation. The Indian Knowledge system refers to an extended term that includes the traditional, indigenous knowledge developed in India over thousands of years. It is an interdisciplinary approach which includes almost all the disciplines in itself.

1.1 Statement of the Problem

The Indian Knowledge System (IKS) has gained renewed attention in recent years, particularly after the introduction of the National Education Policy (NEP) 2020, which advocates the integration of indigenous knowledge into mainstream education. Despite this policy emphasis, the practical implementation of IKS remains limited across educational institutions and other sectors such as health and environmental management. In many cases, IKS is introduced only as a theoretical subject in the curriculum rather than being incorporated into teaching methodologies, institutional practices, lifestyle interventions, and community-based initiatives.

Several barriers hinder the effective implementation of IKS. These include inadequate awareness among educators and learners, a lack of trained faculty and interdisciplinary expertise, insufficient teaching-learning resources, limited empirical documentation of traditional practices, and the perception that indigenous knowledge is less relevant than modern scientific approaches. Moreover, the absence of standardized implementation frameworks, institutional support, and systematic policy execution has restricted the translation of IKS principles into practical applications. Similar challenges are observed in the health and environmental sectors, where traditional practices such as Ayurveda, Yoga, organic farming, and sustainable resource management are often adopted in isolation rather than as components of an integrated knowledge system.

Although existing literature highlights the philosophical foundations and historical significance of IKS, relatively few studies examine its interdisciplinary application in education, health, and environmental sustainability from the perspective of ethical living and everyday practice. Consequently, a significant gap exists between policy recommendations and their practical implementation. Addressing this gap is essential to realize the transformative potential of IKS in promoting holistic education, preventive healthcare, environmental sustainability, and value-based living.

Therefore, the present study seeks to examine the contemporary relevance of the Indian Knowledge System through a qualitative conceptual analysis based on secondary data. By identifying the practical contributions of IKS across education, health, and environmental sectors, the study aims to demonstrate how its systematic implementation can bridge the gap between policy and practice and contribute to building a more ethical, sustainable, and resilient society.

2. Research Propositions

As this study adopts a qualitative research design based on thematic analysis, policy analysis, and an extensive review of existing literature, it does not seek to statistically test hypotheses. Instead, the study is guided by the following research propositions, which are explored through qualitative evidence.

2.1. Research Proposition 1 (RP1)

The interdisciplinary integration of the Indian Knowledge System (IKS) into contemporary practices has the potential to strengthen the education, health, and environmental sectors by promoting holistic, sustainable, and culturally relevant approaches to development.

2.2 Specific Research Propositions

2.2.1 Research Proposition 1a (RP1a)

The incorporation of traditional Indian teaching-learning pedagogies and indigenous educational practices has the potential to enhance learners' conceptual understanding, reflective thinking, experiential learning, and overall educational outcomes.

2.2.2 Research Proposition 1b (RP1b)

The integration of indigenous health practices into contemporary healthcare systems has the potential to contribute to preventive healthcare, holistic well-being, improved physical and mental health, and the promotion of long-term healthy lifestyles.

2.2.3 Research Proposition 1c (RP1c)

The adoption of indigenous environmental knowledge and sustainable traditional practices has the potential to support environmental conservation, promote ecological balance, and contribute to sustainable development through environmentally responsible lifestyles.

3. Research Gap

Although previous research has extensively examined the significance of integrating the Indian Knowledge System into education, health, and environmental sectors, the majority of these studies focus on theoretical frameworks, curriculum recommendations, policy perspectives, or conceptual discussions. Existing literature has successfully established the importance of IKS and identified its potential contributions to sustainable development and holistic well-being. However, there remains a significant gap in understanding how IKS can be implemented effectively at the ground level across these sectors.

Specifically, limited research has explored the practical mechanisms for implementing IKS in educational institutions, healthcare practices, and environmental management, the institutional and social barriers that hinder its adoption, and the strategies required for its successful integration into contemporary daily life. Addressing this gap is essential because the true value of indigenous knowledge can only be realized through its practical application rather than its theoretical recognition alone.

This study seeks to bridge this gap by examining the practical implementation of the Indian Knowledge System in the education, health, and environmental sectors. It identifies potential areas for implementation, analyses the challenges and barriers to its adoption, proposes feasible strategies for effective integration, and highlights the broader benefits of incorporating IKS into contemporary society.

4. Objectives

- 1) To investigate how the Ancient Indian Knowledge system can be incorporated in educational practices along with the requirement of new Educational Framework for the implementation in contemporary period to improve the learning experience.
- 2) To examine how the integration of Indian knowledge system in daily life style leads towards the sustainable Future, Preservation of Environment and ecofriendly practices as well as to tackle with climate change issues.
- 3) To investigate how the ancient practices put an impact on the diet, health and mental wellbeing.
- 4) To examine the barriers in the path of implementation of IKS in daily life routine.
- 5) To assess the strategies for the implementation of indigenous knowledge in daily routine.

5. Literature Review

Several Scholars give their best efforts to explore the implementation of Indian Knowledge System as an interdisciplinary approach. Which is not limited only to a single area or specialization but on the other hand side it expands its significance across all the disciplines of knowledge such as Education, Language, Astronomy, Health, Environment, Art, Literature etc. Which increases its significance in a wider sense. Several research papers, discussions and reports are existing on the reintroduction of IKS in the disciplines of Education, Health and Environment, to put an emphasis on the its reintroduction through NEP 2020 in front of the contemporary generation.

- a) Husain in his paper primarily focuses on integrating Indian Knowledge Systems (IKS) into present education system. It proposes strategies for incorporating ancient practices into modern curricula through interdisciplinary approaches and experiential pedagogies to foster critical thinking, emotional intelligence and social responsibility in students, promoting cultural identity and global citizenship (Husain).
- b) Integration of Ancient wisdom with modern education bridging a gap by reconnecting the ancient knowledge in higher education curriculum to foster value-based education, Leadership, creativity and experiential learning. Furthermore, studies suggest that blending traditional Indian philosophies with modern scientific approaches can enhance curriculum design and support the development of culturally inclusive and globally relevant education systems (Chandratreya).
- c) Singh in his paper primarily examines the integration of yoga within Indian Knowledge Systems as a comprehensive model for human well-being. The study demonstrates that IKS enhances physical health, mental stability, and social harmony, offering solutions to modern lifestyle diseases and mental health challenges (Singh).
- d) Singh and Ahmad in their paper primarily focus on the role of Indian Knowledge Systems in addressing climate change and sustainability challenges. The study highlights that IKS promotes ecological balance through traditional agricultural practices, water conservation systems, and community-based environmental management, offering culturally grounded solutions for sustainable development (Singh and Ahmad).
- e) Traditional Indian Knowledge promotes sustainability and simple lifestyle by adopting ecofriendly practices. The paper highlights on the issue that how IKS helps to bring sustainability and ecological balance between Human and nature to face the global challenges. (Das and Halder)

6. Research Methodology

This study adopts a qualitative research design based on secondary qualitative content analysis to examine the role of the Indian Knowledge System (IKS) in the education, health, and environmental sectors and to explore its practical implications in contemporary society. Rather than generating primary empirical data, the study synthesizes existing scholarly literature, policy

documents, and government reports to identify recurring themes, implementation strategies, challenges, and opportunities associated with the integration of IKS.

6.1 Data Sources and Search Strategy

The study is based entirely on secondary data collected from multiple credible sources to ensure a comprehensive understanding of the subject. These sources include:

- Peer-reviewed journal articles related to the Indian Knowledge System, indigenous knowledge, education, health, and environmental sustainability.
- Government policy documents and reports, including the National Education Policy (NEP) 2020, guidelines issued by the University Grants Commission (UGC), the Ministry of Education, the Ministry of AYUSH, and other relevant government agencies.
- Books, book chapters, conference proceedings, and institutional reports focusing on Indian indigenous knowledge and its contemporary applications.

Relevant literature was identified through academic databases and digital repositories using keywords such as "Indian Knowledge System," "Indigenous Knowledge," "Traditional Education," "Indian Pedagogy," "AYUSH," "Traditional Healthcare," "Environmental Sustainability," "Traditional Ecological Knowledge," and "NEP 2020." The search focused primarily on publications that discuss the application of IKS in education, health, and environmental sustainability.

6.2 Document Selection Process

The collected documents were initially screened based on their titles and abstracts to assess their relevance to the research objectives. Full-text screening was then conducted for the selected documents. Only those sources directly addressing the implementation, significance, challenges, or practical applications of IKS in the selected sectors were included in the final analysis.

6.3 Data Analysis

The selected documents were analyzed using qualitative thematic content analysis. The analysis followed a systematic process comprising four stages:

- (i) **Familiarization:** All selected documents were read repeatedly to develop a comprehensive understanding of their content.

- (ii) **Coding:** Relevant text segments relating to educational practices, healthcare traditions, environmental sustainability, implementation challenges, policy initiatives, and practical strategies were assigned descriptive codes.
- (iii) **Theme Development:** Similar codes were grouped into broader themes representing recurring patterns across the literature. Major themes included the integration of IKS into education, indigenous healthcare practices, environmental conservation, implementation barriers, policy support, and strategies for effective implementation.
- (iv) **Interpretation:** The identified themes were compared across different sources to synthesize existing knowledge and develop a comprehensive understanding of the practical scope of IKS in contemporary society.

6.4 Trustworthiness of the Study

To enhance the credibility and trustworthiness of the findings, the study employed data triangulation by analyzing multiple categories of sources, including scholarly publications, government policies, and institutional reports. Information from different sources was compared to identify recurring patterns and minimize individual source bias. Furthermore, a transparent document selection process and clearly defined inclusion and exclusion criteria were adopted to improve the dependability and consistency of the review.

This methodological approach enables a systematic synthesis of existing knowledge while identifying practical opportunities, implementation challenges, and future directions for integrating the Indian Knowledge System into the education, health, and environmental sectors.

7. Discussion/Interpretation

7.1 Incorporation of Indian Knowledge System (IKS) in Education Sector

In Contemporary era education plays an essential role to impart Knowledge or modify the behavior of learners. It is entirely different from the traditional Indigenous Education. This was highly relied on face-to-face interaction of Pupil Teacher. But the present scenario has been changed. Education sector gone through transformational phase after Covid-19 which reduces the direct face to face pupil teacher interaction, Hard copies of Textbooks reduced to soft copies and E-books and audio books etc. Classroom lectures transformed into online classes. But incorporation of Indigenous Knowledge in contemporary digital Education System will lead towards better outputs. Network of 51 IKS centres has been established to drive original research, Education and dissemination of

IKS. So far, 38 IKS Courses have been offered under the domains of Mathematics, Astronomy, Aesthetics, Logic, Health and Management in 12 institutes. While 88 interdisciplinary research projects are in pipeline in the areas like ancient metallurgy, town planning and water resource management. Furthermore, in Education sector Indigenous Learning pedagogies can be inculcated for better learning experiences. For Instance,

- a) Shravna: -It means carefully listening to the teachings of a teacher or scriptures. It is the first step of learning. Which stresses on the importance of listening skills.
- b) Manana: -It means thinking deeply about what you have heard. Which helps to contemplate on the deeper thoughts.
- c) Nidhiyansa: - It means internalizing the knowledge through meditation.

7.2 Open Room Classroom Teaching

However, in present time Digital Classrooms are prevalent in use to teach the students in classrooms. Classrooms are embedded with multiple digital equipment's i.e. Projectors, digital boards and Teachings aids. Which are used by teachers to give the real simulated experience of the things in four wall classrooms. Simultaneously Indigenous Knowledge system prefers to teach in open and under any shady tree because nature can be a good teacher than an individual. It is also asserted by Wordsworth in his poem Table Turned in which he mentions

Books! 'tis a dull and endless strife:

Come, hear the woodland linnet,

How sweet his music! on my life,

There's more of wisdom in it. (Wordsworth, Lines9-12)

That's how the nature can be a good teacher than dull books to impart knowledge. Moreover, Rabindranath Tagore's Shantiniketan is one of an eminent examples that how teaching in an open classrooms provides the better understanding of concepts by watching the real things rather than bounded in four walls of classrooms.

7.3 Oral Teaching Methods

However, in present era teaching includes listening, speaking, reading and writing (LSRW) learning skills but in the indigenous learning system most emphasis was given to the oral teaching tradition. It happens in the form of different kind of arts such as storytelling method in which narration of stories was done e.g. Pandavni, recitation of hymns and epics orally, visual

representations of geometric figures of circle, triangle and square etc. in Warli art paintings to represent the daily life scenes.

7.4 Experiential Learning Method

Indian Knowledge system includes the traditional experiential learning methods which are also known as learning by doing approach in which learner learns the skills by doing the thing practically. For instance, Archery, cooking, painting, crafts were actually performed in the Gurukuls to learn these arts in practical form. So here it is clear that the indigenous education system put an emphasis on the practical knowledge rather than theoretical.

7.5 Individualized Instruction

Individualized Instruction refers to a student centric approach which includes self-paced, based on specific talent, interest needs and abilities of the learner. In an Indigenous education system Guru gives the specific tasks to the shisa according to his talent and abilities. Which helps the learners to acquire precious learning experiences.

7.6 Drill Method

Drill method refers to the repetition and recitation of the particular thing. In Ancient Gurukul system Guru recite the hymns and verses after him the pupil recite the verses. It was prevalent technique in the indigenous Learning system.

However, Drill method is used in the present Education system to repeat the exercise so that learner can learn and retain the things properly. It also improves the pronunciation and vocabulary very properly.

7.7 Barriers/Challenges

- a) Improper Ratio of Theoretical and practical topics leads the teaching towards boring and in interactive pedagogy.
- b) Lack of Modern Teaching Pedagogies and techniques become a barrier in the implementation of Student centric curriculum.
- c) Lack of Labs, Equipment's and Infrastructure challenge the implementation of Experiential and Hands on Experience Learning.
- d) Limited Assessment methods will disable to measure the inherent talent and abilities of the students.

- e) Individual Differences, Language barriers and deficiencies in students challenges the implementation of inclusive activities in classroom.

7.8 Strategies to Inculcate in Contemporary Education System

Indigenous educational practices should be incorporated in the contemporary education system to connect it with the traditional roots of Indian Knowledge system. Here are the strategies with which the inclusion of these practices can be done in the contemporary education system.

- a) Curriculum should be designed as per the needs and benefits of the learners to make it more student centric. Syllabus, prescribed books should be according to the level of learning and knowledge of the students.
- b) Proper Ratio of Theoretical and Practical portion in syllabus should be prescribed. There should not be overlapping of theoretical portion in the syllabus, because students learn in a better way in the practical mode.
- c) Lecture method of delivering lecture should be replaced with debate, discussion and experiential learning method. This provides the more chances to the learners to be more interactive and participative.
- d) Paper reading, reading from notes and help books should be interchanged with oral story and telling, role play methods which will retain the knowledge for a longer period of time.

7.9 Advantages

The incorporation of Indigenous learning concepts in the contemporary changes it can bring the drastic changes in the Education system. Which will help the Learners in the following way: -

- a) Open room classroom teaching will help the students to learn the concepts in the realistic environment with the visual learning objects.
- b) Oral teaching can improve the memory, concentration and cognitive skills of the learners. Which will help to retain the knowledge to the longer period of time,
- c) Oral story telling techniques, role play method contribute to provide experiential learning, which will attract the students and provide them new and interactive method of learning
- d) d)Stories often carry moral values, ethical understanding and life skills which help the students to incorporate these values in their realistic life.

- e) Experiential learning will help the learners to learn the different kind of arts in practical manner which will enhance and enlarge the learning experience of the learners for a longer period of time.
- f) Transformation of Teacher centric education into student centric education into learner centered education in the demand of the present time, because it is emphasized by NEP2020 that learning should be learner centered so that students can find it suitable.



Source official website of IKS <https://iksindia.org/index.php#>

8. Incorporation in Health Sector

Contemporary changes in the food patterns, climate change, pollution, pressurized daily routine leads the humanity towards lower immunity, increase in the number of incurable diseases, higher rate of child mortality, depression and anxiety. All of these aspects result the lower life span of present generation as well as decreasing percentage of happiness. However, with the advancement of medical technology it becomes possible to identify and cure many diseases with the technology-based X-Rays, surgeries and operations. But these treatments costs high amount, which become expensive for middle class or labor class people. In ancient time Ayurvedic medicines, homemade remedies yoga and meditation were frequently used in daily lives to cure the diseases. For Instance, Tulsi, Ashwgandha, Ginger, Garlic, Neem Amla, Turmeric, Kaadha, were used in homemade remedies for physical wellbeing. on the other hand, side to maintain the mental wellbeing Pranyam, Surya Namaskar, Yoga and meditation were frequently used by the people. Which didn't put any kind of side effects as well as cheap in price. These remedies worked gradually but have an effective result to cure the diseases.

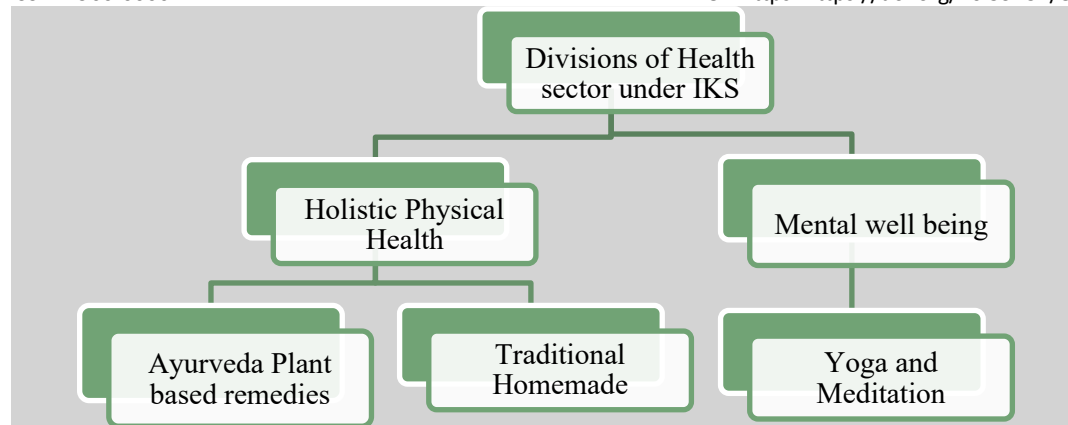


Figure 8

8.1.1 Plant based remedies for the physical wellbeing are given below: -

S. No	Ayurvedic Element/Remedy	Health benefit and cure	Traditional use	Incorporation in daily life
1.	Neem	Antibacterial, Used to cure purify skin	Used in antibacterial soap making, boiled water with neem was used in soaking the wounds, Neem oil was used to cure leices.	Neem can be used as a toothpaste to strengthen the teeth, its antibiotic paste can be used to cure pimples, wounds etc.
2.	Tulsi	To cure cough, cold, increases immunity	Tulsi leaves were used in tea	Tulsi leaves or its extract can be used in daily tea and milk
3.	Turmeric	Used to cure inflammation, any kind of internal wound	Turmeric was used in milk to heal the internal wounds, used as a beauty product to bring glow on the face	Organic turmeric can be used in daily meal as well as small amount of turmeric can be consumed in milk at night, Turmeric

				paste can be used at the place of antibiotic creams.
4	Ginger	Best for cough and digestion	Mixture of Ginger water and honey was used to cure cough	It can be added in the daily bed time Tea to remain fresh and healthy.
5.	Amla	Rich in Vitamin C	It was used in form of pickle and Murraba for stronger muscles and for better eyesight	Its extract can be drink in form of juice, Amla Pickle can be used.

Table 8.1.1

8.1.2The following Homemade traditional remedies were used in the traditional period: -

S.NO	Name of Remedy	Traditional Use	Incorporation in present time
1.	Kaadha	Mixture of herbs, Leaves of Tulsi, ginger, Cinnamon, Jaggery was used to cure cough, Severe fever to boost immunity	Modern cough syrups can be replaced by Kasha
2.	Bitter gourd Powder/Juice, Black Plum	Used to cure blood sugar and digestion	Modern insulins, diabetic pills can be replaced by such powders, juices
3.	Mustard oil/Clove oil	To remove joints pain and toothache respectively	Painkillers can be reduced by these oils

Table 8.1.2

8.1.3 Remedies for the Mental Wellbeing are given Below: -

S. No	Indigenous Remedy	Traditional use	Incorporation in daily life

1.	Meditation/ Dhyana	To reduce Anxiety, increase concentration, to release stress and better quality of sleep	Should include minimum 15 minutes for meditation in morning
2.	Pranayama/Anulom Vilom	To reduce Anxiety, For improvement of respiratory system To strengthen the nervous system	People should practice pranayama daily in the morning
3.	Yoga	Different kind of Asanas i.e. Vrikshasana, Shavasana, Bhujang asana etc. Were practiced	Yoga classes can be joined. Yoga should be the part of Dincharya.

Table 8.1.3`



Source; - official website of IKS <https://iksindia.org/index.php#>

8.2 Barriers/Challenges

- Traditional Herbs are not easily available in the contemporary era.
- Increase of Scientific temper erases the believe in fasts and traditional remedies which challenges its implementation in real life.
- Low public trust, Lack of awareness and lack of trained practitioners creates the barrier in the implementation of traditional remedies.

- d) Side effects, slow results and supply chain issues are also challenging the implementation.
- e) Urbanization and Advancement of technology challenge the tradition indigenous health remedies.

8.3 Strategies of Incorporation

- A. However, according the NEP 2020 yoga and meditation is also a part of value-added courses at undergraduate level and also included in the curriculum of the college students. Just like that it should be added in the school curriculum also.
- B. Satvic food should be adopted in the daily routine to remain calm and healthy.
- C. Preference to the homemade remedies at the place of syrups and medicines.
- D. Meditation and Yoga should be the part Dincharya. At least 15-20 minutes in a day an individual should be given to the Yoga and Meditation.
- E. Extracted oil of clove, coconut, mustard should be used in daily routine for health and cooking purposes.

8.4 Advantages

- a. Inculcation of homemade remedies will put not any kind of side effects on the individual.
- b. Meditation and Yoga will help to improve emotional imbalance by increasing concentration power.
- c. Anxiety stress and Boredom are prevalent problems of modern generation to tackle these problems Yoga can play an essential role by improving sleep quality and to calm the thoughts of mind.
- d. Detoxification methods in form of Fasts can help to improve the Gut and digestion system and also improves the immunity level.
- e. These remedies also support healthy aging, and longevity in life to improve the lifestyle index.

9. Incorporation in Environment sector

Technological advancements, increasing pollution, deforestation leads the Earth towards decay, degradation, infertility as well as poisonous air, water, soil and environment. Increasing number of poisonous insecticides, pesticides infused in the food web which put an impact on the health of human beings and leads them towards incurable diseases, and deficiencies. Furthermore, it leads towards the drastic changes in the Earth's Environment as well as wastage of natural resources such as global warming, unexpected rain patterns and changes in the season cycle, decreasing level

of water etc. respectively. However, in ancient time people preferred organic vegetables, grains and spices which kept them healthy and disease free. In addition to it inculcation of Environment friendly practices mentioned in Indian Knowledge System can bring transformative changes in climate reformation and can also become beneficial to conserve nature and natural resources. The following techniques can work effectively to achieve the goals of SDG 13 to save the climate of the earth, SDG 2 to achieve zero hunger by adopting smart and ecofriendly agriculture techniques, SDG 11 sustainable cities and communities by creating green spaces in the cities for this sustainable development of the future generations.

Table 9

S.NO	Name of the Technique /Practice	Traditional Use	Contemporary use
1.	Rotation in crops	People used to grow barley, cotton plant, Maize, pulses, groundnut	Wheat and Paddy high water demanding crops can be rotated with the traditional crops to save water.
2.	Irrigation methods	Systems like Johads and Baolis in India help to store water and recharge groundwater	Drip irrigation, rain water harvesting method can be used to save water
3.	Organic Manure	Cow dung, wastage of leaves, ash was used as organic manure	Pesticide, Insecticides and Fertilizers can be reduced to organic manure of cow dung and vermi compost
4.	Traditional Architecture	Bamboo, mud, thatch was used to make houses to keep the houses naturally cool	Present building structure should mud, bamboo, stone, lime plaster with modern materials like steel or concrete, apart from that compressed stabilized earth blocks (CSEB) can be used over conventional

			bricks, green roofs and garden should be there in urban areas
5.	Biodegradable Sources	Mud pots, glasses, Leaf plates 'Pattals' were used	Single use Plastic disposal glass and plates should be avoided instead of Mud glasses and pots should be preferred

9.1 Barriers/Challenges

- Eco friendly products cost higher than products already available in Market.
- Lack of Minimum support prices (MSP) on the pulses, vegetables and crops consuming less water discourages the farmers to rotate the traditional crops of wheat and paddy.
- Rain water conservation plants costs higher. Lack of Subsidy on the plants by Government challenges the initiative taken by farmers to preserve water.
- Competition of more production of crops discourages the farmers to adopt compost and traditional dung manure at the place of UREA/DAP.
- Due to the Globalization and changing climate patterns creates barrier in adopting traditional practices in Agriculture.

9.2 Advantages

- Rebuilding the Architecture according to Indigenous knowledge prevents the heat and environment friendly green spaces should be there in the modern houses.
- Conservation of water will help to sustain life for the future generations by adopting Indigenous practices to save water.
- Adoption of Organic Manure instead of Poisonous one will help to improve health and away from diseases.
- Usage of Paper based carry bags and leaf plates instead of Single use plastic will lead towards pollution free environment.
- Smart and climate friendly agricultural practices will help to earn more and enriched food material for the humanity.

9.3 Strategies to incorporate in Contemporary time

- Agricultural policies should be embedded with the Practices based on Indigenous Knowledge to tackle the contemporary issues scarcity of water and environment pollution.

- b) Awareness programs related to the practical use of rain water harvesting, Drip irrigation should be conducted in the rural areas to create awareness among masses.
- c) However Urban and Regional Development Plans Formulation and Implementation (URDPFI) guidelines instructed to create at least 10-12 sq meter of green space per person should be there in cities in form of parks and playgrounds. These kinds of initiatives should be implemented in practical manner.
- d) Movements like ‘Swachh Bharat Abhiyan should be strictly adhered practically to reduce single use plastic and wastage.

10. Results/Findings

10.1 Findings Based on Research Propositions

10.1.1 Research Proposition 1 (RP1): The interdisciplinary integration of the Indian Knowledge System (IKS) into contemporary practices has the potential to strengthen the education, health, and environmental sectors by promoting holistic, sustainable, and culturally relevant approaches to development.

S. No.	Research Proposition	Evidence from Reviewed Literature and Policy Documents	Qualitative Findings	Practical Implications/Future Pathways
1	RP1: Integration of IKS in Education, Health and Environment	NEP 2020, UGC Guidelines, IKS Division initiatives, Ministry of AYUSH documents, WHO Traditional Medicine Strategy (2025–2034), literature on indigenous environmental practices and sustainable development.	The reviewed literature consistently suggests that IKS promotes holistic learning, preventive healthcare, and environmentally sustainable practices. Government policies indicate increasing institutional support for integrating IKS	Strengthen interdisciplinary collaboration, expand IKS Centres, develop implementation frameworks, integrate IKS into institutional policies, and encourage evidence-based application of indigenous knowledge.

			into higher education and interdisciplinary research.	
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Table 10.1.1

10.1.2 Findings Related to Research Proposition 1a (RP1a)

Research Proposition (RP1a): The incorporation of traditional Indian teaching-learning pedagogies and indigenous educational practices has the potential to enhance learners' conceptual understanding, reflective thinking, experiential learning, and overall educational outcomes.

S. No.	Dimension	Evidence from Reviewed Sources	Qualitative Findings	Future Pathways
1	Student-Centred Learning	NEP 2020, UGC IKS initiatives, literature on Gurukul pedagogy, Shrivana–Manana–Nididhyasana	The reviewed literature suggests that indigenous pedagogies encourage reflective thinking, experiential learning, active participation, and learner-centred education.	Curriculum redesign, experiential learning modules, internships, field visits, project-based learning, and teacher capacity-building programmes.
2	Teacher Development	Malaviya Mission Teacher Training Programme (MMTTP), Faculty Development Programmes	Existing initiatives indicate increasing emphasis on equipping teachers with knowledge of innovative pedagogical approaches and IKS integration.	Continuous professional development, interdisciplinary teacher training, digital resources, and classroom innovation.

Table 10.1.2

10.1.3 Findings Related to Research Proposition 1b (RP1b)

Research Proposition (RP1b): The integration of indigenous health practices into contemporary healthcare systems has the potential to contribute to preventive healthcare, holistic well-being, improved physical and mental health, and the promotion of long-term healthy lifestyles.

S. No.	Dimension	Evidence from Reviewed Sources	Qualitative Findings	Future Pathways
1	Preventive Healthcare	Ministry of AYUSH publications, WHO Traditional Medicine Strategy (2025–2034), reviewed studies on Ayurveda, Yoga and Meditation	The reviewed evidence indicates that traditional healthcare practices are increasingly recognized for promoting preventive healthcare, holistic wellness, and complementary health approaches.	Greater public awareness, scientific validation, integration with public health programmes, and training of healthcare professionals.
2	Accessibility and Affordability	WHO reports, Government initiatives on AYUSH	Literature suggests that indigenous healthcare practices may improve accessibility and affordability, particularly in resource-constrained settings, when implemented responsibly.	Strengthen AYUSH infrastructure, community health programmes, and evidence-based clinical research.

Table 10.1.3

10.1.4 Findings Related to Research Proposition 1c (RP1c)

Research Proposition (RP1c): The adoption of indigenous environmental knowledge and sustainable traditional practices has the potential to support environmental conservation, promote ecological balance, and contribute to sustainable development.

S. No.	Dimension	Evidence from Reviewed Sources	Qualitative Findings	Future Pathways
1	Sustainable Agriculture and Water Conservation	Literature on traditional ecological knowledge, Ministry of Agriculture initiatives, National Water Mission	The reviewed literature indicates that traditional agricultural practices, crop rotation, rainwater harvesting, and organic farming can contribute to sustainable resource management and environmental conservation.	Promote climate-resilient agriculture, expand rainwater harvesting, encourage organic farming, and provide policy incentives for sustainable practices.

Table 10.1.4

Conclusion

In conclusion, the Indian Knowledge System (IKS) is not a new concept; rather, it represents India's long-standing intellectual and cultural heritage, which has gained renewed attention through the National Education Policy (NEP) 2020 and related government initiatives. The establishment of IKS centres, the growing number of interdisciplinary research projects, and policy support demonstrate the increasing institutional recognition of indigenous knowledge and its relevance to contemporary society. The qualitative review conducted in this study suggests that IKS has considerable potential to contribute to the education, health, and environmental sectors when integrated through context-specific and evidence-informed approaches. The reviewed literature indicates that indigenous pedagogical practices may enrich learner-centred education, traditional healthcare practices may complement preventive and holistic well-being, and indigenous environmental knowledge may support sustainable resource management and ecological conservation. These observations, however, are derived from the synthesis of existing literature, policy documents, and institutional reports rather than from primary empirical investigation. The review also highlights several challenges that may hinder the practical implementation of IKS, including the absence of a comprehensive implementation framework,

limited teacher training, insufficient public awareness, infrastructure constraints, scientific validation of certain traditional practices, institutional resistance, and the gradual nature of outcomes associated with many indigenous approaches. Addressing these challenges requires coordinated efforts from policymakers, educational institutions, healthcare professionals, environmental agencies, researchers, and local communities. Government initiatives such as curriculum reforms under NEP 2020, faculty development programmes, the promotion of yoga and meditation, support for traditional healthcare systems, and the encouragement of environmentally sustainable practices represent important steps towards the integration of IKS into contemporary frameworks. However, the long-term success of these initiatives will depend on systematic implementation, interdisciplinary collaboration, continuous evaluation, and appropriate policy support. Overall, the reviewed evidence suggests that the Indian Knowledge System provides a valuable conceptual framework for promoting holistic education, preventive healthcare, and environmental sustainability. While the findings indicate promising possibilities for its practical integration, further empirical research, including case studies, surveys, longitudinal studies, and implementation-based evaluations, is required to assess the effectiveness and impact of these strategies in real-world settings. Such research would strengthen the evidence base and support informed policy decisions regarding the wider application of IKS in contemporary society.

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