International Journal of Scientific Research & Engineering Trends
Volume 12, Issue 1, Jan-Feb-2026, ISSN (Online): 2395-566X

Sacred Ecology: Understanding UKS Through Community Narratives on Culturally Important Plants

Dr. Ruchita Sujai Chowdhary
Assistant Profressor, Dept. of Journalism and Mass Communication, Khwaja Moinuddin Chishti Language University, Lucknow.

Abstract- Sacred plants have long played an integral role in shaping ecological consciousness, ritual performances, and cultural identity within Indian society. Among these, Tulsi (Ocimum sanctum) and Peepal (Ficus religiosa) hold a distinctive presence as sacred, medicinal, and symbolic botanical entities embedded deeply in everyday religious and cultural practices. This qualitative study examines the Use, Knowledge, and Significance (UKS) surrounding these plants through community narratives in both rural and urban settings in North India. Utilizing narrative inquiry and ethnographic approaches, the research documents oral histories, lived experiences, ritual participation, and ecological perceptions expressed by diverse community members. Findings reveal that Tulsi and Peepal function not only as religious icons but also as powerful conveyors of environmental values, emotional wellbeing, and intergenerational continuity. Despite rapid modernization and urban transformations disrupting traditional practices, the enduring relevance of these plants demonstrates their potential as culturally grounded tools for ecological communication. The study argues that sacred plant traditions embody a form of "sacred ecology," offering insights into sustainable cultural-environmental relationships and highlighting the need for preserving traditional knowledge systems.

Keywords – Sacred plants, Tulsi, Peepal, UKS, ethnobotany, narrative inquiry, sacred ecology, cultural traditions, environmental communication.

I. INTRODUCTION

Human civilization has always maintained a deep and intricate relationship with nature. Across cultures and epochs, natural elements such as forests, rivers, mountains, animals, and plants have not merely served utilitarian purposes but have also been revered as sacred entities. In the Indian civilizational context, this relationship finds its philosophical and practical expression in the form of Indian Knowledge Systems (UKS), where ecology, spirituality, ethics, and daily life are deeply intertwined. The concept of Sacred Ecology emerges from this worldview, reflecting a holistic understanding of nature as a living, conscious, and moral entity rather than a resource to be exploited.

Sacred ecology, as a theoretical and cultural framework, recognizes the interconnectedness between human societies and their natural environment through belief systems, rituals, and traditional practices. In India, this connection is especially visible in the cultural reverence of plants such as Tulsi, Peepal, Banyan, Neem, and Bael. These plants are not merely botanical species; they are embedded in religious rituals, community traditions, healthcare practices, and moral teachings passed down through generations. Such associations reflect a sophisticated ecological consciousness embedded within Indian traditions long before the emergence of modern environmentalism.

The Indian Knowledge System (UKS) offers a comprehensive understanding of nature grounded in sustainability, coexistence, and ethical responsibility. Rooted in ancient texts such as the Vedas, Upanishads, Puranas, and Ayurvedic treatises, UKS emphasizes harmony between humans and the environment. The philosophical idea of "Vasudhaiva Kutumbakam" the world as one family encapsulates the ecological ethics inherent in Indian thought. Unlike modern anthropocentric approaches, UKS adopts a biocentric worldview where plants, animals, rivers, and mountains are regarded as living entities with intrinsic value.

In this context, sacred plants play a crucial role in shaping environmental consciousness at the community level. For instance, the Tulsi plant is worshipped in millions of households across India, symbolizing purity, health, and divine presence. The Peepal tree is associated with longevity and spiritual enlightenment, often protected through religious beliefs that discourage its cutting. Similarly, the Banyan tree represents continuity and shelter, while Neem is revered for its medicinal and purifying properties. These cultural narratives have historically contributed to biodiversity conservation, sustainable resource use, and ecological balance often without formal scientific intervention.

However, in the contemporary era, rapid urbanization, industrialization, and changing lifestyles have led to a gradual erosion of traditional ecological knowledge. The disconnect between modern development models and indigenous wisdom has resulted in environmental degradation, biodiversity loss, and climate-related challenges. In this scenario, revisiting UKS through the lens of sacred ecology becomes not only relevant but essential. Understanding how traditional communities perceive, protect, and interact with culturally significant plants can offer valuable insights for sustainable development, environmental education, and policy formulation.

This research paper seeks to explore Sacred Ecology through community narratives, focusing on how culturally important plants are understood, preserved, and revered within local traditions. Community narratives stories, rituals, oral traditions, and lived practices serve as rich repositories of ecological knowledge. Unlike formal scientific documentation, these narratives reflect experiential wisdom shaped by centuries of observation and interaction with nature. They also reveal how environmental ethics are transmitted informally across generations through festivals, worship practices, folk beliefs, and everyday customs.

The study adopts a qualitative and interpretative approach to understand how communities conceptualize their relationship with sacred plants and how these relationships influence conservation practices. By engaging with local narratives, the research highlights the role of cultural memory in sustaining biodiversity and ecological balance. These narratives also provide insights into the socio-cultural dimensions of environmental stewardship, where protection of nature is viewed not as an obligation imposed by law, but as a moral and spiritual duty.

An important aspect of this study is its alignment with contemporary discourses on sustainable development and indigenous knowledge systems. Global environmental frameworks increasingly recognize the importance of traditional ecological knowledge in addressing climate change, biodiversity loss, and environmental degradation. In this regard, UKS offers a valuable indigenous model that integrates ethics, ecology, and spirituality. The reverence for plants within Indian traditions demonstrates how cultural values can function as powerful tools for environmental conservation.

Moreover, the study contributes to the growing academic discourse on decolonizing knowledge systems by foregrounding indigenous perspectives that have often been marginalized in mainstream environmental studies. By centering community voices and lived experiences, the research challenges the dominance of purely scientific or technocratic approaches to ecology and highlights the relevance of culturally embedded knowledge systems.

The relevance of this research also extends to education and policy-making. Integrating insights from sacred ecology into environmental education can foster ecological sensitivity among learners and promote value-based environmental ethics. In alignment with the National Education Policy 2020, which emphasizes the inclusion of Indian Knowledge Systems in

curricula, this study underscores the need to document and disseminate traditional ecological wisdom in academic and pedagogical frameworks.

Hence, this study positions sacred ecology as a vital bridge between tradition and sustainability. By examining UKS through community narratives centered on culturally significant plants, the study seeks to demonstrate that ecological consciousness is deeply rooted in India's cultural fabric. These traditions, when understood and revitalized, can contribute meaningfully to contemporary environmental discourse and sustainable development goals. The paper thus argues for a renewed engagement with indigenous ecological knowledge not as relics of the past, but as living systems of wisdom capable of guiding humanity toward a more harmonious relationship with nature.

II. CONCEPTUAL FRAMEWORK: THE UKS MODEL

The present study adopts the Use–Knowledge–Significance (UKS) framework as its conceptual lens to examine sacred ecology through community narratives associated with culturally important plants. The UKS model, widely employed in ethnobotany, cultural ecology, and indigenous knowledge studies, provides a systematic way to understand how human–plant relationships are constructed, maintained, and transmitted across generations. Unlike purely ecological or economic frameworks, UKS captures the functional, cognitive, and symbolic dimensions of human–environment interactions, making it particularly suitable for analysing Indian Knowledge Systems (UKS).

In the context of sacred ecology, the UKS framework allows for an integrated understanding of how plants operate simultaneously as biological resources, cultural symbols, and carriers of ethical values. The framework helps move beyond a utilitarian reading of plant use and instead highlights how ecological sustainability is embedded within social memory, ritual practice, and moral consciousness.

Use (U): Functional and Social Dimensions of Sacred Plants
The "Use" component of the UKS framework refers to the tangible and observable functions of plants in daily life. In Indian communities, sacred plants serve multiple interrelated purposes medicinal, ritualistic, ecological, and social

demonstrating the multifunctionality of traditional ecological knowledge.

At the medicinal level, Tulsi occupies a central place in household healthcare systems. It is widely used for treating respiratory ailments such as cough, cold, asthma, and fever, as well as for boosting immunity and aiding digestion. Similarly, parts of the Peepal tree leaves, bark, and roots are traditionally used in Ayurvedic formulations for skin diseases, inflammation, and metabolic disorders. These uses reflect an empirical understanding of plant properties developed through long-term observation and practice.

At the ritual level, sacred plants are integral to religious life. Daily Tulsi worship (Tulsi Puja), Tulsi Vivah, and circumambulation of the Peepal tree are not merely symbolic acts but ritualized practices that reinforce regular care, watering, and protection of these plants. Such rituals ensure sustained human engagement with plant life, thereby promoting conservation through devotion rather than enforcement. From an ecological perspective, these plants play significant environmental roles. The Peepal tree is known for its extensive canopy, microclimatic regulation, and high oxygen exchange, making it ecologically valuable in densely populated settlements. Tulsi, often grown in courtyards, is believed to purify air and repel insects, contributing to household hygiene. Although some of these beliefs are culturally framed, many align with scientific observations regarding plant-based environmental regulation. Socially, sacred plants act as centres of community interaction. Peepal trees often serve as gathering spaces for elders, community meetings, and storytelling. Tulsi courtyards, particularly in rural households, become spaces of social interaction among women, reinforcing cultural continuity and collective identity. Thus, “use” in the UKS framework extends beyond material benefit to encompass social cohesion and cultural reproduction.

Knowledge (K): Transmission of Ecological Wisdom

The second dimension of the UKS framework Knowledge refers to the accumulated, transmitted, and practiced understanding of plants within a community. In traditional Indian society, ecological knowledge is rarely written or formalized; instead, it is preserved through oral traditions, ritual instruction, daily practices, and lived experience. This knowledge is primarily transmitted intergenerationally, with elders, women, priests, and traditional healers playing a central role. Women, in particular, function as key custodians of plant knowledge through their involvement in household rituals, herbal remedies, and seasonal observances. Children learn by observing and participating in practices such as watering Tulsi, offering lamps, or avoiding harm to sacred trees illustrating learning through participation rather than instruction. Mythological narratives also serve as powerful knowledge systems. Stories linking Tulsi to Goddess Lakshmi or associating the Peepal tree with Lord Vishnu and Buddha embed ecological ethics within religious consciousness. These narratives transform environmental care into moral duty, ensuring compliance through belief rather than regulation.

Furthermore, knowledge transmission is deeply contextual. It includes understanding when to plant, when not to cut, how to harvest without harming, and which rituals ensure ecological balance. Such knowledge represents a form of experiential science, grounded in observation, repetition, and cultural validation. Importantly, this knowledge system is adaptive it evolves with changing environmental and social conditions while maintaining continuity with tradition.

Significance (S): Symbolism, Identity, and Ecological Ethics

The third component Significance addresses the symbolic, emotional, and ethical meanings attached to sacred plants. Significance goes beyond practical utility and reflects how plants become embedded in belief systems, identity formation, and moral reasoning.

Tulsi is widely regarded as a manifestation of divine feminine energy, symbolizing purity, devotion, fertility, and protection. Its presence in the household signifies moral discipline, spiritual well-being, and harmony. Similarly, the Peepal tree symbolizes longevity, enlightenment, and continuity of life. It is associated with ancestral spirits and cosmic cycles, making its preservation an ethical obligation rather than a personal choice. These symbolic meanings play a crucial role in shaping environmental ethics. When plants are viewed as sacred beings rather than resources, exploitation becomes morally unacceptable. This moral framework creates an internalized system of environmental regulation, often more effective than external laws. Significance also contributes to identity formation. Ritual engagement with sacred plants reinforces cultural belonging and collective memory. Festivals, oral narratives, and everyday worship practices link individuals to their community, ancestry, and ecological surroundings. In this way, sacred plants function as living symbols of cultural continuity and environmental responsibility.

UKS as an Integrative Analytical Tool

The UKS framework enables a multi-layered understanding of sacred ecology by integrating:

- Use (practical and ecological functions),
- Knowledge (transmission of ecological wisdom), and
- Significance (symbolic and ethical meanings).

Together, these dimensions reveal that plant–human relationships in Indian traditions are not fragmented but holistic. Plants emerge as nodes of cultural memory, ecological stewardship, and spiritual meaning. The framework also helps bridge indigenous knowledge with contemporary sustainability discourse by demonstrating how traditional practices contribute

to conservation, resilience, and community-based environmental governance. By employing the UKS model, the present study positions sacred plants not merely as botanical entities but as cultural actors that sustain ecological balance, social harmony, and ethical responsibility. This approach strengthens the argument that Indian Knowledge Systems offer viable and relevant pathways for addressing contemporary environmental challenges through culturally rooted ecological wisdom.

III. REVIEW OF LITERATURE

Studies on sacred ecology has grown at the intersection of environmental anthropology, ethnobotany, religious studies, and sustainability science. Across contexts, a consistent insight is that cultural meanings myths, taboos, rituals, and everyday practices often function as informal institutions that regulate resource use and shape conservation outcomes. In the Indian context (UKS/IKS), this relationship is particularly visible in community practices around culturally important plants and sacred natural sites, where ecological stewardship is embedded in religious and social life.

International foundations: Sacred ecology and Traditional Ecological Knowledge (TEK)

A major theoretical anchor for this field is Fikret Berkes' work on sacred ecology, which conceptualizes environmental knowledge as a system combining practices, institutions, ethics, and spiritual values developed through long-term engagement with local ecosystems. Berkes argues that sacred or spiritual dimensions are not "add-ons" but integral to how many societies organize stewardship, enforce norms, and transmit knowledge across generations. Complementing this, Berkes and colleagues' influential synthesis of Traditional Ecological Knowledge (TEK) demonstrates how TEK contributes to ecosystem monitoring, adaptation, and management, emphasizing that such knowledge is dynamic and evolves through experience and intergenerational learning. This framework is especially relevant for studies that rely on oral narratives, ritual practice, and community memory as data sources, because it legitimizes non-textual and non-institutional knowledge forms as rigorous ecological knowledge systems.

Recent interdisciplinary work also refines TEK/ILK concepts, stressing that knowledge is transmitted not only through speech but also via embodied practices, ceremonies, and place- based routines. This is crucial for "community narratives" approaches, because stories around sacred plants often encode rules of care (when not to cut, how to harvest, what to offer, what is taboo) that influence ecological outcomes. A parallel international discussion highlights a persistent gap: indigenous and local knowledge systems are still underrepresented within some mainstream environmental value assessments and ecological synthesis research, which historically privileged biophysical metrics over cultural value frameworks. This recognition strengthens the case for studies like the present one that foreground narratives and cultural meanings as central evidence.

Sacred natural sites and "community protection": Global patterns, Indian relevance

Internationally, sacred natural sites such as groves, shrine forests, or sacred trees are widely documented as community-protected landscapes where social sanction and spiritual reverence can limit extraction and promote biodiversity retention. In India, sacred groves are among the most frequently cited examples of this phenomenon, offering a natural laboratory for understanding how belief systems sustain conservation without formal enforcement.

In the Indian scholarship and documentation tradition, sacred groves are repeatedly described as in-situ conservation spaces maintained through taboos and customary practices. Syntheses emphasize that sacred groves vary in size and governance arrangements, but share the core feature of being protected through community norms linked to local deities, ancestor spirits, and ritual obligations. More detailed annotated documentation of sacred groves (e.g., district- level inventories and descriptive ecological profiles) illustrates how cultural practices ritual access restrictions, prohibitions on timber removal, and seasonal observances shape the ecological integrity of grove landscapes. Such works also highlight that sacred groves are socially embedded institutions, vulnerable when community consensus erodes due to land-use change or declining ritual practice.

A frequently cited regional example is Tamil Nadu, where analyses foreground the spiritual, socio-cultural, and ecological dimensions of sacred groves. This literature explains that folklore, shrine-centered worship, and fear of supernatural sanction often function as durable conservation mechanisms, enabling patches of near-climax vegetation to persist in otherwise human-dominated landscapes. Contemporary peer-reviewed case studies from India extend this understanding by documenting sacred groves as communally protected forest fragments, emphasizing community governance and locally enforced norms. Such work is especially relevant for your focus on "community narratives," because it demonstrates that protection is not merely symbolic it is enacted through shared stories, collective memory, and everyday social regulation.

National Ethnobotany and Sacred Plants: Ritual Use, Medicinal Value, and Conservation

Ethnobotanical research has long provided a robust methodological foundation for understanding the relationships between human societies and plant life. Within the social sciences, ethnobotany is valued not merely for documenting plant species but for analysing how cultural beliefs, social practices, and traditional knowledge systems shape human–

environment interactions. Indian ethnobotanical scholarship, in particular, emphasizes that knowledge about plants is not randomly acquired but systematically transmitted through social institutions such as family, religion, ritual, and community memory.

Educational resources and ethnobotanical studies in India highlight that indigenous plant knowledge is historically embedded and socially transmitted through multiple channels oral traditions, ritual practices, folk classifications, and everyday usage. This makes qualitative methods such as interviews, participant observation, and narrative documentation especially appropriate for studying culturally significant plants. Institutions such as Uttarakhand Open University and other ethnobotanical research centres emphasize that traditional knowledge systems represent cumulative ecological intelligence rather than informal or unscientific beliefs. Another important strand of Indian scholarship focuses on "sacred trees" and the ethical dimensions of plant conservation. These studies rely heavily on oral histories, interviews with traditional healers, priests, and elders, and the documentation of ritual practices associated with specific plant species. The findings consistently indicate that cultural narratives and belief systems shape conservation behaviour. Trees are protected not because of formal environmental awareness but because they are perceived as divine, ancestral, or morally significant. This literature strongly supports narrative-based research approaches and validates the study of community knowledge as a legitimate and valuable source of ecological understanding.

Focused Plant Narratives: Culturally Embedded Value

Among sacred plants in India, Tulsi occupies a uniquely prominent position and has been widely studied in both social science and biomedical literature. Tulsi functions simultaneously as a religious symbol, a domestic plant, a medicinal resource, and a marker of cultural identity. Ethnographic and ethnobotanical studies demonstrate that Tulsi is deeply integrated into daily life through rituals such as morning worship, Tulsi Vivah, and household care practices. Studies highlight how communities articulate the importance of Tulsi not only in religious terms but also as a practical health resource. Its use in treating common ailments such as cough, cold, fever, and stress reflects a convergence between belief and empirically observed efficacy. These studies reveal that the continued cultivation of Tulsi is sustained not by abstract faith alone but by repeated experiential validation within households. Pharmacological and biomedical research further supports this cultural persistence by documenting Tulsi's antimicrobial, anti-inflammatory, and immunomodulatory properties. While the present study does not focus on pharmacology, such findings help explain why sacred plant traditions endure across generations. Cultural reverence, combined with perceived medicinal effectiveness, creates a powerful feedback loop that reinforces conservation through daily practice.

Community Narratives as Data: The Role of Story, Ritual, and Memory

Across global scholarship on Traditional Ecological Knowledge (TEK) and sacred ecology, narratives are increasingly recognized as structured and meaningful sources of ecological knowledge rather than anecdotal accounts. Stories, rituals, and collective memory function as informal regulatory systems that guide human interaction with nature. Within Indian contexts, temple ecology and sacred grove studies consistently demonstrate that customs, taboos, and oral traditions operate as mechanisms of environmental governance.

Narratives encode ecological rules what can be harvested, when it can be harvested, and what must be protected. They also define moral boundaries, distinguishing acceptable from unacceptable environmental behavior. For example, prohibitions against cutting certain trees, beliefs regarding divine punishment, or rituals associated with watering plants act as culturally embedded conservation strategies. This understanding positions community narratives as a legitimate methodological entry point for studying UKS-based ecological relationships. Through narratives, researchers can identify how communities conceptualize sacredness, how certain plants acquire cultural prominence, and how ecological ethics are transmitted through everyday practice. Indian ethnobotanical studies that rely on interviews and oral histories

consistently demonstrate the reliability and depth of such data, particularly in contexts where written records are limited or absent.

IV. GAPS AND RESEARCH CONTRIBUTION

Despite a substantial body of literature on sacred groves, medicinal plants, and ethnobotanical traditions in India, significant gaps remain. Much of the existing research is largely descriptive and species-oriented, with limited attention to how community narratives function as ecological institutions that regulate behaviour, shape values, and adapt to social change. Moreover, while forest-based sacred groves are well documented, everyday sacred spaces such as household courtyards, temple surroundings, and neighborhood shrines remain underexplored despite their critical role in sustaining ecological ethics and cultural continuity.

Global sustainability discourse also continues to marginalize Indigenous and Local Knowledge (ILK) systems, particularly narrative-based and culturally embedded approaches. Against this backdrop, the present study contributes by examining UKS through community narratives centered on culturally important plants, bridging ethnobotany, social anthropology, and environmental ethics. It demonstrates how sacred-plant

traditions connect belief with conservation practice and offers a culturally grounded framework for understanding sustainability, emphasizing that sacred ecology is not a relic of the past but a dynamic and living system relevant to contemporary environmental thought.

V. METHODOLOGY

Research Design

The present study adopts a qualitative and interpretive research design to examine sacred ecology through the lens of Indian Knowledge Systems (UKS), with specific reference to Lucknow, Uttar Pradesh. The study is grounded in social science methodology, drawing from ethnography, cultural anthropology, and environmental sociology to understand how culturally important plants are perceived, used, and preserved within everyday community life.

A qualitative approach was selected as it allows for an in-depth exploration of meanings, beliefs, and practices associated with sacred plants dimensions that cannot be adequately captured through quantitative methods alone. The study emphasizes lived experience, oral traditions, and community narratives as key sources of ecological knowledge.

Conceptual Framework

The research is guided by the Use–Knowledge–Significance (UKS) framework, commonly applied in ethnobotanical and socio-cultural studies. This framework enables analysis of plant– human relationships across three interconnected dimensions:

- **Use (U):** Practical, medicinal, ritualistic, and ecological functions of plants
- **Knowledge (K):** Transmission of plant-related knowledge through oral traditions, customs, and daily practices
- **Significance (S):** Cultural, spiritual, and symbolic meanings attached to plants

The UKS framework is particularly relevant in the Lucknow context, where traditional practices continue to coexist with urban lifestyles, allowing for the study of sacred ecology in a semi-urban cultural setting.

Study Area

The study was conducted in Lucknow city and its surrounding semi-urban localities, an area characterized by a strong blend of traditional cultural practices and urban development.

Lucknow was selected purposively due to:

- The continued presence of household Tulsi plants,
- Widespread reverence for Peepal and Banyan trees in
- temples and public spaces,
- Active observance of rituals linked to sacred plants, and
- The coexistence of traditional ecological knowledge with modern lifestyles.

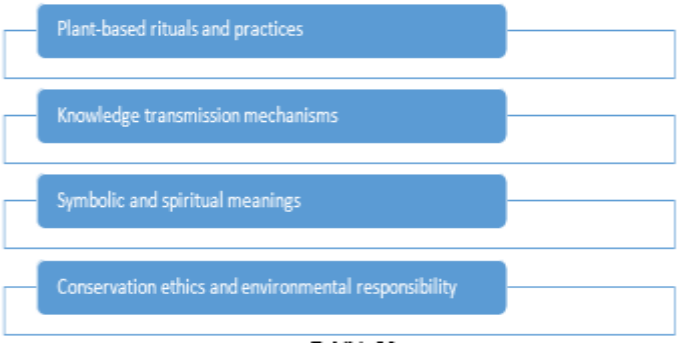
Key sites included residential neighborhoods, temple premises, community spaces, and roadside shrines where sacred plants are actively maintained and worshipped.

Data Collection Methods

Primary data were collected through semi-structured interviews with elder community members, Women responsible for household rituals, Temple priests and caretakers, Local residents familiar with traditional practices. The interviews focused on plant usage, ritual significance, methods of care, transmission of knowledge, and perceived ecological value. Oral narratives, myths, and cultural explanations related to Tulsi, Peepal, and other sacred plants were documented.

These narratives were treated as key sources of indigenous ecological knowledge, reflecting community ethics and conservation values. Participant observation was carried out during daily worship practices, Tulsi puja, Peepal parikrama, and community interactions around sacred trees. This helped in understanding how ecological values are embedded in routine life and social behavior. Secondary data were collected from academic journals, ethnobotanical studies, government publications, and institutional reports related to Indian Knowledge Systems, sacred ecology, and traditional environmental practices.

Data Analysis



Data were analyzed using thematic analysis. Interview transcripts and field notes were coded to identify recurring themes such as:

Exhibit 5.1

The above themes were then interpreted using the UKS framework to establish linkages between cultural beliefs, ecological practices, and sustainability.

Table 5.1

Stage of Analysis	Analytical Focus	Description	Outcome
Data Familiarization	Initial reading and review	Interview transcripts, narratives, and field notes were read multiple times to gain contextual understanding of community practices related to sacred plants.	Identification of recurring ideas and culturally significant expressions
Open Coding	Generation of initial codes	Codes such as *ritual use*, *medicinal value*, *belief systems*, *plant protection*, and *oral tradition* were identified from raw data.	Creation of preliminary thematic categories
Axial Coding	Theme development	Related codes were grouped under broader conceptual categories aligned with the UKS framework.	Emergence of three core dimensions: Use, Knowledge, and Significance
Use (U)	Functional and practical aspects	Analysis of medicinal, ritualistic, ecological, and social uses of plants such as Tulsi and Peepal.	Understanding plants as functional and social resources
Knowledge (K)	Knowledge transmission	Examination of oral traditions, rituals, and intergenerational learning related to plant care and usage.	Identification of community-based ecological knowledge systems
Significance (S)	Symbolic and ethical meanings	Analysis of sacred beliefs, moral values, and emotional attachment to plants.	Understanding of sacred plants as ethical and cultural symbols
Interpretive Analysis	Contextual interpretation	Narratives interpreted within socio-cultural and religious contexts of Lucknow.	Insight into how beliefs shape conservation behaviour
Validation Strategy	Credibility and rigor	Use of triangulation through interviews, observation, and literature review.	Enhanced reliability and analytical consistency
Outcome Synthesis	Integration of findings	Themes integrated to explain sacred ecology through UKS lens.	Demonstration of sacred ecology as a living, community-driven system

VI. FINDINGS AND DISCUSSION

The findings of the study reveal that sacred ecology continues to remain a living and functional system within the socio-cultural landscape of Lucknow, despite rapid urbanization and changing lifestyles. Across the study sites, sacred plants were found to retain both ritual importance and ecological relevance. Their presence in household courtyards, temple premises, roadside shrines, and community spaces indicates that traditional ecological values have not disappeared but have adapted to urban contexts.

Respondents consistently associated these plants with religious duty, health, and moral responsibility. The continued practice of daily Tulsi worship, offering water to Peepal trees, and observing ritual prohibitions against cutting sacred trees demonstrates that cultural belief systems continue to function as informal conservation mechanisms. These practices reflect what the UKS framework identifies as the integration of use, knowledge, and significance in shaping sustainable human–nature relationships.

Findings indicate that sacred plants in Lucknow serve multiple functions beyond symbolic reverence. Tulsi was widely used for medicinal purposes, particularly for respiratory ailments, immunity enhancement, and household remedies. Participants often described Tulsi as a “ghar ki dava” (home medicine), highlighting its role in preventive healthcare. Similarly, Peepal trees were associated with shade, cooling effects, and air purification, reinforcing their ecological value within urban spaces. Importantly, use was not limited to material benefits.

Sacred plants also served social functions, acting as gathering points for prayer, conversation, and communal interaction. Courtyard-based Tulsi plants were found to facilitate daily interaction among women, reinforcing both social bonding and cultural continuity. These findings support earlier ethnobotanical studies that emphasize the multifunctional nature of sacred plants, where ecological, social, and cultural utilities intersect.

A significant finding of the study is that ecological knowledge in Lucknow is primarily transmitted through oral and experiential means, rather than formal education. Elders, especially women and temple caretakers, emerged as key custodians of plant-related knowledge. Practices such as watering Tulsi at dawn, performing parikrama around Peepal trees, or observing ritual fasting days were learned through observation and participation rather than instruction. Mythological narratives played a central role in reinforcing ecological ethics. Stories linking Tulsi to Goddess Lakshmi or Peepal to divine and ancestral presence were frequently mentioned, indicating that religious narratives continue to function as moral frameworks for environmental behavior. These narratives were not merely symbolic but served practical regulatory functions discouraging tree cutting, encouraging care, and reinforcing intergenerational continuity.

This finding supports social science scholarship that views indigenous knowledge as situated, embodied, and practice-based, rather than abstract or codified. The persistence of such knowledge in Lucknow suggests that urbanization has modified but not erased traditional ecological consciousness.

The study found that symbolic significance plays a crucial role in shaping ecological attitudes. Sacred plants were not perceived merely as natural objects but as living entities imbued with moral and spiritual value. Participants frequently used terms such as pavitra (pure), rakshak (protector), and devtulya (divine-like) to describe Tulsi and Peepal. This symbolic valuation translated into ethical behavior. Acts such as refraining from cutting sacred trees, offering water during summers, and protecting plants from harm were guided more by moral obligation than environmental awareness campaigns. Such findings reinforce the argument that sacred ecology operates as an ethical system, where conservation emerges from belief rather than regulation. From a UKS perspective, this demonstrates how Significance (S) acts as a binding force that integrates knowledge and practice into a coherent ecological worldview.

One of the most significant findings of the study is the role of community narratives in functioning as informal systems of ecological governance. Narratives related to divine punishment, blessings, ancestral protection, and cosmic balance were frequently cited as reasons for preserving sacred plants. These narratives effectively regulate behavior by defining what actions are permissible or forbidden, encouraging sustainable interaction with nature, reinforcing collective responsibility and transmitting conservation ethics across generations. Unlike formal environmental laws, these narrative-based systems rely on shared belief and social consensus, making them highly resilient and culturally embedded. This supports the argument that sacred ecology operates as a community-driven conservation model, particularly effective in culturally cohesive settings like Lucknow.

The findings of this study contribute to social science literature by demonstrating that sacred ecology in Lucknow represents a living interface between culture, environment, and ethics. The UKS framework effectively captures this relationship by showing how use, knowledge, and significance operate together rather than in isolation. The study also highlights an important gap in contemporary environmental discourse: while policy frameworks often emphasize scientific and technological solutions, they tend to overlook culturally rooted ecological practices. The Lucknow case demonstrates that traditional knowledge systems continue to shape sustainable behavior at the grassroots level, often more effectively than formal interventions. Furthermore, the findings reinforce the relevance of Indigenous and Local Knowledge (ILK) systems in addressing modern sustainability challenges. By documenting community narratives and everyday practices, the study contributes to decolonizing environmental knowledge and validating culturally embedded forms of ecological wisdom.

Overall, the findings affirm that sacred ecology in Lucknow is not a residual cultural practice but a dynamic and adaptive system of environmental knowledge. Through the UKS framework, the study demonstrates how culturally important plants continue to shape ecological ethics, community identity, and sustainable behavior. These insights underscore the importance of integrating indigenous knowledge systems into contemporary environmental research, education, and policy-making.

Recommendations

The findings of the study highlight the need to integrate sacred ecology and Indigenous Knowledge Systems (UKS) into environmental education and policy frameworks. Incorporating sacred plant traditions into environmental studies, sustainability education, and communication curricula can help promote culturally grounded approaches to conservation. The establishment of regional ethnobotanical documentation centres is also recommended to systematically record traditional knowledge, oral narratives, and plant-based cultural practices that are rapidly declining due to urbanization. Additionally, conservation policies should encourage community-led protection of sacred groves and culturally

significant trees, recognizing local communities as key custodians of ecological knowledge.

At the community level, the study emphasizes the revival of traditional practices in contemporary settings. Encouraging the maintenance of Tulsi plants in households including in urban apartments and shared residential spaces can strengthen everyday ecological awareness. Similarly, the planned plantation of Peepal and other sacred trees in public spaces such as parks, temple premises, and institutional campuses can support both environmental and cultural sustainability. The study also recommends promoting intergenerational knowledge transfer through storytelling, community gatherings, and school-based cultural activities, ensuring continuity of ecological values among younger generations.

Future Research

Future research should explore gender-specific roles in plant care and knowledge transmission, particularly the contribution of women in sustaining sacred ecological practices. Comparative studies across different regions of India may further illuminate variations in sacred plant traditions and conservation ethics. Additionally, interdisciplinary research examining the psychological and well-being impacts of interaction with sacred plants could provide valuable insights into the relationship between cultural ecology and human well-being.

VII. CONCLUSION

This study has demonstrated that sacred ecology is deeply embedded within Indigenous Knowledge Systems (UKS), as revealed through community narratives surrounding culturally important plants. The findings highlight that these plants are not only valued for their material uses, such as food and medicine, but also for their spiritual, cultural, and symbolic significance within local communities. Through oral traditions, rituals, and everyday practices, knowledge about these plants is transmitted across generations, reinforcing cultural identity and strengthening the relationship between people and their natural environment.

The study further reveals that community narratives play a critical role in the conservation and sustainable management of culturally important plants. By framing plants as sacred and culturally significant, UKS promotes ethical stewardship, respect for biodiversity, and ecological balance. However, this knowledge system faces increasing threats from environmental degradation, modernization, and the erosion of traditional practices. Without deliberate efforts to document, protect, and integrate UKS into formal conservation strategies, valuable ecological knowledge risks being lost.

In conclusion, recognizing and valuing sacred ecology through community narratives offers important insights for biodiversity conservation, cultural preservation, and sustainable development. Integrating UKS into contemporary environmental policies and conservation initiatives can enhance ecological resilience while empowering indigenous communities. This study therefore underscores the importance of safeguarding Indigenous Knowledge Systems as a vital component of both cultural heritage and environmental sustainability.

REFERENCES

1. Berkes, F. (2012). Sacred ecology (3rd ed.). Routledge. https://doi.org/10.4324/9780203123843
2. Berkes, F., Colding, J., & Folke, C. (2000). Rediscovery of traditional ecological knowledge as adaptive management. Ecological Applications, 10(5), 1251–1262. https://doi.org/10.1890/1051-0761(2000)010[1251:ROTEKA]2.0.CO;2
3. iii. Berkes, F., Folke, C., & Gadgil, M. (1995). Traditional ecological knowledge, biodiversity, resilience and sustainability. In C. Perrings et al. (Eds.), Biodiversity conservation (pp. 281–299). Springer. https://doi.org/10.1007/978-94-011-0277-3_15
4. Gadgil, M., Berkes, F., & Folke, C. (1993). Indigenous knowledge for biodiversity conservation. Ambio, 22(2–3), 151–156.
5. Gadgil, M., & Vartak, V. D. (1976). Sacred groves of India: A plea for continued conservation. Journal of the Bombay Natural History Society, 72, 314–320.
6. Kala, C. P. (2005). Indigenous uses, population density, and conservation of threatened medicinal plants in protected areas of the Indian Himalayas. Conservation Biology, 19(2), 368–378. https://doi.org/10.1111/j.1523-1739.2005.00602.x
7. Kumar, K. J. (2014). Mass communication in India (4th ed.). Jaico Publishing House.
8. Malhotra, K. C., Gokhale, Y., Chatterjee, S., & Srivastava, S. (2001). Cultural and ecological dimensions of sacred groves in India. Indian National Science Academy.
9. Nabhan, G. P. (2000). Interspecific relationships affecting endangered species recognized by O'odham and Comcaac cultures. Ecological Applications, 10(5), 1288– 1295. https://doi.org/10.1890/1051-0761(2000)010[1288:IRAESR]2.0.CO;2
10. Posey, D. A. (1999). Cultural and spiritual values of biodiversity. UNEP & Intermediate Technology Publications.
11. Ramakrishnan, P. S. (1996). Conserving the sacred: For biodiversity management. UNESCO–Oxford & IBH Publishing.
12. Ramakrishnan, P. S. (2007). Traditional forest knowledge and sustainable forestry: A north-east India perspective. Forest Ecology and Management, 249(1–2), 91–99. https://doi.org/10.1016/j.foreco.2007.05.012

13. Shiva, V. (1993). Monocultures of the mind: Perspectives on biodiversity and biotechnology. Zed Books.
14. Singh, J. S., & Singh, S. P. (2017). Forests, biodiversity and ecosystem services in India. Current Science, 113(7), 1243–1255.
15. UNESCO. (2017). Learning with indigenous knowledge systems for sustainable development. UNESCO Publishing.
16. Upadhyay, B., & Hasnain, S. I. (2017). Sacred groves and their role in biodiversity conservation in India. Indian Journal of Traditional Knowledge, 16(2), 223–230.