

INDIGENOUS COMMUNITIES AND BIODIVERSITY CONSERVATION: AN INDIAN PERSPECTIVE

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Indigenous peoples around the world are essentially dependent on the environment and natural resources for their everyday survival as a result of their livelihood strategies. In India, various indigenous peoples live close to the vicinity of forests and have managed and conserved the biodiversity of their localities for a long time. In this study, the conservation of biodiversity and natural resource by the indigenous communities through their traditional belief systems, animism, and conservation of sacred groves have been analysed and a way forward has been suggested.

Introduction

The global indigenous population of approximately 300 million people is composed of about 5,000 distinct indigenous cultures and languages worldwide, living in every climate from the Arctic Circle to the tropical rain forests. Despite making up only 4% of the world's population, indigenous peoples account for 95% of its cultural diversity. Nearly every major biome on earth, including the polar regions and deserts, tropical and temperate zones, forests and savannahs, hilly regions, tundras, marshes, and small islands, are home to indigenous people. Indigenous Peoples are present in around 75 of the 184 countries in the globe^{1,2}. Indigenous Peoples also called *tribal*, *aboriginal*, *autochthonous peoples*, *national minorities*, or *first peoples*; are best defined by using several criteria.

The most widely accepted characterizations of indigenous peoples are derived from the International Labour Organization (ILO) Conventions 107 and 169^{3, 4}, and from the United Nations Economic and Social

Council's (ECOSOC's) Sub-Commission on Prevention of Discrimination and Protection of Minorities⁵. Together, these two reports provide the most accredited descriptions of indigenous peoples. The following identification criteria are based on this general consensus:

- Indigenous peoples usually maintain a strong attachment to particular geographical locations and ancestral territorial origins.
- They typically seek to remain culturally, geographically, and institutionally distinct from the dominant society, resisting assimilation into the greater national society.
- In this way, they tend to preserve their own socio-cultural, economic and political ways of life.
- They specifically and overtly self-identify as "indigenous" or "tribal".

Many areas inhabited by Indigenous Peoples coincide with some of the world's remaining major concentrations of biodiversity. Traditional indigenous territories encompass up to 22 percent of the world's land surface and they coincide with areas that hold 80 percent of the planet's biodiversity⁶. Also, the greatest diversity of indigenous groups coincides with the world's largest tropical forest wilderness areas in the Americas (including

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Amazon), Africa, and Asia, and 11 percent of world forest lands are legally owned by Indigenous Peoples and communities⁷. There exists a high degree of overlap between indigenous territories and areas of exceptionally high biodiversity. This correlation is also notable in montane areas rich in biodiversity, such as the Andes and Himalayas¹. Approximately 80 percent of the world's remaining biodiversity is found in indigenous peoples' territories, indicating a fundamental interdependence between the abundance of plant and animal species and the resource management practices of these populations⁸.

Most indigenous peoples are essentially dependent on the environment and natural resources for their everyday survival as a result of their livelihood strategies. The majority of indigenous groups rely primarily on pastoral, horticultural, and/or hunter-gatherer methods for subsistence-based production. Additionally, indigenous groups also profess ancestral bonds to particular territorial spaces. This reliance on natural resources has become integral to their way of life and their self-identification⁹.

In India, Indigenous Communities are known by different names as aboriginal communities/ indigenous communities; Adivasi; Janjati; Scheduled Tribes (ST) etc. all of which are variations of the term indigenous Communities¹⁰. India has the second largest tribal population in the world after Africa. In India, 68 million people belonging to 227 ethnic groups and comprising 705 tribal communities derived from six racial stocks namely - Negroid, Proto- Australoid, Mongoloid, Mediterranean, West Breachy, and Nordic exist in different parts of the country¹¹. Among these, 75 Indian tribes are further classified as particularly vulnerable tribal groups (PVTGs) based on their primitive agriculture technology, declining population, and low literacy level, and subsistence economy. The Indian state of Odisha harbours 62 tribes which constitute about 22.21 % of the total population of the state¹². There are 13 PVTGs identified in Odisha¹³.

These ethnic people mostly the indigenous tribals live close to the vicinity of forests and have managed and conserved the biodiversity of their localities for a long time. These tribals take shelter from the forest and utilize wild edible plants both raw and cooked. The flower and fruits are generally eaten raw whereas tubers, leaves, and seeds are cooked. Tribals utilize forest produce, forest timber, and fuel wood. These tribals are living in forests for ages and have developed a kind of affinity with forests¹⁴.

In India, the Scheduled Tribe Population is distributed unevenly, with 85% of it centralised in the

'central belt' extending from Gujarat, Rajasthan in the west, to West Bengal in the east through the states of Maharashtra, Madhya Pradesh (presently Chhattisgarh and Madhya Pradesh), Andhra Pradesh (presently Andhra Pradesh and Telangana), Odisha and Bihar (presently Bihar and Jharkhand). Most of the rest 15 % of the tribal population is accounted for by Sikkim and the north-eastern states of Assam, Meghalaya, Mizoram, Nagaland, and Arunachal Pradesh¹⁵.

The 'Committee on Forests and Tribal' (1983) in India describes - "They are not only forest dwellers but also for centuries they have evolved a way of life which, on the one hand, is woven around forest ecology and forest resources; on the other hand, ensures that the forest is protected against the degradation by man and nature, by evolving their own unique and conservation systems"¹⁶. The above statement explains the beautiful relationship which the tribes, indigenous communities, forest dwellers, and local communities have had with the environment and natural resources. Indeed! they lived in harmony with nature since the dawn of civilization and have considered each and every part of the environment as sacred and worshipped 'Earth' as the 'Mother' of man. They lived in the forests and on the river banks and lead a simple and content life amidst nature, utilizing only that much natural resources which were essential for living and at the same time tried to maintain and augment the natural resources by various conservation and restoration methods¹⁶.

In the present review, an effort has been made to study the role of indigenous communities of India in biodiversity conservation, through different institutions of faith built around animism, totemism, sacred groves etc with particular focus on the state of Odisha. The information for this has been collected from various print and electronic resources. There is an increasing trend of research on Indigenous Communities as observed in the last 20 yrs (2001 to 2022) in the PubMed Database (<https://pubmed.ncbi.nlm.nih.gov/?term=Indigenous+Communities&filter=dates.2001-2022>) (Figure 1).

Traditional Belief Systems in Biodiversity Conservation

In the context of Asia, forests are cultural landscapes where traditional societies are an integral component¹⁷. Presently, the predominant approach to wildlife conservation has been the establishment of protected areas by the state that restricts community access to resources and focuses more on law enforcement. While these State-

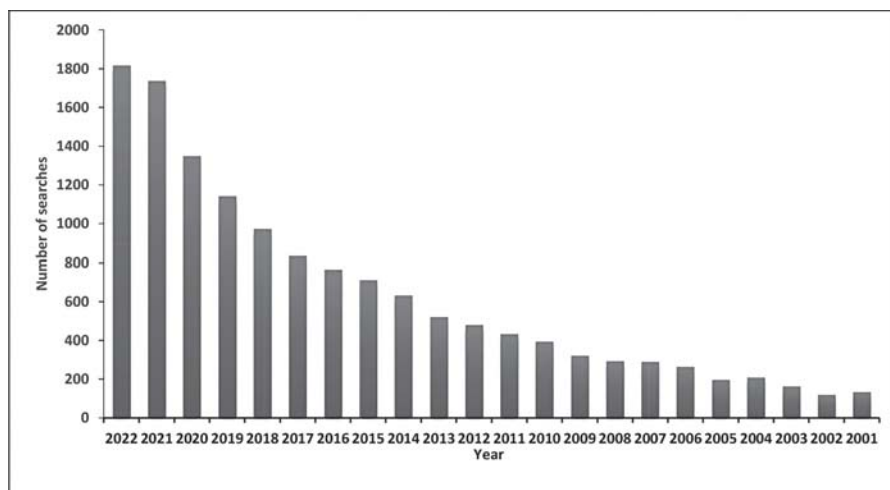


Fig. 1 Increasing trend of research on “Indigenous Communities” in PubMed for last twenty years period from 2001 to 2022.

led protected areas leave little meaningful space for community participation, the local communities continue to bear the burden of conservation, resulting in resentment that is further aggravated by wildlife-caused damage to crops and livestock, injury and loss of human life, and poor alternative to compensation or mitigation¹⁸. It is not surprising that conservationists often find little community support for wildlife conservation, especially when the species in question are potentially dangerous carnivores or crop-raiding wild ungulates that threaten local livelihoods¹⁹.

Taboos represent informal local institutions that guide human use of resources²⁰. As opposed to state natural resource management, they are voluntary and often based on myths and beliefs²¹. The study conducted on taboos and traditional beliefs of tribal communities of Arunachal Pradesh in the Eastern Himalayas reported that out of 35 mammals found in Arunachal Pradesh, 28 received some form of protection from taboos and traditional beliefs¹⁸. Among the 28 mammals protected by taboos and beliefs, eight were endangered, 13 were vulnerable and six were near threatened species as per the IUCN Red List. Across 15 tribes surveyed, 14 tribes exhibited taboos against the extraction of ungulates and carnivores. Although the study did not observe any specific taboos for 7 out of the 35 mammalian species, yet there were traditional beliefs that revolved around a few of them. For example, encountering the red panda was considered a good omen, while encountering any species of flying squirrel during the day was considered a bad omen. Further, the study observed that taboos and beliefs were often consistent for members of the same genus. For example, although most communities have taboos on hunting the tiger (species-specific taboos), they also avoid killing other cat species¹⁸.

Animism

Indigenous peoples around the world revere their environment’s trees, rivers, grasses, stones, hills, and forests. Often labelled ‘Animists’, indigenous peoples also personify their environments, treating both their lands and the non-human denizens occupying those lands as persons to be related to as conscious and communicative subjects rather than as inert or insignificant objects. One would imagine that this reverence and personification of their surroundings would lead indigenous peoples to

conscious conservation thought and practice: that they would do everything in their power, logic would seem to dictate, to protect the deities; likewise, that they would strive not to harm plant and animal persons who, in many respects, possess a right to life equal to that of humans²².

Phulwari ki Nal is a dry tropical deciduous forest reserve of 511 sq. km, in the southern portion of the Aravalli mountain range near the town of Kotra in Udaipur District Rajasthan, India. Earlier a hunting reserve of the erstwhile rulers of the Princely Kingdoms of Bhumat and Mewar, the area was declared a state wildlife sanctuary in 1983. Within the sanctuary, there are 134 villages with three tribes inhabiting, the predominant being Bhills, followed by Girasias and Kathodias. These indigenous tribals maintain a deep religious connection to the forests surrounding their villages. They attribute sentience to rocks, rivers, and mountains, and they also deeply revere wild animals. They worship animal and plant totems conceptualized as ancestors, who are associated with food and use taboos²². The study conducted by Snodgrass and Tiedje (2018)²² indicates that these indigenous communities are Animists’ toward their environments and also toward the ‘other-than-human persons’ who occupy those environments, so that ‘entities such as plants or even rocks may be approached as communicative subjects rather than the inert objects perceived by modernists.

The Niyamgiri hill range in the state of Odisha, India is home to the Dongria Kondh Tribe. These people worship the Mountain God Niyam Raja and the hills he presides over including a 4000 m Mountain of the Law, known as Niyam Dongar. The Dongria Kondh Community has deep reverence for their Gods, hills, and streams and this

reverence is reflected in each and every aspect of their life. Their village shrines and farms depict triangular designs reflecting the mountains and their leader Niyam Raja. Even their name is derived from 'Dongar' which means 'Hill' and they consider themselves as 'Jharnia' which means 'Protector of Streams'. The Dongria Kondh community has expert knowledge of the Niyamgiri forests, plants and wildlife. They have lived in Niyamgiri for thousands of years and have helped to nurture the dense forests and rich wildlife in the area²³.

Totemism and Biodiversity Conservation

The tribal people believe that they have a mysterious relationship with some plants and animals, so they never go for collecting or consuming in case of plants and never go for killing or eating in case of animals. Moreover, they extract their clan names from those particular plants or animals, which ultimately became their totemic objects²⁴. They have an elaborate arrangement to protect and conserve natural resources by establishing the concept of totemism in the communities. Each clan has its totemic relations with some natural objects – animate or inanimate. The concerned clan heads are supposed to watch the preservation and protection of different species/objects with which they have totemic relations. The sacerdotal (religious) heads always maintain and watch the observance of the totemic relations of different clans in the community. Killing, eating, or destroying the clan totem is a taboo since they believe that this causes the decrease of the population of particular animal or tree species and affects the symbiotic relation and also upsets the nature-man relations, and leads to the erosion of bio-cultural richness/diversity²⁵.

Totemism has been important in the religious life of the tribal people. It is a common feature of the tribal population and all these tribes consider that the totemic plants or animals have helped or protected their respective ancestors of the clan concerned or have proved to be of some peculiar use or service, the people show reverence for and do not destroy their totem objects. They also refrain from eating their fruits or flowers²⁶.

There are twelve totems commonly believed to exist among the Karbi tribe of Assam. The majority of the totems (nine) were animal-based while three plants were noted as plant-based. It is also observed that the beliefs were said to be in practice by the Karbis till now²⁴.

In the present work totemism in two PVTGs of Odisha i.e. Didayi and Lodha are presented to show their

relationship with plants and animals as their totems and thereby ensuring their conservation.

Didayi

Didayi is a numerically small PVTG inhabiting in a small forest-clad hill-tract hidden inside the inaccessible 4,000' plateau of Kondakamberu range of Eastern Ghats that stretches along the South-Eastern border of Malkangiri District²⁷.

The structural organisation of Didayi society is characterised by moiety and totemism. The whole society is divided into two exogamous segments or moiety each composed of totemic group of clans. One's own moiety is his (*Niramoni*) or group of brothers and the other one in which he can marry is his moiety. There are five exogamous groups of clans called "Gta" or "Bongo" namely *Nkhoo* (tiger), *Mala* (cobra), *Gbe* (deer), *Mosali* (crocodile) and *Goi* (tortoise) (Table 1). Out of five totemic clans, the first one, i.e., the *NkhooGta* constitutes one moiety and the remaining four are grouped under the other moiety. Each clan (*Gta*) has its own tale to tell about its relationship with the totemic ancestor. The Didayi rarely worship their respective totemic animals but they avoid killing or injuring them. The clans are strictly exogamous because members of one clan consider themselves brothers and sisters. Hence, any sexual relationship between them is regarded as incest (inbred)²⁷.

Lodha

In Odisha, the Lodhas are concentrated in two blocks, namely Morada and Suliapada in the Sadar subdivision of Mayurbhanj district. The Lodha social organisation has patrilineal and totemistic clans. Each individual by his or her birth belongs to a particular clan. While clan identity remains unchanged throughout life for men, it changes for women after marriage. Each clan has a totemic origin and the totemic objects are considered to be very sacred. Totemic objects are either a plant or an animal. They have exogamous totemic clans like *Bugta*, *Malik*, *Kotal*, *Nayak*, *Digar*, *Paramanik*, *Bag*, *Ahari*, and *Bhuriya* (Table 1). Lodhas practice clan exogamy in their community²⁸.

Totemism plays an important role in biodiversity conservation and is a genuine tool for natural resources. Such a method of conservation needs to be encouraged as there is no element of coercion in it. Documentation of totemic beliefs is highly recommended in all ethnic groups in order to identify plants, animals and sites under cultural conservation and protection²⁴.

Table 1 Totemistic Clans among Two PVTGs (Didayi and Lodha) of Odisha

Sl. No.	Clan name	Totemic Objects
<i>Didayi</i>		
1.	Nkhoo	Tiger
2.	Mala	Cobra
3.	Gbe	Deer
4.	Mosali	Crocodile
5.	Goi	Tortoise
<i>Lodha</i>		
1.	Bugta, Bhukta, Bhakta	Chirka Alu (a kind of yam available in the forest)
2.	Mallik	Makar (a kind of mythical sea monster or shark or sal fish)
3.	Kotal	Moon or Grasshopper
4.	Laik, Layak, Nayak	Sal fish (<i>Channa marulius</i>)
5.	Digar	Tortoise
6.	Parmanik	A bird called Manik
7.	Dandapat or Bag	Bagh (Tiger) (<i>Panthera tigris</i>)
8.	Ari, Ahari	Chanda fish (<i>Ambassis range</i>)
9.	Bhuiya, Bhunia	Sal fish (<i>Channa marulius</i>)

Source : Ota, A.B. and Mohanty, S.C. (2015) Particularly Vulnerable Tribal Groups (PTGs) of Odisha.²⁵

Sacred Grooves: Centres for Biocultural Conservation

Traditional examples of culturally sensitive community-based natural resource management include sacred groves, which are small patches of forests devoted to gods and ancestral spirits²⁹. Sacred groves have cultural and spiritual significance for the indigenous communities that care for them, exhibit rich biodiversity, and provide ecosystem services to the local communities that have protected them over the centuries throughout the world. Sacred landscapes exist globally and are a form of biocultural conservation^{30, 31}.

India has the highest concentration of sacred groves in the world^{29,32} owing to its high geographic and ethnocultural diversity, and these groves occur in many regions with a variety of different cultural practices³³. These forests harbour greater species richness and diversity than adjacent non-sacred forests or surrounding landscapes³⁴⁻³⁶. Indigenous communities across India have a direct and intimate relationship with their physical

environment, have protected forest patches as sacred groves in the vicinity of their villages for generations, and manage and conserve biodiversity through voluntary cooperation and communal efforts³⁷. The number and spatial distribution of sacred groves create a network that preserves “a sizeable portion of the local biodiversity in areas where it would not be feasible to maintain large tracts of protected forests”³⁸.

The conservation of sacred groves is essential for many reasons: for maintaining local and regional biodiversity; for preserving the socio-cultural integrity of local communities; and for the innumerable number of ecosystem services that these groves provide, such as erosion control, maintenance of water quality, as well as serving as seed banks and carbon sinks³⁹⁻⁴¹ and very often as sources of water⁴².

Sacred forests in India encompass many types of ecosystems, ranging from the scrub forests of the Thar desert in Rajasthan to the rainforests of the Western Ghats in Karnataka and Kerala⁴³, and to the rich biodiversity of the northeastern states and parts of the western Himalaya⁴⁴. These are mainly distributed in the states of Andhra Pradesh⁴⁵, Bihar, Jharkhand, Odisha, Maharashtra⁴⁶⁻⁴⁷, Rajasthan, Uttarakhand⁴⁸, Tamil Nadu, Kerala, Pondicherry, Gujarat, Goa, West Bengal, and some north-eastern states such as Meghalaya⁴⁹. A list of reported numbers of Sacred Groves in India is presented in Table 2.

Odisha State in eastern India occupies a unique position in the national ethnographic map as it is home to the largest number of indigenous tribal communities in India¹². In addition, the forested areas within the state have large reserves of minerals, rich biodiversity, and water catchment from major rivers. According to the most recent official estimates, Odisha has 52,156.00 km² of forested land, which accounts for about 33.50 % of the state’s geographical area and 7.6% of India’s overall forest cover⁵¹.

Sacred groves (SG) are an integral part of life for the 9.6 million tribal people, which constitute 22.8% of population in Odisha. Local communities have played a pivotal role in preserving these forests over generations⁵². There are few studies which have documented the flora and faunal diversity and carbon sequestration of sacred groves in the state have been done in parts of Balasore district⁵³, Koraput district⁵⁴⁻⁵⁶, Keonjhar district³⁶, Sundargarh district⁵⁷, and areas of Western Odisha^{41,58}.

Table 2: Reported number of Sacred Groves in India.

Sl. No.	Name of the States	Number of Sacred Groves
1.	Andhra Pradesh	750
2.	Arunachal Pradesh	58
3.	Assam	40
4.	Chhattisgarh	600
5.	Gujarat	29
6.	Haryana	248
7.	Himachal Pradesh	5000
8.	Jharkhand	21
9.	Karnataka	1424
10.	Kerala	2000
11.	Maharashtra	1600
12.	Manipur	365
13.	Meghalaya	79
14.	Odisha	322
15.	Rajasthan	09
16.	Sikkim	56
17.	Tamil Nadu	448
18.	Uttaranchal	01
19.	West Bengal	674
	Total	13,270

Source: Towards Sustainability, Stories from India. CEE (2002)⁵⁰

Documentation of floral diversity and their uses of 94 sacred plant species distributed in 63 genera belonging to 43 different families from six different sacred groves of the tribal-dominated Koraput district of Odisha has been reported⁵⁴. Most of the plant species are distributed under Caesalpiniaceae followed by Asteraceae and Combretaceae.

Table 3 Sacred Groves of Koraput, where floral and faunal diversity studies were undertaken

Sl. No.	Names of the SG	Deity worshiped	Area (ha)	Traditional communities
1	Kanta Baushunui SG	Devi Kanta Baunsuni	1.61	Gadaba, Paraja, Gouda and Dombo
2.	Mauli Maa SG	Maha Prabhu	0.19	Mali and Adivasi
3.	Bhairabguda SG	Devi Bhairabi	0.12	Paika, Dora and Mali
4.	Dudhari SG	Lord Shiba	0.16	Paraja, Kandha, Sundi, Mali, and Paika
5.	Alligam SG	Ganga Maa	0.20	Paraja
6.	Mali Dusara SG	Ganga Maa	0.12	Paraja

Source: Floral Diversity Conservation through Sacred Groves in Koraput District, Odisha, India: A Case Study⁵⁴

These grooves are Kanta Baushunui SG, Mauli Maa SG, Bhairabguda SG, Dudhari SG, Alligam SG and Mali Dusara SG. In these sacred groves (Figure 2), different deities of different faith are worshipped by indigenous communities of Koraput (Table 3).

Panda et al. (2014)⁵⁴ observed that several medicinal plants that are not to be found in the forest are abundant in the sacred groves. The plants like *Terminalia bellirica*, *Achyranthes aspera*, *Citrus aurantifolia*, *Buchanania lanzan*, *Caesalpinia pulcherrima*, *Calotropis gigantea*, *Calycopetris floribunda* and *Lannea coromandelica*, are commonly used as herbal medicines. Most of the sacred tree species are of religious importance and the plants like *Ficus benghalensis*, *Ficus racemosa*, *Ficus religiosa*, *Grevillea robusta*, *Bambusa bambos*, *Bambusa tulda*, *Artocarpus heterophyllus*, *Mangifera indica*, *Phyllanthus emblica* are the major trees species which are worshiped by the tribal's and remain conserved as these have remained uncut since many years in the groves.

The authors also observed that several plants and animals that are threatened in the forest are still well-conserved in some of the sacred groves. The plant *Pterocarpus santalinus* comes under IUCN endangered category are preserved in the sacred groves of Koraput. Different plants under vulnerable categories like *Ageratum conyzoides*, *Dalbergia latifolia*, *Delonix regia*, *Pterocarpus marsupium*, *Santalum ablum* and *Saraca asoca* are present in the sacred groves of Koraput.

De and Palita (2018)⁵⁵ documented 81 species of spiders under 51 genera from 19 families from the above six different sacred grooves of Koraput (Table 2). The Lynx Spider *Oxyopes sertatus* was recorded from the Kanta Baushuni SG, in Semiliguda Block of Koraput⁵⁶ which is the first report from India. Documentation of 28 bird species belonging to 22 families has been reported from the Papanga SG forest situated in the Bargarh district of western Odisha⁵⁷.

Palei et al. (2013)⁵⁸, studied 25 numbers of sacred groves in Kuliposhi range of Bonai forest division, Sundargarh, Odisha. Many rare and endangered species of flora and fauna have been documented during the study within the sacred groves, which vary in size from 0.058 Acre to 7.004 Acres. A total of 102 species of plants under 46

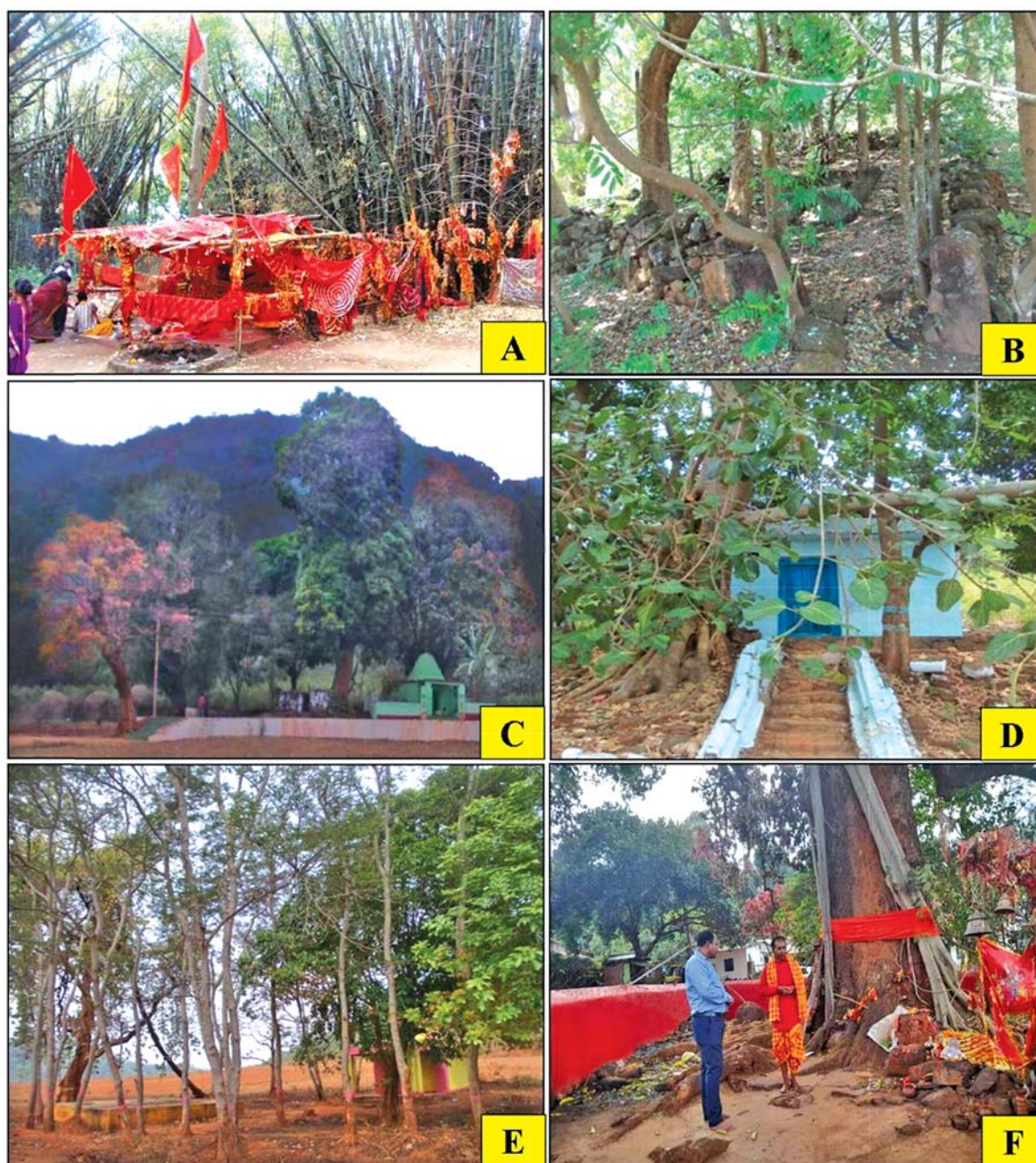


Fig. 2 Sacred Groves (SGs) of Koraput, Odisha. A. Kanta Baushuni SG, B. Mali Dusara SG, C. Bharabi Guda SG, D. Mauli Maa SG, E. Alligam Sacred Grove, F. Nishani Munda, SG (Paraja Sahi, Koraput)

families and 84 genera including 64 species of trees, 06 species of herbs and 10 species of shrubs, 15 species of climbers, 06 species of epiphytes, and zone grass were identified. Out of the 102 species, 20 species are rare, 12 are occasional and 70 species are common to the sacred groves. During the study, a total of 10 species of mammals, 58 species of birds belonging to 32 families and 20 species of reptiles, and 8 species of amphibians were recorded from different SGs of Koliposh Range.

Historically, the main approach to conserving

biodiversity globally has been through establishing protected areas, yet only 12% of the terrestrial areas of the planet are under some form of protection⁵⁹. There are few areas left that can be put under such conservation, which often excludes people. Conservation approaches that are community-based have a greater likelihood of success⁶⁰. Biocultural and indigenous approaches to conservation are increasingly being recognized and valued; therefore special attention is required for their conservation.

Though the sacred groves are a biological heritage and a system that has helped to preserve the representative genetic resources existing in the surrounding regions for generations, they are declining in numbers and size and disappearing rapidly, due to cultural change, modernization, urbanization, industry, and agriculture to exploit their natural resources. This calls for consistent efforts to conserve these pockets of rich biological diversity⁶¹⁻⁶²).

Conservation of Bio-Cultural Diversity and Tribal's World View

Cultural Festivals Linked to Biodiversity : There is an intimate and symbiotic relationship between the tribals, their Cosmo vision and the environment (biodiversity). They believe in the existence of natural and supernatural forces which influence their life-styles. They strongly believe that all the natural resources are the gifts of these divine forces. Accordingly they have evolved their own eco-cultures. Hence, they can also be called as eco-people. To establish a friendly relationship with these divine forces, they perform a variety of rites, rituals, ceremonies, and festivals²⁵.

The tribes of Koraput district of Odisha and Vizianagaram and Visakhapatnam districts of Andhra Pradesh believe that the *Konda Demudu* [Mountain God], *Bag Devata* [Tiger- the goddess of Mammals], *Ransula* [Goddess of large trees], *Bongowd* [Goddess of Medicinal plants and edible tubers], *Banbula* [Goddess of sub jungles small animals and micro organisms], *Jalkamini* [Goddess of water resources], *Nag Rani* [Goddess of snakes and other reptiles] etc, to protect various floral and faunal species and other natural resources and also influence their interactions and symbiotic relationship with them.²⁵

The festivals ranging from “*Konda Demudu Panduga / Kdupata puja /Sareni vali puja*” (festival to mountain God) to “*Dongor Devatha Panduga*” (festival to goddess of forest) to “*Vippa Poola Panduga*” (Mahuwa flowers, first eating festival) to “*Mamidi Panduga/ Aamnua* (Mango festival, first eating festival)” to “*Tenki Panduga* (mango kernel festival, first eating festival)” or to their festival to their “*Nisani Devatha*” during “*Itukala Panduga*” / “*Chait (ra) Parab*” are all environmental related festivals. The names and the presiding deities of these festivals differ from community to community and area to area, depending on the eco-cultural background of the communities²⁵. The *Pus Parab* and *Chaiti Parab* of almost all tribes of Koraput region are recognized as the main festivals⁶³.

The Way Forward

Beliefs and taboos are constructive tools for conserving biodiversity, and the erosion of beliefs and taboos has led to the deterioration of biodiversity. Various anthropogenic pressures due to developmental activities, urbanization, exploitation of resources, and increase in human population have threatened many sacred groves and their biodiversity. These sacred groves protected by the religious beliefs of indigenous communities not only enhance the economic status of the local tribal communities but also safeguard the biodiversity wealth *in situ*, which is on the verge of elimination. There is an urgent need for formulating conservation strategies for sacred groves by government agencies and non-government organisations and more and more documentation on their rich faunal and floral resources is the need of the hour.

The socio-cultural life of the indigenous communities is also undergoing fast changes due to the impact of globalization and its related factors. Due to the expansion of global markets and liberalization of economic activities of exchange of goods and services affecting all sections of the society including indigenous communities. Their lifestyle and social-cultural ways of living are about to be threatened. It is high time that more and more focused research needs to be undertaken on these changes and care needs to be taken to see that their bond with nature and biodiversity centered/nature-centered way of life continue unhindered. □

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