



Indigenous Ecological Knowledge and Environmental Education

An intervention design for the primary education of tribal children around Kanha Tiger Reserve

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01. Introduction

A. Why This Study?

- Modern education often creates a disconnect between students' lived experiences and classroom learning.
- Indigenous Ecological Knowledge (IEK) holds valuable insights into sustainability and conservation but remains underutilized in formal education.

B. Why The Need For IEK In Environmental Education?

- Indigenous communities, like the Gond and Baiga in Kanha, have developed deep ecological wisdom through lived experiences.
- IEK includes sustainable resource management, biodiversity conservation, and nature-based storytelling—integral but often overlooked in mainstream curricula.
- The National Curriculum Framework (2005) emphasizes a "near-to-far" approach but does not fully integrate indigenous knowledge.

C. Bridging The Gap – The Role of Earth Focus Foundation

- Working at Kanha Tiger Reserve to align formal education with local ecological knowledge.
- Engaging Gond and Baiga communities in co-creating educational frameworks.
- Encouraging experiential learning through art, storytelling, and environmental interactions.

02. Objective

- Understanding the ongoing intervention using the appreciative inquiry model.
- To devise possible modifications in the curriculum and pedagogy in collaboration with the educators in schools run by Earth Focus Foundation.



SITE

- **Location & Ecology:** Kanha Tiger Reserve, Madhya Pradesh—rich in biodiversity with sal forests, grasslands, and diverse wildlife.
- **Community & Cultural Significance:** Home to the Gond and Baiga tribes, who have deep ecological knowledge passed down through folklore, rituals, and Gond art.
- **Relevance to Study:** The site serves as a living classroom, where integrating IEK into environmental education strengthens cultural and ecological learning.

03. Methodology

Approach: Appreciative Inquiry Model

- A strengths-based method to evaluate and enhance the curriculum.
- Focuses on building upon existing best practices rather than identifying shortcomings

Research Methods

- **Literature Review:** Examining studies and case studies on IEK integration in education.
- 1. **Classroom Observations:** Analyzed how the biodiversity curriculum is implemented, focusing on teaching methods, student engagement, and the integration of local ecological knowledge in lessons. Reviewing the existing curriculum and Identifying strengths and areas for improvement in existing lessons.
- 2. **Community Interaction:** Conducted discussions with educators, students, and community elders to understand more about IEK and to come up with new themes.

04. Selection of Themes

Why New Themes?

- Existing curriculum introduces local biodiversity but lacks deep integration of IEK.
- Need to reinforce the cultural connections and experiential learning.
- Ensuring IEK is not just supplementary but central to environmental education.

Three Selected Themes :

- Ecological Significance of Mahua
- Gond Art and Environmental Storytelling
- Traditional Folklore and Nature

05. Key Findings And Thematic Analysis

Themes	The Importance of Mahua	Gond Art and Environmental Storytelling	Traditional Folklore and Nature
Historical Values	1. Sacred tree in indigenous traditions. 2. Used in rituals, festivals, and medicinal practices for generations.	1. Passed down through generations to depict tribal life and spiritual beliefs. 2. Used in festivals and sacred rituals.	1. Oral traditions that teach moral and ecological lessons. 2. Stories passed down to explain natural phenomena.
Connecti-on With Nature	1. Supports local biodiversity (soil fertility, food for animals). 2. Integral to tribal economy (oil, liquor, food, and medicine).	1. Represents interconnectedness of humans, animals, and forests. 2. Uses symbols to express respect for nature.	1. Strengthens understanding of the role of rivers, forests, and animals in daily life. 2. Embeds respect for nature in everyday practices.
Conserva-tion	1. Threatened by deforestation and modernization. 2. Need for sustainable harvesting and reforestation.	1. Art as a tool for raising environmental awareness. 2. Promotes conservation messages about biodiversity and sustainability.	1. Encourages preservation of natural resources through myths and proverbs. 2. Songs and stories reinforce conservation ethics.

06. Intervention Design

Theme 1: Ecological Significance of Mahua	
1.	Week 1: Ecology of Mahua Tree
2.	Week 2: Exploring Character of Mahua
3.	Week 3: Tribal Importance of Mahua
4.	Week 4: Mahua and Rituals
5.	Week 5: Uses of Mahua
6.	Week 6: Ecological Uses of Mahua
7.	Week 7: Conservation and Threats
Theme 2: Gond Art and Environmental Storytelling	
1.	Week 1: Understanding Gond Art
2.	Week 2: Creating Gond Inspired Art
3.	Week 3: Cultural and Social Importance of Gond Art
4.	Week 4: Environmental Importance of Gond Art
5.	Week 5: Relation With Nature God
6.	Week 6: Economic Importance of Gond Art
Theme 3: Traditional Folklore and Nature	
1.	Week 1: Life in Forest
2.	Week 2: Rivers and Their Stories
3.	Week 3: Animals in Tribal Folklore
4.	Week 4: The Sacred Trees

07. Conclusion

- **Contextual Learning is Crucial:** IEK strengthens environmental awareness when connected to students' daily lives.
- Scientific explanations can be enriched through traditional practices, rituals, and stories.
- **Sustained Efforts Are Needed:** IEK integration must be continuous, involving curriculum adaptation, teacher training, and community engagement.
- **Potential for Broader Applications:** Lessons from this study can be adapted for other indigenous communities and mainstream environmental education.
- Experiential methods like storytelling, art, and nature walks deepen student engagement.

