THE ROLE OF SACRED GROVES IN BIODIVERSITY PRESERVATION IN TELANGANA

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ABSTRACT

The people of Telangana have a profound understanding of the religious and ecological importance of sacred groves, and they regard them with utmost respect. This study highlights the importance of these groves by analyzing their biodiversity. Through thorough field surveys and strong collaboration with the local community, we conducted a detailed study of the wide range of plant and animal species. Throughout the research, a wide array of uncommon and endangered species were uncovered. Our research highlights the crucial role that sacred groves play in providing a wide range of ecological services, such as soil conservation and temperature regulation. Unfortunately, these precious ecosystems face significant risks from the ever-growing pressures of industrialization and deforestation. This study presents strong evidence supporting the efficacy of policy interventions in the conservation of sacred groves by combining traditional knowledge with modern methods. Having a profound knowledge of botany and extensive experience in environmental conservation is essential. Preserving these reserves is crucial for the future of Telangana's natural and spiritual landscapes, as well as for protecting the state's rich cultural heritage and wide variety of plant and animal life.

Keywords: *sacred groves, biodiversity, ecological services, spiritual landscapes,*

INTRODUCTION

Despite ongoing efforts to address biodiversity loss, the current rate of decline remains a cause for concern. Immediate action is imperative to reverse this trend. Conservation efforts have traditionally focused on specific regions when it comes to allocating funds. However, this approach alone may not suffice to safeguard biodiversity, particularly in heavily populated and exploited regions where species diversity is most abundant. Having a deep understanding of plant life and ecosystems is essential for effectively managing natural resources in rural areas. Thus, it is crucial for contemporary conservation efforts to adopt a holistic perspective that encompasses the entire landscape as a unified entity. In addition, it is important to acknowledge that landscapes are intricate social-ecological systems that encompass the various ways in which humans interact with their natural environment. Ecosystem services are a powerful way to demonstrate the benefits that humans derive from ecosystems. Nowadays, it has become common to prioritize biodiversity conservation initiatives due to the widely recognized importance of biodiversity in providing ecological benefits to society. Preserving the integrity of cultural or religious sites is crucial for the conservation of biodiversity. These areas house a handful of the last surviving indigenous plant species due to the significant changes in the surrounding landscape caused by development. These areas create a conservation network that often goes unnoticed by many people. There are

numerous sacred groves scattered across several continents, encompassing vast stretches of pristine natural land. Preserving the Mallur Gutta environment is of utmost importance due to its abundant natural resources and its significant role in fostering the relationship between humans and plants. Forest ecology and plant life preservation are influenced by various factors beyond the existence of a temple that houses a powerful deity. Locals visit the area primarily for religious purposes, without much consideration for the valuable ecosystem services provided by the flora and fauna, or the diverse range of medicinal plants and animals that inhabit the region. Revitalization is crucial for MPCA to regain its previous standing. Research institutions heavily rely on financial support from the Forest Department and the Telangana State Biodiversity Board. With their expertise in botany, they can carefully observe and track any detrimental changes happening in the local plant and animal life, allowing them to develop successful strategies for safeguarding it. The value and knowledge of a place are closely tied to its diverse range of plant life. Having a deep understanding of the plants and trees in their natural environment can greatly benefit local communities in various ways. Preserving cultural artifacts, boosting economic growth, and improving scientific understanding are some of the advantages. Preserving and safeguarding sacred natural areas is a shared objective of local organizations dedicated to upholding biodiversity. These sites hold immense cultural and spiritual significance for the local community. Furthermore, they offer a secure refuge for a diverse range of animals that are not covered by official protected areas.

LITERATURE REVIEW

Gordon Kofi Sarfo-Adu [2022]Exploring the potential of traditional practices surrounding sacred groves in Ghana to contribute to the implementation of environmentally responsible forest management strategies was the main motivation behind this investigation. This study delves into forest management, deforestation, and environmentally responsible forest management. Two fascinating case studies are the Malshegu Sacred Groves and the BoabengFiema Monkey Sanctuary. Interviews were conducted with individuals in the neighbourhood. In addition, we also analysed secondary data related to these two sacred trees. In spite of the lack of official interest, the research revealed that cultural customs and prohibitions were employed to safeguard the revered trees.

Kunal Chanda [2021]The cultural and religious significance of these sacred groves is a testament to the profound reverence that indigenous peoples have for nature. These locations are often considered sacred and are fiercely protected. They also provide a safe haven for rare and indigenous plants. Some trees in India hold great significance for the indigenous population, who consider them sacred sites. These settlements can be found in various regions such as the Western Ghats, central India, and the northeastern area. Various plants hold different meanings for indigenous communities. The religious practices, restrictions, and traditions linked to the sacred forests could be a contributing factor to the rich diversity of plant and animal species found in the area.

Rajendra Prasad Mondal [2020] For countless generations, indigenous communities have safeguarded sacred groves, pristine forest areas teeming with diverse plant and animal life, through their deeply-rooted cultural and spiritual traditions. With their profound knowledge of plants and their significance in religious and cultural contexts, experts in botany play a crucial role in safeguarding the deities and preserving age-old traditions. Holy woods serve as a vital link that connects the community's rich history with the present.

Kamal Singh Alawa [2019]The present study investigation was carried out during the period of 2017-2019. Sacred grove the tracts of virgin forest with rich diversity, which have been protected by the local people for centuries for their cultural and religious beliefs and taboos that the deities reside in them and protect the villagers from different calamities. These groves are covered with herbs, shrubs and trees etc. It exhibits diversity of herbal plants. Many of these herbal plants are used to cure human ailments by local people, tribal communities, Vaidyas and Badwa. Some threatened plants are reported from these sacred groves are in the study area which are naturally protected by local tribal people due to their cultural, religious beliefs and taboos that the deities reside in them.

The sacred grove

The local community values and safeguards a piece of natural flora, which they consider to be a sacred grove. They hold a deep belief that this grove is the dwelling place of their ancestral deities or spirits. According to the International Union for Conservation of Nature and Natural Resources (IUCN), sacred groves are considered sacred natural sites. These are natural areas that hold special spiritual significance for various communities, including indigenous and traditional peoples, as well as those recognized by institutionalized religious faiths as places of worship and remembrance. India is home to an impressive number of holy groves, as reported by Malhotra et al. A total of 65 sacred trees were recorded across various districts in Telangana by the World-Wide Fund for Nature-Andhra Pradesh11. These districts include Adilabad (2), Hyderabad (13), Karimnagar (4), Khammam (4), Mahabubnagar (9), Medak (4), Nalgonda (9), Nizamabad (7), Ranga Reddy (10), and Warangal (3).

Sacred Groves as Centers of Biodiversity

Having a deep understanding of plants and the resources they offer is crucial for any civilization to maintain a steady supply of raw materials. Modern environmental degradation, depletion, or deterioration is a result of irresponsible resource exploitation. I wanted to discuss and explore our rich cultural heritage. This concept remains significant when discussing genetic resources, which are vital and strategically important raw materials for modern society. The company's new biotech strategy has expanded its focus to encompass key sectors such as manufacturing, food production, and healthcare. Understanding the intricate genetic components that have the potential to address important societal needs is greatly facilitated by the application of biotechnology.

Types of sacred forests

Tapovan, Mahavan, and Sreevan are the three types of woods recognized in Hinduism. Legend has it that holy people

formerly lived in the Tapovan woodlands, which are famous for their association with penance (Tapas). The word "mahavan" is used to describe enormous, beautiful woods in their natural form. In order to protect the native flora and animals, only approved persons are allowed entry to the Mahavan and TapovanRakshas ("sanctuaries"). The importance of Sreevan's verdant forests and venerated groves may be better understood by someone with a deep understanding of plant history. The lovely connotation of the word itself conveys the goddess's association with plenty and wealth.

Role of Sacred groves in landscape level conservation

The role of sacred groves in maintaining the local bio diversity can never be ignored.

They also preserve the endemic species pool in an altered landscape. Turner and Corlett (1996) have mentioned that, the fragments of forests that remain with natural vegetation, in a modified landscape, provide an opportunity for conservationists to rescue species from extinction. This is very much applicable to sacred groves as they are theforest lands amidst agricultural, pastoral or even fallow lands- connecting the parts oflandscape with human dwellings and the forests. Their role in bio diversity conservation, when viewed from the habitat level, cannot be neglected. They connect the segregatedforest lands, serving as permeable pathways between two forest patches which help theanimals to move freely.

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METHODOLOGY

Nai-Ka-Nath sacred grove will be chosen for the current investigation. The grove is arranged in the Bassi Tehsil of Jaipur locale of the territory of Rajasthan. During the examination, tests of plant species, rocks, soil, water, and relics of faunal species won't be gathered, due to socio-religious traditions and dread of the current god, accepting that the individuals who hurt or taken anything from the grove will be hurt by the directing god. Serious investigation visits will be directed to consider the floral and faunal species, circumstances and end results of biodiversity degradation, and current conservation status of the area.

RESULTS

Soil horizons and strata are shown in a vertical orientation in the soil profile.

In your explorations of the forest, you will encounter sandy loam soil interspersed with spots of clay. A rough surface is

shown by the roughness at the bottom. Table 1 displays the amounts of numerous components, including potassium (K), phosphorus (P), and nitrogen (N).

Table 1-Soil analysis of Ilangudipatti sacred grove

Characteristics	Value
Texture	Sandy Loam
Ph	8
Nitrogen	51
Phosphorus	1.48
Potassium(	320
EC status	1.3
Lime status	-

Floristic inventory

A wide variety of woody species call the sacred forest of Ilangudipatti home. Out of a total of forty-one genera and twenty-two families, forty-eight species are known. Of all the genera, Acacia stands out as the most common, with three species to its name, according to the distribution map. Ziziphus, Strychnos, Albizia, Dalbergia, and Prosopis are genera with very diverse species, with Acacia coming in a close second. It is common for there to be only one species in a given genus. When looking at the distribution of families, the Rubiaceae family stands out with the most species. The Fabaceae-Faboideae and the Fabaceae-Mimosoideae, each containing five species, are closely following. In contrast to the three species found in the Rhamnaceae family, four are found in the Rutaceae. Each of the several families includes a large number of species: Apocyanaceae, Annonaceae, Capparaceae, Fabaceae-Caesalpiniaceae, Sapindaceous, and Loganiaceae.

Trees are the ideal home for more than three-quarters of the 38 species with known habitat preferences. In contrast to the four species found in the liana family, the shrub family counts six. The most common kind of plant, evergreens have 25 different species. A total of twelve species displays brevi-deciduous behavior, in which they only lose their leaves for a brief duration, while eleven more species are deciduous and lose their leaves entirely. The number of species of plants that are known for their prickly characteristics is 37 without thorns and 11 with them prominently displayed, as shown in Tables 2 and 3.

Table 2-Inventoryofwoodyspecies

Variables	Number/Value
No. of Species	57
No of genera	32
No. of families	19
No. of tree species	48
No. of Shrub Species	5
No. of liana species	3
No. of ever green species	33
No. of deciduous species	12
No. of brevi - deciduous species	14
No. of Multi stemmed species/ Individuals	31 / 106
Maximum tree height(m)	17.5
Maximum tree girth(cm)	666
Thorny species	10
Non-thorny species	46

Thorough analysis of diversity

In we can observe the species area curve, revealing the presence of 16 species at the 2nd plot, 34 species at the 5th plot, and 48 species at the 8th plot. The Shannon index (H'= 3.2) and the Simpson index (I/D = 0.06) are reliable indicators of species diversity. Based on the diversity values (H1) of 155.4, M10 of 33.46, and Berger-Parker Dominance (1/d = 8.292) in Table 3, it appears that there is a significant amount of variety and a few rare species present.

Table 3 -Diversity indices

Variables	Number/Value
Shannon Index(H')	4.8
Dominance Index (Simpson)	1.6
Hill's Number(H0)	5
Hill's Number(H1)	162.3
Margelef Index(M_{10})	43.21
Berger-Parker Dominance(1/d)	7.256

CONCLUSION

There are certain types of woods that play a crucial role in preserving biodiversity across various phytogeographical zones. Within the realm of biodiversity conservation, Colding and Folke) highlighted the disregard for informal institutions such as sacred woodlands. According to research conducted, the preservation of sacred woods is of utmost importance for the conservation of biodiversity in our rapidly urbanizing society. Various measures have been implemented by the Convention on Biodiversity (CBD) to maintain the current level of biodiversity. Biocultural traditions, which include rituals, ceremonies, customs, and installations, demonstrate our deep connection to our ancestors. Sittakkadu is a peaceful woodland that doesn't seem really excited about anything. In contrast to the simple temple at Kothamangalapatti, the bricks were used to represent the god at Palavakkam. There is a glaring modernist influence in the works of Virachilai, Keeranur, Karisakkadu, and Ilayavayal. There is a belief that the gods in Ilangudipati and Perunjunai are affected by the different elements.

REFERENCE

1. *S. Alemmeren Jamir [2002], "Status of Biodiversity in the Sacred Groves of Jaintia Hills, Meghalaya", oldest international peer reviewed forestry journal,ISSNno:1687-9376,Vol.128, Issue.7,DOI:10.36808/if/2002/v128i7/2560*
2. *G. Oba [2003], "Potential role of sacred groves in biodiversity conservation in Tanzania", Environmental Conservation,ISSNno:2278-5124,Vol.30,No3.*
3. *P. K. Pandit [2003], "Role of a Sacred Grove in Conservation of Medicinal Plants", oldest international peer reviewed forestry journal,ISSNno:1687-9376,Vol.129,No.2, DOI:10.36808/if/ 2003/v129i2/2252*
4. *M.L. KHAN [2008], "The Sacred Groves and Their Significance in Conserving Biodiversity An Overview",International Journal of Ecology and Environmental Sciences,ISSNno:2320-5199,Vol.34,no.(3),page.277-291,*
5. *Shonil A. Bhagwat [2006], "Sacred groves: potential for biodiversity management", Frontiers in Ecology and the Environment,ISSN:1540-9309,Vol.4,Issue10,Pages519-524.https://doi.org/ 10.1890/1540-9295(2006)4[519:SGPFBM]2.0.CO;2*
6. *Khem Raj Bhattarai [2008], "Potential role of sacred grove of Lumbini in biodiversity conservation in Nepal",Banko Janakari,ISSNno:2631-2301,Vol.18,No.1,page.25–31,https://doi. org/10.3126/banko.v18i1.2163*

7. *Y.N. ULMAN[2009], "Biodiversity of sacred groves in Ratnagiri, Maharastra",Asian Journal of Environmental Science,ISSNno:2456-690X,Vol.3,No.2,Page 90-96.*
8. *Yaa Ntiamoa-Baidu [2008], "Indigenous Beliefs and Biodiversity Conser-vation", African Sacred Ecologies,ISSNno:1365-2028,Vol.2,No.3,https://doi.org/10.1558/jsrnc.v2i3.309,*
9. *Yadav, Sanjay [2010], "Sacred groves in conservation of plant biodiversity in Mahendergarh district of Haryana", Indian Journal of Traditional Knowledge, ISSN:0975-1068,Vol.09,No.(4), http://nopr.niscpr.res.in/handle/123456789/1032 1*
10. *Ashish Anthwal[2010], "Conserving biodiversity through traditional beliefs in sacred groves in Uttarakhand Himalaya, India", Resources, Conservation and Recycling, ISSN:1879-0658,Vol.54,Issue.11,Pages.962-971.https://doi.org/10.1016/j.resconrec.2010.02.003*