

A Conceptual Exploration of Indigenous Knowledge and Sustainable Development in Alignment with the National Education Policy (NEP) 2020

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Abstract

This paper highlights the importance of Indigenous Knowledge Systems (IKS) in promoting sustainable development and explores how India's National Education Policy (NEP) 2020 supports the integration of IKS into the education system. Indigenous knowledge—deeply connected to local traditions, environments, and ways of life—has helped communities live sustainably for generations. However, it has often been ignored due to colonial influence, modernization, and globalization. NEP 2020 encourages the revival of Indian knowledge through hands-on learning, teaching in local languages, and value-based education. Using frameworks like Traditional Ecological Knowledge (TEK), Education for Sustainable Development (ESD), and decolonial perspectives, this paper outlines ways to include IKS in school curricula, teaching practices, and teacher training. It argues that valuing IKS not only helps preserve cultural identity but also provides useful solutions to global challenges like climate change and resource overuse. The paper recommends creating educational content, training programs, and school–community partnerships that align with NEP 2020 and respect and safeguarding the rights and ownership of Indigenous communities.

Keywords: Indigenous Knowledge Systems (IKS), Sustainable Development, National Education Policy 2020 (NEP 2020), Traditional Ecological Knowledge (TEK), Education for Sustainable Development (ESD).

Introduction

The world today is facing many serious problems—like climate change, pollution, loss of animals and plants, and growing inequality between the rich and poor. These problems are complex and can't be solved by using

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only one kind of knowledge. We need to think differently about how we learn, teach, and use knowledge in our daily lives and in education.

One powerful and often ignored source of knowledge is Indigenous Knowledge Systems (IKS). This is the traditional knowledge passed down through generations in local communities. It is based on close relationships with nature and includes farming methods, ways to care for the environment, community values, and problem-solving techniques. Indigenous people have used this knowledge to live sustainably and protect nature for centuries.

Unfortunately, this knowledge has often been pushed aside or forgotten. During colonial times and in modern education systems, Indigenous knowledge was seen as unscientific or old-fashioned. As a result, it hasn't been properly respected or included in schools and policies.

India's National Education Policy (NEP) 2020 offers a chance to change that. The policy encourages schools to include India's traditional knowledge in education. It supports learning through experience (hands-on learning), teaching in local languages, and promoting cultural values. These ideas can help bring Indigenous knowledge into classrooms in a meaningful way.

This paper looks at how NEP 2020 can be used to include Indigenous Knowledge in education. It uses ideas from different fields—like Traditional Ecological Knowledge (TEK), Education for Sustainable Development (ESD), and decolonial thinking to show why Indigenous knowledge is important today. It also suggests how schools, teachers, and communities can work together to include this knowledge in lessons and teaching methods.

In short, the paper argues that Indigenous knowledge should not be seen as something from the past. Instead, it is a living, useful system that can help us solve today's big problems and build a better, more sustainable future.

Indigenous Knowledge and Sustainable Development

Indigenous knowledge and sustainability are closely linked. Tribal and rural communities who live close to nature—like in forests, hills, riversides, and rural areas—have always depended on their environment for food, water, shelter, and medicine. Over time, they developed ways to use these natural resources carefully so that nothing is wasted or damaged.

For example, they might rotate crops to keep soil healthy, use natural herbs instead of chemicals, or share water fairly among families. These practices show a deep respect for nature and are examples of sustainable living. So, learning from Indigenous knowledge can help us protect the environment and deal with problems like climate change and pollution.

NEP 2020 and Indigenous Knowledge

NEP 2020 clearly supports the revival and inclusion of Indian Knowledge Systems. It highlights the importance of:

- Teaching children about local history, culture, and environment.
- Using regional languages in schools to help students learn better and stay connected to their roots.
- Promoting hands-on and practical learning (not just textbook-based).
- Including local stories, traditions, and examples in lessons.
- Encouraging collaboration between schools and local communities.

All of this creates a strong opportunity to include Indigenous knowledge in the education system in a meaningful way. By doing this, schools can help preserve traditional wisdom and teach students how to live in harmony with nature.

Research Questions of the Study:

1. How can Indigenous Knowledge Systems (IKS) be systematically integrated into educational curricula under NEP 2020?
2. How can Indigenous Knowledge help India achieve sustainability and meet global development goals (SDGs)?
3. What challenges and opportunities exist in mainstreaming IKS within teacher education and community–school partnerships?

Objectives of the Study:

1. To identify, record, and study Indigenous Knowledge Systems (IKS) that support sustainable living and environmental conservation.
2. To examine the alignment of NEP 2020 with the integration of Indian Knowledge Systems (IKS) and Education for Sustainable Development (ESD)
3. To identify pedagogical approaches such as experiential learning, storytelling, project-based learning, and use of local languages that can support the teaching of IKS.
4. To explore the preparedness of teacher education programs to incorporate IKS into teaching practices.
5. To propose policy recommendations for integrating IKS into curriculum, pedagogy, and teacher training, while safeguarding Indigenous communities' rights and knowledge ownership.

Review of Literature:

Berkes (2018) highlighted how local and indigenous knowledge is important alongside scientific knowledge. It has deep cultural and political meaning for indigenous communities. The latest edition of his work includes more voices from indigenous authors and updated research, especially on how climate change is being observed locally.

Sharma (2024) discussed how the National Education Policy (NEP) 2020 supports bringing indigenous knowledge systems (IKS) into modern education. The paper focuses on how scientific methods can help study and revive IKS, promoting a more holistic and interdisciplinary learning approach.

Raza & Parween explored how NEP 2020 helps revive indigenous knowledge. They talked about the challenges of keeping this knowledge alive and suggested that community involvement, supportive policies, and education reforms are key to making IKS sustainable for the future.

Research Methodology:

This paper follows a conceptual research approach. Instead of collecting new data through fieldwork or surveys, the study is based on a careful review and analysis of existing sources. These include academic literature, government policy documents, curriculum frameworks, and documented case studies related to Indigenous Knowledge Systems (IKS), sustainable development, and India's National Education Policy (NEP) 2020.

Results:

1. Identification and Analysis of Indigenous Knowledge Systems (IKS)

The study found that Indigenous Knowledge Systems (IKS) include traditional farming, water management, forest protection, and herbal medicine that support sustainable living and environmental care. These practices help maintain balance in nature and protect biodiversity (Berkes, 2012). Since most of this knowledge is shared orally, documenting it properly is important to keep it alive and use it for future sustainability (Agrawal, 1995; Sillitoe, 2007).

2. Alignment of NEP 2020 with IKS and Education for Sustainable Development (ESD)

The National Education Policy (NEP) 2020 shows strong support for Indian Knowledge Systems (IKS) and the goals of Education for Sustainable Development (UNESCO, 2014). It promotes holistic and experiential learning that connects culture, environment, and values (Ministry of Education, 2020). However, the study found that while the policy values IKS, more detailed plans are needed to put it into action in schools and teacher training.

3. Pedagogical Approaches for Teaching IKS

Effective teaching methods for IKS include experiential learning, storytelling, project-based learning, and teaching in local languages. These approaches reflect how Indigenous knowledge is traditionally passed on and make learning more meaningful and connected to real life (Smith, 1999; Sillitoe, 2007).

4. Preparedness of Teacher Education Programs

Most teacher training programs still focus on Western teaching methods and do not prepare teachers well to include Indigenous perspectives (George, 2020). Many teachers are interested in using IKS but lack training and resources (Kumar, 2021). This shows the need for new training modules that help teachers work with local communities and teach in culturally sensitive ways.

5. Policy Recommendations for Integrating IKS in Education

Based on the findings, the study recommends:

- Integration of IKS content into school and teacher education curricula.
- Development of teacher training modules focused on Indigenous pedagogy and community collaboration.
- Institutionalization of community–school partnerships involving elders and knowledge holders.
- Legal and ethical safeguards for Indigenous intellectual property and knowledge ownership.

Discussion:

The study shows that Indigenous Knowledge Systems (IKS) play a very important role in protecting the environment and promoting sustainability. According to Berkes (2012), Indigenous knowledge is based on long-term observation and learning passed down through generations. Bringing this knowledge into education can help students understand nature better and feel proud of their cultural roots.

The National Education Policy (NEP) 2020 is a major step forward because it recognizes the value of Indian Knowledge Systems in education. However, as UNESCO (2014) points out, it is not enough to mention IKS in policy. To make it work, schools need clear plans—such as updated curricula, well-trained teachers, and cooperation with local communities.

Teaching methods like experiential learning, storytelling, and project-based learning (Smith, 1999; Sillitoe, 2007) can connect traditional and modern knowledge. These approaches help students relate what they learn in school to their real-life experiences, local culture, and the environment. Teaching in local languages also helps preserve culture and makes learning easier and more inclusive.

However, teacher training remains a big challenge. George (2020) and Kumar (2021) found that many teachers are not yet prepared to teach Indigenous content because they lack proper guidance and practical experience. Without training and support, including IKS in classrooms may not have a real impact.

Ethical issues are also very important. Battiste (2002) reminds us that Indigenous communities should have control over how their knowledge is shared, so it is not misused or taken without permission.

In short, including Indigenous Knowledge Systems in education can make learning richer, support sustainability, and celebrate cultural diversity. When supported by proper teacher training, community participation, and respect for Indigenous rights, IKS can help build a more sustainable and inclusive education system.

Limitations and Delimitations of the Study:

This study is limited to existing information and does not include fieldwork or interviews with Indigenous people or teachers. Some knowledge may be missing because many Indigenous practices are not written down or are in local languages.

The study is delimited to the Indian context and focuses only on school and teacher education under NEP 2020. It does not cover higher education or Indigenous knowledge in other countries. It also uses a general idea of Indigenous Knowledge, not specific to any one community.

Recommendations:

- Develop national and state-level curriculum frameworks that embed IKS across subjects.
- Establish IKS Centers of Excellence.
- Introduce capacity-building workshops for teachers.
- Ensure community ownership of Indigenous knowledge.
- Promote multilingualism in education.
- Create digital archives to preserve Indigenous knowledge.
- Align IKS-based education with Sustainable Development Goals (SDGs).

Conclusion:

Indigenous Knowledge Systems (IKS) are not just part of our culture—they are practical ways of living that help protect the environment and support sustainable life. For generations, Indigenous communities have used this knowledge to take care of forests, water, land, and animals.

Today, when the world is facing big problems like climate change, pollution, and social inequality, IKS offers smart and natural solutions. These traditional ways are still very useful and can work alongside modern science.

By including IKS in schools and colleges—as suggested in India’s National Education Policy (NEP) 2020—we can help students learn from both traditional wisdom and modern education. This will also help preserve our cultural roots and support global goals for a better and fairer world.

However, it is important to do this carefully and respectfully. Indigenous communities should have control over how their knowledge is shared, and they must be part of the decision-making. Teachers, policymakers, and local communities need to work together to make this happen in a fair and meaningful way.

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