

Karam Puja: A Scientific Study for Environmental Conservation in Indigenous Traditions

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Abstract: *Karam Puja, a prominent tribal festival celebrated by tribal communities across eastern and central India represents a deep-rooted ecological consciousness embedded within indigenous traditions. Beyond its cultural and religious significance, the festival represents a sophisticated ecological philosophy rooted in sustainable living, biodiversity conservation, and environmental ethics. By integrating anthropological insights with environmental science, the paper demonstrates how traditional knowledge systems can contribute to modern sustainability discourse. The research highlights the role of sacred trees, community participation, and eco-centric rituals in fostering environmental stewardship. This paper explores the environmental significance of Karam Puja through a scientific lens, analyzing its rituals, symbolism, and community practices. The study shows that Karam Puja is not merely a cultural or religious event but an ecological framework not only promoting biodiversity conservation, sustainable agriculture and environmental ethics but also revitalizing indigenous practices like Karam Puja which plays a vital role in addressing contemporary ecological crises.*

Keywords: Karam Puja, Indigenous Knowledge, Environmental Conservation, Sacred Ecology, Sustainability, Tribal Traditions

1. Introduction

Environmental degradation has become one of the most pressing global challenges of the 21st century. Issues such as deforestation, climate change, biodiversity loss, and soil degradation have intensified due to industrialization and unsustainable human practices. While scientific advancements have provided technological solutions, they often overlook traditional ecological wisdom that has sustained human societies for centuries. In this context, indigenous traditions and cultural practices offer valuable insights into sustainable living.

Karam Puja (also known as Karma Puja) is a tribal harvest festival celebrated in regions such as Jharkhand, West Bengal, Odisha, Bihar, Assam, and Chhattisgarh which is deeply intertwined with agricultural cycles and forest ecosystems. The festival is centered around the worship of the Karam tree (*Naucllea parvifolia*), symbolizing fertility, prosperity, and ecological balance. Indigenous communities such as the Santhal, Munda, Oraon, and Ho tribes observe this festival with rituals that emphasize harmony between humans and nature. Unlike modern exploitative practices, Karam Puja promotes a reciprocal relationship with the environment. It reinforces the idea that nature is sacred and must be preserved for future generations. Apart from rituals, the Karam tree (*Adina cordifolia*, also known as *Mitragyna parvifolia* or Kadamba) offers significant environmental, ecological and cultural benefits, particularly in the tropical regions of India where it thrives. It is central to tribal eco-spirituality, fostering conservation and sustainability. The tree helps in air purification by absorbing carbon dioxide and releasing oxygen, supporting the reduction of greenhouse gases. The Karam tree thrives in heavy rainfall areas and aids in water conservation by increasing groundwater levels and managing rainwater runoff. Its root system helps hold the soil together, preventing erosion and supports local wildlife by providing food and habitats, including nectar for insects and fruits for birds. It is recognized for its importance in ecological restoration, and efforts are made to protect these

trees against ecological degradation, such as salinity issues caused by storms.

It is traditionally associated with agricultural fertility, believed to protect crops from pests and contribute to better harvests. The tree is an integral part of the tribal "Sarna" tradition, where the worship of the tree ensures the preservation of forests, biodiversity, and medicinal plants.

This study aims to explore the scientific and ecological dimensions of Karam Puja as an ecological model embedded in cultural practices and evaluate its relevance in contemporary environmental conservation strategies.

2. Historical and Cultural Background of Karam Puja

Karam Puja is celebrated on the 11th day of the Bhadra month (August–September), coinciding with agricultural cycles. The festival honors Karam Devta, the deity associated with youth, fertility, and prosperity.

The festival revolves around:

- Worship of Karam Devta (deity of power and youth)
- Ritual planting of Karam tree branches
- Fasting and communal celebrations
- Singing, dancing, and storytelling

It is deeply connected to agricultural prosperity and seasonal cycles, reflecting a harmonious relationship between humans and nature. These practices symbolize gratitude toward nature and reinforce ecological values.

3. Ecological Importance of the Karam Tree

Karam Tree is central to the festival which holds ecological and symbolic importance. The worship of trees promotes:

- Fertility and life
- Ecological balance
- Forest sustainability

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- Protection of sacred groves
- Prevention of deforestation
- Cultural restrictions on tree cutting

The festival emphasizes that humans depend on forests, water, and land for survival. Sacred trees and groves often act as biodiversity hotspots. By designating certain trees as sacred, communities ensure

- Protection of native species
- Conservation of ecological niches
- Maintenance of genetic diversity

From an ecological standpoint:

- Trees regulate climate
- Maintain soil fertility
- Support biodiversity

Sacred tree worship indirectly ensures conservation by preventing deforestation.



Figure 2: Karam festival @ Tree is regarded as God



Figure 1 (a): Workship of Karam Tree



Figure 3 (a): Karam festival @ Celebration



Figure 1 (b): Workship of Karam Tree



Figure 3 (b): Karam festival @ Celebration

[Pictures originally taken by the author on 9th September, 2023 at Sami, Malda, West Bengal]

4. Key Rituals and Their Environmental Significance

Karam Puja is a significant tribal festival celebrated in India that reinforces environmental protection by worshipping nature- specifically the Karam tree- and expressing gratitude for agricultural fertility. It fosters sustainable practices, ecological balance, and conservation of natural resources, viewing nature as a living partner rather than just a resource.

- Worship of the Karam Tree: As a symbol of the value of forests and the benefits of nature, the villagers cut branches of the Karam tree and place them in the village courtyard for prayer.

- Jawa Germination Ceremony: Rice, wheat, and corn are among the seven varieties of seeds that women and single girls sow in baskets with reverent care. This ritual fosters a deep understanding of, and respect for, agricultural sustainability and crop fertility
- Nature Worship (Eco-Spirituality): The festival is closely linked to agricultural cycles (pre-Kharif harvest) and promotes gratitude toward Mother Nature for her bounty.
- Community-Led Conservation: The community engages in rituals that foster a sense of shared responsibility for safeguarding the environment, biodiversity, and regional ecosystems.
- Immersing the Branch: After the festival, the Karam branch is ceremonially immersed in water, emphasizing the cycle of life and nature's renewal.

5. Environmental Protection and Sustainability

- Protection of Biodiversity: The celebration, focusing on forests and plants, promotes a culture of sustainability and ecological preservation.
- Sacred Groves: Karam Puja enhances the protection of forests and sacred sites, ensuring the preservation of trees and plants crucial for ecosystem balance.
- Focus on Sustainability: The festival underscores the need to protect the environment and Mother Nature for future generations promoting sustainable farming and gratitude for soil and water resources.
- Conservation of Ecosystems: By respecting trees, rivers, and the soil, the festival encourages the preservation of medicinal plants, pollinators, and overall ecosystem health.

This celebration draws attention to the deep, long-standing bond that exists between indigenous people and their surroundings, highlighting the importance of ecological preservation to their social, cultural, and spiritual well-being. It also serves as a cultural reminder to live in harmony with nature and maintain a balance between human needs and environmental well-being.

6. Conclusion

Karam Puja is more than a tribal festival- it is a living model of environmental sustainability rooted in indigenous knowledge. Its rituals, beliefs, and practices reflect a deep understanding of ecological balance and resource management. In an era of environmental crisis, revisiting and integrating such traditional practices can provide valuable solutions. The scientific study of Karam Puja highlights the importance of cultural ecology in shaping sustainable futures. Preserving and promoting such traditions is not only a cultural necessity but also an environmental imperative. By recognizing and revitalizing such indigenous traditions, we can develop more holistic and sustainable approaches to environmental conservation. Karam Puja teaches us that protecting nature is not just a scientific necessity but a moral and cultural responsibility.

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Author Profile



Prof. (Dr.) Sumit Nandi did B.Sc. (Hons.) in Chemistry, B.Tech. (Chemical Technology), M.Tech. (1st class 1st & Gold Medallist) in Chemical Technology and Ph.D. (Tech.) from Calcutta University. After that he completed MBA with dual specialization in finance and marketing. He also completed one year Post Graduate Diploma in Environmental Management from Kalyani University. Presently, he is working as Principal, Harishchandrapur College (State Aided College affiliated with Gour Banga University) at Pipla, Malda, West Bengal. Before that, Prof. Nandi was attached with Narula Institute of Technology under JIS Group, Kolkata in the Dept. of Basic Science of Humanities for eighteen years initially as Assistant Professor and lastly as Head and Associate Professor in the same department. He was also attached as Visiting faculty in the Department of Chemical Technology, Calcutta University for the last twenty-one years. He has several years' industrial experience also. His main research area is enzyme kinetics, environment friendly biofuels, mathematical modelling in environmental issues, characterization of blended polymers etc. Several prestigious projects from DBT and UGC have also added many feathers to his cap. He has two granted patents, one copyright and eight published patents. He published several books on Engineering Chemistry for the B.Tech. students. He guided several research scholars also. He has got best paper presentation award several times in different international conferences in India and abroad. Prof. Nandi contributed more than 150 research publications in reputed international journals and conferences. He visited different countries like Germany, China, Poland, Czee Republic, Hungary, Bulgaria and Lithuania for invited talks and contributory talks in the international conferences. Prof. Nandi acted as Coordinator in the World Bank funded TEQIP project. He conducted several International and National conferences, Workshops, Faculty Development Programmes, Webinars etc successfully.