



EXTENT OF RELIGIONS AND SPIRITUAL MEANS OF CONSERVATION OF SACRED GROVES IN THE SOUTHERN DISTRICTS OF KERALA - A REVIEW IN SCIENTIFIC PERSPECTIVE

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ABSTRACT :

The southern districts of Kerala are both found very rich in the number of small fragments of forest land- groves and at the same time with in depth belief in rituals and ceremonies. Here majority of local people are considering these sacred groves as divine vegetative patches providing ambient living space for both flora and fauna. It is found that the strong believes of people to a certain extent keeps the sacred groves without having an ecological disturbance for centuries. The present study in intended to enquire to what extent these religious believes and taboos support the existence of these sacred groves with high ecological stability and their by providing sufficient habitat and niche for wide varieties of animals particularly snakes, as they are major deities worshiped in sacred groves.



KEYWORDS : Sacred Groves, Flora, Fauna, Habitat, Niche, Ecological Stability, Taboos, Snakes.

INTRODUCTION

Grove, vernacularly in Kerala 'Kavu' can be defined as a fragment or patch of land with rich diversity of fauna and flora. In Kerala particularly in southern districts one can see a minimum of at least a grove in a village. Almost all the groves are flourished with rich vegetation of huge and average sized trees with three or four canopy strata, along with that different varieties of climbers are densely grown with the physical support of trees. More over trees and climbers shrubs and herbs are also grow; Most of the groves are living repositories of hundreds of medicinal plants. On the periphery the vegetation thickness is comparatively less but varieties of indigenous flowering plants are also present. Large number of groves is associated with 'Kulam' (Pond) with much purified natural water. All the groves are found very rich in faunal diversity particularly crustaceans, insects centipedes, millipedes, wide varieties of amphibians, reptiles, specifically snakes, different kinds of birds and to an extent to certain mammals. All together it is very clear, a grove is a sustainable ecosystem or union of one or more ecosystems with number of balancing food chains and food webs. Besides drastic increase in population sacred groves are found to overcome variety of threatening ecological situations (Ramakrishnan et al., 1998). While considering all the above said ecological significance in the biodiversity conservation perspective, everybody will agree groves are the last refuge of endemic and other species in this geographical stretch of Kerala. As the drastic changes in the climatic conditions now-a-days in Kerala people are sometimes suffering

with severe draught, groves place an important supporting factor as they are recharge of aquifers. The ponds, streams and springs usually associated with these groves helps to meet the water requirements of local people and other animals. The thick and dense vegetative cover in the groves normally improves the soil stability of the area and thereby to a certain extent prevents soil erosion. Sacred groves are rural landscapes which perform several ecological functions and directly or indirectly help in the maintenance of healthy adjoining ecosystem (Pushapangadan et al., 1998).

HOW GROVES BECOMES SACRED - A HISTORICAL ENQUIRY?

As groves are distributed even in majority of countries in the world, it attains the portfolio 'Sacred grove' in India also. People in India is supposed to believes and worship Sun, Moon, Earth, Sky (Akash), Fire (Varuna), Air (Vayu) etc even in pre Vedic periods. It is believed that primitive Dravidians sects of people were satisfied with 'Kali' and Naga worships (Aradhana) along with tree worship. In that period Kavu were worshiped on behalf of Naga Yakshi, Ayyan, Kali etc. In all these worships tree worship (Vriskhaaradhana) and serpent worship (Nagaradha) were interlinked. The basic instinct of people those days might be worshipping all those things which generates 'fear' or threat in them (Kunjamma 2012).

During medieval period in Kerala among Hindus along with each Tharavadu, a sacred grove was protected and conserved with strong deity worship. In majority of these groves Snakes were worshiped by constructing 'Nagakotta', 'Chitrahakoodam'. Stone embodiments of Kings Serpent's, 'Ananthan', Vasuki etc. Whatever may be the philosophical or religious perspective psychologically it might be due to the 'fear' on venomous snakes and to avoid there bite and there by death. Geographically Western Ghats are even from the very ancient periods itself is with rich snakes diversity. Western Ghats s in Malayalam 'Sahayadri', 'Ahi means 'Snake' that is in the name itself rich diversity of snakes are specified. The Capital of Kerala is 'Thiruvananthapuram'. Ananthan is the king of snakes and prominent among 'Ashtanagas', 'Puram' means place. In Kerala the Hindu sect Nair is believed to be evolved from the word 'Nagar' means one who is worshipping snakes. Even today in Nair joint family systems definitely had a 'Sarpakkavu' associated with their residence named Tharavadu. It was believed that all living organisms including human being were protected from all type of calamities and threats by the worshiped deity, the 'Naga Raja' Different varieties of rituals such as Ayilyapooja, Sarpampattu, Sarpabali, Noorum Palum, Nagatheyyam, Pulluvanpattu etc. (Vishnu Namboodiri, 1997) were practiced on behalf of Naga Raja for his appreciation and blessing. All members in the society were prohibited from filling trees and even removing a twig was considered taboo. Almost all the sacred groves have one or more tree as the central point of worship named as 'Shalavriksha'. Usually there trees were protected and divinely considered due to its sociological, medicinal or religious perspective. *Ficus releigosa* (Arayal), *Azadirchta Indica* (Veepu), *Terminalia Paniculata* (Maruthu), *Aegle Marmelos* (Koovalam), *Casia fislutal* (Konna), *Alstonia scholaris* (Pala), *Strychnos nux-vimica* (Kanjiram), *Borassus flabellifer* (Pana) *Ficus bengalensis* (Peral), *Mimusops elenji* (Elenji) etc are cited as examples.

METHODOLOGY

To assess the present ecological status of sacred groves, three sample sacred grove types from southern districts of Kerala such as Thiruvananthapuram, Kollam and Alapuzha are selected. The sample sacred groves were selected by fixing three criteria such as sacred groves turned as temples, Deity is present but only occasional worship practices, Deity may or may not be present but there is no worship. The present study is conducted in 10 selected sacred groves in the southern district of Kerala. For the analysis the present ecological status, the number of evergreen trees, percentage of shrubs, herbs and climbers, Pathformation, leaf litter thickness, invasion of plants, human interaction etc. are used as indicators.

RESULT AND DISCUSSION

Table 1: The Details of Sacred Groves

S.No.	Name of the sacred grove	District	Panchayat/ Municipality/ Corporation	Type of ownership	Deity worship			Level of disturbances
					Often	Occasional	Rare	
1	Pingal Kavu	Thiruvananthapuram	Corporation	Family	✓			Minimal
2	Kulathungal Sree Bhadrakali	Thiruvananthapuram	Corporation	NSS Karayogam	✓			Minimal
3	Vengara Kshetra Kavu	Thiruvananthapuram	Corporation	Individual	✓			Minimal
4	Podiyadiyil Kavu	Kollam	Punalur Municipality	Family	✓			Moderate
5	Kaipally Kavu	Kollam	Punalur Municipality	Family		✓		Moderate
6	Kochuveettil Kavu	Kollam	Karvaaloor	Family		✓		High
7	Muzhuppal Kavu	Alapuzha	Harippad Municipality	Family			✓	Moderate
8	Vairasserimana Kavu	Alapuzha	Harippad Municipality	Family			✓	Moderate
9	Neelamana Kavu	Alapuzha	Muthukuliam	Family			✓	Moderate
10	Kulathur Kavu	Alapuzha	Thekkekara	Family		✓		Minimal

Almost all the sacred groves are found to be rich both in its floral and faunal diversity. Most of the sacred groves are luxuriant with multi stratified trees lianas and Shrubs. The major trees includes *Atrocarpus hirsutus*, *Mesua ferrea*, *Vateria indica*, *Hopea parviflora*, *Hopea ponga*, *Ashtonia scholaris*, *Mimusops elanji*, *Hydnocarpus pentandra* etc sacred groves are found repositories of rare and endemic species (Mohan Nair 1981; Unnikrishnan 1995; Induchandan 1998). Lianas includes *strychnos colubriana*, *Anamirta cocculus*, *Tetracera akara*, *Acacia intsia* etc. Shrubs includes *Ixora nigricans*, *Ixora bracteata*, *Chasalia curviflora* etc. Presence of these plant species provides and maintains high humidity, which supports high density undergrowth. Floral composition mostly includes typical evergreen species, but semi evergreen and Semi deciduous species are also present.

Table 2: Ecological Status Survey of Selected Sacred Groves in Southern Districts of Kerala

S.No.	Name of sacred grove	Presence of evergreen species			% of Presence of climbers, shrubs and herbs			Leaf litter depth			Path Formation		Invasion of plants		Human Interaction		
		Nil	>10	<10	Very less	Average	High	Less thickness	Average Thickness	High Thickness	Yes	No	Yes	No	Often	Sometimes	Rare
1	Piungal Kavu			✓		✓			✓		✓		✓		✓		
2	Kulathungal Sree Bhadrakali			✓		✓			✓		✓		✓		✓		
3	Vengara Kshetra Kavu			✓		✓			✓		✓		✓		✓		
4	Podiyadiyil Kavu			✓		✓			✓			✓		✓	✓		
5	Kaipally Kavu			✓		✓			✓			✓	✓				✓
6	Kochuveettil Kavu			✓		✓			✓		✓		✓				✓
7	Muzhuppal Kavu			✓		✓			✓			✓		✓			✓
8	Vairasserimana Kavu			✓			✓			✓		✓		✓			✓
9	Neelamana Kavu			✓		✓			✓			✓		✓			✓
10	Kulathur Kavu			✓			✓			✓		✓	✓				✓

Faunal inhabitants includes millipede, termites ants, earthworms, snails, frogs, lizards and snakes. Birds like crow, kite, mynas, Owls, parrots and herons usually found to make nests in the sacred groves during their breeding season. Pollinators such as beetles, butterflies, honeybees, wasps, insects and bats are also found in almost all sacred groves. Mammals such as Hares, Squirrel, rats and mongoose are also found common in all the studied sacred groves,

Moreover certain epiphytes and parasites such as Dendrobium herbacium, Bulbophyllum, Lucia zeylanica, Polystachia concreta are present in two of the sacred groves studied.

Besides flora and fauna ponds and streams found in two sacred groves may be considered as perineal water sources. They are actually the water sources for many birds, insects and other animal species particularly during drought summer. The rich litter composition present in the studied sacred groves are found to recycle the nutrient cycle in the sacred grove and to an extent to the neighboring ecosystems. Local ayurvedic and folk medicinal plants such as Abutilon indicum, Cassia auriculata, cleome viscosa. Calotropis gigantic, Leucas aspera are seen in most of the sacred groves. The ecosystem in the studied sacred groves can be cited as better examples of traditional bioresource management services, along with that on the other side strong science of habitat destruction and encroachment also can be seen.

The six selected sacred grove in eastern parts of the district of Kollam in Kerala exhibits an ecological status which is strongly extending a message, habitat destruction at an alarming rates. During ancient periods, the local people had strong belief in the deities worshiped in the sacred groves and the trees included there. They had life threatening fear when any harm which happens on the grove. For time immemorial it is found to be passed, generation after generation. But now in most of the places considerable changes have taken place in the depth of belief and, youngsters perception towards the sacred sites, religious belief and taboo. Same time

certain people are taken strong decision to be with the religious beliefs and worship. But they are seen to be apart from the actual sense of keeping it sacred by the old people. Any way one thing is sure and correct, directly or indirectly these religious worship and spiritual means become a participatory conservation strategy in Kerala. Specifically in the case of sacred groves. To assess the ecological status in the selected sacred groves certain indicators such as the number of evergreen species present, the percentage of presence of climbers and shrubs, the number of canopy strata, leaf litter thickness, percentage of human interaction, invasion of exotic plant species, path formations, tree girth and length etc were used. When the data obtained from the six sacred groves were compared and interpreted. It is very clear that the ecological status of sacred groves turned as temples is so poor. Here, almost all the large trees were fell down for making certain constructions including 'Sreekovil' (Temple) herbs, shrubs and undergrowths were removed, as such. At present there is only the feel of sacred grove and the so called vegetation cover is present only on the peripheral side. In Nedugottukavu, compound wall is constructed and tiles were paved in the floor. The faunal diversity found in the sacred groves are actually nocturnal or diurnal migrants. The construction of compound wall and tiling restricted there free movement. Daily practice of rituals and there by human interaction makes threat in their natural habitat. As majority of fruit yielding trees were fell down. It affects the food source of birds, bats, vampires, honeybees, monkeys, squirrels etc. As the under growth is extensively removed the population of mongoose and hares are almost left. During the period of study very less citation of these organisms were recorded.

The ecological status of those sacred groves which have no regular or daily worshipping in practices are found more rich in both floral and faunal diversity along with other ecological factors. Here the number of large evergreen trees is more with number of thick canopy strata, the trees with greater girth and height are present, as there is less path formation, and human interaction dense undergrowth is present, i.e. thick vegetation is existing. That is why the faunal species cited and recorded from these sacred groves are comparatively more diverse and abundant. Because of thick vegetation and thick canopy cover, the blowing of wind is found less in these sacred groves, thus the leaf litter thickens is also found high. But in both the sacred groves studied invasion of exotic species such as 'Lantana camera's wild varieties are present. But in those sacred groves with the presence of Lantana Camera more species of butterflies were cited and recorded.

In the third category of sacred groves it is not known whether the deity is present or not, but there is no worship practice. Ecological status is very high in these sacred groves when compared to the first two. Human interaction is found very rare. The entry into the sacred grove is found very difficult as it is densely vegetated with thick undergrowth. So many species of climbers are intermingled and almost mask the bark of huge trees. Number of epiphytes and parasites are also present. Three to five canopy strata is present. Which prevent the entry of sunlight interiorly? Leaf litter thickness is very high, which maintains high humidity. Faunal diversity is also very sound, particularly in the presence of venomous and non venomous snakes and lizards. Large population of chiropterans was found as diurnal residents. So many nests were builded by variety of birds. In most of the time during day time the premises of sacred groves are found blessed with the sound of variety of birds. By considering these sacred groves in a holistic ecological perspective, one can easily confirm that it exhibits almost all the characteristic of a forest ecosystem. The ecological attributes of well conserved sacred groves in Kerala are comparable to the natural forest (Chand Bhasha 1998; Chandrasekhara and Sankar 1998; Induchoodan 1998).

Actually the traditional and religious belief considering these groves as sacred no doubt ensures a participatory conservation strategy and to certain extends helps to keep the groves as village sanctuaries. Local communities in and around the sacred maintains certain rules and regulations which restricts, felling of trees, killing of animals, but provides provision for taking firewood, medicinal plants etc. (Hughes and Chandran 1988). But the real issue is found that during ancient time people never considered temples and Kavus as similar places of diet worship. This conceptual perception ensures both ecological biodiversity conservation in sacred groves there by total habitat destruction and encroachment was prevented. But during the onset of joint family system, and fast urbanization in Kerala the maintenance of sacred groves and religious taboo was disturbed. Now-a-days number of worship groups, without considering the real sense of sanskritisation, decided to turn the Kavus as temples, results is the total destruction of the thousands of years of traditional sustainable ecosystem- the

sacred groves.

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