**Detailed Project Report**

# Conservation of Sacred Groves in Coastal Panchayats of Kerala

*Submitted to*

Kerala State Biodiversity Board

Thiruvananthapuram

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**1. Context/Background**: (This section should provide a brief description of the sector/sub-sector as well as the national strategy and policy framework. This section should also provide a general description of the scheme/project being posed for appraisal)

Conservation of nature and natural resources has been an integral part of diverse cultures all over the world, since time immemorial. Indigenous communities in many parts of the world lived in harmony with the nature and conserved its valuable biodiversity beyond generations. In course of time, science and technology developed and industries were established andexpanded to meet the increasing demands of the people. Various anthropogenic activities have altered the structure and function of different ecosystems all over the world, ultimately resulted in the depletion of local biodiversity. Disappearance of species due to habitat alteration, overexploitation, pollution, global climate change and invasion of exotic species is so fast that many valuable taxa may vanish even before they are identified and their scientific value is discovered. In view of the adverse effects of biodiversity degradation, ecologists, environmentalists and conservationists has made conservation of biodiversity as an issue of global, national and regional significance. Many areas have been declared as protected areas and various in-situ and ex-situ conservation practices have also been undertaken in different parts of the world. There were many traditional conservation practices of indigenous communities in many parts of the world, which contributed to the conservation and protection of biodiversity a lot. A good example of such traditional practices is the conservation and protection of small forest patches by dedicating them to the local deities by various indigenous communities of the world. It is believed that these sacred virgin forests date back to thousands of years when human society was in the primitive state. Such forest patches are called ‘sacred groves’.

Sacred groves are sanctified patches of native vegetation traditionally been protected on the ground of religious beliefs and are generally dedicated to different gods, goddesses, spirits, serpents, etc. Sacred groves act as an ideal centre for biodiversity

conservation. Several plants and animals that are threatened in the forest are still well conserved in some of the sacred groves. The sacred groves play an important role in ecosystem services by providing clean air, soil and water, conservation of flora and fauna, temperature control and conservation of traditional knowledge. Being a biotype in a rural landscape, the sacred groves performs a critical role in the maintenance of ecological and hydrological balance of an area, and also help to compensate for carbon emissions of polluting industries and thereby offers economic benefits to the communities besides other ecological benefits..

Contributions of sacred groves to a village landscape in managing hydrological balance and availing the carbon credits under the Clean Development Mechanism (CDM) of Kyoto protocol have also been recognized by many workers. Sacred groves could help to compensate for carbon emissions of polluting industries. Thus, conservation and management of sacred groves offers economic benefits to the communities besides other ecosystem benefits.

The sacredness, religious beliefs and taboos play a significant role in promoting sustainable utilization and conservation of flora and fauna of a region. Sacred groves

provide the inextricable link between present society to the past in terms of biodiversity, culture, religious and ethnic heritage. However, with the passage of time, considerable changes have taken place in the extent of the sacred groves, in their vegetation structure, peoples' perception towards them and the religious beliefs and taboos. People's changing attitudes, erosion of traditional beliefs, and human impact have caused degradation of sacred groves over the years

**Sacred groves in India**

In India the sacred groves are found in a wide range of ecological situations from estuaries to mountain localities, especially in the Northeastern Himalayas (Khasi-Garo hills), Aravalli Hills of Rajasthan, Sarguja, Chandes and Bastar area in Central India and Western Ghats. Over 50,000 sacred groves have so far been reported from different parts of India.

**Sacred groves in Kerala**

In Kerala, sacred groves constitute a socio-cultural entity of rural communities. The first authentic report on the SGs in Kerala appeared in the Census report of Travancore published in 1891 in which Lt. Ward and Lt. Corner reported the presence of more than 15,000 sacred groves in Travancore and Cochin regions. A serpent kavu or an abode of snakes was an indispensable adjunct to each well-to-do Nair and Nambudiri family of Kerala. Sacred groves are seen throughout Kerala from coastal areas to the ghats and are having different cultural practices and belief systems. The area of sacred groves varies from few trees to several hectares. The sacred groves are mostly distributed along the plains of northern and southern Kerala. It is estimated that about 500 ha of forest area is under SG's, contributing 0.05% of the total forest area of the state.

Institution of Foresters Kerala (IFK), an organisation consisting of serving and retired trained Foresters as members-conducted a comprehensive survey of the sacred groves in Thiruvananthapuram, Kollam, Alappuzha, Thrissur, Kozhikode and Kannur districts during the period 2013-2018 and documented a total of 6,886 sacred groves of 1-2 cents to many hactars. IFK recorded 1231 SG's in Thiruvananthapuram district, 895 in Kollam, 2242 in Alappuzha, 970 in Thrissur, 1231 in Kozhikode and 1096 in Kannur district. A unique constituent of sacred groves in Malabar is the presence of typical Myristica swamps.

**1.a. Background**

Wedged between Arabian Sea in the West and Western Ghats in the East, geographically Kerala is unique with many hills and valleys, dense forests along with a network of 44 rivers, backwaters, lakes and beaches. With an area of 38,863 square kilometres, Kerala's coast runs 580 km in length, and the state itself varies 35-120 kilometres in width. Kerala's coastal belt is relatively flat, teeming with paddy fields, groves of coconut trees, and heavily crisscrossed by a network of interconnected canals and rivers. Being one of the smallest and species-rich states in the country, Kerala is exceptional because of its richness in biodiversity and endemism. The state constitutes only 1.18% of the geographical area of India but it accommodates 27.57% of the flowering plants occurring in the country. The state is also rich in the number of sacred groves. Recent dtudies reported nearly 7000 SG's within six districts of Kerala and the total number may reach 15,000, once the survey has covered whole state. Many of these sacred groves are in various stages of degradation due to expansion of agriculture, over exploitation of natural resources, erosion of traditional system of management, etc., indicating that urgent actions are needed to restore and conserve the last abode of local biodiversity.

Though several studies on the sacred groves in different parts of the state has completed during the past few decades, a comprehensive study on the sacred groves in the coastal zone of the state is still wanting. After the mangrove vegetation, sacred groves are playing an important role in the conservation of biodiversity in the coastal zone.

This study aimsto bring out an authentic record on the present status of sacred groves in the 113 coastal panchayats in 9 districts of Kerala state. It also covers the dominant flora of coastal sacred groves with special emphasis on endemic and threatened species. The report also discusses the specific distinctiveness, challenges and threats of coastal sacred grovesand the management measures required in this context.Besides preparing an inventory on the number of sacred groves available, information on the nature of vegetation, ownership, geographical location and such other important information are recorded in this report. The impact of such information on these patches of vegetation which have been surviving since long and its socio-ecological scenario would amply help policy makers establish guidelines and launch schemes for conservation. In this regard, a biodiversity rich and degrading sacred grove is identied and proposed to develop as a model

sacred grove for the demonstration of the key role of sacred groves in local biodiversity conservation.

**1.b.Project description**

Kerala state has 580 km long sea coast in the western part, which is largly of a submergent nature. Lateritic cliffs,rocky promontories, offshore stalks, long beaches, estuaries, lagoons, spits, and bars are characteristicof this coast.The project will be implemented in 9 coastal districts in Kerala state, viz., Thiruvananthapuram, Kollam, Alappuzha, Eranakulam, Thrisuur, Malappuram, Kozhikode, Kannur and Kasargod. A preliminary survey of the sacred groves located in the 113 coastal panchayats of Kerala state has been conducted during the period February 2020 to May 2020. Due to the outbreak of Covid-19 pandemic, the field surveys could be completed in Thiruvananthapuram and Kollam districts only. The status of sacred groves in other districts collected with the help of District Co-ordinators of Kerala State Biodiversity Board (KSBB), Biodiversity Management Committies (BMC's) in concerned panchayat, officials of Kerala State Forest Department, various researchers engaged in the studies of Sacred groves in different parts of the state and authentic literature.

**1.b.i. Sacred groves in the coastal panchayats of Kerala state**

A total of 745 sacred groves of small and larger sizes distributed in different coastal panchayats of the state could be located during the preliminary suevey conducted related to this study. Among the districts, Alappuzha dominate with 214 sacred groves in the coastal

zone followed by Kozhikode (160) and Thiruvananthapuram (95). Ernakulam with 3 SG's has the lowest number of SG's in the coastal zone. The details of sacred groves in the coastal panchayats of Kerala state is given in **Annexure 1**

**1.b. ii.Classification of coastal Sacred groves based on area**

The study revealed that the total area of sacred groves ranges from 3.0cents to 200.0 acres and in majority of the groves the area occupied by the vegetation was more than 80 per cent of total area of the grove. Most of the sacred groves are in 10-25 cent area category followed by 1-9 cent and 26-50 cent category. Sacred groves of very larger size (>100 cent) are found mainly in Kozhikode district (**Table 1**).

Table 1.**Area wise distribution of coastal sacred groves in different coastal districts of Kerala state**

| | | **Area** (Cents) | | | | | |
|---|---|---|---|---|---|---|---|
| Sl. No | **District** | **1-9** | **10-25** | **26-50** | **51-100** | **>100** | **Total** |
| 1 | Thiruvananthapuram | 20 | 52 | 13 | 6 | 4 | 95 |
| 2 | Kollam | 19 | 22 | 16 | 8 | 5 | 70 |
| 3 | Alappuzha | 26 | 143 | 30 | 12 | 3 | 214 |
| 4 | Eranakulam | 1 | | 2 | | | 3 |
| 5 | Thrissur | 33 | 41 | 10 | - | 3 | 87 |
| 6 | Malappuram | 3 | 4 | 2 | 1 | 1 | 11 |
| 7 | Kozhikode | 26 | 92 | 25 | 9 | 8 | 160 |
| 8 | Kannur | 16 | 52 | 9 | 3 | 3 | 83 |
| 9 | Kasargod | | | | | | 22 |
| | | | | | | | **745** |

**1.b.iii.Classification of coastal sacred groves based on ownership**

Based on the ownership pattern SG's in coastal zone can be classified into 4 major categories:

1. **Public** (Public trust/Local committee)

Public Trusts are generally registered with District Registrar of Societies or Sub-registrar office. Members of the trust are from the general public. About 7 % of the SGs are under this category.

About 7% of SG's are managed by local committies formed by a group of people living around each sacred grove.

2.**Private** (Family (Kudumbakavu)/Family trust/family committee)

Out of the 745 SG's in coastal area about 76% are under the category 'Private', manageed by a single family, family committee or family trust formed by the members from different families holding ownership.

3.**Devaswam board**

SG's under this category is governed by the statutory rules of concerenedDevaswam Boards. About 4% SG's in coastan area under the ownership of Devaswam Boards.

4. **Government**

NalappattuSarppakavu in Thrissur district is the only SG in coastal zone under the direct ownership of state government (Revenue department).

**1.b.iv.Vegetation of coastal sacred groves**

Floristic diversity indices of the sacred groves of Kerala are equal or nearly equal to the forests of the Western Ghats.Mainly three major forest types, namely evergreen, semi-evergreen and moist deciduous forests are seen among the coastal sacred groves. Each SG is having several tiers of trees and shrubs, various species of climbers, epiphytes, parasites and other undergrowth make the vegetation typical to that of low level evergreen forest. Hopeaponga-Hydnocarpuspentandra-Vaticachinensis association is found in several sacred groves in northern Kerala. The dominant trees in the first storey are *Antiairistoxicaria, Artocarpushirsutus, Buchananialanceolata, Calophyllumapetalum, C. calaba, ElaeocarpusserratusFicus spp., Garciniagummi-gutta, Hopeaparviflora, Mesuaferrea, Strychnosnux-vomica, Syzygiumcumini, Terminaliabellirica ,Vateriaindica*, etc

The second storey consists of *Aglaiaelaeagnoidea, Alstoniascholaris, Antidesma spp., Aphanamixispolystachya, Aporusalindleyana, Holigarnaarnottiana, Holigarnanigra,*

*Hopeaponga, Hydnocarpuspentandra, Knemaattenuata, Myristicamalabarica, Simaroubaamara, Schleicheraoleosa, Sterculiabalangas, Symplocoscochinchinensis, Syzygiumcaryophyllatum, Vaticachinensis, Xanthophyllumarnottianum*, etc.

The third storey consists of plants like *Allophyllusserratus, Chassaliaophioxyloides, Clerodendroninfortunatum, Glycosmispentaphylla, Grewiamicrocos, Isonandralanceolata, Ixora spp., Holarrhenapubescens, Leeaindica, Meiogynepannosa, Memecylonumbellatum, Murrayapaniculata, Nothopegiacolebrookeana, Pavettaindica, Psychotria spp., Strobilanthesheyneanus*, etc.

Climbers are dominant in many of the SG's in coastal areas and their number varies from 10 to 60. Majority of the climbers belong to the families such as Convolvulaceae, Hippocrateaceae, Leguminosae, Menispermaceae, Vitaceae, etc. The most common climbers seen in coastal SG's are *Anamirtacocculus, Artrabotryshexapetalus, Calamushokerianus, Combretumindicum, Derris trifoliata, D. scandens, Dalbergiacandenatensis, D. horrida, Erycibepaniculata, Getonia floribunda, Gnetumula, Salaciafruticosa, Spatholobusparviflorus, Strychnoscolubrina, Tetraceraakara, Tinosporacordifolia, Tiliacoraacuminata*, etc.

Epiphytes and parasites are poorly represented in the coastal sacred groves. The important epiphytes are *Acampepraemorsa, Cymbidium aloifolium*, etc. The common parasites in the study area are *Cassythafiliformis, Dendrophthoefalcata, Helicantheselasticus*, etc.

Herbaceous flora is comparatively less in SG's having thick vegetation of trees and climbers. The ground flora mainly consists of *Alysicarpusvaginalis, Andrographis spp., Biophytumsensitivum, Crotalaria evolvuloides, Cynodondactylon, Cyperusrotundus, Desmodiumtriflorum, D. heterophyllum, Elephantopusscaber, Geophilarepens, Oldenlandia spp., Ischaemum spp., Phyllanthus spp. Tridaxporcumbens*, etc.

In the marshy/wetland region species such as *Hygrophilaringens, Impatiens diversifolia, Lagenandraovata, L. toxicaria, Nymphaeanouchali, Nymphoidesindica, Pandanusodorifer*, etc.Besides several species of ferns like *Adiantumlatifolium, Adiantumlunulatum, Drynariaquercifolia, Drymoglossumheterophyllum, Hemionitisarifolia, Lindsaeaensifolia, Pteris spp*. etc .are seen in the coastal groves.

Several sacred groves in the coastal belt are conquered by invasive alien species like *Lantana camara, Chromolaenaodorata, Ipomoeaepurpurea*, etc.

The common plants found in the coastal sacred groves of Kerala state are listed in **Annexure 2.**

One of the characteristic features of the humid tropical forest ecosystem is its high species-richness. In tropical evergreen forests the range of tree species count per ha is from 20 to a maximum of 223. In many of the sacred groves in coastal area, the tree species count per ha is above 100.

**1.b.v.Endemic and threatened plants**

Western Ghats is one of the hottest hotspot of biodiversity in the world. Sacred groves adjacent to the Western Ghats are treasure houses of several endemic and extremely rare flowering plants. Coastal sacred groves are also conserving some highly threatened plants identified by IUCN as Critically Endangered (*Vaticachinensis*), Endangered (*Hopeaponga*) and Vulnerable (*Santalum album, Saracaasoca, Vateriaindica*). Narrow endemics like *Aphanamixispolystachya, Calophyllumcalaba, Celastruspaniculatus, Cinnamomummalabathrum, Dalbergiahorrida, D. malabarica, D.travancorica, Gnetumedule, Hopeaparviflora, Hydnocarpuspentandra, Ixorabracteata, Knema attenuate, Litseacoriacea, L. quinqueflora, Memecylonrendarianum, Myristicamalabarica, Salaciafruticosa, Semicarpusauriculata*, Xanthophyllumarnottianum, etc. are also found in the coastal sacred groves. Indo-Sri Lankan endemics like *Ampelocissusindica, Ancistrocladusheyneanus, Aporosacardiosperma, Artabotryszeylanica, Calamusrotang, Connarusmonocarpus, Cryptolepisbuchananii, Eriocaulonthwaitsii, Eugenia mooniana, Jasminumangustifolium, Macluraspinosa, Madhucanerifolia, Polyalthiakorintii, Pterocarpusmarsupium, Strobilanthesheyneanus, Uvarianarum, Vitexpinnata*, etc are common in the coastal sacred groves.

**Western Ghats endemics in sacred groves**

*Calophyllum calaba* | *Cinnamomum malabathrum* | *Dalbergia horrida*

*Dalbergia malabarica* | *Gnetum edule* | *Holigarna arnottiana*

*Hopea ponga* | *Hydnocarpus pentandra* | *Ixora brachiata*

Western Ghats endemics in sacred groves

*Knema attenuata*

*Litsea coriacea*

*Litsea quinqueflora*

*Memecylon randerianum*

*Myristica malabarica*

*Salacia fruticosa*

*Semecarpus auriculata*

*Vateria indica*

*Xanthophyllum arnottianum*

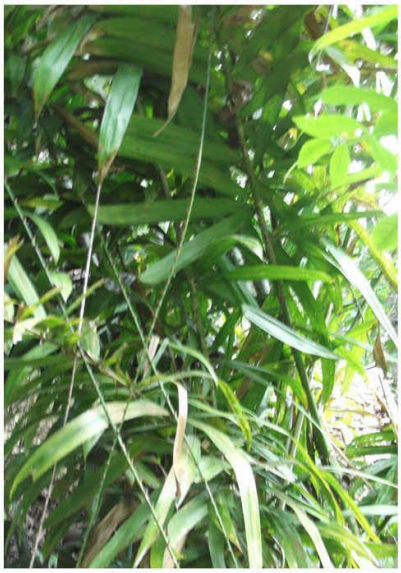
## Indo-Sri Lankan endemics in sacred groves

*Ampelocissus indica*

*Ancistrocladus heyneanus*

*Aporosa cardiosperma*

*Artabotrys zeylanicus*

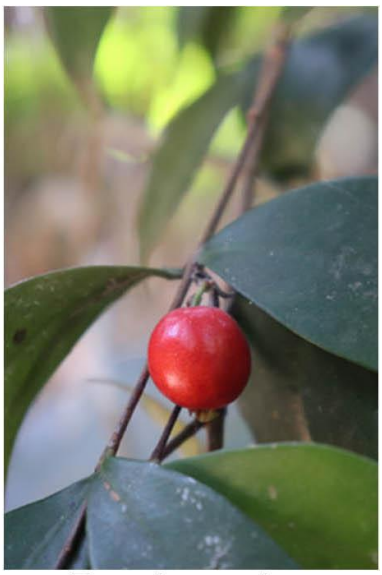


*Calamus rotang*

*Connarus monocarpus*

*Cryptolepis buchananii*

*Eriocaulon thwaitesii*



*Eugenia mooniana*

**Indo-Sri Lankan endemics in sacred groves**

*Jasminum angustifolium*

*Maclura spinosa*

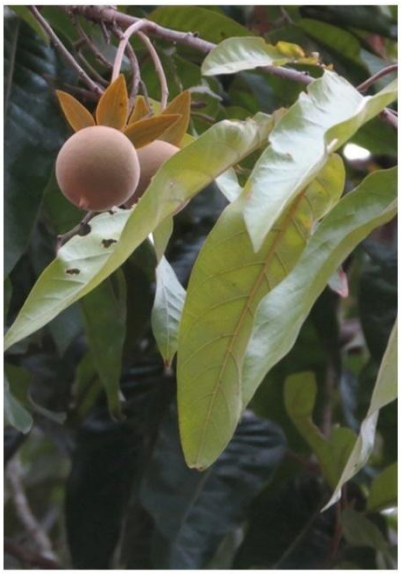
*Madhuca nerifolia*

*Polyalthia korintii*

*Pterocarpus marsupium*

*Strobilanthes heyneanus*

*Uvaria narum*



*Vatica chinensis*

*Vitex pinnata*

### 1.b.vi. Medicinal plants

Sacred groves are repositories of several medicinally important plants, using especially in local sytems of treatments. Warrier&Warrier (2019) enumerated 290 species of medicinal plants from solely from the district of Alappuzha. The family with the maximum number of medicinal plants was Euphorbiaceae followed by Apocynaceae, Rubiaceae and Asteraceae. *Vateriaindica,*a critically endangered medicinal tree found in many of the sacred groves of coastal region. Meicinal plants common in the sacred groves of coastal area are listed in **Annexure 3.**

*Alangium salvifolium*

*Butea monosperma*

*Gloriosa superba*

*Gymnema sylvestre*

*Holarrhena pubescens*

*Ichnocarpus frutescens*

*Justicia adhatoda*

*Morinda citrifolia*

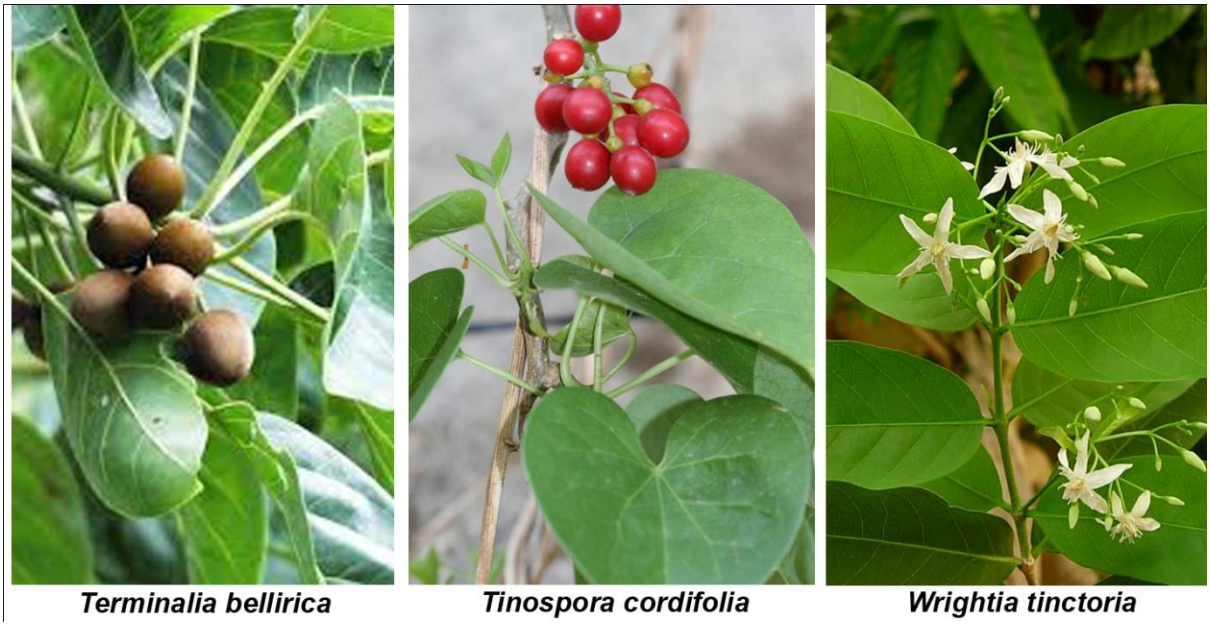
*Myxopyrum smilacifolium*

*Naravelia zeylanica*

*Plumbago zeylanica*

*Quassia indica*

*Rauvolfia serpentina* *Saraca asoca* *Strychnos minor*



*Terminalia bellirica* *Tinospora cordifolia* *Wrightia tinctoria*

**1.b.vii.Sacred groves and birds**

Sacred groves are also playing a key role in conservation of avian fauna in the urban as well as coastal ecosystems. They help in supporting diverse species of birds, including raptors, owls, forest birds, endemic and threatened birds as well as migratory birds. A recent study in 15 selected sacred groves of northern Kerala, eight from Kannur District and seven from Kasargod District each, reported 111 bird species belonging to 49 families and 16 orders. The sacred groves of northern Kerala support many of the 'forest-birds' such as the Grey Junglefowl Gallus sonneratii, Asian Fairy-bluebird Irena puella, Tickell's Blue-flycatcher Cyornistickelliae, Malabar Trogon Harpactesfasciatus, Heart-spotted Woodpecker

Hemicircuscanente, Malabar Whistling-Thrush Myophonushorsfieldii, Little SpiderhunterArachnotheralongirostra, etc. The sacred groves of northern Kerala also support two endemic bird species of the Western Ghats, such as the Malabar Grey Hornbill Ocycerosgriseus and Rufous Babbler Turdoidessubrufa. Five species of raptors and four owl species were reported from the sacred groves of north Kerala during the present study. The breeding of the White-bellied Sea-Eagle has been reported at EdayilakaduKavu, a coastal sacred grove in Kasargod District. The sacred groves of northern Kerala also supported 17 species of long distant migratory birds. ThazheKavu, recorded the Black-headed Ibis *Threskiornismelanocephalus*, a Near-Threatened bird according to IUCN.

**1.b.viii.Sacred groves and Butterflies**

Sacred groves are home to a number of butterflies in the urban landscape. A recent survey documented a total of 154 species belonging to four families from 27 sacred groves across Kerala. The family having the maximum number of species (58 species) was Nymphalidae followed by Papilionidae (36 species), Lycaenidae (35 species) and Hesperiidae (27 species). *Euploea core* was the most common species. Five species, namely *Idea malabarica*, *Pachlioptapandiyana*, *Sarangesapurendra*, *Troidesminos* and *Zipoetissatis*, are the Western Ghats endemics located in the sacred groves.

**1.b.ix.Water resources**

Majority of the sacred groves are in combination with sacred ponds and they also act as micro-watersheds of freshwater systems.Many sacred groves hold water sources in the form of ponds, streams or wells. About half of the SG's in the present study possesses 1-2 ponds in their premises. Being covered with good vegetation, SG's are helping to recharge ground water and thereby play a role in maintaining the water level in adjacent household wells, ponds, etc. The pond located inside the SG is the only source of fresh water to many of the associated temples. Some larger SG's, like Ayiravallikavu in Kollam district, are associated with streams and streamlets. These supply water to the down- stream agricultural fields. On either side of these streams, profuse growth of several riparian species and rare ferns can be seen.

### 1. c. Status of the sacred groves in the coastal panchayats

The present project aims to enhance the efficiency of coastal biological resources through eco-restoration. Regarding this, a brief survey of the status of scared groves in the 113 coastal panchayats of Kerala state has been conducted and about 745 coastal sacred groves of various sizes have been identified. Most of the sacred groves in coastal areas are in different statges of degradation, especially due to human encroachment, waste dumping, invasive plants, etc.

### 1.d. Status of the selected sacred grove

A biodiversity rich and degrading sacred grove in Kozhikode district is selected to develop as a model sacred grove to demonstrate the role of sacred groves in coastal zone biodiversity conservation and coastal management.The details of the selected sacred grove are given below;

Name of the sacred grove: **ThazhepurakkalBhagavathikavu**

Location: Chelavoor, Kozhikode Corporation

Area: 2 Acres

Ownership: Private family

**Reasons for selection:**

- Rich biodiversity (Herbs-48, shrubs – 32, Trees 42 and climbers-28 species),
- Presence of endemic and threatened plants (28 species)
- About 30% of the sacred grove degraded due to human encroachment, biomass collection, waste deposit, animal grazing, etc.
- The water harvesting structures like ponds and wells are becoming useless due to siltation.
- Invasive plants like *Chromolaenaodorata, Lantana camara*, etc largely conquered native flora.

**2. Problems to be addressed: (**This section should elaborate the problem to be addressed through the project/scheme at the local/regional/national level. Evidence regarding the nature and magnitude of the problems should be presented, supported by baseline data/survey/reports etc.)

**2.1. Problems of the sacred groves in coastal panchayats - General**

The present as well as previous studies revealed the fact that due to faiths, taboos and beliefs, over years, the local people have developed a strong affinity towards the temple and the forest of sacred groves. The local people in general also believe that their livelihood, security and propserity are complementary to the blessings of the deity of the kavu. Even then, this ancient and widespread institution is showing signs of weakening in terms of both cultural and biological integrity in many parts of the State including the coastal belt. This ancient and widespread institution, as revealed by several studies, shows signs of weakening in terms of both cultural and biological integrity in many parts of the country. The nature and extent of threats and pressures are often region and even grove-specific. The magnitude of these threats varies from region to region as well as from one type of grove to another. The major threats faced by the coastal sacred groves can be summerized to the following heads:

**2.1.a. Change in land use pattern**

The leading cause of bio diversity loss is habitat loss and degradation due tochanges in pattern of land use.The transformation of land use pattern initiated by a singlegeneration of settlers cleared nearly all the natural forest cover of the region andconverted the former jungle land into the cultivated fields of rubber, pepper, areca,tapioca, coconut and cashew. This trend continues even today especially in thefamily- owned groves in Kerala where the Forest department or Government has no sayon. The conflicts of interestsbetween the administration and the public, between the old and new generations andbetween the advocates for development and the environmentalists are affecting the sacredgrove conservation like any other changes in the society.One such important change happened in Kerala is the disappearance of ‘jointfamily system’. Many sacred groves in Kerala are family owned, presided by the familydeity. In due course of time, because of the inevitable changes in the value systems andacculturation from the western communities, joint families gave way to nuclear ones. The nuclear family culture and associated land partition resulted in the reduction of total area reserved for sacred groves.

### 2.1.b. Encroachment

Majority of sacred groves in the coastal area are without a permanent compound wall or fence. Lack of clear-cut boundary demarcation and a strong institutional setup to protect the sacred grove lands have responsible for the destruction of integrity of these sacred groves. The loss of forest nature of sacred groves is mainly due to trespassing and trampling of understorey vegetation, particularly to the tree seedling population, followed by illegal biomass harvest. In many of the SG's wandering of people inside the forested land was found common. The severity of damage both to the seedling and saplings was found to be severe during festival seasons as a large number of people walked inside the forest. The damage to seedlings led to poor regeneration of forest species and invasion of exotic weeds and light tolerant understorey plants. The practice of illegal collection and removal of fire wood and small timbers was found in few urban SG's. In many sacred groves, removal of biomass and cattle grazing is permitted. Continuation of these practices over generations has resulted in the dwindling of the groves.Removal seeds along with litter as part of the clearing up prior to the annual worship of the deity in the grove has been resulting in retrogression by hindering the natural regeneration in many groves located along the coastal sandy region.

### 2.1.c. Dumping of wastes

Dumping of solid wastes is not a rare practice in the sacred groves associated with popular temples. These wastes include, plastic bottles, carry bags, wrappers of food/ confectionary items, kitchen wastes and old cloths. The source of these solid wastes is primarily the shops and houses located around the grove. The visitors also discard the plastic materials such water bottles, wrappers of food and confectionary items, carry bags etc. in the grove. Dumping of solid wastes not only affects the serenity of the grove but also the ecological functions of the system.

2.1.d. **Siltation of water bodies**

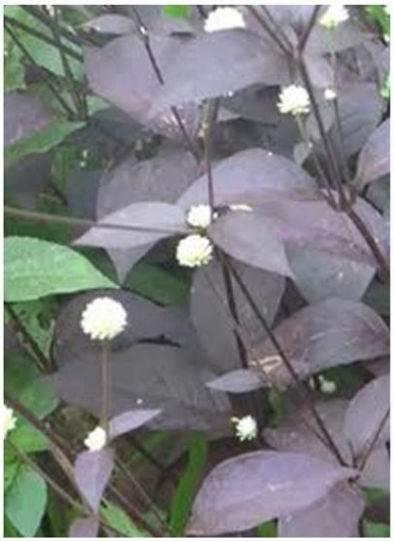
Sacred groves in many of the coastal panchayats have rain water harvesting structures such as ponds, wells, etc. But in most of the cases, these structures are not maintaining properly and are become useless especially due to siltation.

### 2.1.e. Commercial forestry

The forest ecosystem of some sacred groves deteriorated due to commercial forestry operations. Acacia, Cashew, Teak trees were found to be growing in few SG's in the coastal zone, e.g. Valathunkalvalarakavu (Kollam).

**2.1.f. Invasive plants**

Invasion of exotic weeds such as *Alternanthera* spp., *Chromolaenaodorata, Ipomoea spp., Lantana camara,Mikaniascandens, Mimosa diplotricha, Wedeliachinensis, etc. are severe threat to the natural vegetation of several sacred groves.* Indigenous climbers like *Acacia intsia*, *A. torta*, etc. also has led to the degradation of a number of groves, eg.Kuzhikarathazhamkavu, Paravur.



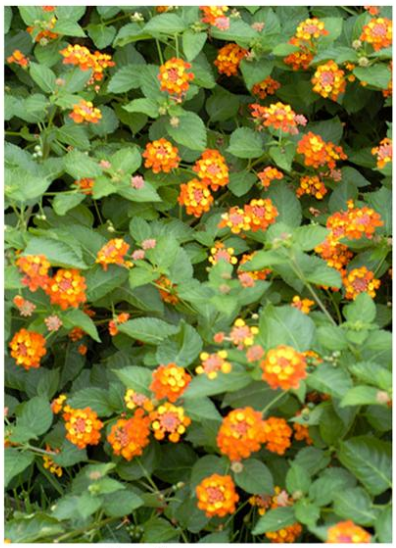
*Alternanthera brasiliana*

*Alternanthera philoxeroides*

*Chromolaena odorata*

*Ipomoea purpurea*

*Ipomoea quamoclit*



*Lantana camara*

*Mikania micrantha*

*Mimosa diplotricha*

*Wedelia trilobata*

### 2.1.g. Shift in belief system

In some cases, conversion to other religions has resulted in the degradation of sacred groves.

### 2.1.h. Sanskritisation of sacred groves

Due to the pressures arising due to scarcity of land and increased land values, many sacred groves have been destroyed by clearing their vegetation followed by the transfer of the deity of the grove to a temple or an idol by following expensive spiritual rituals. Conversion of the groves to temples, a social change of popular values which may be referred to as Sanskritisation, also adds destruction of the invaluable resources. Clearing of vegetation for the expansion of temple premise is a major issue in the conservation of sacred groves, especially in urban areas.


**2.1.i. Pilgrimage and tourism**

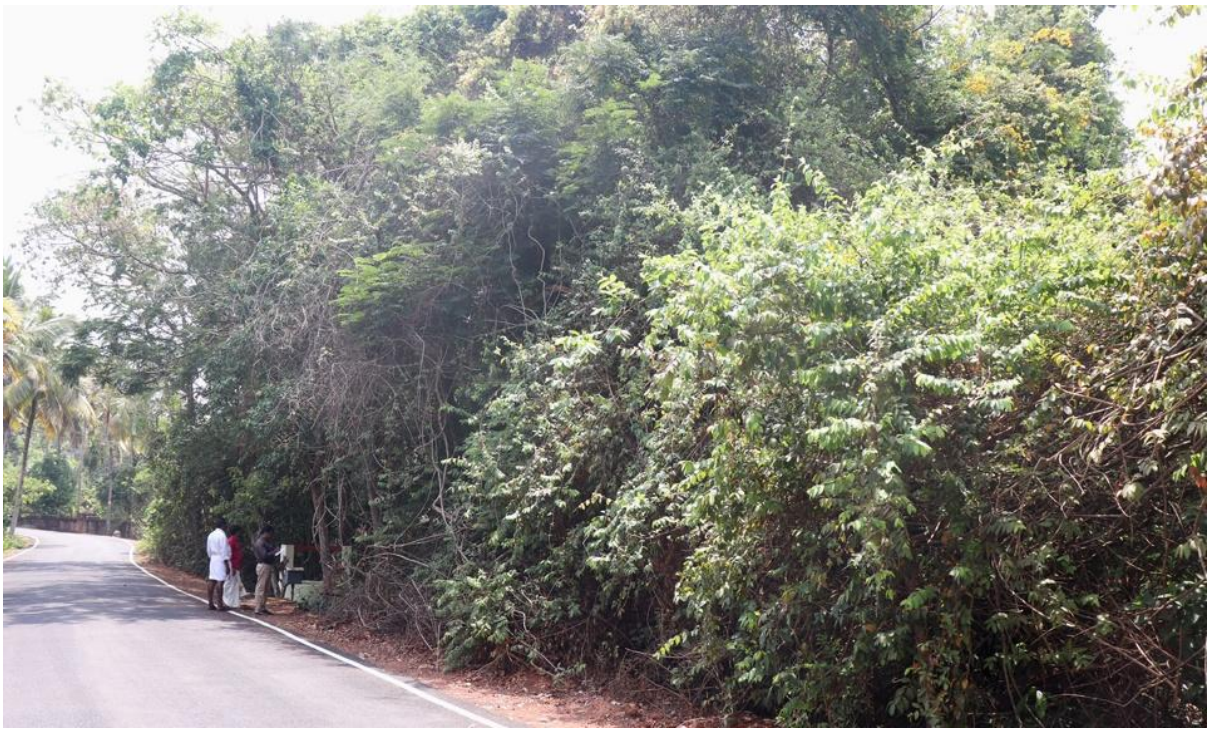
Many of the sacred groves associated with major temples are suffering due to the influx of large number of pilgrims and tourists.This adversely affecting the serenity and sanctity of sacred groves, and also results in accumulation of plastic and other wastes in the premises of grove.

**2.1.j. Modernisation and market forces**

The most recent threat to sacred groves comes from the process of modernisation. Local traditions are being challenged by westernised urban cultures. Modern education system fails to instill respect for local traditions. As a result, the institution of sacred groves is losing its cultural importance for the younger generation of local people. The spread of market economy has resulted in the denial and erosion of separate identities of local communities. The lure of short-term commercial gains has prompted destruction of traditionalresource base, including the sacred groves.

**2.1.k. Fragmentation and perforation**

Many of the SGs are fragmented and perforated by roadways, extension of power lines, or reclaimed land for agriculture. Such fragmentation leads to loss of species, and disruption of ecological functions.



**2.2. Problems of the selected sacred grove**

The selected sacred grove is facing serious degradation especially due to the lack of a permanent fencing. About 30% of the sacred grove degraded due to human encroachment, biomass collection, waste deposit, animal grazing, etc.The water harvesting structures like ponds and wells are becoming useless due to siltation.Invasive plants like *Chromolaenaodorata, Lantana camara*, etc largely conquered native flora.

3. **Aims and Objectives:** (This section should indicate the development objectives proposed to be achieved, ranked in order of Importance. The outputs/deliverables expected for each development objective should spend out clearly).

3.a.**Objectives**

- Restoration of the selected sacrd grove in Kozhikode district with the participation of local community and other stakeholders

- Biodiversity documentation of the selected sacred grove and associated traditional knowledge.
- To restore water bodies associated with the selected sacred grove to maintain the biodiversity of the sacred grove and recharge groundwater
- To strengthen existing structures and procedures relating to the management of the selected sacred grove through participatory analysis and action for long term management of the sacred grove.
- Preparation of an inventory of Sacred groves in 113 panchayats in the 9 coastal districts with area, location and ownership details.

3.b. **Key deliverables**

- ThazhepurackalBhagavathikkavu, a biodiversity rich and degrading sacred grove in Chelavoor village of Kozhikodedistrict will be restored and conserved with the participation of local community and other stakeholders
- The water bodies associated with the sacred grove will be restored for rainwater harvesting
- Permanent compound wall/ barbed wire fencing will be done for the selected sacred grove to prevent encroachment.
- A central nursery will be established at KSCSTE-MBGIPS, Kozhikode to ensure the supply of forest trees seedlings for reforestation activities in the degrading sacred grove.
- The village communities associated with the selected sacred grove will be mobilized and reorganized to take care of the restoration and sustenance of sacred grove in the long run
- A document on biodiversity, ecological services, community perception and management practices of the selected sacred grove will be prepared and used for awareness creating and action planning.
- An Atlas of Coastal Sacred Groves in Kerala state will be prepared for educational purposes, public awareness and for policy inputs.

**4. Strategy:**(This section should present an analysis of alternative strategies available to achieve thedevelopment objectives. Reasons for selecting the proposed strategy should be brought out. The basis for prioritization of locations should be indicated wherever relevant. Opportunities for leveraging government funds through public-private partnership or savings through outsourcing must be explored. This section should also provide a description of the ongoing initiatives, and the manner in which duplication can be avoided any synergy created with the proposed scheme/project)

Participatory management in partnership with stakeholders is the primary strategy envisaged to restore and conserve the coastal sacred groves. Conservation of sacred groves is not only an issue related to biodiversity conservation, but also very much related to the culture, belief, traditional wisdom and management practices. Hence, effective stakeholder engagement is necessary to achieve the envisaged results of the project as well for long term sustenance of the sacred groves. At the mcirolevel mobilization and organization of stakeholders, particularly local community is important. As a first step, villages which own the sacred grove or which have a stake in the conservation and management of the sacred grove will be identified. Following this participatory rural appraisal will be conducted to identify past and present status of the sacred grove, interdependence between the community and the sacred groves, traditional management practices, problem identification, identification of interventions to solve the issues, etc.

In Kerala, out of the 745 SG's in coastal area about 76% are under the category 'Private', managed by a single family, family committee or family trust formed by the members from different families holding ownership. Most of the family sacred groves (kudumbakavu) are managed by family committies exclusive for family members. Reorganization of such committies with proper representation of local people outside the familes and proper gender equality is essential to ensure the conservation of sacred groves in the long run. Many of the temple committies needed to be strenghthen with proper gender balance in which both men and women across the social and economic groups will get equal representation. This committee will be utilized for preparation of detailed microplan for each intervention, implementation and monitoring of the project activities. Interventions will be identified on the basis of issues identified both at the macrolevel and at the village level during the participatory rural appraisal. Microplan will contain details activities, timeline, budget and roles and responsibilities of the stakeholders in the implementation and monitoring.

Kerala State Biodiversity board constituted Biodiversity Management Committies (BMC's) in all Panchayats of the state for the successful implementation of the Biological Diversity Act 2002 and Rules, 2004 and Kerala Biological Diversity Rules, 2008. Each BMC can play a key role to ensure the protection of sacred groves in their panchayat through collaboration with the custodians of concerned grove. In each panchayat, the Sacred grove management committies should be reorganized to include at least one member of the BMC of concerned panchayat so that the committee can ensure support from the local government bodies.

Other strategies to address the problems discussed in section 2 can be summerized as in the following subheads:

4.a. **Awareness programs**

Lack of awareness of the importance of sacred groves is one of the major reasons of human interference in the prestine atmosphere of sacred groves. Organisation of awareness campaigns on the functional role and importance of sacred groves is another strategy which also helps to attract more stakeholder groups to participate and jointly chalk out plans to manage and conserve the existing systems in the light of any possible threats like encroachment and habitat destruction in future. Therefore, the main management option, applicable to all sacred groves, is organising awareness creation programme for different sections of people. The aim of each programme should be to disseminate information such as ecological, cultural, biological and social dimensions of groves and also ways and means by which different stakeholder groups can contribute for the conservation and management of groves. Apart from the scheduled awareness creation programmes, necessary support should be provided for the visits and camps by nearby colleges and schools to appreciate the multi-fold importance of sacred groves. The awareness creation programmes need to be targeted at all stakeholder groups, to ensure the positive attitude of all stakeholders for sustainable management and conservation of sacred groves and also to uphold and sustain the cultural, biological and ecological values of sacred groves and transfer it to the coming generations.

4.b. **Protective measures**

Like many of the sacred groves in coastal areas, ThazhepurackalBhagavathikkavu is also without a permanent compound wall or proper fencing. Such protective measures are essential to save the sacred grove from encroachment, trespassing, grazing, illegal collection of biomass and other activities which are affecting the ecological health of groves.

4.c. **Restoration of forest**

Anthropogenic interferences have deteriorated the forest ecosystem of the sacred grove. Reforestation of disturbed areas, by reintroduction of species characteristic to the selected grove, is another strategy for ecological restoration. For that, a central nursery for the supply of quality planting materials of forest trees will be established at MBGIPS, Kozhikode.

4.d. **Restoration of water bodies**

Fresh water ponds are part of the selected sacred grove. However, the existing water bodies need to be effectively managed for making them functional. Due to silt deposition and lack of management for several decades the ponds are unable to store water. Removal of silt and deepening are the suggested measures to make the ponds functional. The ponds are covered with algal bloom and partially filled with silt and debris. Thus cleaning, de-silting and repairing are suggested for their restoration.

4.e. **Control of invasive species**

Human interventions resulted in the entry of invasive plants into the sacred grove which adversely affected the population of indigenous species. Removal of such weeds, particularly exotic species, is identified as one of the major restoration activity in the selected sacred grove. Removal and preventing further growth of invasive species without affecting the general structure and ritual concepts have to be designed by a team of forest officials and scientists conversant with this issue.

The major actions to be taken to address the problems discussed in section 2 can be summerized as 12 tasks, as given in Table 2.

**Table 2. Project tasks and activities for the development of model sacred groves in the coastal districts**

| No | Project Task | Activities |
|---|---|---|
| 1. | Stakeholder Mobilization and Organization | 1.1 Identification of external and internal stakeholders and their influences<br>1.2 Identification of villages and traditional committies associated with the sacred grove<br>1.3 Orientation meeting with community and the traditional committee<br>1.4 Organizing participatory rural appraisals in the selected sacred grove to understand the status of the sacred grove, its biodiversity, bio-cultural values, causes of degradation, etc. |
| 2 | Mapping of the sacred grove | 2.1 Identification of the boundaries with the participation of temple committee, community and the Revenue Department<br>2.2 Demarcation of boundaries with GPS based field mapper<br>2.3 Analysis of landuse within the sacred grove such a infrastructure, forested areas, water bodies etc. |
| 3 | Biophysical studies | 3.1 Conducting vegetation analysis following random quadrat method<br>3.2 Identification of species of all the plants collected from each quadrat<br>3.3 Analysis of species diversity and species richness using standard methods<br>3.4 Analysis of the extent of water bodies and their status |
| 4 | Establishement of a nursery | 4.1. Establishment of a central nursery at MBGIPS, Kozhikode<br>4.2. Identification species to be grown in the nursery<br>4.3. Raising saplings |
| 5 | Fencing | 5.1 Marking perimeter of the sacred groves with the support of temple committee and surveyor<br>5.2 Purchase of granite stone pillar, barbed wires and chainlinks<br>5.3 Establishing the chian link fencing with 8 feet interval between granite stone pillar |
| 6 | Restoration of water bodies | 6.1 Marking perimeter of the water bodies to be restored<br>6.2 Desiliting supply channels<br>6.3 Removing silt from the water bodies<br>6.4 Strengthening bunds with the silt removed |
| 7 | Removal of invasive plants | 7.1 Identificationof invasive alien species<br>7.2 Replacement invasive species with indigenous species |
| 8 | Planting trees for reforestation | 8.1 Survey and demarcation of the plantation site<br>8.2 Pitting<br>8.3 Transportation saplings from central nursery<br>8.4 Planting including initial watering<br>8.5 Establishment of irrigation facilities |
| 9 | Monitoring and | 9.1 Continuous monitoring and assessing causality |

| | | |
|---|---|---|
| | after care | 9.2 Causality replacement<br>9.3 Conducting social auditing of the plantation jointly with the temple committee and community |
| 10 | Documentation | 10.1 Publishing a book on coastal sacred groves of Kerala<br>10.2. Publishing atlas of coastal sacred groves of Kerala<br>10.3 Publishing articles in peer reviewed journals |
| 11 | Awareness raising | 11.1 Preparation of awareness materials<br>11.2 Organizing meeting with the community and other local stakeholders and discussing the role of sacred groves in biodiversity conservation, water management and sustainable agriculture.<br>11.3. Distribution of awareness materials to all the stakeholders |
| 12 | Rejuvenating temple committees | 12.1 Assessment of the structure of the temple management committee<br>12.2 Existing norms in the governance of the sacred groves<br>12.3 Identifying gaps<br>12.4 Developing new structure and norms |

**Basis for prioritization of project location**:

Kerala state has a long sea coast of about 580 km, which covers 113 panchayats in 9 districts. Mangroves and sacred groves are the major centres of biodiversity in the coastal belt. The present project aims to enhance the coastal zone resources. Sacred groves and mangrove forests are the major biodiversity centres in the highly urbanized coastal panchayats in Kerala state.Hence, sacred groves in the 113 coastal panchats of Kerala state are selected for this study. A most suitable sacred grove having great biodiversity, considerable area (± 50 cents) and facing the threat of degradation is selected in Kozhikode district to develop as a model sacred grove to demonstrate the role of SG's in conserving the biodiversity in coastal areas. Restoration and conservation of sacred groves and associated water bodies in coastal zone will reduce the advancement of salinization of ground water and reduce the impact of cyclones.

**Duplication of the proposed scheme:**

Currently no government supported or NGO supported program is being implemented to restore coastal sacred groves. Hence, there is no duplication of the proposed project.

**5. Target beneficiaries: (**There should be clear identification of target beneficiaries. Stakeholder analysis should be undertaken, including consultation with stakeholders at the time of scheme/ project formulation. Options regarding cost sharing and beneficiary participation should be explored and incorporated in the project. Impact of the project on weaker section of society, positive or negative, should be assessed and remedial steps suggested in case of any adverse impact).

The direct beneficiaries of the project are those who involved in the protection and conservation of the sacred groves and those who are involved in the management of the temple to which the selected sacred grove belongs to. The indirect beneficiaries include the families living around the sacred grove since sacred grove provide them many ecosystem services such as stabilization of sands, ground water recharging, pest control, barrier against strong winds etc. A detailed stakeholder analysis will be conducted to identify internal and external stakeholders, who may contribute directly or indirectly to the sacred grove conservation and restoration activities. The interest, benefits, and other key factors of each stakeholder participating in sacred grove conservation and restoration will be assessed. This will be followed by participatory analysis of the Strength, Weakness, Opportunities and Threats (SWOT) of the current technical, social, institutional practices and policy issues.

The weaker and underprivileged sections of the society will part of the entire decision-making process. If there is any negative impact on the weaker section of the society, it will be addressed properly.

**6. Legal Framework: (**This section should present the legal framework, if relevant, within which the scheme/project will be implemented, as well as the strengths and weakness of the legal framework in so far as it impacts on the achievement of stated objectives. For details refer to ESMF document attached as Annex 1 - PDF version is available in www.ncscm.res.in).

Sacred groves in Kerala state are generally under the ownership of private families, family trusts or Devaswam boards. They are not classified as distinct class of forests, and are not protected by any legislation. Each sacred grove is managed by family committies or temple committies having local representations. The management practices of each committee may vary depends on their belief, culture, and values attached to them on religious point of view. The presently selected sacred grove is under the ownership of a

private family. During the course of the project, any inadequacy in the present system of management will be identified and suitable inputs will be given for better recognition, both the ecological services provided by the sacred groves and the roles played by the community in conserving and protecting them.Eventhough, sacred groves are not recognized legally, the proposed project will be implemented within the framework of National Environmental policy, 2006 by following a science-based and community-centre approach in the restoration and conservation of the sacred groves.Joint Forest Management framework notified in 1990 under the National Forest Act 1988 provides opportunities for participatory management it will be used as the guiding principle.

**7. Environment Impact:(**Environmental Impact Assessment should be undertaken, wherever required, and measures identified to mitigate the adverse impact, if any. Issues relating to land acquisition, diversion of forest land, wildlife clearances, rehabilitation and resettlement should be addressed in this section. (For details refer to Vol II of ESMF document attached as Annex 2 – PDF version is available in www.ncscm.res.in)

No environmental issues expected from the project. During the restoration of water bodies associated. In fact, the project output and outcomes will improve sustainability of natural resources and climate resilience. Restoration and conservation of sacred groves and associated water bodies will reduce the advancement of salinization of ground water and reduce the impact of cyclones in the coastal panchayats.

**8. Technology:** (This section should elaborate on the technology choices, if any; evaluation of the technology options, as well as the basis for choice of technology for the proposed project).

No technology will be used in this restoration of the sacred grove project. Traditional technique will be followed in fencing, restoring and constructing new ponds/wells.

**9. Management:**(Responsibilities of different agencies for project management or scheme implementation should be elaborated. The organization structure at various levels, human resource requirements, as well as monitoring arrangements should be clearly spelt out).

The organizational structure of the project management includes a) a Project Advisory Committee, b) a Joint Working Group at the District level and d) Temple Management Committee at each site.

**9. a. Project Advisory Committee**

The Project Advisory Committee will be constituted as per the direction of MoEFCC/KSBB including experts from various fields

The committee will meet at least twice in a year for the first two years and thereafter once in a year. The committee will provide policy guidance and scientific adviceto the Project Director in all activities related to the smooth implementation of the project.

**9.b. District level Joint Working Group**

At the District level the project activities will be undertaken with the guidance and advice of a Joint Working Group, which will be chaired by the Commissioner, Hindu Religious and Charitable Endowments Department. District level officials from the Forest Department and Departments of Revenue will be members of the JWG. The committee will also include representatives of Temple Management Committees, Chairman, Municipality, Presidents of Panchayat Raj Institutions, leaders of women groups and other distinguished social workers from the area as members. Project Coordinator at the site will be the Member Secretary

**9.c. Site level Temple Management Committee**

Malabar Botanical Garden & Institute for Plant Sciences, Kozhikode will implement the project with the participation of the Temple Management Committee (TMC) and Panchayat Raj Institution (PRI). The TMC manages the sacred groves associated with a temple. In general, TMC is headed by a trustee of the temple or by a person who is locally well respected for his or her developmental work. The TMC consists of an Executive Committee with a Secretary and a Treasurer and the number of members varies from place to place. The members include representatives of various groups, including clans who established the temple and associated sacred groves, PRI, SHGs, village level youth groups, etc. The TMC is responsible for the planning and implementation of the project. Since PRI has a stake as a local self government, it will play an important role in smooth implementation of the project at the village level, particularly in demarcating the boundaries, removing encroachments, etc. As mentioned earlier, leaders of the PRI will function as a member or as a leader of the TMC.

### 9.d. Project Implementation structure

The project includes a Project Head and a Coordinator, who will be responsible for the day-to-day administration of the project, liaison with the agencies concerned, preparation of work plans, budgets, reports etc., and implementation of the projects. They will be assisted by Project Associates with specialization in biodiversity conservation and social work. At the site level, the project team will be assisted by Animators.

**10. Finance:(**This section should focus on the cost estimates, budget for the scheme/ project, means of financing and phasing of expenditure. Options for cost sharing and cost recovery (user charges) should be explored. Infrastructure projects may be assessed on the basis of the cost and tenor of the debt. Issues relating to project sustainability, including stakeholder commitment, operation-maintenance of assets after project completion and other related issues should also be addressed in this section).

The following table (Table 3) shows the fund requirement for the implementation of the project.

**Table 3: Fund requirement for different tasks of the project**

| No | Project Component | Rs. in lakh |
|---|---|---|
| 1 | Mobilization and Organization of Community and other stakeholders | 7.00 |
| 2 | Mapping of the Sacred grove | 13.00 |
| 3 | Biophysical studies | 13.00 |
| 4 | Joint Planning | 4.00 |
| 5 | Establishment of nursery | 40.00 |
| 6 | Fencing of sacred grove (Annexure 5) | 5.50 |
| 7 | Restoration of water bodies, brick wells, etc (Annexure 6) | 50.00 |
| 10 | Planting trees | 135.00 |
| 11 | After care and monitoring and social auditing | 40.00 |
| 12 | Awareness raising | 45.00 |
| 13 | Rejuvenation of temple management committee | 7.00 |
| 14 | Documentation | 35.50 |
| 15 | Human resources | 60.00 |

| | | |
|---|---|---|
| 16 | Travel and other expenditure | 85.00 |
| 17 | Institutional operational cost 10% of the project cost | 60.00 |
| | **Total** | **600.00** |

**11. Time Frame: (**This section should indicate the proposed zero date for commencement and also provide a PERT/CPM chart, wherever relevant).

The project duration is four years. PERT showing quarterly action plan is given in Annexure 4.

**12. Risk Analysis:(**This section should focus on identification and assessment of implementation risks and how these are proposed to be mitigated. Risk analysis could include legal/contractual risks, environmental risks, revenue risks project management risks, regularly risks, etc.)

**Environmental Risk:** The environmental risk associated with the project is natural hazards, particularly cyclonic winds that originate in the Arabian Sea, tsunami, flood, etc. The December 2004 Tsunami has made a devastating effect on some sectors of Kerala coast, notably along the Neendakara-Arattupuzha sector of Kerala coast bringing about significant changes in the coastal geomorphologic setting along this region.Similarly,between 1 June and 18 August 2018 Kerala State received 36% excess rainfall than normal levels, leading to widespread floods and the torrential rains triggered a number of landslides that devastated innumerable infrastructure, facilities and washed away a vast variety of biodiversity. The coastal panchayats also experienced heavy precipitation and consequent flood which severely affected the biodiversity rich areas like wetlands and sacred groves.

**Mitigation measures:** Cyclonic winds from the sea are usually affecting tall trees in the sacred groves. Hence, preference will be given to small to medium-sized trees during the reforestation activities to reduce the impact of the cyclone in the future.

**Removal of encroachment:** Human encroachment is a major issue in the sacred groves in the urban coastal areas. Permanrnt demarcation of the bounderies of sacred groves with proper fencing is essential to check such encroachments.

**13. Outcomes:** (Success criteria to assess whether the development objectives have been achieved should be spelt out in measurable terms. Base-line data should be available against which success of the project will be assessed at the end of the project (impact assessment). Similarly, it is essential that base-line surveys be undertaken in case of large, beneficiary-oriented schemes. Success criterion for scheme deliverables/outcomes should also be specified in measureable terms to assess achievement against proximate goals).

The following are the major outcomes expected from the project.

1. An authentic document of the sacred groves in the 113 coastal panchayats in Kerala state with details of location, area, ownership, dominant flora, endemic and threatened plants, etc.
2. Development of a model sacred groves in Kozhikode district to demonstrate the role of sacred groves in conservation of biodiversity in the coastal zone of Kerala.
3. Increased capacity of the community and traditional systems and institutions to sustain coastal sacred groves
4. Environmental conditions of the villages adjacent to the sacred grove improved.
5. Suitable policies and norms will be developed to improve conservation and management of the coastal sacred groves.

An exhaustive document on the sacred groves in the 113 coatalpanchayats in Kerala state will be prepared based on field surveys and authentic literature. The floristic wealth of coastal sacred groves will be analaysed in general. The threatened and vulnerable species in each sacred grove will be identified and conservation measures will be taken to ensure its protection. The selected sacred grove in Kozhikode district will be developed as a model sacred grove to demonstrate the importance of sacred groves in biodiversity conservation and human welfare.

The success measurement criteria for the increased capacity of the communities and traditional systems include the improved condition of the sacred groves, the higher survivalrate of the plantation, no illegal encroachments, no expansion of concrete buildings by clearing the sacred groves. The improvement in environmental conditions can be measured by evaluating the changes in ground water level and quality in areas adjacent to

the sacred groves since sacred groves act as water holding environments and also water holding capacity of the water bodies associated with the sacred groves increased due to desiltation. Since, sacred groves are not getting any protection legally, recommendations/norms/ policies related to the conservation and management of the sacred groves will be developed during the course of the project.

During the early phase of the project baseline data on the status of the sacred groves, bioidivesity associated with the sacred groves, status of the waterbodies, intensity of various human distrubnaces, present level of stakeholder participation, existing procedures and norms for sacred grove conservation and management will be collected.

**14. Evaluation:(**Evaluation arrangements for the scheme/project, whether concurrent, mid-term or post-project should be clearly spelt out. It may be noted that continuation of schemes from one period to another will not be permissible without a third-party evaluation).

A third-party post-project evaluation will be done with suitable qualitative and quantitative indicators. Apart from this, social auditing will be done at the end of second year and at the end of the project period.

## Annexure 1

**Details of Sacred groves in the coastal panchayats of Kerala state**

| Sl. No | Name of Sacred grove | Location & Panchayat | Area | Ownership | GPS location | Pond/stream/ comp. wall |
|---|---|---|---|---|---|---|
| | **Thiruvananthapuram district** | | | | | |
| 1 | Pozhiyoor Temple Kavu | Pozhikara, Kulathoor | 10 | Public trust | E 77° 05.425’ N 8° 18.212’ | CW |
| 2 | Ulloorkonam Kavu | Kulathoor | 5 | Public trust | E 77° 05.536’ N 8° 20.042’ | CW, Pond |
| 3 | Kannaman Konam Kavu | Kulathoor | 20 | Public trust | E 77° 05.244’ N 8° 19.189’ | CW |
| 4 | Amaravila Kavu | Kulathoor | 17 | Public trust | E 77° 05.554’ N 8° 19.201’ | CW |
| 5 | Nagarmadom kavu | Kulathoor | 10 | Public trust | E 77° 05.521’ N 8° 19.472’ | |
| 6 | Nagaru Kavu | Perumbavilakom, Kulathoor | 10 | Private | E 77° 06.193’ N 8° 19.448’ | |
| 7 | Valiya Illam Bhagavathikshetra kavu | Kulathoor | 15 | Public trust | | |
| 8 | Sree Parasakthi kshetram kavu | Kulathoor | 15 | Public trust | | |
| 9 | Cheruvila puthenveedu kavu | Kulathoor | 10 | Public trust | | |
| 10 | Kadakulam kavu | Kulathoor | 10 | Public trust | | |
| 11 | Nellikonam kavu | Kulathoor | 20 | Public trust | | CW |
| | | | | | | |
| 12 | Kothamoochi Vilakathu Nagarkavu | Poovar | 7 | Public trust | | |
| 13 | Valiyathottam kavu | Poovar | 50 | Private | | CW |
| 14 | Koyikkavilakam Bhadrakaleekshetra kavu | Poovar | 10 | Public trust | | |
| | | | | | | |
| 15 | Kavil Kulan Nagar Kavu | Karumkulam | 10 | Public trust | E 77° 03.564’ N 8° 19.558’ | |
| | | | | | | |
| 16 | Ayiramvally Kavu | Kottukal | 4 | Private | E 77° 02.885’ N 8° 25.361’ | |
| 17 | Azhippil Kavu | Athiyannoor, Kottukal | 20 | Public trust | E 77° 02.826’ N 8° 24.808’ | CW, Pond |
| 18 | Kavil Nagaru Kavu | Attaramoola, Kottukal | 14 | Private | E 77° 02.874’ N 8° 23.744’ | |
| 19 | Thamburan kavu | Punnakulam, Kottukal | 15 | Private | E 77° 01.408’ N 8° 22.389’ | CW, Pond |
| 20 | Thekkekonam Nagaru Kavu | Chovvara, Kottukal | 7 | Public trust | E 77° 01.140’ N 8° 21.945’ | |
| 21 | Plavilakavu | Kottukal | 7 | | | |
| | | | | | | |
| 22 | Mulloor Sreekrishna Sivan | Uchakkada, | 5 | Public trust | E 77° 00.597’ | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Kavu | Vizhinjam | | | N 8° 22.515’ | |
| 23 | Velamkolly Nagaraja Temple Kavu | Vellamkolly, Vizhinjam | 14 | Public trust | E 77° 00.361’ N 8° 23.348 | |
| 24 | Naga-raja Kshethram Kavu | Thaivilakam Vizhinjam | 5 | Public trust | E 77° 00.884’ N 8° 23.849’ | Pond |
| 25 | Kochu Thekkethu Valiya Kavu | Kidarakuzhi Vizhinjam | 10 | Public trust | E 77° 00.589’ N 8° 23.423’ | CW |
| 26 | Chinnekkal Nagar Kavu | Vizhinjam | 8 | Public trust | E 77° 00.520’ N 8° 23.482’ | Pond |
| 27 | Perayil thamburan kavu | Vizhinjam | 8 | Public trust | E 77° 00.288’ N 8° 23.349’ | |
| 28 | Ooravilakom Kavu | Ooravilakam, Vizhinjam | 25 | Public trust | E 77° 00.735’ N 8° 23.900’ | |
| 29 | Sree Rajarajeswari kshetrakavu | Thennoorkonam, Vizhinjam | 20 | Public trust | | Pond |
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| 30 | Kavadikavu | **Venganoor** | 10 | | | |
| 31 | Ammanthottamkavu | Venganoor | 20 | Public trust | | CW |
| 32 | Puraviyal Chamundeswari kshetra kavu | Puraviyal , Venganoor | 30 | Public trust | | |
| 33 | Azhakulam kshetra kavu | Azhakulam, Venganoor | 30 | Public trust | | CW |
| 34 | Sree Krishna Kshetram kavu | Venganoor | 10 | Public trust | | |
| 35 | Athmabodhini Nagar kshetram kavu | Venganoor | 30 | Public trust | | CW |
| 36 | Thumpiyodu Nagar kavu | Venganoor | 10 | | | |
| 37 | Thaivilakam Nagar kshetram kavu | Venganoor | 10 | | | |
| 38 | Ooruvilakam kavu | Venganoor | 15 | | | |
| 39 | Puthalathukavu | Venganoor | 20 | | | |
| 40 | Chinnakkankavu | Venganoor | 20 | | | |
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| 41 | Mekke Poonkulam Devasthanam kavu | Poonkulam, TVM Corpor. | 60 | Public trust | E 77° 00.824’ N 8° 26.064’ | CW |
| 42 | Nagaru kavu | Pachalloor, TVM Corpor. | 50 | Public trust | E 76° 55.925’ N 8° 33.192’ | CW |
| 43 | Mele kavu | Pachalloor, TVM Corpor. | 40 | Private | E 76° 58.067’ N 8° 25.406’ | CW |
| 44 | Valiyathottom Bhagavathy kavu | Pachalloor, TVM Corpor. | 32 | Public trust | E 76° 58.372’ N 8° 25.372’ | CW |
| 45 | Mele chokkankavu | Pachalloor | 70 | Private | | |
| 46 | Keezhe chokkankavu | Pachalloor | 65 | Private | | |
| 47 | Kulathinkara sree bhadrakali kshetrakavu | Pachalloor | 50 | Private | | Pond |
| 48 | Padayarahan Nagaru Kavu | Thiruvallam, TVM Corpor. | 14 | Private | E 76° 57.482’ N 8° 26.316’ | CW |
| 49 | Nelliyode Sree Bhagavathi kshethra Kavu | Nelliyodu, TVM Corpor. | 20 | Public trust | E76° 57.0910’ N 8° 27.108’ | CW |
| 50 | Kottuppally Nagar Kavu | Manacaud, | 31 | Private | E 76° 58.034’ | |

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| | | TVM Corpor. | | | N 8° 27.308’ | |
| 51 | Kavuvila Kavu | Manacaud,<br>TVM Corpor. | 10 | Private | E 76° 57.242’<br>N 8° 26.56’ | |
| 52 | Kezhanoor Nagaru kavu | Keezharannur,<br>TVM Corpor. | 5 | Private | E 76° 57.661’<br>N 8° 28.699’ | |
| 53 | Elengam vilakathu Kavu | Manacaud,<br>TVM Corpor. | 3 | Private | E 76° 49.667’<br>N 8° 42.219’ | |
| 54 | Irumkulangara Bhagavathi kshethra Kavu | Manacaud,<br>TVM Corpor. | 60 | Public trust | E 76° 56.674’<br>N 8° 28.200’ | CW |
| 55 | Meloottu Kavu | Pettah,<br>TVM Corpor. | 15 | Public trust | E 76° 55.566’<br>N 8° 29.703’ | CW |
| 56 | Madathu vilakom Kavu | Pettah,<br>TVM Corpor. | 10 | Private | E 76° 55.942’<br>N 8° 28.818’ | |
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| 57 | Nagaraja Kavu | Kadinamkulam | 7 | Private | E 76° 49.205’<br>N 8° 36.265’ | |
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| 58 | Moolayil Kavu | Melkadakkavur,<br>Chirayinkeezhu | 25 | Private | E 76° 47. 262’<br>N 8° 40. 680’ | |
| 59 | Ottaveettil Nagaru kavu | Chirayinkeezhu | 25 | Private | E76° 47.004’<br>N 8° 39.721’ | |
| 60 | Pazhayaveettil kavu | Chirayinkeezhu | 25 | Public trust | | CW, Pond |
| 61 | Erumakkavu | Chirayinkeezhu | 20 | | | |
| 62 | Moothedathukavu | Chirayinkeezhu | 50 | Private | | CW |
| 63 | Parampil Nagaru kavu | Chirayinkeezhu | 10 | | | |
| 64 | Nattuvaram kavu | Chirayinkeezhu | 7 | | | |
| 65 | Planthottam Kavu | Anchuthengu | 10 | Private | E $76^0$ 75.608’<br>E $8^0$ 67.204’ | |
| 66 | Ponnamthuruthu kavu | Anchuthengu | 10 | Private | E $76^0$75.558’<br>E $8^0$ 67.334’ | |
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| 67 | Eliyan vilakom Kavu | Maavila,<br>Vettoor | 20 | Private | E 76° 44. 365’<br>N 8° 42. 145’ | |
| 68 | Mangattu Madan kavu (I) | Vettoor | 40 | Private | E 76°44.663’<br>N 8° 43.174’ | |
| 69 | Mangattu Madan kavu (II) | Vettoor | 20 | Private | E 76° 44.045’<br>N 8° 43.453’ | |
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| 70 | Cherukunnathu kavu | Cherukunnam,<br>Varkala Municip. | 150 | Devaswam | E 76° 43.515’<br>N 8° 44.645’ | |
| 71 | Thoduve Madan Kavu | Thoduve,<br>Varkala | 8 | Private | E 76° 43.570’<br>N 8° 44.657’ | |
| 72 | Mundatil Kavu | Varkala | 30 | Private | E 76° 43.186’<br>N 8° 44.292’ | |
| 73 | Charuvila | Kurakkanni Varkala | 5 | Private | E 76° 42.335’<br>N 8° 44. 225’ | |
| 74 | Palavvilakom | Pullanikode Varkala | 75 | Private | E 76° 42.852’<br>N 8° 45.327’ | |
| 75 | Chandana kavu | Karunilakkodu<br>Varkala | 20 | Private | E 760 42.658’<br>N 80 45.454’ | |

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| 76 | Kuzhyvila Madan | Kurakkanni Varkala | 10 | Private | E 760 43. 033’<br>N 80 44. 567’ | |
| 77 | Kavuvila Kavu | Kilithatu mukku Varkala | 35 | Private | E 0760 42.838’<br>N 080 43.822’ | |
| 78 | Madan nada | KIlithattumukku Varkala | 5 | Private | E 760 42. 896’<br>N 80 43. 824’ | |
| 79 | Mangattu madan | Cherukunnam Varkala | 20 | Private | E 76° 44. 214’<br>N 8° 44. 046’ | |
| 80 | Sivagiri Madom | Sivagiri Madom Varkala | 300 | Public trust | E 76° 43.912’<br>N 8° 44. 343’ | |
| 81 | Elampana | Chilakkur, Varkala | 75 | Public trust | E 76° 43.361’<br>N 8° 43.484’ | |
| 82 | Altharamoodu kavu | Varkala | 5 | | | |
| 83 | Moorthikavu | Varkala | 5 | | | |
| 84 | Sree Karakala Bhagavathikavu | Karunilakkod, Varkala | 10 | | | |
| 85 | Kadakathukavu | Varkala | 5 | | | |
| 86 | Pullanikkod Kizhakkeveettil kavu | Varkala | 5 | | | |
| 87 | Kanvasramam Kavu | Kunnil Kanvasramam | 100 | Public trust | | |
| 88 | Kilithattuvilakkavu | Kilithattumukku, Varkala | 100 | Private | | CW, Pond |
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| 89 | Thakady Moorthy | Venkulam, Edava | 35 | Private | E $76^0$ 41. 989’<br>N $8^0$ 45.999’ | CW |
| 90 | Chirayil Bhagavathy | Manthara, Edava | 10 | Private | E $76^0$ 41.737’<br>N $8^0$ 45. 566’ | |
| 91 | Idayilveedu kavu | Edava | 50 | Private | E $76^0$ 49.552’<br>N $8^0$ 45. 566’ | CW |
| 92 | Panachikuzhi kavu | Vellalloor, Edava | 10 | | | |
| 93 | Odayam kavu | Edava | 10 | | | |
| 94 | Kappil kavu | Edava | 15 | Private | E $76^0$ 41.883’<br>N $8^0$ 45. 029’ | |
| 95 | Sree Kumareswara kavu | Edava | 50 | Private | E $76^0$ 41.041’<br>N $8^0$ 45. 506’ | CW, Pond |
| | **Kollam district** | | | | | |
| 1 | Arayasseril kavu | Alappad | 5 | Private | E 76° 30. 606’<br>N 9° 03. 822’ | |
| 2 | Mengayilmekkathil Kavu | Alumkadavu, Alappad | 8 | Private | E 76° 30. 536’<br>N 9° 03. 813’ | Pond |
| 3 | Shakkthiparampu Kavu | Alumkadavu, Alappad | 10 | Private | E 76° 30. 499’<br>N 9° 03. 815’ | |
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| 4 | Minnamthottil Kshethram Kavu | Panmana | 5 | Private | E 76° 31.718’<br>N 9° 00.031’ | Pond |
| 5 | Kallapallikavu | Chittoor, Panmana | 10 | Private | E 76° 31. 680’<br>N 9° 00. 152’ | |
| 6 | MangalathuKavu | Chittoor, | 5 | Private | E 76° 31. 473’ | CW |

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| | | Panmana | | | N 9° 00. 131’ | |
| 7 | Palapazhinjiyil Kavu | Aakkal Palapazhinji Panmana | 8 | Private | E 76° 32. 572’ N 9° 00. 128’ | Pond |
| 8 | Thenginpallikavu | Panmana | 5 | Private | E 76° 32. 425’ N 9° 00. 183’ | CW |
| 9 | Punthalathukavu (Kudumbha Trust) | Panmana | 7 | Private | E 76° 32. 321’ N 9° 00. 183’ | CW |
| 10 | Palottu Kavu | Panmana | 40 | Private | E 76° 32. 281’ N 9° 00. 522’ | Pond |
| 11 | VadakkebhahathuKavu | Panmana | 5 | Private | E 76° 32. 195’ N 9° 00. 483’ | |
| 12 | MadathilKavu | Panmana | 10 | Private | E 76° 32. 075’ N 9° 00. 393’ | |
| 13 | Thazhathukavu | Panmana | 37 | Private | E 76° 32. 843’ N 9° 02. 913’ | CW, Pond |
| 14 | Benglawil kavu | Panmana | 50 | Private | E 760 32. 704’ N 90 02. 858’ | CW, Pond |
| 15 | Manayilkavu | Vadakkumthala, Panmana | 26 | Private | E 76° 33. 008’ N 9° 00. 828 | Pond |
| 16 | Annilazhikathukavu | Vadakkumthala, Panmana | 43 | Private | E 76° 33. 203’ N 9° 00. 860’ | CW, Pond |
| 17 | Vadakkumthala panayannar kavu | Vadakkumthala, Panmana | 70 | Private | E 76° 33. 016’ N 9° 01. 826’ | Pond |
| 18 | Chengazhakathukavu | Vadakkumthala, Panmana | 88 | Private | E 76° 32. 843’ N 9° 01. 416’ | Pond |
| 19 | Kollaka deveekshetra kavu | Panmana | 17 | Local committee | E 76° 32. 660’ N 9° 02. 719’ | |
| 20 | Valiyaveettilkavu | Panmana | 100 | Public trust | | Pond |
| 21 | Mukkonathukavu | Panmana | 60 | Private | E 76° 32. 455’ N 9° 01. 492’ | Pond |
| 22 | Chavarakkal kavu | Panmana | 60 | Private | E 76° 32. 424’ N 9° 02. 491’ | Pond |
| 23 | Vallavakkodu kavu | Panmana | 40 | Private | | CW, Pond |
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| 24 | Kottan Kullangara devishekthrakavu | Kottankullangara, Chavara | 5 | Devasam Board | E 76° 32.107’ N 8° 58.792’ | CW, Pond |
| 25 | Pattoor Kavu | Menampalli, Chavara | 62 | Private | E 76° 33.360’ N 8° 58.982’ | Pond |
| 26 | Panachaikkal Kavu | Menampalli, Chavara | 15 | Private | E 76° 33.360’ N 08° 59.099 | Pond |
| 27 | KavanalKavu | Madappalli, Chavara | 20 | Private | E 76° 32.811’ N 80 59.293’ | Pond |
| 28 | AmmaveettilKavu | Mukunthapuram, Chavara | 10 | Private | E 76° 33.443’ N 8° 59.631’ | |
| 29 | KannethumKaduKavu | Kunnalummoodu, Chavara | 15 | Private | E 76° 32.364’ N 08° 58.793’ | |
| 30 | Vlakkottu Kudumbhakavu | Kunnalummoodu, Chavara | 6 | Private | E 76° 32.277’ N 8° 59.031’ | Pond |
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| 31 | Shivashewkthram | Neendakara | 5 | Private | E 76° 32. 234’ | Pond |

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| | Thottadthimadam Kavu | | | | N °56. 915’ | |
| 32 | Vayalolil Devishekthram | Neendakara | 5 | Private | E 76° 32.300’<br>N 8° 56.925 | CW, Pond |
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| 33 | Padinjatte veettil Sree Durga Devi Temple Sarpa Kavu | Eravipuram, Kollam Corpor. | 15 | Private | E 76° 37. 598’<br>N 8° 51. 514’ | CW |
| 34 | Vaalathunkal - Vaalara Kavu | Eravipuram, Kollam Corpor. | 200 | Private | E 76° 37. 513’<br>N 8° 51. 731’ | CW |
| 35 | Moothedathu Kavu Family Kavu | Eravipuram, Kollam Corpor. | 18 | Private | E 76° 38. 231’<br>N 8° 52. 136’ | CW |
| 36 | Elanjikkal Kavu Public Committee | Mundakkal, Kollam Corpor. | 40 | Private | E 76° 36. 888’<br>N 08° 51. 977’ | |
| 37 | Vaarazhikathu Kavu Sree Mahaganapathy Temple | Mundakkal, Kollam Corpor. | 8 | Private | E 76° 36. 931’<br>N 8° 51. 979’ | CW |
| 38 | Thekkevila Thekkubhagam Kalari Moorthy Kavu | Mundakkal, Kollam Corpor. | 5 | Private | E 76° 36. 815’<br>N 8° 51. 927’ | CW |
| 39 | Kunninmel Kavu | Mundakkal, Kollam Corpor. | 30 | Private | E 76° 36. 937’<br>N 8° 51. 562’ | CW |
| 40 | Anchayathu Kavu (Madan Kavu) | Mundakkal, Kollam Corpor. | 15 | Private | E 76° 36. 371’<br>N 8° 51. 927’ | |
| 41 | Kavadi Kavu Kalari Siva Temple | Mundakkal, Kollam Corpor. | 64 | Private | E 76° 36. 234’<br>N 8° 52. 108’ | Pond |
| 42 | Puthukalil Kavu | Mundakkal, Kollam Corpor. | 35 | Private | E 76° 36. 118’<br>N 80 52. 248’ | |
| 43 | Ayyappa Temple kavu | Aasramam, Kollam Corpor. | 50 | Devaswom Board | E 76° 35. 137’<br>N 8° 53. 999’ | |
| 44 | Kunnathu kavu | Kadappakada, Kollam Corpor. | 7 | Private | E 76° 36. 202’<br>N 8° 53. 583’ | |
| 45 | Kelethu Kavu | Aasramam, Kollam Corpor. | 20 | Private | E 76° 36. 092’<br>N 8° 54. 118’ | CW |
| 46 | Uliyakovil Sreedurga bhagavathy temple kavu | Uliyakovil, Kollam Corpor. | 150 | Private | E 76° 36. 416’<br>N 8° 54. 380’ | CW, Pond |
| 47 | Kollathamma mahakshethra kavu | Uliyakovil, Kollam Corpor. | 80 | Private | E 76° 36. 537’<br>N 8° 54’ 680’ | |
| 48 | Kattil Nagarukavu | Thevalli, Kollam Corpor. | 10 | Private | E 76° 34. 584’<br>N 8° 53. 772’ | CW |
| 49 | Sree mulankadakam devi temple kavu | Thirumullavaram, Kollam Corpor. | 30 | Public trust | E 76° 33. 994’<br>N 8° 53. 812’ | CW, Pond |
| 50 | Naanamacham Veedu kavu | Oolayil, Kollam Corpor. | 20 | Private | E 76° 34. 842’<br>N 8° 53. 560’ | CW |
| 51 | Oolayil Madom Kavu | Oolayil, Kollam Corpor. | 12 | Private | E 76° 34. 802’<br>N 8° 53. 851’ | |
| 52 | Vanadurgadevi temple kavu | Thevalli, Kollam Corpor. | 10 | Private | E 76° 34. 626’<br>N 8° 54. 112’ | |
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| 53 | Kulangara Madankavu | Mayyanadu | 12 | Private | E 76° 38. 466’<br>N 8° 50. 555’ | |

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| 54 | Kallumoottil Appoopan Kavu | Kuttivila, Mayyandu | 5 | Private | E 76° 39. 336’ N 8° 50. 112’ | |
| 55 | Vaarayil Kavu Sree Muhoorthy Siva Temple | Mayyandu | 12 | Private | E 76° 39. 378’ N 8° 51. 066’ | CW |
| 56 | Thonnalil Moorthy Temple Kavu | Thekkumkara, Mayyanadu | 8 | Private | E 76° 39. 401’ N 8° 51. 145’ | |
| 57 | Mullukadu Bhagavathy Temple Kavu | Mayyanadu | 10 | Private | E 76° 38. 758’ N 8° 50. 884’ | |
| 58 | Vaarissery Kavu | Venpalakkara, Mayyanadu | 25 | Private | E 76° 38. 430’ N 8° 51. 624’ | CW |
| 59 | Puthicherry Kavu | Venpalakkara, Mayyandu | 40 | Private | E 76° 38. 418’ N 80 51. 728’ | |
| 60 | Valiyaveettil Kavu | Umayanalloor, Mayyanadu | 10 | Private | E 76° 39. 337’ N 8° 51. 778’ | |
| 61 | Sree Durgadevi Temple Kavu | Kottappuram, Paravur Municip. | 32 | Private | E 76° 40. 050’ N 08° 48. 255’ | CW |
| 62 | Puthiyakavu | Kottappuram, Paravur Municip. | 47 | Private | E 76° 39. 972’ N 08° 47. 776’ | Pond |
| 63 | Ollaal Siva Temple Kavu | Paravur | 52 | Public Trust | E 76° 40. 525’ N 08° 48. 920’ | |
| 64 | Klavara Kavu | Paravur | 20 | Private | E 76° 40. 606’ N 08° 48. 915’ | |
| 65 | Kuzhikarathazham Sree Dharmasastha | Paravur | 45 | Private | E 76° 39. 877’ N 08° 49. 044’ | |
| 66 | Ezhiyathu Kavu Durga Devi Temple Kavu | Paravur | 30 | Private | E 76° 39. 824’ N 08° 48. 452’ | |
| 67 | Aayiravally Mahadeva Temple Kavu | Koonayil, Paravur | 100 | Private | E 76° 40. 875’ N 08° 49. 058’ | CW, Pond |
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| 68 | Sree Kadiyathi Appopan Kavu | Poothakkulam | 5 | Private | E 76° 42. 003’ N 08° 48. 604’ | CW |
| 69 | Konathu Kavu | Poothakkulam | 7 | Private | E 76° 41. 864’ N 08° 48. 984’ | |
| 70 | Punnekulam Sree Madan Kavu | Poothakkulam | 50 | Public Trust (Purambok) | E 76° 42. 366’ N 08° 47. 945’ | CW |
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| 71 | Sree Durgadevi Temple Kavu | Kottappuram, Paravur Municip. | 32 | Private | E 76° 40. 050’ N 08° 48. 255’ | CW |
| 72 | Puthiyakavu | Kottappuram, Paravur Municip. | 47 | Private | E 76° 39. 972’ N 08° 47. 776’ | Pond |
| 73 | Ollaal Siva Temple Kavu | Paravur | 52 | Public Trust | E 76° 40. 525’ N 08° 48. 920’ | |
| 74 | Klavara Kavu | Paravur | 20 | Private | E 76° 40. 606’ N 08° 48. 915’ | |
| 75 | Kuzhikarathazham Sree Dharmasastha | Paravur | 45 | Private | E 76° 39. 877’ N 08° 49. 044’ | |
| 76 | Ezhiyathu Kavu Durga Devi Temple Kavu | Paravur | 30 | Private | E 76° 39. 824’ N 08° 48. 452’ | |
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| | Alappuzha district | | | | | |
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| 1 | Sree kurayippasseri kshetram vaka kavu | Tharayilkadavu, Arattupuzha | 10 | Private | E 076° 25’22.4” N 09° 09’36.1” | CW, Pond |
| 2 | Mangala kurichikkal mahadevi kshetram kavu | Mangalam, Arattupuzha | 15 | Private | E 076° 25’19.7” N 09° 14’04.7’ | Pond |
| 3 | Kallasseri mangalam edaykka kshetram kavu | Mangalam Arattupuzha | 10 | Local committee | E 076° 25’20.0” N 09° 13’44.7” | Pond |
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| 4 | Porkkali sree mahadeva kshetram vaka kavu | Pallana, Thrikkunnapuzha | 15 | Private | E 076° 23’34.1” N 09° 17’46.2” | Pond |
| 5 | Thrikunna puzha sreedharmmasastha kshetram kavu | Thrikkunnapuzha | 10 | Private | E 076° 24’34.8” N 09° 15’23.9” | CW, Pond |
| 6 | Pulayil thayil sarppa kavu | Thrikkunnapuzha | 10 | Private | E 076° 25’05.9” N 09° 14’55.8” | Pond |
| 7 | Kainasseril kudumba kavu | Panoor, Thrikkunnapuzha | 10 | Private | E 076° 24’12.2” N 09° 16’15.7” | CW |
| 8 | Valiyaparmbil devi kshetram kavu | Thrikkunnapuzha | 25 | Private | E 076° 25’04.6” N 09° 15’44.8” | Pond |
| 9 | Thuruthel kudumba kavu | Thrikkunnapuzha | 10 | Private | E 076° 25’04.3” N 09° 14’50.8” | Pond |
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| 10 | Pandyalakavu | Purakkadu | 30 | Devaswam board | E. 76° 22.006’ N.09° 21.199’ | Pond |
| 11 | Parambil Sree bhagavathi kshetram kavu | Parambil, Purakkad | 5 | Public trust | E. 76° 21.488’ N.09° 22.329’ | |
| 12 | Kizhakkeveettil Kavu | Purakkad | 5 | Public trust | E. 76° 21.592’ N.09° 22.497’ | Pond |
| 13 | Thekke Attathu Kavu | Ayyanpoikkal, Purakkad | 15 | Private | E. 76° 21.630’ N.09° 22.022’ | Pond |
| 14 | Kavil Siva Nagarajakshetram kavu | Purakkad | 10 | Public trust | E. 76° 21.855’ N.09°21.511’ | Pond |
| 15 | Thamathu tharayil kudumbaskhetram kavu | Puthen Nada, Purakkad | 8 | Private | E. 76° 22.233’ N 09° 20.600’ | Pond |
| 16 | Panakktharakavu | Panakkathara, Purakkadu | 8 | Private | E. 76° 22.700’ N.09° 20.051’ | Pond |
| 17 | Kunnuthura Sarppakavu | Thottappalli ,Purakkadu | 15 | Public trust | E. 76° 22.937’ N.09° 19.294’ | Pond |
| 18 | Payannar kavu devi kshetram | Karoor, Purakkadu | 10 | Devaswam Board | E. 76° 22.392’ N.09° 22.549’ | Pond |
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| 19 | Ambalapuzha kshetramvaka sarpakavu | Ambalapuzha South | 60 | Devaswam Board | E. 76° 22.141’ N.09° 22.915’ | CW, Pond |
| 20 | Kizhakkethundathil sarppakavu Pvt | Ambalapuzha South | 5 | Private | E. 76° 21.845’ N.09° 22.869’ | Pond |
| 21 | Keecherikudumbhakavu | Ambalapuzha South | 4 | Private | E. 76° 21.574’ N.09° 23.513’ | Pond |
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| 22 | Pazhoor Kavu | Ambalapuzha North | 8 | Private | E. 76° 21.426’ N.09° 24.354’ | Pond |

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| 23 | Thekkekudathinkkalkavu | Ambalapuzha North | 11 | Private | E. 76° 21.412’ N.09° 25.258’ | Pond |
| 24 | Mallasserikavu | Ambalapuzha North | 10 | Private | E. 76° 21.434’ N.09° 23.245’ | Pond |
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| 25 | Parappil sarppakavu | Punnapra South | 12 | Private | E. 76° 21.143’ N.09° 26.063’ | Pond |
| 26 | Parappil sarppakavu | Punnapra South | 8 | Private | E. 76° 20.839’ N.09° 25.951’ | Pond |
| 27 | Kizhakemundakkadu sarpakavu | Punnapra South | 5 | Private | E. 76° 20.983’ N.09° 26.348’ | |
| 28 | Nandhikkadusarpakkavu | Punnapra South | 8 | Private | E. 76° 21.024’ N.09° 26.446’ | Pond |
| 29 | Puthupurakkal paradevatha | Punnapra South | 7 | Private | E. 76° 21.118’ N.09° 26.544’ | |
| 30 | Thrayilsarpakavu | Punnapra South | 9 | Private | E. 76° 21.173’ N.09° 26.462’ | Pond |
| 31 | Annandhalayamsarpakavu | Punnapra South | 12 | Private | E. 76° 20.865’ N.09° 26.356’ | Pond |
| 32 | KottaramSreedevikavu | Punnapra South | 5 | Private | E. 76° 21.069’ N.09° 26.335’ | Pond |
| 33 | Pathma nivaskavu | Punnapra South | 15 | Private | E. 76° 20.900’ N.09° 25.511’ | Pond |
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| 34 | Chiramel Sarppakavu | Aryad south, Al. Municip. | 13 | Private | E. 76° 20.908’ N.09° 31.515’ | |
| 35 | Vailoppilli Illam Nagarajakavu | Kottamkulangara, Al. Municip. | 10 | Private | E. 76° 20.964’ N.09° 31.428’ | Pond |
| 36 | Tharayil Sarppakavu Kudumbam | Kalathu, Al. Municip. | 6 | Private | E. 76° 20.305’ N.09° 31.454 | Pond |
| 37 | Vadikattusarppakavu | Madikkattupradesam, Al. Municip. | 10 | Private | E. 76° 19.942’ N.09° 30.799’ | Pond |
| 38 | Valiyaparambu sree bhoothakala Nagayakshikavu | Karalakam, Al. Municip. | 14 | Private | E. 76° 20.798’ N.09° 31.162’ | Pond |
| 39 | Varyammurikaarikal Sarppasanketham | Kalarikkal, Al. Municip. | 80 | Private | E. 76° 20.909’ N.09° 31.231’ | Pond |
| 40 | Edavazhikkal Kovilakam Kavu Kudumbam | Kottamkulangara, Al. Municip. | 10 | Private | E. 76° 21.128’ N.09° 31.339’ | |
| 41 | Kuruvikkal Sarppakavu | Kuruvikkal, Al. Municip. | 10 | Private | E. 76° 20.974 N.09° 31.109 | Pond |
| 42 | Kalarikkal Kavu | Kavuvellim, Al. Municip. | 7 | Private | E. 76° 20.553’ N.09° 31.078’ | Pond |
| 43 | Theerthasseril Devikshertakavu | Theerthasseri, Al. Municip. | 40 | Private | E. 76° 19.364’ N.09° 31.198’ | Pond |
| 44 | Mangalathukavu | Mangalam, Al. Municip. | 8 | Private | E. 76° 19.208’ N.09° 30.801’ | Pond |
| 45 | Kunnumelparambu Kavu | Thattampalli, Al. Municip. | 173 | Private | E. 76° 20.353’ N.09° 30.387’ | Pond |

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| 46 | PananvelilKudumbhakavu | Panavelli, Al. Municip. | 19 | Private | E. 76° 20.617’ N.09° 30.706’ | |
| 47 | Vinayakkakovilsarpakavu | Al. Municip. | 10 | Private | E. 76° 18.865’ N.09° 30.938’ | |
| 48 | Manjadiparambu Sarppakavu | Mullakkal, Al. Municip. | 5 | Private | E. 76° 20.837’ N.09° 29.370 | Pond |
| 49 | Puthenmadhom kavu Kudumbakavu | Pazhayathirumala Al. Municip. | 5 | Private | E. 76° 20.777’ N.09° 29.841’ | Pond |
| 50 | Punnakkalkavu Kudumbakavu | Alisherriambalam Al. Municip. | 25 | Private | E. 76° 19.993’ N.09° 29.060’ | Pond |
| 51 | Angiliparambhukavu K | Kuthirapanthi, Al. Municip. | 35 | Private | E. 76° 19.958’ N.09° 28.467’ | Pond |
| 52 | Maruthambikkal Mukhyakavu | Eravukadu, Al. Municip. | 15 | Private | E. 76° 20.018’ N.09° 28.256’ | Pond |
| 53 | Chakkuparambil kavu | Chakkuparambu Al. Municip. | 6 | Private | E. 76° 20.625’ N.09° 28.653’ | |
| 54 | Valathattu kavu | Valathattu, Al. Municip. | 5 | Private | E. 76° 20.816’ N.09° 28.945’ | Pond |
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| 55 | Pathiyilpazhoormananagarkavu | Punnapra North | 5 | Private | E. 76° 20.904’ N.09° 27.387’ | Pond |
| 56 | Karivellilsreebhadhirasarpaks hethram | Punnapra North | 9 | Private | E. 76° 20.698’ N.09° 26.963’ | |
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| 57 | Padippurakkal Kavu | Gurupuram, Aryadu | 15 | Private | E. 76° 20.388’ N.09° 32.519’ | Pond |
| 58 | Padipurakkal sree nagarajakshetram kavu | Aryadu | 11 | Private | E. 76° 20.426’ N.09° 32.126’ | Pond |
| 59 | Valayamchirayil Sree sarppadharma deivaksherakavu | Aryadu | 9 | Private | E. 76° 20.388’ N.09° 32.514’ | Pond |
| 60 | Kalikattu kavu | Aryadu | 24 | Private | E. 76° 20.961’ N.09° 32.044’ | Pond |
| 61 | Valnjavazhikal Nalamadhom kshetakavu | Aryadu | 12 | Public trust | E. 76° 19.782’ N.09° 32.355’ | |
| 62 | Vadakkalisseril Sree bhoothakala nagyakshi Bhagavathi kshetram | Aryadu | 33 | Private | E. 76° 19.159’ N.09° 31.360’ | Pond |
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| 63 | Muzhungayil Sarppakavu | Mararikulam South | 5 | Private | E. 76° 19.051’ N.09° 32.439’ | Pond |
| 64 | Thekkumthalakkal Kavu | Sarvodayapuram, Mararikulam S. | 10 | Private | E. 76° 18.921’ N.09° 33.138’ | Pond |
| 65 | Neythalil chiraparambil kavu | Mararikulam South | 10 | Private | E. 76° 18.753’ N.09° 32.626’ | Pond |
| 66 | Asariparambu Sarppakavu | Mararikulam S. | 19 | Private | E. 76° 19.428’ N.09° 33.563’ | |
| 67 | Anjilichuvattil Sreebalabhadradevikshetram kavu | Mararikulam S. | 35 | Private | E. 76° 19.283’ N.09° 32.053’ | |

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| 68 | Vadakkethalakkal Sreenagarajakshetramkavu | Pathirippalli, Mararikulam S. | 218 | Private | E. 76° 19.303’ N.09° 32.143’ | Pond |
| 69 | Vadakkethalaykkal thayyil Sree nagarajakshetram kavu | Pathirippalli, Mararikulam S. | 40 | Private | E. 76° 19.166’ N.09° 32.466’ | Pond |
| 70 | Vadakkethalaykkal Thayyil Kavu | Mararikulam S. | 40 | Private | E. 76° 19.151’ N.09° 32.492’ | Pond |
| 71 | Vadakkethalaykkal thayyal vadakkekuttu kavu | Mararikulam S. | 12 | Private | E. 76° 19.134’ N.09° 32.548’ | Pond |
| 72 | Vadakkethalaykkal velikkakathu | Vadakkethalakkal Mararikulam S. | 30 | Private | E. 76° 19.134’ N.09° 32.548’ | Pond |
| 73 | Vadakkethalakkal Karingattukuzhikavu | Mararikulam S. | 30 | Private | E. 76° 19.399’ N.09° 32.536’ | Pond |
| 74 | Velikkakathu Nagarajakavu Kudumbam | Mararikulam S. | 11 | Private | E. 76° 19.413’ N.09° 32.636’ | Pond |
| 75 | Madhathil Durga bhadrakali kshetramkavu | Mararikulam S. | 10 | Private | E. 76° 18.912’ N.09° 32.788’ | |
| 76 | Chirayil Sarppakavu Kudumbam | Mararikulam S. | 8 | Private | E. 76° 19.229’ N.09° 33.137’ | Pond |
| 77 | Karumbikavu | Chettikadu, Mararikulam S. | 10 | Private | E. 76° 19.132’ N.09° 32.757’ | Pond |
| 78 | Kaduvettiyil kavu | Sarvodayapuram, Mararikulam S. | 15 | Private | E. 76° 18.923’ N.09° 33.109’ | Pond |
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| 79 | Aachimankavu | Kanichukulangara Mararikulam N. | 8 | Private | E 76° 18.674’ N 09° 37.607’ | Pond |
| 80 | Karukambarambil Kavu | Kanichukulangara Mararikulam N. | 10 | Private | E 76° 18.533’ N. 09° 37.594’ | Pond |
| 81 | Annapoornneswari kshetram | Kanichukulangara Mararikulam N. | 30 | Private | E 76° 18.649’ N 09° 37.756’ | Pond |
| 82 | Kadathanathukavu | Kanichukulangara Mararikulam N. | 10 | Private | E 76° 18.649’ N 09° 37.756’ | |
| 83 | Kadathanathukavu | Kanichukulangara Mararikulam N. | 10 | Private | E 76° 18.613’ N 09° 37.659’ | |
| 84 | Lahayil Kavu | Kanichukulangara Mararikulam N. | 10 | Private | E 76° 19.119’ N 09° 37.220’ | Pond |
| 85 | Manathamparambu | Kanichukulangara Mararikulam N. | 10 | Private | E 76° 19.136’ N 09° 37.45 | Pond |
| 86 | Malayekkal Kudumbakshetram | Pooppallikkavu, Mararikulam N. | 30 | Private | E 76° 19.113’ N 09° 36.406’ | Pond |
| 87 | Chakkanattu Bhoothakala nagayakshi kshethram | Pooppallikkavu, Mararikulam N. | 40 | Private | E 76° 19.173’ N 09° 36.571’ | Pond |
| 88 | Pooppallikavu | Mararikulam N. | 10 | Public trust | E 76° 19.097’’ N 09° 36.609’ | Pond |
| 89 | Asariparambu kudumbakavu | Mararikulam N. | 10 | Private | E 76° 18.932’ N 09° 36.556’ | Pond |
| 90 | Edathara kudumbakavu | Varakattu, Mararikulam N. | 10 | Private | E 76° 19.681’ N 09° 37.381’ | |
| 91 | Arasseri Mangalam | S.L.Puram, | 10 | Private | E 76° 19.126’ | Pond |

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| | | Mararikulam N. | | | N 09° 36.920’ | |
| 92 | Kalappuraykkal Kudumba | Mararikulam N. | 10 | Private | E 76° 18.910’<br>N 09° 36.623’ | Pond |
| 93 | Mallikkattukavu | Mararikulam N. | 10 | Private | E 76° 18.609’<br>N 09° 36.788’ | Pond |
| 94 | Pallikkavu | Kanichukulangara Mararikulam N. | 10 | Private | E 76° 18.938’<br>N 09° 37.465’ | Pond |
| 95 | Kavaratikavu | Kanichukulangara Mararikulam N. | 10 | Private | E 76° 18.313’<br>N 09° 37.812’ | Pond |
| 96 | Kolathuvellikavu | Mararikulam N. | 30 | Private | E 76° 18.852’<br>N 09° 38.502’ | Pond |
| 97 | Adakkuzhikkattu Kootukudumba yogam kavu I | Kanichukulangara Mararikulam N. | 15 | Private | E 76° 18.755’<br>N 09° 38.149’ | |
| 98 | Adakkuzhikkattu Kootukudumba yogam kavu II | Kanichukulangara Mararikulam N. | 15 | Private | E 76° 18.782’<br>N 09° 38.176’ | Pond |
| 99 | Adakkuzhikkattu Kootukudumba yogam kavu III | Kanichukulangara Mararikulam N. | 30 | Private | E 76° 18.784’<br>N 09° 38.204’ | Pond |
| 100 | Attakkuzhikkadu koottukudumbayogam IV | Kanichukulangara Mararikulam N. | 25 | Private | E 76° 18.000’<br>N 09° 38.224’ | Pond |
| 101 | Kodumgalam | Kanichukulangara Mararikulam N. | 30 | Private | E 76° 18.567’<br>N 09° 38.410’ | Pond |
| 102 | Aramuriyil kavu | Kanichukulangara Mararikulam N. | 25 | Private | E 76° 18.588’<br>N 09° 38.277’ | Pond |
| 103 | Prasannalayam kavu | Kanichukulangara Mararikulam N. | 40 | Private | E 76° 19’22.7’’<br>N 09° 37’39.9’’ | Pond |
| 104 | Kumbhampallil kavu | Kanichukulangara Mararikulam N. | 10 | Private | E 76° 18’39.3’’<br>N 09° 37’17.2’’ | Pond |
| 105 | Kulakkattu sarppalayam | Kanichukulangara Mararikulam N. | 20 | Private | E 76° 19’09.9’’<br>N 09° 37’11.5’’ | Pond |
| 106 | Karikkal kavu | Pokkalasseri, Mararikulam N. | 15 | Private | E 76° 18’40.7’’<br>N 09° 36’57.7’’ | Pond |
| 107 | Thekke menam parambhu kavu | Pokkalasseri, Mararikulam N. | 25 | Private | E 76° 18’41.3’’<br>N 09° 37’00.5’’ | Pond |
| 108 | Menam parambhil kavu | Pokkalasseri, Mararikulam N. | 10 | Private | E 76° 18’40.1’’<br>N 09° 37’03.3’’ | Pond |
| 109 | Valiyakaryattu kavu | Pokkalasseri, Mararikulam N. | 75 | Private | E 76° 18’37.7’’ N 09° 37’02.3’’ | Pond |
| 110 | Vazhvelil kavu | Pokkalasseri, Mararikulam N. | 10 | Private | E 76° 18’36.1’’<br>N 09° 37’06.7’’ | Pond |
| 111 | Vazhvelil kavu | Pokkalasseri, Mararikulam N. | 13 | Private | E 76° 18’37.2’’<br>N 09° 37’06.7’’ | Pond |
| 112 | Vediyathukavu | Pokkalasseri, Mararikulam N. | 20 | Private | E 76° 18’23.1’’<br>N 09° 37’32.8’’ | Pond |
| 113 | Kizhakkevadasseril | Mararikkulam North | 10 | Private | E 76° 18.710’<br>N 09° 36.425’ | Pond |
| 114 | Chettikkattu kavu | Mararikkulam North | 10 | Private | E 760 18.673’<br>N 090 36.410’ | Pond |
| 115 | Aambadi | Mararikkulam | 15 | Private | E 76° 18.601’ | |

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| | | North | | | N 09° 36.536’ | |
| 116 | Maniyapozhayil | Mararikkulam North | 10 | Private | E 76° 18.605’ N 09° 36.504’ | Pond |
| 117 | Maniyapozhayil | Mararikkulam North | 10 | Private | E 76° 18.596’ N 09° 36.491’ | Pond |
| 118 | Chettikkattu Kudumbakav | Mararikkulam North | 40 | Private | E 76° 18.590’ N 09° 36.488’ | |
| 119 | Veliyanganadu kavu | Mararikkulam North | 15 | Private | E 76° 18.703’ N 09° 37.563’ | Pond |
| 120 | Munduparambu Kavu | Kanichukulangara Mararikulam N. | 15 | Private | E 76° 18.735’ N 09° 37.510’ | Pond |
| 121 | Chettikkattu kavu | Mararikkulam North | 30 | Private | E 76° 18.467’ N 09° 36.445’ | CW, Pond |
| 122 | Anjuparambil sarppakavu | Mararikkulam North | 10 | Private | E 76° 18.311’ N 09° 36.847’ | Pond |
| 123 | Kootunkal Sarppakavu | Mararikkulam North | 10 | Private | E 76° 18.314’ N 09° 36.784’ | |
| 124 | Maniyapozhikavu | Mararikkulam North | 10 | Private | E 76° 18.545’ N 09° 36.527’ | Pond |
| 125 | Devaswam Thyyil kavu I | Mararikkulam North | 10 | Private | E 76° 18.651’ N 09° 36.903’ | Pond |
| 126 | Devaswam Thayyil Kavu II | Mararikkulam North | 10 | Private | E 76° 18.666’ N 09° 36.901’ | Pond |
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| 127 | Changaparambu Kudumbadevi kshetram | Cherthala south | 10 | Private | E 76° 18.132’ N 09° 40.552’ | Pond |
| 128 | Thenathukavu | Areeparambu, Cherthala south | 30 | Private | E 76° 18.686’ N 09° 39.012’ | Pond |
| 129 | Kollammaparambu Sarppakavu | Thiruvizha, Cherthala south | 10 | Private | E 76° 18.490’ N 09° 38.747’ | Pond |
| 130 | Karuvayil Devaswam Kshetra kavu | Cherthala south | 15 | Private | E 76° 19’14.0’’ N 09° 39’33.3’’ | Pond |
| 131 | Kalathil Kudumbakshetrakavu | Ariparambu, Cherthala south | 18 | Private | E 76° 19’24.6” N 09° 39’05.9” | Pond |
| 132 | Koannaamkadu Sree mahavishnu kshetrakavu | Ariparambu, Cherthala south | 20 | Private | E 76° 18’36.6” N 09° 38’48.6” | |
| 133 | Kuttikkattumadam kshetramkavu | Ariparambu, Cherthala south | 60 | Private | E 76° 18’39.4” N 09° 38’55.6” | Pond |
| 134 | Kaaraalanchirakavu | Ariparambu, Cherthala south | 15 | Private | E 76° 18’30.5” N 09° 39’04.6” | Pond |
| 135 | Areeparambathu madhom | Ariparambu, Cherthala south | 10 | Private | E 76° 18’55.5” N 09° 39’19.3” | Pond |
| 136 | Manayathu Sarppa Paradevatha kshetrakavu | Karuvayil, Cherthala south | 16 | Private | E 76° 19’36.3” N 09° 40’01.5” | Pond |
| 137 | Kadavil Sarppakavu | Kadavil, Cherthala south | 10 | Private | E 76° 18’53.5” N 09° 39’24.3” | Pond |
| 138 | Punnavelil Sarppakavu | Karuvayil, Cherthala south | 10 | Private | E 76° 19’29.1” N 09° 39’26.3” | Pond |
| 139 | Puthezhathukavu | Karuvayil, Cherthala south | 20 | Private | E 76° 19’48.5” N 09° 40’00.9” | Pond |

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| 140 | Pullayil Illam Kavu | Korippalli, Cherthala south | 20 | Private | E 76° 19’42.9” N 09° 40’07.9” | Pond |
| 141 | Vettathuvelikavu | Ariparambu, Cherthala south | 10 | Private | E 76° 19’39.9” N 09° 39’08.8” | Pond |
| 142 | Thayyil Kalarikavu | Ariparambu, Cherthala south | 100 | Private | E 76° 19’09.9” N 09° 38’54.4” | Pond |
| 143 | Chethikkattu Kavu | Ariparambu, Cherthala south | 30 | Private | E 76° 19’11.1” N 09° 39’08.0” | Pond |
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| 144 | Therakattu sarppakavu | Kadakkarappally | 30 | Private | E 76° 18’.807” N 09° 41.585’ | Pond |
| 145 | Chennothara Sarppakavu | Kadakkarappally | 10 | Private | E 76° 18.356’ N 09° 41.758’ | Pond |
| 146 | Etty Achudhankavu | Kadakkarappally | 26 | Private | E 76° 18’06.8’’ N 09° 41’46.9’’ | |
| 147 | Vazhatharakavu | Pattathil west, Kadakkarappally | 10 | Private | E 76° 18’19.2’’ N 09° 41’41.9’’ | Pond |
| 148 | Sree Krishna swamy kshethram Maraam veetilkavu | Kadakkarappally | 24 | Private | E 76° 18’23.2’’ N 09° 41’56.9’’ | Pond |
| 149 | Eriyaparambilkavu | Kadakkarappally | 15 | Private | E 76° 18’29.2’’ N 09° 41’46.1’’ | Pond |
| 150 | Chadayan kadu | Kadakkarappally | 26 | Private | E 76° 18’22.1’’ N 09° 41’29.2’’ | Pond |
| 151 | Kuruppumparambu kavu | Kadakkarappally | 22 | Private | E 76° 18’23.0’’ N 09° 41’26.3’’ | Pond |
| 152 | Kochanikadu sarppakavu | Thangikkavala | 18 | Private | E 76° 18’28.8’’ N 09° 41’56.2’’ | Pond |
| 153 | Panaikkal kshethram kavu | Vattakara, Kadakkarappally | 74 | Private | E 76° 17’55.9’’ N 09° 41’37.1’’ | Pond |
| 154 | Kochupadathuparambhukavu | Kadakkarappally | 15 | Private | E 76° 18’12.2’’ N 09° 42’16.5’’ | Pond |
| 155 | Thottungal kavu | Kadakkarappally | 60 | Private | E 76° 18’14.0’’ N 09° 41’57.3’’ | Pond |
| 156 | Thachuparambhu kshhethram kavu | Kadakkarappally | 100 | Private | E 76° 18’10.6’’ N 09° 41’48.0’ | Pond |
| 157 | Maliyekkal parambhu | Kadakkarappally | 15 | Private | E 76° 17’55.3’’ N 09° 42’06.3’’ | Pond |
| 158 | Kalavanchira sarppakavu | Kadakkarappally | 10 | Private | E 76° 18’27.1’’ N 09° 42’12.2’’ | Pond |
| 159 | Kochumatom Kudunba kshethr kavu | Kadakkarappally | 10 | Private | E 76° 18’48.0’’ N 09° 41’14.6’’ | Pond |
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| 160 | Kaithakkattukavu | Pattanakkad | 15 | Private | E 76° 18’44.9’’ N 09° 42’33.2’’ | Pond |
| 161 | Kollelil kudumbakavu | Pattanakkad | 10 | Private | E 76° 18’40.4’’ N 09° 42’31.9’’ | Pond |
| 162 | Mariyathukavu | Pattanakkad | 12 | Private | E 76° 18’46.3’’ N 09° 42’22.6’’ | Pond |
| 163 | Vadakkeveettilkavu | Pattanakkad | 15 | Private | E 76° 17’55.8’’ | Pond |

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| | | | | | N 09° 43’42.1’’ | |
| 164 | Pallikkalarppadaivasanketham | Pattanakkad | 10 | Private | E 76° 17’55.8’’ N 09° 43’42.1’’ | Pond |
| 165 | Nulayakkadukshetravum kavum | Pattanakkad | 40 | Private | E 76° 18’14.1’’ N 09° 42’33.5’’ | Pond |
| 166 | Kudavanthumtharakavu | Pattanakkad | 10 | Private | E 76° 18’41.0’’ N 09° 44’34. | Pond |
| 167 | Veliparambu kavu | Uzhuva, Pattanakkad | 12 | Private | E 76° 18.594’ N 09° 43.295’ | Pond |
| 168 | Nikarthil Sarppa daivakudumbayogam | Uzhuva, Pattanakkad | 10 | Private | E 76° 18.484’ N 09° 43.062’ | Pond |
| 169 | Karukasserimadhom | Uzhuva, Pattanakkad | 10 | Private | E 76° 18.547’ N 09° 42.730’ | Pond |
| 170 | Ayyanadukudumbaskhetram | Uzhuva, Pattanakkad | 14 | Private | E 76° 18’28.9’’ N 09° 42’40.1’’ | Pond |
| 171 | Chathakkeri khandakarnnakshetram | Uzhuva, Pattanakkad | 15 | Public trust | E 76° 18’31.5’’ N 09° 42’48.7’’ | Pond |
| 172 | Koottunkalkavu | Uzhuva, Pattanakkad | 40 | Private | E 76° 18’32.1’’ N 09° 42’46.5’’ | Pond |
| 173 | Vadakke Arakkal | Pattanakkad | 15 | Private | E 76° 17’27.1’’ N 09° 43’44.7’’ | Pond |
| 174 | Thekke Araykkal | Pattanakkad | 20 | Private | E 76° 17’27.1’’ N 09° 43’41.5’’ | Pond |
| 175 | Kizhakke konattusseri kavu | Konattusseri, Pattanakkad | 40 | Private | E 76° 18’04.4’’ N 09° 42’59.1’’ | |
| 176 | Sastharasarppakavu | Pattanakkad | 20 | Private | E 76° 18’38.5’’ N 09° 44’05.9’’ | Pond |
| 177 | Kavakkadu kavu | Pattanakkad | 20 | Private | E 76° 19’11.7’’ N 09° 44’34.6’’ | Pond |
| 178 | Thottatharakavu | Pattanakkad | 20 | Private | E 76° 18’18.3’’ N 09° 42’17.4’’ | Pond |
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| 179 | Kodoor Sarppakavu | Valamangalam, Thuravoor | 8 | Private | E 76° 19.314’’ N 09° 47.047’ | Pond |
| 180 | Kodoor Sarppakavu | Valamangalam, Thuravoor | 10 | Private | E 76° 19.539’ N 09° 46.991’ | Pond |
| 181 | Valavanadu sreebhadrakalikshetram | Thuravoor | 18 | Private | E 76° 19.264’ N 09° 46.011’ | Pond |
| 182 | Valyarakshetrakavu | Valamangalam, Thuravoor | 10 | Private | E 76° 19’23.7’’ N 09° 45’02.1’’ | Pond |
| 183 | Pattathali kshetrakavu | Valamangalam, Thuravoor | 20 | Private | E 76° 19’12.5’’ N 09° 45’03.1’’ | Pond |
| 184 | Kannuvallilkavu | Valamangalam, Thuravoor | 10 | Private | E 76° 19’30.0’’ N 09° 45’44.4’’ | |
| 185 | Koonasseri skhetrakavu | Thuravoor | 20 | Private | E 76° 19’38.0’’ N 09° 45’47.2’’ | Pond |
| 186 | Visharam sarppakkavu | Thuravoor | 10 | Private | E 76° 19’10.5’’ N 09° 45’53.8’’ | Pond |
| 187 | Idathilmadhom Kavu | Valamangalam, Thuravoor | 30 | Private | E 76° 19.820’ N 09° 45.049’ | Pond |

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| 188 | Varumbanathukavu | Thuravoor | 15 | Private | E 76° 19’18.7’’ N 09° 47’00.5’’ | Pond |
| 189 | Thekeveedil kavu | Thuravoor | 12 | Private | E 76° 18.879’ N 09° 45.902’ | Pond |
| 190 | Kannezhathusarpakavu | Thuravoor | 10 | Private | E 76° 18.887’ N 09° 45.997’ | Pond |
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| 191 | Kottamvelil kshethramkavu | Kuthiyathodu | 15 | Private | E 76° 18.850’ N 09° 47.315’ | Pond |
| 192 | Pulithara kudumbhakavu | Kuthiyathodu | 20 | Private | E 76° 18.778’ N 09° 47.033’ | Pond |
| 193 | Aamedethukavu | Kuthiyathodu | 15 | Devaswam | E 76° 19.032’ N 09° 47.274’ | CW, Pond |
| 194 | Marottikkal sarppakavu | Parayakadu, Kuthiyathodu | 10 | Private | N 09° 46.736’ E 76° 18.311’ | Pond |
| 195 | Vallanthara kavu | Parayakadu, Kuthiyathodu | 30 | Private | E 76° 18.420’ N 09° 40.847’ | Pond |
| 196 | Ananthamandhiram Kavu | Kuthiyathodu | 10 | Private | E 76° 18.999’ N 09° 47.2 | Pond |
| 197 | Vettakullangarakavu | Kuthiyathodu | 40 | Private | E 76° 18.930’ N 09° 47.044’ | Pond |
| 198 | Kadamattu Kudumbhakavu | Kuthiyathodu | 15 | Private | E 76° 19.154’ N 09° 46.840’ | Pond |
| 199 | Kadamattu Kudumbhakavu | Kuthiyathodu | 20 | Private | E 76° 19.187’ N 09° 46.861’ | Pond |
| 200 | Thevalakattukavu | Kuthiyathodu | 15 | Private | E 76° 19.161’ N 09° 46.778’ | Pond |
| 201 | Kottapallilkavu | Kuthiyathodu | 15 | Private | E 76° 19.167’ N 09° 46.537’ | Pond |
| 202 | Kadattusarpakavu | Kuthiyathodu | 10 | Private | E 76° 19.196’ N 090 46.595’ | Pond |
| 203 | Ottarathu sarpakavu | Kuthiyathodu | 15 | Private | E 76° 18.859’ N 09° 46.242’ | Pond |
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| 204 | Padinjittezhathu kudumbha ksethramkavu | Kodamthuruthu | 150 | Private | E 76° 18.995’ N 09° 48.291’ | Pond |
| 205 | Konathezhathu sarppakavu | Kodamthuruthu | 60 | Private | E 76° 19.267’ N 09° 48.262’ | Pond |
| 206 | Sree muthelindharma daivakshethram kavu | Kodamthuruthu | 15 | Private | E 76° 19.486’ N 09° 48.145’ | Pond |
| 207 | Sreedarma sasthaksethram kavu | Kuravampuram, Kodamthuruthu | 60 | Local committee | E 76° 19.454’ N 09° 47.928’ | Pond |
| 208 | Changazhathu kudumbha kshethrakavu | Ezhupunna, Kodamthuruthu | 15 | Private | E 76° 18.181’ N 09° 47.483’ | Pond |
| 209 | Chagarathu kudumbhakavu | Ezhupunna, Kodamthuruthu | 40 | Private | E 76° 18.165’ N 09° 47.415’ | Pond |
| 210 | Panayamtharakudumbha kshe thram | Kodamthuruthu | 13 | Private | E 76° 18.695’ N 09° 48.332’ | |
| 211 | Vellakathrakavu | Kodamthuruthu | 20 | Private | E 76° 18.596’ N | Pond |

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| | | | | | 09° 48.431’ | |
| 212 | Panikkaraparambhu | Kodamthuruthu | 12 | Private | E 76° 18.717’ N 09° 48.529’ | Pond |
| 213 | Kollarezhathudevikshethram | Kodamthuruthu | 10 | Private | E 76° 18.691’ N 09° 48.498’ | Pond |
| 214 | Allavelilchirakavu | Kodamthuruthu | 10 | Private | E 76° 18.755’ N 09° 48.580’ | Pond |
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| | **Ernakulam district** | | | | | |
| 1 | Ponneth kavu | Kochin Corporation Kadavanthra | 6 | Private | E 76° 17.'400’ N 9° 58. 149’ | |
| 2 | Allaparampil Raksheswari kavu | Edavanakkad | 47 | Private | E 76° 12.248’ N 10° 54.250’ | Pond |
| 3 | Vayalil kavu | Edavanakkad | 75 | Private | E 76° 12.241’ N 10° 54.235’ | Pond |
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| | **Thrissur district** | | | | | |
| 1 | Thiruvalluoor Sarppakavu | Madavana, Eriyad | 5 | Devaswam | N 10° 13.683’ E 76° 10.882’ | |
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| 2 | Ponathu Sarppakavu | Kara, Edavilangu | 10 | Private | N 10° 13.977’ E 76° 08.913’ | CW |
| 3 | Kudumbi samudayam sarppakavu | Kara, Edavilangu | 37 | Private | N 10° 14.468’ E 76° 08.782’ | Pond |
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| 4 | Karakkottu Sarppakavu | Padijarevemballur, S.N. Puram | 20 | Private | N 10° 15.845’ E 76° 08.708’ | |
| 5 | Aikkara Sarpakavu | Padijarevemballur, S.N. Puram | 10 | Private | N 10° 15.607’ E 76° 09.048’ | |
| 6 | Kizhakevallapil Sarpakavu | Padijarevemballur, S.N. Puram | 5 | Private | N 10° 15.532’ E 76° 08.431’ | |
| 7 | Koromparambhi Sarpakavu | Padijarevemballur, S.N. Puram | 15 | Private | N 10°15.797’ E 76°08.772’ | |
| 8 | Kokkottu Sarpakavu | Padijarevemballur, S.N. Puram | 5 | Private | N 10° 15.573’ E 760 08.684’ | |
| 9 | Ettuveedil sarpakavu | Padijarevemballur, S.N. Puram | 12 | Private | N 100 16.238’ E 760 08 .724’ | |
| 10 | Aayappankavu | Padijarevemballur, S.N. Puram | 5 | Local Committee | N 10° 16.295’ E 76° 08.887’ | |
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| 11 | KochikkaParambhilsarpakavu | Koolimuttom, Mathilakam | 3 | Private | N 10° 17.775’ E 76° 08.053’ | |
| 12 | Killikkulangara | Koolimuttom, Mathilakam | 15 | Local committee | N 10° 16.692’ E 76° 08.169’ | CW |
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| 13 | Pandaraparambhil House | Perinjanam | 5 | Private | N 10° 18.479’ E 76° 09.416’ | |
| 14 | KalarikkalSarpakavu | Perinjanam | 5 | Private | N 10° 18.522’ E 76° 08.036’ | Pond |

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| 15 | Chemmathi kavu | Perinjanam | 6 | Private | N 10° 18.674’ E 76° 08.193’ | Pond |
| 16 | Padinjaekuttu | Perinjanam | 5 | Private | N 10° 17.873’ E 76° 08.123’ | |
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| 17 | Palliyil Sarppakavu | Kaippamangalam | 15 | Private | N 10° 20.095’ E 76° 07.642’ | |
| 18 | Mundasseri Nagakavu | Kaippamangalam | 10 | Private | N 10° 20.186’ E 76° 07.987’ | |
| 19 | Koottalaparambu Sarppakavu | Kaippamangalam | 10 | Private | N 10° 20.440’ E 76° 07.626’ | |
| 20 | Malattin Sarppakavu | Kaippamangalam | 17 | Private | N 10° 19.850’ E 76° 08.866’ | |
| 21 | Kulathu Parambu Sarppakavu | Kaippamangalam | 30 | Private | N 10° 19.693’ E 76° 08.673’ | |
| 22 | Kottarathu Sarppakavu | Kaippamangalam | 26 | Public trust | N 10° 19.980’ E 76° 08.801’ | |
| 23 | Mambarambathu Kshet rakavu | Kaippamangalam | 5 | Private | N 10° 20.078’ E 76° 07.7 | |
| 24 | Kanjirapparambil Sarpp akavu | Kaippamangalam | 6 | Private | N 10° 20.322’ E 76° 07.813’ | |
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| 25 | Thalappilli Sarppakavu | Edathiruthy | 4 | Private | N 10° 21.200’ E 76° 07.062’ | |
| 26 | Vellambathu Sarppakavu | Chendrappini, Edathiruthy | 5 | Private | N 10° 21.558’ E 76°08.551’ | CW |
| 27 | Chittezhathu Sarppakavu | Chendrappini, Edathiruthy | 3 | Private | N 10° 21.178’ E 76° 07.912’ | |
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| 28 | Adipparambusarppak avu | Valappad | 30 | Private | N 10° 24.287’ E 076° 06.172’ | Pond |
| 29 | Aryamparambilsarppa kkavu | Valappad | 30 | Private | N 10° 24.377’ E 076° 05.993’ | Pond |
| 30 | Sivamangalamkavu | Valappad | 300 | Private | N 10° 24.040’ E 076°06.147’ | |
| 31 | Adhiyarathusarppakk avu | Valappad | 15 | Private | N 10° 23.805’ E 076°06.582’ | CW |
| 32 | Nediyiruppil Sarpakavu | Valappad | 4 | Private | N 10° 22.102’ E 076° 06.303’ | |
| 33 | Komundackal sarpakav | Edamuttam, Valappad | 10 | Private | N 10° 22.367’ E 076° 06.863’ | Pond |
| 34 | Kizhakedathu sarpakavu | Chendrapini, Valappad | 8 | Private | | Pond |
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| 35 | Unniyaran Purakkal sarppakavu | Nattika | 10 | Private | N 10° 25.199’ E 076°05.390’ | Pond |
| 36 | Pannipulathusarppakavu | Nattika | 15 | Private | N 10° 24.536’ E 076°05.942’ | |
| 37 | PulakkalParambil Sarp pakavu | Nattika | 15 | Private | N 10° 24.543’ E 076°05.582’ | Pond |

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| 38 | Pozhikkadavil sarppakkavu | Nattika | 10 | Private | N 10° 25.375' E 076°05.565' | Pond |
| 39 | Kallundal sarppakkavu | Nattika | 10 | Private | N 10° 24.486' E 076°06.324' | Pond |
| 40 | Panakkal Kurumbe padathu Sarppakkavu | Nattika | 8 | Private | N 10° 24.500' E 076°05.517' | |
| 41 | Iyyani Sarppakavu | Nattika | 8 | Private | N 10° 25.429' E 076°06.475' | |
| 42 | Ilayedathu sarppakavu | Thriprayar, Nattika | 6 | Private | N 10° 24.564' E 076° 06.885' | CW |
| 43 | Ilayedathu sarppakavu | Thriprayar, Nattika | 10 | Private | N 10° 24.547' E 076° 06.892' | |
| 44 | Changaramkulathu sarppakavu | Thriprayar, Nattika | 5 | Private | N 10° 24.813' E 076° 06.524' | |
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| 45 | Sreedharmasastha kshetram sarppakkavu | Thalikulam | 10 | Private | N 10° 26.533' E 076° 05.550' | |
| 46 | Nambiyathu sarppakkavu | Thalikulam | 30 | Private | N 10° 26.155' E 076° 04.754' | |
| 47 | Aaaparambathu Sarppakkavu | Thalikulam | 8 | Private | N 10° 26.817' E 076° 05.128' | |
| 48 | Ayinikkattu parambil kavu | Thalikulam | 20 | Private | N 10° 25.699' E 076° 05.216' | |
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| 49 | Poyyara sarppakkavu | Vadanappally | 10 | Private | N 10° 28.534' E 076° 04.93 | |
| 50 | IttikkavttuKalappurak kal Sarppakavu | Thrithalloor, Vadanappally | 266 | Private | N 10° 29.213' E 0760 03.932' | |
| 51 | Puthilathu sarppakkavu | Naduvilkkara, Vadanappally | 40 | Private | N 10° 28.912' E 076° 05.084' | |
| 52 | Palliyana sarppakkavu | Naduvilkkara, Vadanappally | 217 | Private | N 10° 28.742' E 076° 05.316' | |
| 53 | Kottayi Chalippattu Sarppakkavu | Thrithalloor | 10 | Private | N 10° 29.201' E 076° 04.000' | |
| 54 | Kozhipparambil lsarppakkavu | Vadanappally | 10 | Private | N 10° 29'26.4'' E 076°4' 51.7'' | |
| 55 | Sankaramangalam devikshetra sarppakkavu | Vadanappally | 20 | Devaswam | N 10°28'08.9'' E 76° 04'42.3'' | |
| 56 | Matathilparambil sarppakkavu | Vadanappally | 20 | Private | N 10° 28'05.6'' E 076°04'39.8'' | |
| 57 | Kozhiparambil panakkalparambil sarppakkavu | Vadanappally | 5 | Public trust | N 10° 29'25.3'' E 076° 03'52.1'' | |
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| 58 | Nayarusseri kshetram sarppakkavu | Engandiyur | 8 | Private | N 10°30.732' E 076° 02.966' | |
| 59 | Kallungal Sarppakavu | Engandiyur | 5 | Private | N 10°30.707' E 076° 02.998' | |
| 60 | Sarppakavu | Engandiyur | 12 | Public trust | N 10°29.887' E 076° 04.165' | |

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| 61 | KanjiratharaSarppaka vu | Engandiyur | 15 | Private | N 10°30.655’<br>E 076° 03.580’ | |
| 62 | Pattali sarppakavu | Engandiyur | 10 | Private | N 10°30.727’<br>E 076° 02.893’ | |
| 63 | KariyattuIllathuParambu Nagakkavu | Engandiyur | 15 | Private | N 10° 31’27.2’’<br>E 076°03’21.2’’ | |
| 64 | KarapurathuSarppakavu | Engandiyur | 10 | Private | N 10° 30’30.6’’<br>E 076° 03’37.6’’ | |
| 65 | Kalari Sarppakavu | Engandiyur | 11 | Private | N 10° 30’26.4’’<br>E 076° 03’04.7’’ | |
| 66 | Illathukavu | Engandiyur | 10 | Local committee | N 10°30.174’<br>E 076° 04.484’ | |
| 67 | Sarppakavu | Engandiyur | 45 | Private | N 10°29.902’<br>E 076° 04 .208’ | |
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| 68 | Mangottu sarppakavu | Orumanayoor | 10 | Private | N 10°33.716’<br>E 076° 02.198’ | |
| 69 | Mangottu Sarppakavu | Orumanayoor | 5 | Private | N 10°33.817’<br>E 076° 02 .173 | |
| 70 | Chennangattu Sarppakavu | Orumanayoor | 10 | Private | N 10°33.192’<br>E 076° 01.937’ | |
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| 71 | Pattathil Sarppakavu | Chavakkad Municipality | 5 | Private | N 10° 34.573’<br>E 076° 01.572’ | CW |
| 72 | Chettyalakkal Sarppakavu | Chavakkad Municipality | 10 | Public trust | N 10°35.498’<br>E 076° 01.731’ | CW |
| 73 | Nediyedathu Sarppakavu | Manathala, Chavakkad M. | 8 | Private | N 10°35.338’<br>E 076° 00.685’ | CW |
| 74 | Panakkal Sarppakavu | Manathala, Chavakkad M. | 5 | Private | N 10°35.302’<br>E 076° 00.692’ | |
| 75 | NeriyampulliSarppakavu | Manathala, Chavakkad M. | 25 | Private | N °34.758’<br>E 076° 01.219’ | |
| 76 | Manathala Viswanadha ksetram Sarppakavu | Manathala, Chavakkad M. | 40 | Private | N 10° 35.315’<br>E 076° 00.835 | |
| 77 | Kalathil Sarppakavu | Manathala, Chavakkad M. | 10 | Private | N 10°34.988’<br>E 076° 00.839’ | CW |
| 78 | ManathalaSreeNagay akshi kshetram | Manathala, Chavakkad M. | 50 | Private | N 10°34.600’<br>E 076° 01.069’ | CW |
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| 79 | Anchillam Kavu | Punnayur | 11 | Private | N 10°39.566’<br>E 075° 59.484’ | |
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| 80 | KarumathilKalari Sarppakavu | Punnayurkulam | 23 | Private | N 10°41.186’<br>E 075° 58.731’ | |
| 81 | Punnookkavu | Punnayurkulam | 10 | Private | N 10°40.922’<br>E 075° 59.398 | |
| 82 | Kalipurayathu Sarppakavu | Punnayurkulam | 5 | Private | N 10°39.963’<br>E 075° 59.712’ | |
| 83 | Nalappattu Sarppakavu | Punnayurkulam | 5 | Govt. | N 10°40.074’<br>E 075° 59.734’ | |

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| 84 | Govindapuram Sarppakavu | Punnayurkulam | 8 | Private | N 10°40.516’<br>E 075° 59.575’ | |
| 85 | PazhiyoorMana Sarppakavu | Punnayurkulam | 7 | Private | N 10°41.360’<br>E 075° 59.090 | |
| 86 | CheraiPadinja Sarppakavu | Punnayurkulam | 25 | Private | N 10°41.172’<br>E 075° 58.735’ | CW |
| 87 | Prarathu Sarppakavu | Punnayurkulam | 4 | Private | N 10°41.145’<br>E 075° 58.727’ | |
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| | **Malappuram district** | | | | | |
| 1 | Variyathu kavu | Veliyancode | 10 | | | |
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| 2 | Illathuparampu kavu | Ponnani Municipality | 7 | | | |
| 3 | Kodothukavu | | 10 | | | |
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| 4 | Bhayamkavu | Purathur | 400 | | N 10°49.811’<br>E 075° 55.181’ | |
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| 5 | Poongattiri tharavadukavu | Niramaruthur | 60 | | | |
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| 6 | Sobhaparampu kavu | Tanur | 6 | | | |
| 7 | Odayakkikavu | Tanur | 30 | | | |
| 8 | Puthenveettilkavu | Tanur | 42 | | | |
| 9 | Kallingal kavu | Tanur | 10 | | | |
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| 10 | Pothukkarakavu | Parappanangadi | 5 | | | |
| 11 | Moothancherikavu | Parappanangadi | 10 | | | |
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| | **Kozhikode district** | | | | | |
| 1 | Pediat Bhagavathy Temple Kavu | Pediat Kunnu, Kadalundi | 60 | Private | N 11° 8’ 20.1”<br>E 75° 49’ 58.7” | CW |
| 2 | Vadayil Kavu Sree Bhagavathy temple | Kadalundi | 40 | Private | N 11° 8’ 18.9”<br>E 75° 49’ 40.0” | |
| 3 | Sree Ponnarambath Bhagavathy Muthappan Temple Kavu | Pazhachennur, Kadalundi | 6 | Private | N 11°8’ 43.2”<br>E 75° 49’ 09.1” | |
| 4 | Thandam Parambu Vishathum Ka | Kadukka Bazar, Kadalundi | 8 | Private | N 11° 7’ 59.3”<br>E 75° 49’ 49.3” | CW |
| 5 | Vadayil Kavu Sree Bhagavathy temple | Kadalundi | 40 | Private | N 11° 8’ 18.9”<br>E 75° 49’ 40.0” | |
| 6 | Sree Ponnarambath Bhagavathy Muthappan Temple Kavu | Pazhachennur, Kadalundi | 6 | Private | N 11°8’ 43.2”<br>E 75° 49’ 09.1” | |
| 7 | Sree mannur Siva Temple Kavu | Mannur, Kadalundi | 80 | Private | N 11°9’ 10.2”<br>E 75° 50’ 0.3” | CW, Pond |
| 8 | Karumakan Kavu | Mannur, Kadalundi | 10 | Private | N 11° 8’ 59.2”<br>E 75°50’ 3.8” | |
| 9 | Jathavan Kavu | Kadalundi | 140 | Private | N 11° 8’ 56.7” | |

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| | | | | | E 75° 50’ 15.0” | |
| 10 | Thirumalammal Devastanam | Kadalundi | 50 | Private | N 11° 8’ 54.3” E 75° 50’ 16.5 | |
| 11 | Kolleri tharavad Kotta | Adivaram, Kadalundi | 8 | Private | N 11° 8’ 52.2” E 75° 50.19.3” | |
| 12 | Mandakathingal Kuttamakka Devaswom Temple Kavu | Kadalundi | 30 | Private | N 11° 8’ 25.6” E 75°50’ 6.9” | |
| 13 | Kozhiserry Sree Bhagavathy Temple Kavu | Kottakkadavu, Kadalundi | 12 | Private | N 11° 8’ 13.9” E 75° 50’ 7.6”0 | |
| 14 | Ambaliparambu Temple Kavu | Kadalundi | 75 | Private | N 11° 8’ 5.2” E 75049’ 25.2” | |
| 15 | Kuunnathu Kavu | Murukallingal, Kadalundi | 100 | Private | N 11° 9’ 15.7” E 75° 49’ 6.0” | |
| 16 | Nambayil SreeKarumakan Devi Temple Kavu | Nambayil, Kadalundi | 8 | Private | N 11° 9’ 7.3” E 75° 49’ 33.2 | |
| 17 | Veettil kavu | Kotheriparampu, Kadalundi | 7 | Private | N 11° 8,36.5” E 75°49’45.7” | |
| 18 | Kurupathuparampu kavu | Kadalundi | 8 | Private | N 11° 8’ 58.1” E 75° 49’51.0” | |
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| 19 | Chelanattu paradevatha nagakavu | Areepparampil, Feroke | 27 | Private | N 11° 10’ 32.6” E 75° 51’ 10.6” | |
| 20 | Perikathru Sree Kurumba Bhagavathy Kavu | Feroke | 5 | Private | N 11° 10’ 37.13” E 75° 49’44.1” | |
| 21 | Vadakke Kolathottu Naga Kotta | Feroke | 8 | Private | N 11° 15’ 27.5” E 75° 48’ 52.5” | CW |
| 22 | Mongathu mundian paradevatha kshethra kavu | Mongathuparambu Feroke | 20 | Private | N 11° 10’ 42.9” E 75° 51’ 03.6” | Pond |
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| 23 | Kakkadathu Bhagavathy Temple Kavu | Beypore | 15 | Public trust | N 11° 10’ 49.5” E 75° 48’ 51.3” | CW |
| 24 | Palliarakkal Bhagaathy Temple Kavu | Palliarakkal, Beypore | 10 | Private | N 11° 10’ 39.0” E 75° 48’ 12.7” | |
| 25 | Vellayikkode Sree Bhagavathy Temple Kavu | Perachanangady, Beypore | 20 | Private | N 11° 11’ 16.6” E 75° 48’ 06.2” | |
| 26 | Pinnanathu Bhagavathy Temple Kavu | Chenneth, Beypore | 30 | Private | N 11° 11’ 37.9” E 75°48’ 13.6” | CW |
| 27 | Necholi Kavu | Arakinar, Beypore | 18 | Private | N 11° 15’ 2.1” E 75° 47’ 9.4” | |
| 28 | Malarkavil Naga kali Kotta | Kayyadithode, Beypore | 20 | Private | N 11° 11’ 16.7” E 75° 48’ 6.0” | CW |
| 29 | PonnathBhagavathy kavu | Ponnath, Beypore | 10 | Private | N 11° 11’ 48.3” E 75° 47’ 29.9” | |
| 30 | Kollarikkal Nagathankavu | Arakkinar, Beypore | 15 | Private | N 11° 11’56.5” E 75° 48’ 04.6” | CW |
| 31 | Changanath Nagakotta | Arakkinar, Beypore | 8 | Private | N 11°11’ 52.2” E 75° 48’06.2” | CW |
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| 32 | Nallalam Muthuvana chalil Bhagvathy Temple Kavu | Cheruvannur Kozhikode Corp. | 5 | Private | N 11° 13’ 15.5”<br>E 75° 49’ 04.7” | |
| 33 | Makkunii Kavu | Cheruvannur Kozhikode Corp. | 10 | Private | N 11° 12’50.6”<br>E 75°48’ 41.8” | |
| 34 | Koyaparambu Bhagavathy Temple Kavu | Nallalam, Kozhikode Corp. | 200 | Private | N 11° 12’ 55.6”<br>E 75° 49.16.8” | |
| 35 | Panakkal Bhagavathy Temple Kavy | Areekade, Kozhikode Corp. | 15 | Private | N 11° 12.38.4”<br>E 75° 48.21.4” | CW |
| 36 | Nambikkatte Sree Bhagavathy Kavu | Panniyankara, Kozhikode Corp. | 8 | Private | N 11°13’ 13.4”<br>E 75°48’ 17.3” | |
| 37 | Champayil Chittekkatte Bhagavathy Kavu | Panniyankara, Kozhikode Corp. | 10 | Private | N 11°2100<br>E 75°79830 | |
| 38 | Payyanakkal Bhagavathy Kavu | Payyanakkal, Kozhikode Corp. | 30 | Private | N 11°13’ 26.8”<br>E 75° 47’ 10.7” | |
| 39 | Muringathu Kuttichathan kavu | Pandaparambu Kozhikode Corp. | 10 | Private | N 11°13’ 26.9”<br>E 75°47’ 10.6” | |
| 40 | Evutteriparambu naga kotta | Panniyankara, Kozhikode Corp. | 6 | Private | N 11°13’ 27.2”<br>E 75° 47’ 44.9” | CW |
| 41 | Kunnathu Sree Bhagavathy Temple Kavu | Valayanad, Kozhikode Corp. | 10 | Local committee | N 11° 23’ 33.3”<br>E 75°47’81.7’’ | |
| 42 | Kallu vettukuzhy Sree Bhagavathy Temple kavu | Valayanad, Kozhikode Corp. | 30 | Local committee | N 11°23340<br>E 75°8100 | |
| 43 | Kozhyparambath Ellam Kavu | Valayanad, Kozhikode Corp. | 5 | Private | N 11°14’ 43.4”<br>E 75° 48’ 15.6” | |
| 44 | Vadakkillam Nagakotta | Valayanad, Kozhikode Corp. | 14 | Private | N 11°14’ 46.8”<br>E 75° 48’ 14.9” | |
| 45 | Thazhepurackal Bhagavathikavu | Mayanad, Kozhikode Corp. | 200 | Private | **N** 11016’ 38.2”<br>**E** 75051’ 21.7” | |
| 46 | Sree parambathu Kavu | Kottooli, Kozhikode Corp. | 8 | Private | N 11° 15’ 32.5”<br>E 75°48’ 5.3” | |
| 47 | Madattu Vettakkorumakan kavu | Kottooli, Kozhikode Corp. | 10 | Private | N 11° 16’ 40.3”<br>E 75°47’ 57.7” | |
| 48 | Parambalathu Kavu | Kottooli, Kozhikode Corp. | 12 | Private | N 11° 16’ 50.5”<br>E 75°47’ 52.6 | |
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| 49 | Nambol Parambath Naga Ktta | Elathur | 29 | Private | N 11° 19.367’<br>E 75°46.533’ | |
| 50 | Kovili Naga Kotta | Elathur | 8 | Private | N 11° 19.279’<br>E 75° 46.720’ | |
| 51 | Kovili Naga Kotta | Elathur | 20 | Private | N 11° 19.249’<br>E 75° 46.683’ | |
| 52 | Puthiyottil Kalam Naha Kotta | Mokavoor, Elathur | 10 | Private | N 11° 19.105’<br>E 75° 46.734’ | |
| 53 | Peringini Vishnu Naga Kotta | Elathur | 20 | Private | N 11° 18.969’<br>E 75° 46.631’ | |
| 54 | Kariyattu Naga Kotta | Elathur | 16 | Private | N 11° 19.110’<br>E 75° 46.305’ | |
| 55 | Manedathu muthassari-purackal gurudeva temple | Elathur | 30 | Private | N 11° 18.789’<br>E 75° 45.611’ | |

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| 56 | Kunniyilkavu | Elathur | 15 | Private | N 11° 18.787’ E 75° 45.519’ | |
| 57 | Edavanathazham sree bhagavathy temple | Edavanathaazha, Elathur | 15 | Private | N 11° 20.315’ E 75° 44.6 | |
| 58 | Pattayattu sree nagakali temple kavu | Elathur | 15 | Private | N 11° 20.313’ E 75° 44.494’ | |
| 59 | Puthiyanirathu Sreebhagavathy temple kavu | Elathur | 60 | Private | N 11° 19.372’ E 75° 44.769’ | |
| 60 | Methalayil bhagavathy temple kavu | Erathikkal, Elathur | 15 | Private | N 11° 97.374’ E 75° 46.264’ | |
| 61 | Kurooli bhagavathy temple | Kurooli, Elathur | 8 | Private | N 11° 18.715’ E 75° 45.769’ | |
| 62 | Kottakkal sree nagakali temple | Elathur | 40 | Private | N 11° 20.097’ E 75° 45.808’ | |
| 63 | Sree kuruvakkavu Ayyappa Temple | Elathur | 12 | Private | N 11° 19.682’ E 75° 45.904’ | |
| 64 | Kakkatt Mahavishnu Temple | Elathur | 15 | Private | N 11° 19.057’ E 75° 45.589’ | |
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| 65 | Muthirakalayil naga kotta | Chemancherry | 18 | Private | N 11°24.311’ E 75°43.120’ | |
| 66 | Vyleri temple | Chemancherry | 14 | Private | N 11° 23.947’ E 75° 43.080’ | |
| 67 | Vallye pully kotta | Chemancherry | 22 | Private | N 11° 23.255’ E 75° 43.356’ | |
| 68 | Perinkuni nagakotta | Chemancherry | 40 | Private | N 11°23.760’ E 75°43.950’ | |
| 69 | Puthusseri illam kotta | Chemancherry | 50 | Private | N 11°24.167’ E 75°44.281’ | |
| 70 | Ayyadathu illam kotta | Kolakkadu, Chemancherry | 40 | Private | N 11°24.029’ E 75°44.319’ | |
| 71 | Palliyara sree bhagavathy Temple | Vangalam, Chemancherry | 10 | Local committee | N 11°21.838’ E 75°44.113’’ | |
| 72 | Puthiyottil kotta | Thuyakodu, Chemancherry | 25 | Private | N 11°23.926’ E 75°44.352’ | |
| 73 | Chamadathu kotta | Chamadathu, Chemancherry | 12 | Local committee | N 11°23.660’ E 75°43.260’ | |
| 74 | Kolayi kotta | Kanjilasseri, Chemancherry | 20 | Private | N 11°24.390’ E 75°43.709’ | |
| 75 | Kolayi kotta | Kanjilasseri, Chemancherry | 10 | Private | N 11°24.342’ E 75°43.722’ | |
| 76 | Kshethrapalan kotta | Thiruvangur, Chemancherry | 10 | Local committee | N 11°23.099’ E 75°44.366’ | |
| 77 | Kizhakarakaattu kotta | Thiruvangur, Chemancherry | 10 | Local committee | N 11°22.729’ E 75°44.556’ | |
| 78 | Kaval kotta | Korappuzha, Chemancherry | 9 | Private | N 11° 21.352’ E 75°44.554’ | |
| 79 | Pulikandy nagakotta | Thiruvangur, Chemancherry | 50 | Private | N 11°23.350’ E 75°44.219’ | |

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| 80 | Kondamvally Ayyappa temple | Melooru, Chengottukavu | 30 | Private | N 11°26.077’ E 75°42.900’ | Pond |
| 81 | Kondamvally parambu kotta | Chengottukavu | 12 | Private | N 11°26.090’ E 75°42.955’ | |
| 82 | Illathu kuttanadathu kotta | Chengottukavu | 8 | Private | N 11°25.434’ E 75°42.991’ | |
| 83 | Keezhu parambathu naga kotta | Chengottukavu | 10 | Private | N 11° 24.789’ E 75° 43.245’ | |
| 84 | Melooru naduvathana temple | Melooru,Chengottukavu | 50 | Local committee | N 11° 25.721’ E 75° 42.701’ | |
| 85 | Panayada kotta | Chengottukavu | 10 | Private | N 11° 25.044’ E 75° 42.822’ | |
| 86 | Meppattu illam kotta | Elatteri, Chengottukavu | 100 | Private | N 11° 26.218’ E 75° 43.210’ | |
| 87 | Unnicheeram veetil nagaparipalana temple | Eletteri,Chengottukavu | 15 | Public committee | N 11° 26.284’ E 75° 43.316’ | |
| 88 | Ezhukudikkal temple | Chengottukavu | 10 | Local committee | N 11° 24.981’ E 75° 42.168’ | |
| 89 | Manalil thrukkovil mahavishnu temple | Chelia, Chengottukavu | 10 | Local committee | N 11° 25.399’ E 75° 43.932’ | Pond |
| 90 | Thekkayil bhagavathy temple moolasthanam | Poothapara, Chengottukavu | 15 | Local committee | N 11° 25.863’ E 75° 43.733’ | |
| 91 | Thekkayil sree bhagavathy temple | Eletteri,Chengottukavu | 150 | Local committee | N 11° 25.981’ E 75° 43.638’ | |
| 92 | Ponmaleri kotta | Chelia, Chengottukavu | 12 | Private | N 11° 25.031’ E 75° 43.963’ | |
| 93 | Moothedathu kalarikkal temple | Chelia, Chengottukavu | 200 | Private | N 11° 24.829’ E 75° 43.902’ | |
| 94 | Kariyari kotta | Chelia,Chengottukavu | 14 | Private | N 11° 24.779’ E 75° 43.967’ | |
| 95 | Variprakotta | Chengottukavu | 13 | Private | N 11° 24.904’ E 75° 42.846’ | |
| 96 | Koolatham veedu kotta | Chengottukavu | 15 | Private | N 11° 25.341’ E 75° 42.535’ | |
| 97 | Nalupurackal sree nagakali temple | Kuruvangadu, Chengottukavu | 10 | Private | N 11° 26.640’ E 75° 42.609’ | |
| 98 | Chelia kanniyadathu nagakotta | Chelia,Chengottukavu | 20 | Private | N 11° 25.335’ E 75° 44.429’ | |
| 99 | Kunnari sree kariyathan bhagavathy temple | Chelia,Chengottukavu | 70 | Private | N 11° 24.801’ E 75° 43.991’ | |
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| 100 | Sree chalora kuttichathan dharmasastha temple | Natteri, Koilandi M. | 40 | Local committee | N 11° 27.758’ E 75° 41.859’ | |
| 101 | Kizhakke padinjarayil temple | Chalora Koilandi M. | 10 | Private | N 11° 27.679’ E 75° 41.809’ | |
| 102 | Cheriyapuram paradevatha temple | Peruvattur, Koilandi M. | 30 | Local committee | N 11° 27.607’ E 75° 42.468’ | |
| 103 | Maramuttam sree maha ganapathy temple | Koyilandy, Koilandi M. | 20 | Private | N 11° 26.325’ E 75° 41.436’ | |

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| 104 | Thayambam veedu kotta | Narimukku, Koilandi M. | 25 | Private | N 11° 27.745’ E 75° 41.074’ | |
| 105 | Ayyappam kavu | Viyyur, Koilandi M. | 15 | Private | N 11° 28.284’ E 75° 41.260’ | |
| 106 | Puthiyakavu kotta | Koyilandy Koilandi M. | 15 | Private | N 11° 26.889’ E 75° 42.595’ | |
| 107 | Nagakali kandy temple | Kuruvangadi Koilandi M. | 25 | Private | N 11° 27.147’ E 75° 42.705’ | |
| 108 | Naduvilayil nagakotta | Kothamangalam Koilandi M. | 18 | Private | N 11° 26.189’ E 75° 42.305’ | |
| 109 | Kottayil sree durga bhagavathy temple | Cheriya mangadu Koilandi M. | 20 | Private | N 11° 25.600’ E 75° 41.924’ | |
| 110 | Narikuni edamana illam kotta | Koyilandy Koilandi M. | 15 | Local committee | N 11° 27.090’ E 75° 43.005’ | |
| 111 | Kuruvangadu siva temple | Kuruvangadu Koilandi M. | 30 | Local committee | N 11° 27.034’ E 75° 42.778’ | |
| 112 | Kaipurathu illam kotta | Kothamangalam Koilandi M. | 12 | Private | N 11° 26.152’ E 75° 42.249’ | |
| 113 | Komathu kotta | Koyilandy Koilandi M. | 15 | Private | N 11° 26.378’ E 75° 41.840’ | |
| 114 | Sree annapoorneswari temple kavu | Koyilandy Koilandi M. | 15 | Private | N 11° 25.804’ E 75° 41.952’ | |
| 115 | Padinjaridathu sree naga-paripalana temple | Kuruvangadu Koilandi M. | 15 | Private | N 11° 26.736’ E 75° 43.344’ | |
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| 116 | Sree Mahaganapathy Temple kavu | Moodadi | 6 | Local committee | N 11° 28.156’ E 75° 39.356’ | |
| 117 | Veeramangalam Sree Siva Temple | Moodadi | 10 | Private | N 11° 28.169’ E 75° 39.046’’ | |
| 118 | Kizhakedathu kotta | Muchukunnu Moodadi | 10 | Private | N 11° 30.027’ E 75° 40.017’ | |
| 119 | Vaazhayil temple | Moodadi | 10 | Local committee | N 11° 29.386’ E 75° 39.392 | |
| 120 | Pappari sree paradevatha temple | Muchukunnu Moodadi | 15 | Local committee | N 11° 28.924’ E 75° 40.506’’ | |
| 121 | Mannenkil sree paradevatha temple | Muchukunnu Moodadi | 10 | Private | N 11° 29.225’ E 75° 39.648’ | |
| 122 | Muchukunnu kottayil temple | Muchukunnu Moodadi | 2000 | Local committee | N 11° 29.843’ E 75° 39.960’ | Pond |
| 123 | Padnjaatidathu naga kotta | Chingapuram Moodadi | 10 | Private | N 11° 28.905’ E 75° 38.608’ | |
| 124 | Vanmughambhagavathi kshetram | Kadaloor Moodadi | 8 | Private | N 11° 28.440’ E 75° 37.887’ | |
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| 125 | Paloor mahavishnu temple | Thikkodi | 60 | Local committee | N 11° 29.107’ E 75° 37.723’ | |
| 126 | Kooniyil kotta | Thikkodi | 12 | Private | N 11° 28’925’ E 75° 37.690’ | |
| 127 | Nagathil kotta | Thikkodi | 25 | Private | N 11° 29.347’ E 75° 37.512’ | |

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| 128 | Thrukottoor maha ganapathy temple | Thikkodi | 25 | Private | N 11° 30.045’ E 75° 37.574’ | |
| 129 | Gurukkal kavu | Thikkodi | 100 | Local committee | N 11° 30.117’ E 75° 37.635’ | |
| 130 | Arattamkandikavu | Thikkodi | 8 | Private | N 11° 29.832’ E 75° 39.390’ | |
| 131 | Nalupurayil Nagacotta | Purakkattu Thikkodi | 10 | Private | N 11° 29.722’ E 75° 38.749’ | |
| 132 | Kodaloornagacotta | Thikkodi | 10 | Private | N 11° 29.880’ E 75° 38.728’ | |
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| 133 | Keezhur Mahasivakshetram | Keezhoor, Payyoli | 50 | Malabar Devaswam | N 11° 31.661’ E 75° 38.141’ | |
| 134 | Keezhur Mahasivakshetram | Keezhoor, Payyoli | 20 | Malabar Devaswam | N 11° 31.824’ E 75° 38.104’ | |
| 135 | Keezhur Mahaganapathikshetram | Payyoli | 50 | Local committee | N 11° 31.178’ E 75° 38.031’ | |
| 136 | Edolikkavu | Payyoli | 50 | Private | N 11° 31.199’ E 75° 37.537’ | |
| 137 | Kottayilkshetram | Mooradu Payyoli | 100 | Private | N 11° 33.755’ E 75° 37.108’ | |
| 138 | Sreekalaripadikkalkshetram | Ayanikkadu Payyoli | 20 | Private | N 11° 32.498’ E 75° 37.112’ | |
| 139 | Commanacotta | Iringal, Payyoli | 20 | Private | N 11° 33.566’ E 75° 36.936’ | |
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| 140 | Kullangarathukavu | Vadakara, Vadakara M. | 15 | Private | N 11° 35.390’ E 75° 35.535’ | |
| 141 | TyivalappilSreeBhagavathyskewthram | Vadakara, Vadakara M. | 20 | Local committee | N 11° 35.412’ E 75° 35.493’ | |
| 142 | KannamkuzhiyilVaradevadhaskewthram | Kannankuzhi Vadakara M. | 27 | Private | N 11° 35.161’ E 75° 35.791’ | |
| 143 | Koiloth Devimandapam | Arakiladu Vadakara M. | 20 | Private | N 11° 36.575’ E 75° 35.719’ | |
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| 144 | Varissakkuni kshetram | Vallikkad, Chorode | 15 | Private | N 11° 38.292’ E 75° 35.335’ | |
| 145 | Komathu Nagabhagavathi | Vallikkad, Chorode | 15 | Private | N 11° 38.242’ E 75° 35.428’ | |
| 146 | Vaikkilasseri Mahaganapathikshetra | Vaikkilasseri Chorode | 40 | Private | N 11° 37.999’ E 75° 35.464’ | |
| 147 | Chamundikandiyil Sarpakkavu | Chorode Chorode | 20 | Local committee | N 11° 36.511’ E 75° 34.805’ | |
| 148 | Perumana nagacotta | Chorode | 50 | Private | N 11° 37.114’ E 74° 34.497’ | |
| 149 | Perumana Bhagavathi kshetram | Muttungal Chorode | 50 | Private | N 11° 37.127’ E 75° 34.549’ | |
| 150 | Panagottu kshetram | Chorode | 10 | Private | N 11° 37.284’ E 75° 35.778’ | |

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| 151 | Sree muchilodu bhagavathi kshetram | Malolmukku Chorode | 10 | Private | N 11° 37.818’ E 75° 35.994’ | |
| 152 | Puthiyottilcotta | Vaikkilasseri Chorode | 20 | Private | N 11° 38.432’ E 75° 35.764’ | |
| 153 | Pullikkal Illamcotta | Vaikkilasseri Chorode | 16 | Private | N 11° 38.734’ E 75° 36.077’ | |
| 154 | Azhattu illam | Vaikkilasseri Chorode | 20 | Private | N 11° 38.743’ E 75°36’.054’ | |
| 155 | Azhattu illam cotta | Vaikkilasseri Chorode | 40 | Private | N 11° 38.726’ E 75°36.011’ | |
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| 156 | Vannarathu Kozhikkottu kavu | Thattolokkara, Onchiyam | 10 | Local committee | N 11° 39.815’ E 75° 34.226’ | |
| 157 | Malol kuttichathan kshethram | Thattolokkara, Onchiyam | 7 | Local committee | N 11° 39 689’ E 75° 34.311’ | |
| 158 | valiyaparambiil sree Kandakarnnakshetram | Ooralunkal, Onchiyam | 6 | Private | N 11° 38 .518’ E 75° 34 .051’ | |
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| 159 | Azhiyoor koroth Nagabhagavathikshetra | Azhiyur | 200 | Devaswam Bord | N 11°41 .431’ E 75° 33.492’ | |
| 160 | Avikkarakshetram | Mukkali , Azhiyur | 8 | Local committee | N 11° 40 .159’ E 75° 33 .157’ | |
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| | **Kannur district** | | | | | |
| 1 | Balathil Bhagavathy Temp le | Nittur, Thalassery M. | 10 | Local committee | N 11° 46.616’ E 75° 29.266’ | |
| 2 | Chirakkakavu Bhagavathy Temple | Mannayad Thalassery M. | 30 | Malabar Devaswam | N 11°46.177’ E 75° 28.620’ | Pond |
| 3 | Kuzhippangadu Sreebhag avathy Temple | Chirakkara Thalassery M. | 7 | Local committee | N 11° 45.406’ E 75° 29.931’ | Pond |
| 4 | Moral Bhagavathy Templ e | Chirakkara Thalassery M. | 10 | Private | N 11° 45.581’ E 75° 30.158’ | |
| 5 | Nichura Nagabhagavathy Temple | Nichura Thalassery M. | 50 | Private | N 11° 44.765’ E 75° 31.078’ | Pond |
| 6 | Mundarathuparambu Na gam | Thiruvangadu Thalassery M. | 8 | Private | N 11° 44.964’ E 75° 30.060’ | CW |
| 7 | Bhagavathy Temple | Nichura Thalassery M. | 40 | Private | N 11° 44.765’ E 75° 31.077’ | |
| 8 | Moothakoiloth Bhagavath y Temple | Punnol Thalassery M. | 30 | Private | N 11° 43.723’ E 75° 31.055’ | |
| 9 | Karingal Temple | Achukulangara Thalassery M. | 50 | Private | N 11° 43.975’ E 75° 31.411’ | |
| 10 | Thrikaikkal Siva Temple | Kodiyeri Thalassery M. | 15 | Local committee | N 11° 44.730’ E 75° 32.189’ | Pond |
| 11 | Punnolakandy Bhagavath y Temple | Kodiyeri Thalassery M. | 20 | Private | N 11° 44.420’ E 75° 32.226’ | |
| 12 | Parayilkoolom Bhagavath y Temple | Madapeedika Thalassery M. | 15 | Private | N 11° 44.040’ E 75° 31.318’ | |
| 13 | Kuzhumayil Pullikarimkali Bhagavathy Temple | Kodiyeri Thalassery M. | 15 | Private | N 11° 44.361’ E 75° 32.436’ | Pond |

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| 14 | Meluru Sree Siva Temple | Meloor, Dharmadam | 20 | Local committee | N 11° 48.428’ E 75° 28.041’ | CW |
| 15 | Mullapram Bhagavathy T emple | Andallur, Dharmadam | 10 | Malabar Devaswam | N 11° 47.856’ E 75° 28.570’ | Pond |
| 16 | Andallurkavu | Andallur, Dharmadam | 10 | Malabar Devaswam | N 11° 47.660’ E 75° 28.640’ | Pond |
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| 17 | Melothu Ayyappa Temple | Muzhappilangad | 12 | Private | N 11° 47.977’ E 075° 27.256’ | |
| 18 | Mrithynjaya Mahadeva T emple | Muzhappilangad | 10 | Private | N 11° 48.001’ E 075° 27.253’ | |
| 19 | Mrithynjaya Mahadeva T emple | Muzhappilangad | 20 | Private | N 11° 47.956’ E 075° 28.283’ | |
| 20 | Sree Bhagavathi Temple | Muzhappilangad | 15 | Malabar Devaswam | N 110 48.240’ E 0750 27.516’ | |
| 21 | Manikkothu Nagasthana m | Muzhappilangad | 10 | Private | N 11° 48.194’ E 075° 27.448’ | |
| 22 | Thethon Kunnumpuram P orkali Bhagavathi Shetra m | Muzhappilangad | 10 | Private | N 11° 48.063’ E 075° 27.444’ | |
| 23 | Chakyaram Veedu Nagast hanam | Muzhappilangad | 10 | Private | N 11° 48.099’ E 075° 27.463’ | |
| 24 | Kadavu Devi Temple | Muzhappilangad | 20 | Local committee | N 11° 47.977’ E 075° 27.320’ | Pond |
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| 25 | Attadappa Maniyambath Sree Muthappan Shetra m | Attadappa, Edakkad | 25 | Private | N 11° 51.800’ E 075° 25.978’ | |
| 26 | Parambil Nagakkotta | Attadappa, Edakkad | 12 | Private | N 11° 51.663’ E 075° 25.778’ | |
| 27 | Kanothu Kavu | Thottada, Edakkad | 50 | Private | N 11° 50.659’ E 075° 24.727’ | |
| 28 | Sree Thoniyottukavu Sree Kurumba Bhagavathi Shetram | Edakkad | 6 | Local committee | N 11° 51.089’ E 075° 24.862’ | |
| 29 | Oorppazhachikavu | Edakkad | 200 | Devaswam | N 11° 49.498’ E 075° 26.125’ | CW, Pond |
| 30 | Puthukudiyil Nagakotta | Kayyodu, Edakkad | 10 | Private | N 11° 51.525’ E 075° 25.852’ | |
| 31 | Poovalambethu Kotta | Thottada, Edakkad | 10 | Private | N 11° 51.721’ E 075° 26.112’ | |
| 32 | Sree Muchilot Bhagavath y kshethram | Attadappa, Edakkad | 7 | Local committee | N 11° 52.422’ E 075° 26.189’ | Pond |
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| 33 | Kalathil kavu | Alavil, Kannur Corp. | 10 | Private | N 11° 53.920’ E 075° 21.265’ | |
| 34 | Puzhathi Muthappan Kav u | Chirakkal, Kannur Corp. | 6 | Private | N 11° 55.726’ E 075° 22.125’ | |
| 35 | Kundanchal Swami Mada | Chirakkal | 100 | Private | N 11° 54.832’ | |

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| | m | Kannur Corp. | | | E 075° 22.444’ | |
| 36 | Kottakunnu Sree Puthiya Bhagavathi Temple | Puzhathi Kannur Corp. | 15 | Private | N 11° 55.811’ E 075° 22.094’ | |
| 37 | Gulikan Nagasthanam | Chirakkal Kannur Corp. | 30 | Private | N 11° 55.017’ E 075° 20.882’ | |
| 38 | Kattingal Guha Nagasthanam | Chirakkal Kannur Corp. | 10 | Private | N 11° 54.990’ E 075° 20.940’ | |
| 39 | Kulangada Nagasthanam | Chirakkal Kannur Corp. | 6 | Private | N 11° 55.073’ E 075° 20.956’ | |
| 40 | Chengulathu Kotta | Chirakkal Kannur Corp. | 15 | Private | N 11° 55.382’ E 075° 21.023’ | |
| 41 | Thazheppura Nagasthanam | Chirakkal Kannur Corp. | 10 | Private | N 11° 55.376’ E 075° 21.908’ | |
| 42 | Kunnavil Bhagavathi Shetram | Alavil, Kannur Corp. | 10 | Private | N 11° 53.882’ E 075° 21.171’ | |
| 43 | Kayyalakkakathu Mariyamman Aruda Sthanam | Alavil, Kannur Corp. | 50 | Family trust | N 11° 53.889’ E 075° 20.723’ | Pond |
| 44 | Chamundikottam | Pallikkunnu, Kannur Corp. | 5 | Private | N 11° 54.675’ E 075° 21.326’ | |
| 45 | Mangalattu Nagasthanam | Pallikkunnu, Kannur Corp. | 10 | Private | N 11° 53.733’ E 075° 21.750’ | |
| 46 | Sree Kurmba Bhagavathi Shetram | Pallikkunnu, Kannur Corp. | 9 | Local committee | N 11° 53.603’ E 075° 21.950’ | |
| 47 | Thadathil Sree Kurumba Bhagavathi Shetram | Pallikkunnu, Kannur Corp. | 10 | Local committee | N 11° 53.611’ E 075° 21.963’ | |
| 48 | Puthiyapurayil Bhagavathi Shetram | Pallikkunnu, Kannur Corp. | 8 | Private | N 11° 53.664’ E 075° 21.883’ | |
| 49 | Mamboyil Tharavadu Devasthanam | Pallikkunnu, Kannur Corp. | 8 | Private | N 11° 54.016’ E 075° 21.693’ | |
| 50 | Vengilottillam Nagasthanam | Chaladu Kannur Corp. | 8 | Private | N 11° 52.974’ E 075° 20.992’ | |
| 51 | Kuttyeri Ambalam Nagasthanam | Chaladu Kannur Corp. | 15 | Private | N 11° 52.947’ E 075° 21.487’ | CW |
| 52 | Vellattinkara Nagasthanam | Chaladu Kannur Corp. | 10 | Private | N 11° 52.878’ E 075° 21.454’ | |
| 53 | Kunnumpurathu Nagasthanam | Pallikkunnu, Kannur Corp. | 8 | Private | N 11° 52.868’ E 075° 21.483’ | |
| 54 | Kunnathu Bhavoor Karinkali Temple | Pallikkunnu, Kannur Corp. | 15 | Private | N 11° 53.018’ E 075° 21.588’ | |
| 55 | Eranjiyin Keezhil Bhagavathi Temple | Edachovva, Kannur Corp. | 30 | Private | N 11° 52.633’ E 075° 24.211’ | |
| 56 | Mundayad Sree Pulli Vettakkoru Makan Arooda Temple | Mundayad, Kannur Corp. | 100 | Private | N 11° 52.612’ E 075° 24.659’ | |
| 57 | Thalikavu Bhagavathi Temple | Kannur town Kannur Corp. | 10 | Private | N 11° 52.411’ E 075° 21.703’ | CW, Pond |
| 58 | Sree Chothiyodu kavu | Thalap, Kannur Corp. | 10 | Private | N 11° 53.167’ E 075° 21.780’ | |
| 59 | Kanakthur Sree Kurumba Kavu | Thalap, Kannur Corp. | 20 | Private | N 11° 51.730’ E 075° 21.667’ | CW |

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|---|---|---|---|---|---|---|
| 60 | Pambadi Kavu | Azheekal, Azhikode | 10 | Local committee | N 11° 56.445' E 075° 18.452' | Pond |
| 61 | Kulathil Sree Puthiya Bhagavathi Shetram | Azhikode | 15 | Local committee | N 11° 55.275' E 075° 19.179' | |
| 62 | Arippakkavu | Azheekal, Azhikode | 10 | Private | N 11° 55.583' E 075° 18.904' | Pond |
| 63 | Sree Parayangattu Shetram | Azhikode | 7 | Local committee | N 110 54.766' E 0750 20.267' | |
| 64 | Sree Parayangattu Shetram | Azhikode | 7 | Local committee | N 11° 54.763' E 075° 20.292' | |
| 65 | Pazhayapurayil Nagam | Meengunnu, Azhikode | 12 | Private | N 11° 54.560' E 075° 19.556' | Pond |
| 66 | Sree Kandamkulangara Bhagavathi Shetram | Aanivayal, Azhikode | 10 | Private | N 11° 54.733' E 075° 19.565' | |
| 67 | Mavila Nagam | Azhikode | 10 | Private | N 11° 54.699' E 075° 20.443' | |
| 68 | Sree Pokkiyarath Bhagavati Shetram | Poothappara, Azhikode | 20 | Devaswam | N 11° 54.526' E 075° 19.737' | Pond |
| 69 | Noonjinkara Sree Kurumba Bhagavathi Temple | Azhikode | 100 | Local committee | N 11° 54.300' E 075° 20.214' | Pond |
| 70 | Noonjinkara Bhagavathi Temple | Azhikode | 15 | Private | N 11° 54.332' E 075° 20.224' | Pond |
| 71 | Muchiriyan Kavu Wayanadu Kulavan Shetram | Meengunnu, Azhikode | 15 | Private | N 11° 54.324' E 075° 19.485' | |
| | | | | | | |
| 72 | Thekkumbadu Kulom Thazhekkavu | Cherukunnu, Mattool | 50 | Malabar Devaswam | N 11° 58.001' E 075° 17.839' | Pond |
| 73 | Thekkumbadu Kulom Thaikkavu | Thekkumbadu,Mattool | 8 | Malabar Devaswam | N 11° 58.257' E 075° 17.669' | Pond |
| | | | | | | |
| 74 | Madayi Sree Thiruvarkkadu Bhagavathi Shetram | Madayi | 300 | Malabar Devaswam | N 12° 02.082' E 075° 15.714' | Pond |
| 75 | Vengara Vettaikkorumakan Shetram | Madayi | 20 | Local committee | N 12° 02.213' E 075° 14.916' | Pond |
| 76 | Kizhakkarakavu Bhagavathi Shetram | Madayi | 17 | Private | N 12° 02.958' E 075° 14.311' | Pond |
| 77 | Kizhakkarakkattu Bhagavathi Shetram | Madayi | 12 | Local committee | N 12° 02.948' E 075° 14.326' | |
| 78 | Kizhakkarakavu – Elanjithara | Madayi | 12 | Local committee | N 12° 02.896' E 075° 14.614' | |
| 79 | Madayikavu Sivakshethram | Madayi | 300 | Malabar Devaswam | N 12° 01.671' E 075° 15.244' | |
| 80 | Vengara Nagasthanam | Madayi | 20 | Private | N 12° 02.054' E 075° 14.994' | |
| 81 | Madayi Vadukundha Siva shetram | Madayi | 15 | Local committee | N 12° 01.822' E 075° 15.200' | |
| 82 | Chalilkkavu Bhagavathi Shetram | Madayi | 20 | Malabar Devaswam | N 12° 02.145' E 075° 15.850' | |
| 83 | Tharapuram Sree Durgam | Pazhayangadi | 6 | Local | N 12° 00.969' | |

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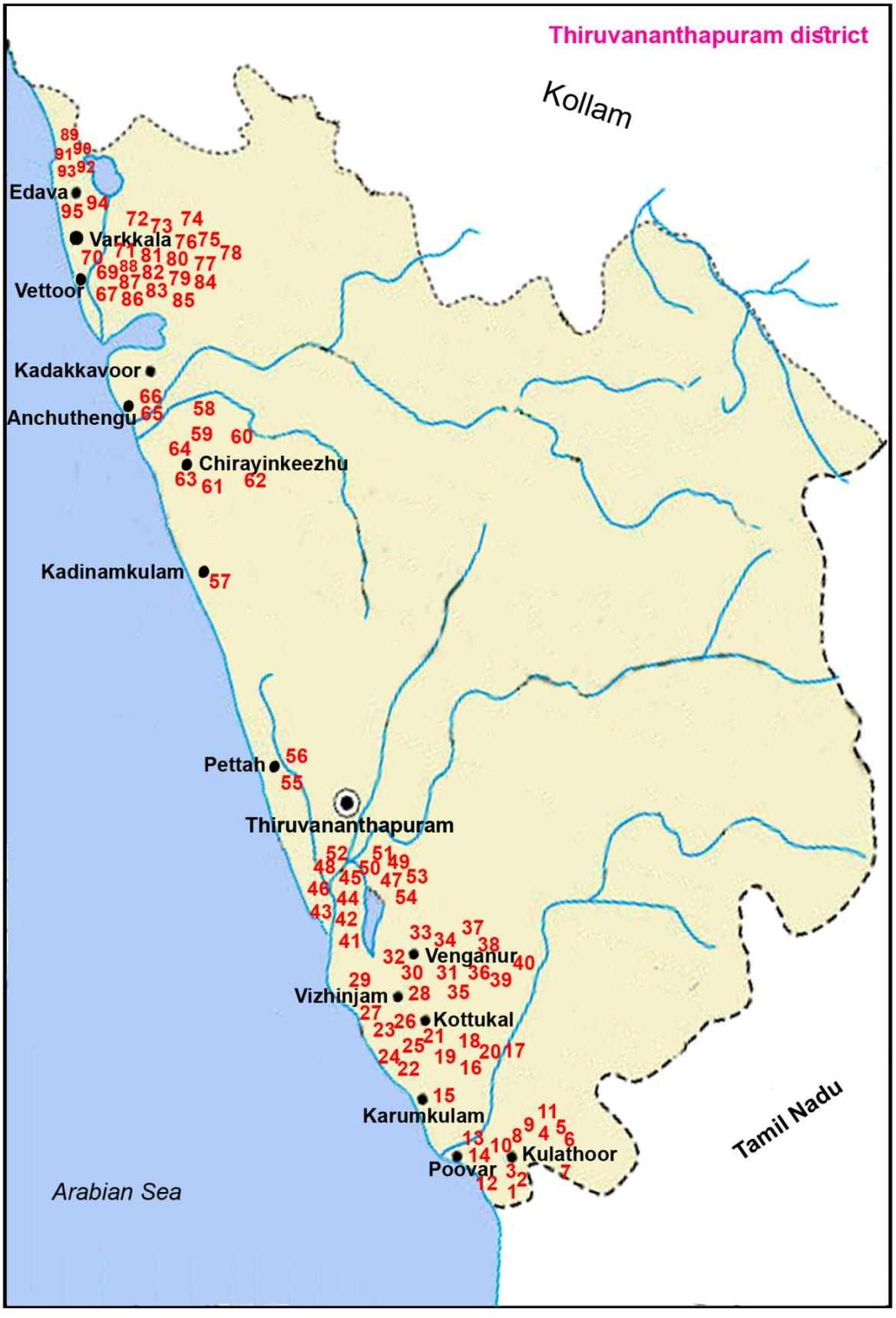
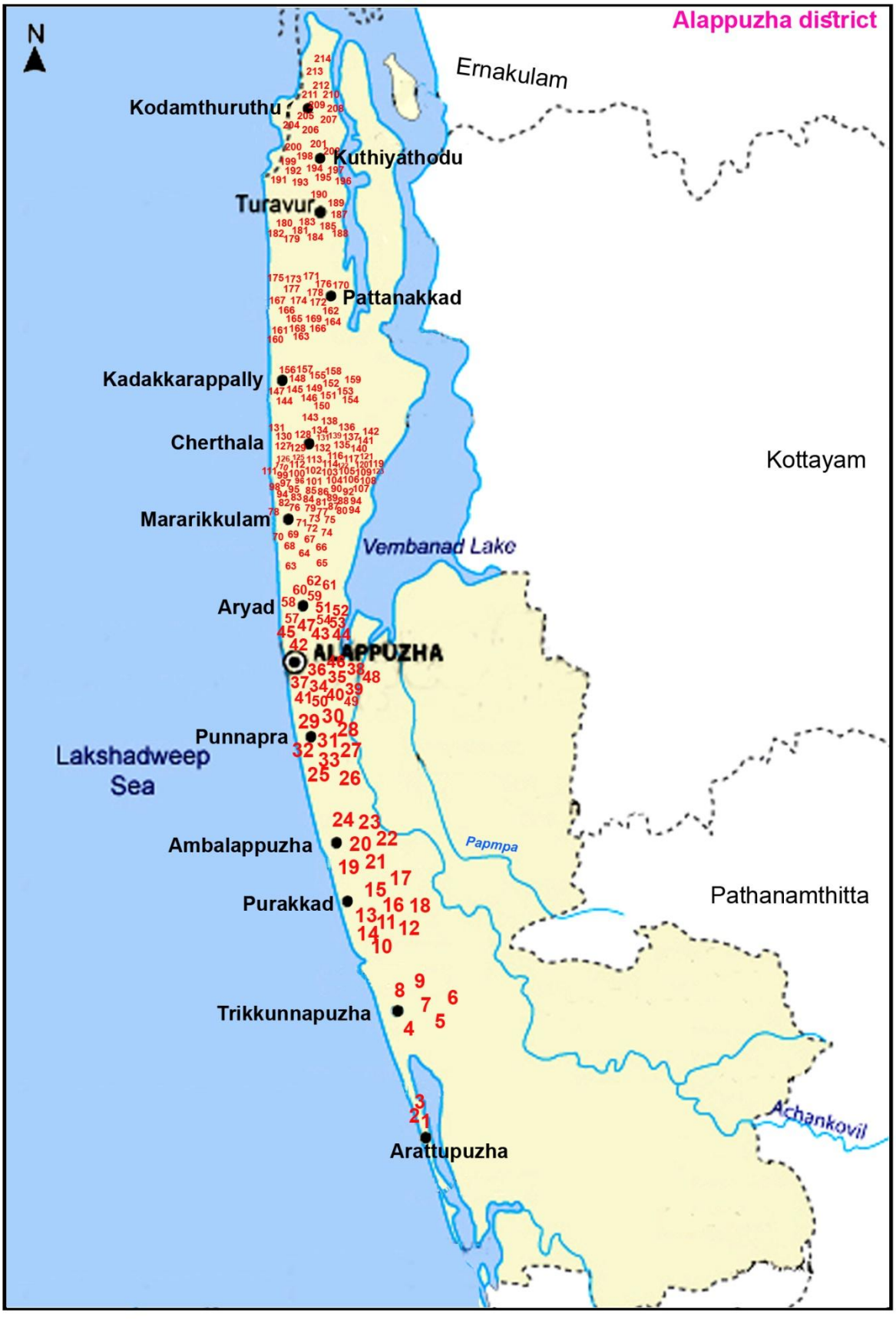
|---|---|---|---|---|---|---|
| | bika Kshethram Naga sta nan | Madayi | | committee | E 075° 15.713’ | |
| | | | | | | |
| | **Kasargod district** | | | | | |
| 1 | Idayilekadu Nagam | Valiyaparampa GP | | | | |
| 2 | Idayilekadu cheriyakadu | Valiyaparampa GP | | | | |
| 3 | Vadakkevalappil thochan devasthanam | Valiyaparampa GP | | | | |
| | | | | | | |
| 4 | Sree Mannampurathukavu | Nileswaram GP | | | | |
| 5 | Sree Mannampurathukavu Nagam | Nileswaram GP | | | | |
| 6 | Nileswaram chira | Nileswaram GP | | | | |
| 7 | Padinjattekochal Nagam | Nileswaram GP | | | | |
| 8 | Padarkulangara | Nileswaram GP | | | | |
| | | | | | | |
| 9 | Bhandarathilkavu | Uduma GP | | | | |
| 10 | Karikkattu sasthamkavu | Uduma GP | | | | |
| 11 | Kappumkayam kavu | Uduma GP | | | | |
| 12 | Cherippadikavu | Uduma GP | | | | |
| 13 | Aramanganam gulikan kavu | Uduma GP | | | | |
| 14 | Kothampathukavu | Uduma GP | | | | |
| 15 | Vadakkekara bhagavathikavu | Uduma GP | | | | |
| 16 | Kuliyanmaram kavu | Uduma GP | | | | |
| 17 | Kavumkal kavu | Uduma GP | | | | |
| 18 | Kalichamaram kavu | Uduma GP | | | | |
| 19 | Adukkam ampalakkavu | Uduma GP | | | | |
| 20 | Melothumkavu | Uduma GP | | | | |
| 21 | Poodamkallu kavu | Uduma GP | | | | |
| 22 | Gulikan kavu | Uduma GP | | | | |
| | | | | | | |

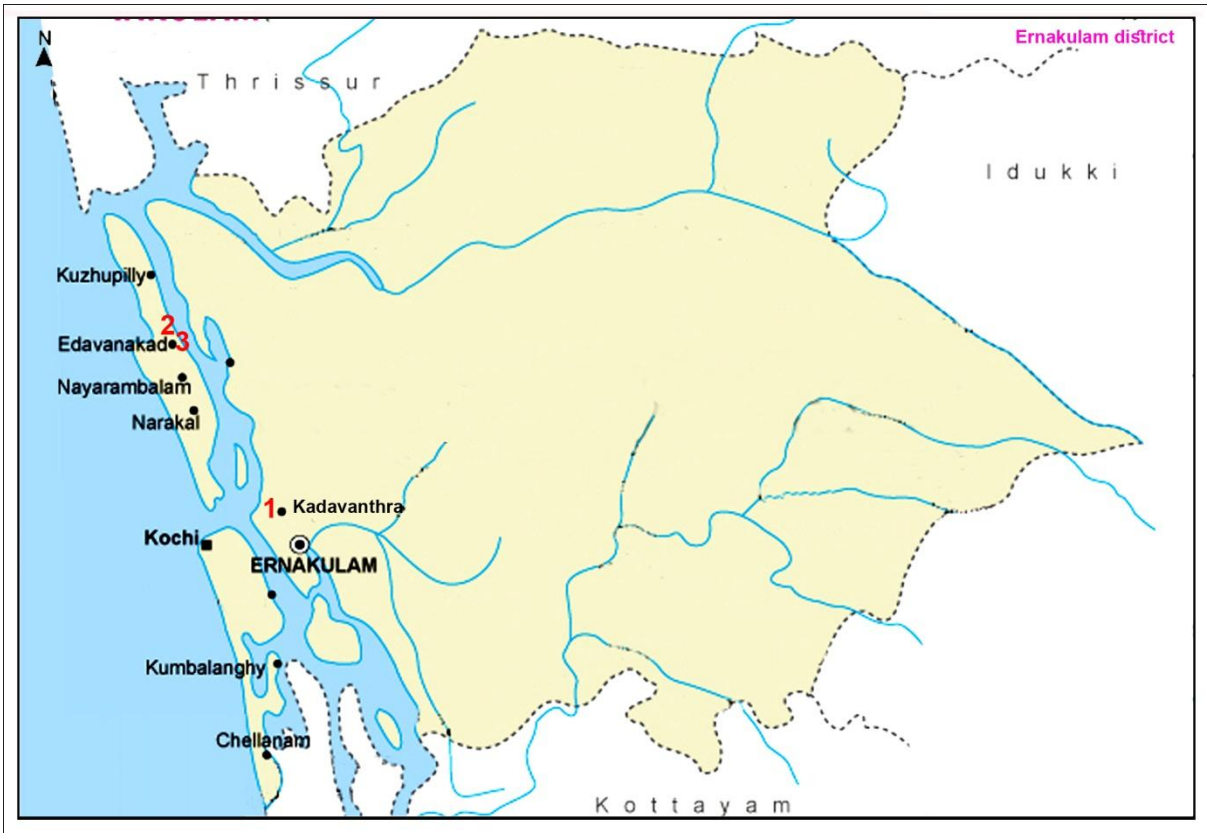



**Map showing the distribution of coastal sacred groves in Thiruvananthapuram district.**


**Map showing the distribution of coastal sacred groves in Kollam district.**

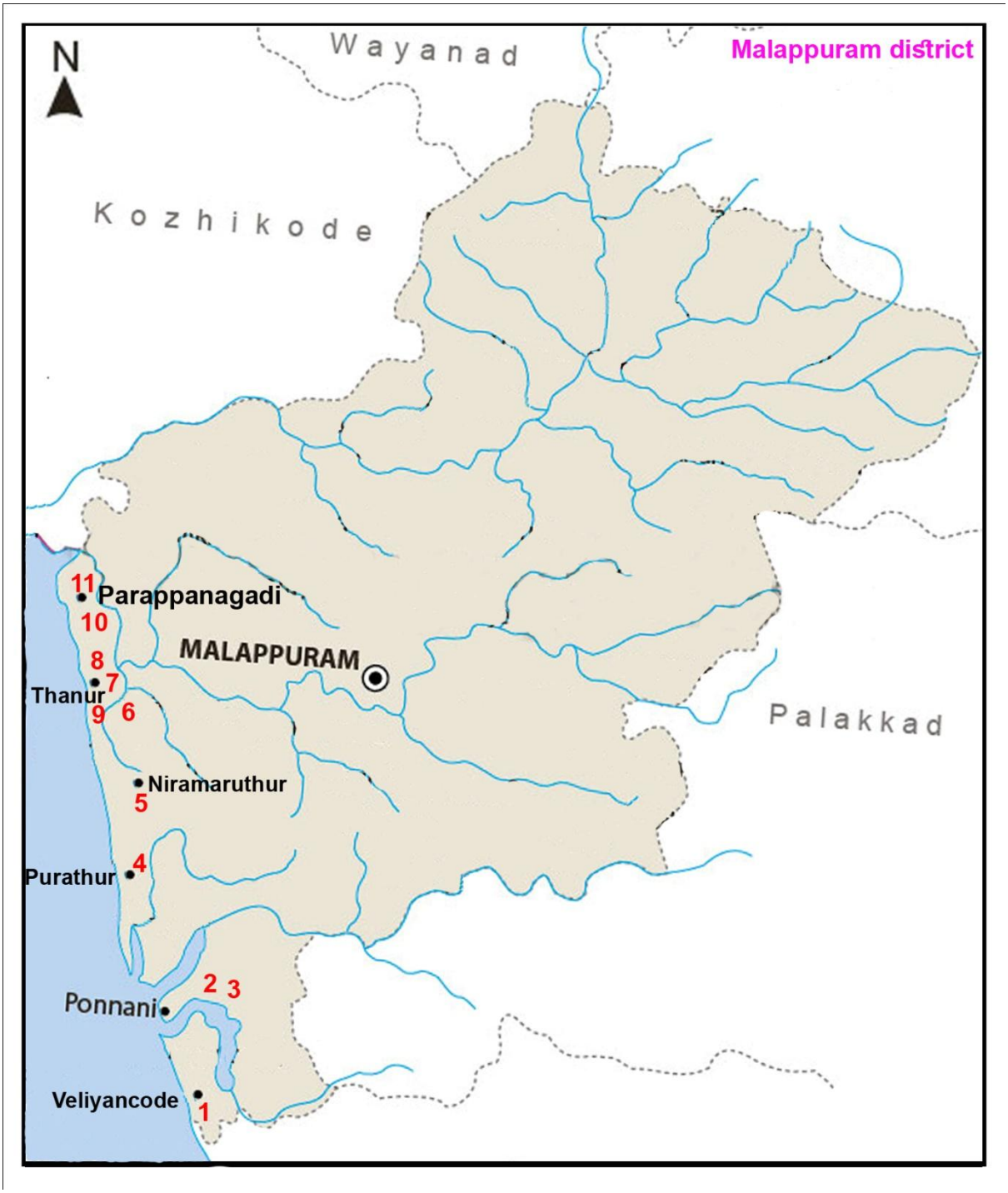



**Map showing the distribution of coastal sacred groves in Alappuzha district.**



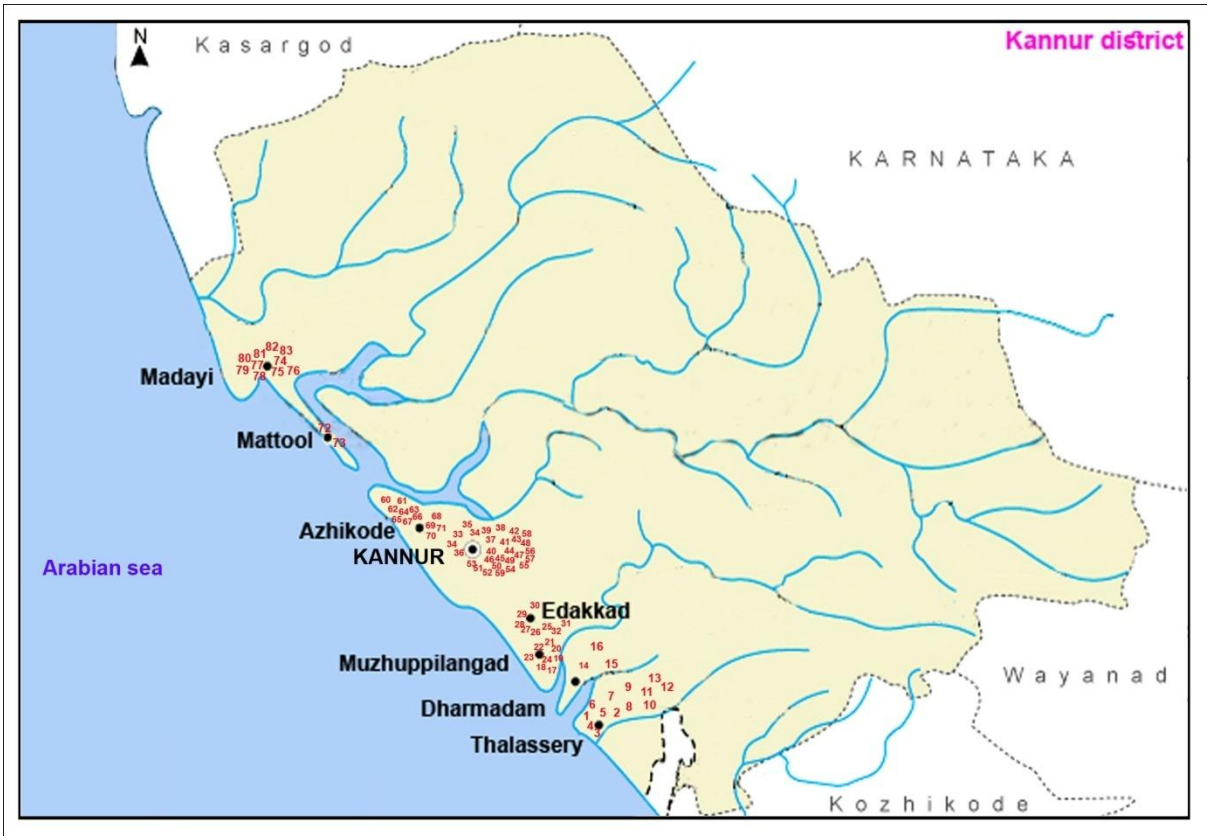

**Map showing the distribution of coastal sacred groves in Eranakulam district.**


**Map showing the distribution of coastal sacred groves in Thrissur district.**




**Map showing the distribution of coastal sacred groves in Malappuram district.**


**Map showing the distribution of coastal sacred groves in Kozhikode district.**




**Map showing the distribution of coastal sacred groves in Kannur district.**


**Map showing the distribution of coastal sacred groves in Kasargod district.**

**Annexure 2**

**Common plants found in the sacred groves in coastal panchayats of Kerala state.**

**Trees**

| Sl. No | **Name of species** | **Family** |
|---|---|---|
| 1 | *Adenanthera pavonina* | Leguminosae |
| 2 | *Aegle marmelos* | Rutaceae |
| 3 | *Aglaia elaeagnoidea* | Meliaceae |
| 4 | *Alangium salvifolium* | Cornaceae |
| 5 | *Ailanthus triphysa* | Simaroubaceae |
| 6 | *Antidesma acidum* | Euphorbiaceae |
| 7 | *Antidesma bunius* | Euphorbiaceae |
| 8 | *Anthocephalus cadamba* | Rubiaceae |
| 9 | *Aphanamixis polystachya* | Meliaceae |
| 10 | *Aporosa acuminata* | Euphorbiaceae |
| 11 | *Aporosa cardiosperma* | Euphorbiaceae |
| 12 | *Aporosa lindleyana* | Euphorbiaceae |
| 13 | *Artocarpus heterophyllus* | Moraceae |
| 14 | *Artocarpus hirsutus* | Moraceae |
| 15 | *Azadirachta indica* | Meliaceae |
| 16 | *Bombax ceiba* | Malvaceae |
| 17 | *Briedelia retusa* | Euphorbiaceae |
| 18 | *Calophyllum calaba* | Clusiaceae |
| 19 | *Calophyllum inophyllum* | Clusiaceae |
| 20 | *Canthium dicoccum* | Rubiaceae |
| 21 | *Carallia brachiata* | Rhozpphoraceae |
| 22 | *Caryota urens* | Aracaceae |
| 23 | *Cassia fistula* | Leguminosae |
| 24 | *Chrysophyllum cainito* | Sapotaceae |
| 25 | *Chukrasia tabularis* | Meliaceae |
| 26 | *Cinnamomum malabatrum* | Lauraceae |
| 27 | *Cinnamomum verum* | Lauraceae |
| 28 | *Tetrameles nudiflora* | Tetramelaceae |

| | | |
|---|---|---|
| 29 | *Dalbergia latifolia* | Leguminosae |
| 30 | *Dimocarpus longan* | Sapindaceae |
| 31 | *Diospyros paniculata* | Ebenaceae |
| 32 | *Diospyros peregrine* | Ebenaceae |
| 33 | *Elaeocarpus tuberculatus* | Elaeocarpaceae |
| 34 | *Ficus arnottiana* | Moraceae |
| 35 | *Ficus benghalensis* | Moraceae |
| 36 | *Ficus hispida* | Moraceae |
| 37 | *Ficus religiosa* | Moraceae |
| 38 | *Flacourtia indica* | Flacourtiaceae |
| 39 | *Garcinia gummi-gutta* | Clusiaceae |
| 40 | *Garcinia morella* | Clusiaceae |
| 41 | *Glochidion zeylanicum* | Euphorbiaceae |
| 42 | *Grewia tiliifolia* | Tiliaceae |
| 43 | *Haldina cordifolia* | Rubiaceae |
| 44 | *Helictres isora* | Sterculiaceae |
| 45 | *Holigarna arnottiana* | Anacardiaceae |
| 46 | *Holoptelea integrifolia* | Ulmaceae |
| 47 | *Hopea parviflora* | Dipterocarpaceae |
| 48 | *Hopea ponga* | Dipterocarpaceae |
| 49 | *Hunteria zeylanica* | Apocynaceae |
| 50 | *Hydnocarpus pentandra* | Flacourtiaceae |
| 51 | *Ixora brachiata* | Rubiaceae |
| 52 | *Lannea coromandelica* | Anacardiaceae |
| 53 | *Litsea coriacea* | Lauraceae |
| 54 | *Macaranga petlata* | Euphorbiaceae |
| 55 | *Madhuca longifolia* | Sapotaceae |
| 56 | *Mallotus philippensis* | Euphorbiaceae |
| 57 | *Mangifera indica* | Anacardiaceae |
| 58 | *Memecylon randerianum* | Melastomataceae |
| 59 | *Mesua ferrea* | Calophyllaceae |
| 60 | *Michelia champaca* | Magnoliaceae |
| 61 | *Mimusops elengi* | Sapotaceae |

| | | |
|---|---|---|
| 62 | *Morinda citrifolia* | Rubiaceae |
| 63 | *Myristica malabarica* | Myristicaceae |
| 64 | *Olea dioica* | Oleaceae |
| 65 | *Oroxylum indicum* | Bignoniaceae |
| 66 | *Polyalthia korintii* | Annonaceae |
| 67 | *Pongamia pinnata* | Leguminosae |
| 68 | *Pterocarpus marsupium* | Leguminosae |
| 69 | *Quassia indica* | Smaroubaceae |
| 70 | *Santalam album* | Santalaceae |
| 71 | *Saraca asoca* | Leguminosae |
| 72 | *Schleichera oleosa* | Sapindaceae |
| 73 | *Simarouba amara* | Simaroubaceae |
| 74 | *Spondias pinnata* | Anacardiaceae |
| 75 | *Sterculia guttata* | Sterculiaceae |
| 76 | *Stereospermum colais* | Bignoniaceae |
| 77 | *Strychnos nux-vomica* | Loganiaceae |
| 78 | *Swietenia macrophylla* | Meliaceae |
| 79 | *Syzygium caryopyllatum* | Myrtaceae |
| 80 | *Syzygium cumini* | Myrtaceae |
| 81 | *Tamarindus indica* | Leguminosae |
| 82 | *Terminalia bellirica* | Combretaceae |
| 83 | *Terminalia chebula* | Combretaceae |
| 84 | *Terminalia panicualta* | Combretaceae |
| 85 | *Toona ciliata* | Meliaceae |
| 86 | *Trema orientalis* | Cannabaceae |
| 87 | *Vateria indica* | Dipterocarpaceae |
| 88 | *Vatica chinensis* | Dipterocarpaceae |
| 89 | *Vitex altissima* | Verbinaceae |
| 90 | *Wrightia tinctoria* | Apocynaceae |
| 91 | *Xanthophyllum arnottianum* | Polygalaceae |
| 92 | *Xylia xylocarpa* | Leguminosae |

**Herbs/ shrubs/climbers**

| Sl. No | Name of species | Family |
|---|---|---|
| 1 | *Abrus precatorius* | Leguminosae |
| 2 | *Acampe praemorsa* | Orchidaceae |
| 3 | *Acacia caesia* | Leguminosae |
| 4 | *Acanthus ilicifolius* | Acanthaceae |
| 5 | *Achyranthes aspera* | Amaranthaceae |
| 6 | *Aerva lanata* | Amaranthaceae |
| 7 | *Ageratum conyzoides* | Asteraceae |
| 8 | *Alloteropsis cimicina* | Poaceae |
| 9 | *Ampelocissus latifolia* | Vitaceae |
| 10 | *Anamirta cocculus* | Menispermaceae |
| 11 | *Andrographis paniculata* | Acanthaceae |
| 12 | *Leucas aspera* | Lamiaceae |
| 13 | *Asystasia gangetica* | Acanthaceae |
| 14 | *Bauhinia acuminata* | Leguminosae |
| 15 | *Biophytum sensitivum* | Oxalidaceae |
| 16 | *Boerhaavia diffusa* | Nyctaginaceae |
| 17 | *Briedelia scandens* | Euphorbiaceae |
| 18 | *Calamus rotang* | Aracaceae |
| 19 | *Calotropis gigantea* | Asclepiadaceae |
| 20 | *Cansjera rheedei* | Opiliaceae |
| 21 | *Canthium angustifolium* | Rutaceae |
| 22 | *Canthium coromandelicum* | Rutaceae |
| 23 | *Cardiospermum halicacabum* | Sapindaceae |
| 24 | *Cayratia pedata* | Vitaceae |
| 25 | *Cayratia trifolia* | Vitaceae |
| 26 | *Chassalia curviflora* | Rubiaceae |
| 27 | *Cissus discolor* | Vitaceae |
| 28 | *Clerodendrum paniculatum* | Verbinaceae |
| 29 | *Clerodendrum viscosum* | Verbinaceae |
| 30 | *Cynadon dactylon* | Poaceae |

| | | |
|---|---|---|
| 31 | *Celastrus paniculatus* | Celastraceae |
| 32 | *Centella asiatica* | Apiaceae |
| 33 | *Clitoria ternatea* | Leguminosae |
| 34 | *Colocasia esculenta* | Araceae |
| 35 | *Colubrina travancorica* | Rhamnaceae |
| 36 | *Combretum indicum* | Combretaceae |
| 36 | *Commelina diffusa* | Commelinaceae |
| 37 | *Connarus paniculatus* | Connaraceae |
| 38 | *Coscinium fenestratum* | Menispermaceae |
| 39 | *Costus speciosus* | Costaceae |
| 40 | *Cryptolepis buchananii* | Periplocaceae |
| 41 | *Curcuma amada* | Zingiberaceae |
| 42 | *Cyanotis axillaris* | Commelinaceae |
| 43 | *Cyclea peltata* | Menispermaceae |
| 44 | *Cyathula prostrata* | Amaranthaceae |
| 45 | *Cyperus rotundus* | Cyperaceae |
| 46 | *Dalbargia horrida* | Leguminosae |
| 47 | *Dalbergia travancorica* | Leguminosae |
| 48 | *Dendrophthoe falcata* | Loranthaceae |
| 49 | *Derris scandens* | Leguminosae |
| 50 | *Derris trifoliata* | Leguminosae |
| 51 | *Desmodium hetrophyllum* | Leguminosae |
| 52 | *Desmodium triflorum* | Leguminosae |
| 53 | *Dichapetalum gelonioides* | Dichapetalaceae |
| 54 | *Dioscorea oppositifolia* | Dioscoreaceae |
| 55 | *Diploclisia glaucescens* | Menispermaceae |
| 56 | *Eriocaulon sp.* | Eriocaulaceae |
| 57 | *Eclibta alba* | Asteraceae |
| 58 | *Elephantopus scaber* | Asteraceae |
| 59 | *Embelia tsjeriam-cottam* | Myrsinaceae |
| 60 | *Emilia sonchifolia* | Asteraceae |
| 61 | *Eranthemum capense* | Acanthaceae |
| 62 | *Erycibe paniculata* | Convolvulaceae |

| | | |
|---|---|---|
| 63 | *Evolvulus nummularis* | Convolvulaceae |
| 64 | *Geophila repens* | Rubiaceae |
| 65 | *Gletonia floribunda* | Combretaceae |
| 66 | *Gloriosa superba* | Liliaceae |
| 67 | *Hibiscus hispidissimus* | Ochnaceae |
| 68 | *Hyptis suaveolens* | Lamiaceae |
| 69 | *Glycosmis pentaphylla* | Rutaceae |
| 70 | *Heliotropium indicum* | Boraginaceae |
| 71 | *Hemidesmus indicus* | Apocynaceae |
| 72 | *Hibiscus hispidissimus* | Malvaceae |
| 73 | *Hibiscus rosa-sinensis* | Malvaceae |
| 74 | *Hibiscus surattensis* | Malvaceae |
| 75 | *Ichnocarpus frutescens* | Apocynaceae |
| 76 | *Ipomoea alba* | Convolvulaceae |
| 77 | *Ipomoea cairica* | Convolvulaceae |
| 78 | *Ixora coccinea* | Rubiaceae |
| 79 | *Justicia japonica* | Acanthaceae |
| 80 | *Lagenandra ovata* | Araceae |
| 81 | *Lagenandra toxicaria* | Araceae |
| 82 | *Laportea bulbifera* | Urticaceae |
| 83 | *Lepidagathis incurva* | Acanthaceae |
| 84 | *Leucas aspera* | Lamiaceae |
| 85 | *Lindernia viscosa* | Scrophulariaceae |
| 86 | *Ludwigia perennis* | Onangraceae |
| 87 | *Melastoma malabathricum* | Melastomataceae |
| 88 | *Memecylon umbellatum* | Melastomataceae |
| 89 | *Mimosa pudica* | Leguminosae |
| 90 | *Mitracarpus hirtus* | Rubiaceae |
| 91 | *Mukia maderaspatana* | Cucurbitaceae |
| 92 | *Murdannia japonica* | Commelinaceae |
| 93 | *Mussaenda frondosa* | Rubiaceae |
| 94 | *Myxopyrum smilacifolium* | Oleaceae |
| 95 | *Naravelia zeylanica* | Ranunculaceae |

| | | |
|---|---|---|
| 96 | *Naregamia alata* | Rutaceae |
| 97 | *Nymphaea nouchalii* | Nymphaeaceae |
| 98 | *Oldenlandia corymbosa* | Rubiaceae |
| 99 | *Oldenlandia umbellata* | Rubiaceae |
| 100 | *Ophiorrhiza mungos* | Rubiaceae |
| 101 | *Oplismenus compositus* | Poaceae |
| 102 | *Pandanus odoratissimus* | Pandanaceae |
| 103 | *Parsonia inodora* | Apocynaceae |
| 104 | *Pavetta zeylanica* | Rubiaceae |
| 105 | *Persicaria chinensis* | Polygonaceae |
| 106 | *Phyllanthus airy-shawii* | Euphorbiaceae |
| 107 | *Phyllanthus amarus* | Euphorbiaceae |
| 108 | *Pothos scandens* | Araceae |
| 109 | *Pouzolzia zeylanica* | Urticaceae |
| 110 | *Premna serrata* | Verbenaceae |
| 111 | *Psychotria elongata* | Rubiaceae |
| 112 | *Rauvolfia serpentina* | Apocynaceae |
| 113 | *Rungia parviflora* | Acanthaceae |
| 114 | *Salacia fruticosa* | Hippocrateaceae |
| 115 | *Salacia reticulata* | Hippocrateaceae |
| 116 | *Sarcococca brevifolia* | Buxaceae |
| 117 | *Sarcostigma kleinii* | Apocynaceae |
| 118 | *Scaevola taccada* | Goodeniaceae |
| 119 | *Scoparia dulcis* | Scrophulariaceae |
| 120 | *Senna alata* | Leguminosae |
| 121 | *Senna occidentalis* | Leguminosae |
| 122 | *Senna tora* | Leguminosae |
| 123 | *Sida alnifolia* | Malvaceae |
| 124 | *Sida cordifolia* | Malvaceae |
| 125 | *Sida rhombifolia* | Malvaceae |
| 126 | *Smilax zeyalnica* | Smilacaceae |
| 127 | *Solanum americanum* | Solanaceae |
| 128 | *Solanum nigram* | Solanaceae |

| | | |
|---|---|---|
| 129 | *Spermacoce ocymoides* | Rubiaceae |
| 130 | *Stachytarpheta jamaicensis* | Verbenaceae |
| 131 | *Strobilanthes heyneanus* | Acanthaceae |
| 132 | *Strychnos colubrina* | Loganiaceae |
| 133 | *Synedrella nodiflora* | Asteraceae |
| 134 | *Tetracera akara* | Dilleniaceae |
| 135 | *Tiliacora acuminata* | Menispermaceae |
| 136 | *Tinospora cordifolia* | Menispermaceae |
| 137 | *Toddalia asiatica* | Rutaceae |
| 138 | *Tragia involucrata* | Euphorbiaceae |
| 139 | *Tylophora indica* | Asclepiadaceae |
| 140 | *Urena lobata* | Malvaceae |
| 141 | *Uvaria narum* | Annonaceae |
| 142 | *Vernonia cinerea* | Asteraceae |
| 143 | *Ziziphus oenoplea* | Rhamnaceae |
| 144 | *Zornia diphylla* | Leguminosae |

**Annexure 3**

**Common medicinal plants found in the sacred groves of coastal panchayats of Kerala state.**

| Sl. No | Name | Family | Local name |
|---|---|---|---|
| 1 | *Abrus precatorius* | Fabaceae | Kunni |
| 2 | *Acalypha indica* | Euphorbiaceae | Kuppameni |
| 3 | *Achyranthes aspera* | Amaranthaceae | Valiyakadaladi |
| 4 | *Argyreia nervosa* | Convolvulaceae | Samudrappacha |
| 5 | *Aerva lanata* | Amaranthaceae | Cherula |
| 6 | *Alangium salvifolium* | Alangiaceae | Ankolam |
| 7 | *Alstonia scholaris* | Apocynaceae | Ezhilampala |
| 8 | *Alternanthera sessilis* | Amaranthaceae | Kozhuppa |
| 9 | *Andrographis paniculata* | Acanthaceae | Karakanjiram |
| 10 | *Aporosa cardiosperma* | Euphorbiaceae | Vetti |
| 11 | *Areca catechu* | Arecaceae | Kavungu |
| 12 | *Bauhinia tomentosa* | Fabaceae | Manjamanaram |
| 13 | *Bombax ceiba* | Bombacaceae | Mullilavu |
| 14 | *Briedelia retusa* | Euphorbiaceae | Mulluvenga |
| 15 | *Briedelia stipularis* | Euphorbiaceae | Kanjikottam |
| 16 | *Butea monosperma* | Fabaceae | Plasu |
| 17 | *Calophyllum calaba* | Clusiaceae | Cherupunna |
| 18 | *Calophyllum inophyllum* | Clusiaceae | Punna |
| 19 | *Calotropis gigantea* | Asclepiadaceae | Erikku |
| 20 | *Careya arborea* | Lecythidaceae | Pezhu |
| 21 | *Caryota urens* | Arecaceae | Choondappana |
| 22 | *Croton hirtus* | Euphorbiaceae | |
| 23 | *Croton laevigatus* | Euphorbiaceae | Pongalam |
| 24 | *Cuscuta reflexa* | Convolvulaceae | Moodillathali |
| 25 | *Cassia fistula* | Fabaceae | Kanikkonna |
| 26 | *Centella asiatica* | Apiaceae | Kodangal |

| | | | |
|---|---|---|---|
| 27 | *Cerbera odollam* | Apocynaceae | Othallam |
| 28 | *Cinnamomum malabatrum* | Lauraceae | Vazhana |
| 29 | *Cleome viscosa* | Capparaceae | Karimkadugu |
| 30 | *Commiphora caudata* | Burseraceae | Kilimaram |
| 31 | *Cyathula prostrata* | Amaranthaceae | Cherukadaladi |
| 32 | *Cyperus rotundus* | Cyperaceae | Muthanga |
| 33 | *Dalbergia latifolia* | Fabaceae | Eeti |
| 34 | *Desmodium gangeticum* | Fabaceae | Orila |
| 35 | *Desmodium triflorum* | Fabaceae | Cherupulladi |
| 36 | *Dioscorea bulbifera* | Dioscoreaceae | Kattukachil |
| 37 | *Diplocyclos palmatus* | Cucurbitaceae | Neyyunni |
| 38 | *Eclipta prostrata* | Asteraceae | Kayyunni |
| 39 | *Elephantopus scabe* | Asteraceae | Aanachuvadi |
| 40 | *Emilia sonchifolia* | Asteraceae | Muyalchevian |
| 41 | *Evolvulus alsinoides* | Convolvulaceae | Vishnukranthi |
| 42 | *Flacourtia montana* | Flacourtiaceae | Vayyamkaitha |
| 43 | *Garcinia gummi-gutta* | Clusiaceae | Kodampuli |
| 44 | *Gloriosa superba* | Liliaceae | Menthonni |
| 45 | *Glycosmis pentaphylla* | Rutaceae | Panal |
| 46 | *Gymnema sylvestre* | Asclepiadaceae | Chakkarakolli |
| 47 | *Heliotropium indicum* | Boraginaceae | Thelkada |
| 48 | *Hemidesmus indicus* | Periplocaceae | Narunandi |
| 49 | *Holarrhena pubescens* | Apocynaceae | Kudakapala |
| 50 | *Holigarna arnottiana* | Anacardiaceae | Cheru |
| 51 | *Hygrophila schulli* | Acanthaceae | Chulli |
| 52 | *Hyptis suaveolens* | Lamiaceae | |
| 53 | *Ichnocarpus frutescens* | Apocynaceae | Palvalli |
| 54 | *Indigofera tinctoria* | Fabaceae | Neelayamari |
| 55 | *Indoneesiella echioides* | Acanthaceae | Gopuramthangi |
| 56 | *Ixora coccinea* | Rubiaceae | Thetti |
| 57 | *Justicia adhatoda* | Acanthaceae | Aadalodakam |

| | | | |
|---|---|---|---|
| 58 | *Justicia gendarussa* | Acanthaceae | Vathakodi |
| 59 | *Justicia procumbens* | Acanthaceae | |
| 60 | *Lagenandra toxicaria* | Araceae | Andavazha |
| 61 | *Lannea coromandelica* | Anacardiaceae | Uthi |
| 62 | *Lecythidaceae* | Leeaceae | Chorianthali |
| 63 | *Leucas aspera* | Lamiaceae | Thumba |
| 64 | *Mallotus philippensis* | Euphorbiaceae | Chenkolli |
| 65 | *Mimosa pudica* | Fabaceae | Thottavadi |
| 66 | *Morinda citrifolia* | Rubiaceae | Cherumanjanathi |
| 67 | *Mucuna gigantea* | Fabaceae | Kakavalli |
| 68 | *Mucuna pruriens* | Fabaceae | Naikurana |
| 69 | *Mukia maderaspatana* | Cucurbitaceae | Kasappuchedi |
| 70 | *Naravelia zeylanica* | Ranunculaceae | Soothravalli |
| 71 | *Naregamia alata* | Meliaceae | Nilanaragam |
| 72 | *Ocimum tenuiiflorum* | Lamiaceae | Krishnathulasi |
| 73 | *Oroxylum indicum* | Bignoniaceae | Palakapayyani |
| 74 | *Phaulopsis imbricata* | Acanthaceae | |
| 75 | *Phyllanthus amarus* | Euphorbiaceae | Keezhanelli |
| 76 | *Phyllanthus emblica* | Euphorbiaceae | Euphorbiaceae |
| 77 | *Phyllanthus urinaria* | Euphorbiaceae | Chirukizhukanelli |
| 78 | *Plumbago zeylanica* | Plumbaginaceae | Koduveli |
| 79 | *Pongamia pinnata* | Fabaceae | Ungu |
| 80 | *Pothos scandens* | Araceae | Anapparuva |
| 81 | *Rauvolfia serpentina* | Apocynaceae | Sarpagandhi |
| 82 | *Ruellia tuberosa* | Acanthaceae | Apocynaceae |
| 83 | *Salacia fruticosa* | Hippocrateaceae | Ponkarandi |
| 84 | *Saraca asoca* | Fabaceae | Ashokam |
| 85 | *Sarcostigma kleinii* | Icacinaceae | Erumathali |
| 86 | *Schleichera oleosa* | Sapindaceae | Poovam |
| 87 | *Sida acuta* | Malvaceae | Anakurunthotti |
| 88 | *Sida cordifolia* | Malvaceae | Kurunthotti |

| | | | |
|---|---|---|---|
| 89 | *Sphaeranthus indicus* | Asteraceae | Adakkyamaniyan |
| 90 | *Spilanthes radicans* | Asteraceae | Venapacha |
| 91 | *Spondias pinnata* | Anacardiaceae | Ambazham |
| 92 | *Strychnos nux-vomica* | Loganiaceae | Kanjiram |
| 93 | *Tabernaemontana divaricata* | Apocynaceae | Nandiyar-vattom |
| 94 | *Terminalia bellirica* | Combretaceae | Thanni |
| 95 | *Tinospora cordifolia* | Menispermaceae | Chitamruthu |
| 96 | *Uvaria narum* | Annonaceae | Narumpanal |
| 97 | *Vateria indica* | Dipterocarpaceae | Vellappayin |
| 98 | *Vernonia cinerea* | Asteraceae | Puvankurunal |
| 99 | *Wattakaka volubilis* | Asclepiadaceae | Vattakakkakkoti |
| 100 | *Wrightia tinctoria* | Apocynaceae | Dhanthappala |

**ANNEXURE 4**

| QUARTERLY ACTION PLAN FOR ECORESTORATION OF SACRED GROVES | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **No** | **Project Task** | **Activities** | **Year 1** | | | | **Year 2** | | | | **Year 3** | | | | **Year 4** | | | |
| | | | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** |
| 1. | Community Mobilization and Organization | 1.1 Identification of villages associated with each sacred groves | | | | | | | | | | | | | | | | |
| | | 1.2 Identification and assessment of traditional committee | | | | | | | | | | | | | | | | |
| | | 1.3 Orientation meetings | | | | | | | | | | | | | | | | |
| | | 1.4 Organizing participatory rural appraisals in selected sacred groves | | | | | | | | | | | | | | | | |
| 2 | Mapping of the sacred groves | 2.1 Identification of the boundaries | | | | | | | | | | | | | | | | |
| | | 2.2 Demarcation of boundaries by GPS based field mapper | | | | | | | | | | | | | | | | |
| | | 2.3 Mapping with drone | | | | | | | | | | | | | | | | |
| | | 2.4 Overlaying village administrative maps | | | | | | | | | | | | | | | | |
| | | 2.5 Analysis of landuse within the sacred groves | | | | | | | | | | | | | | | | |
| | | 2.6 Preparation of the final maps | | | | | | | | | | | | | | | | |
| 3 | Biophysical studies | 3.1 Conducting vegetation analysis | | | | | | | | | | | | | | | | |
| | | 3.2 Identification of species of all the plants | | | | | | | | | | | | | | | | |

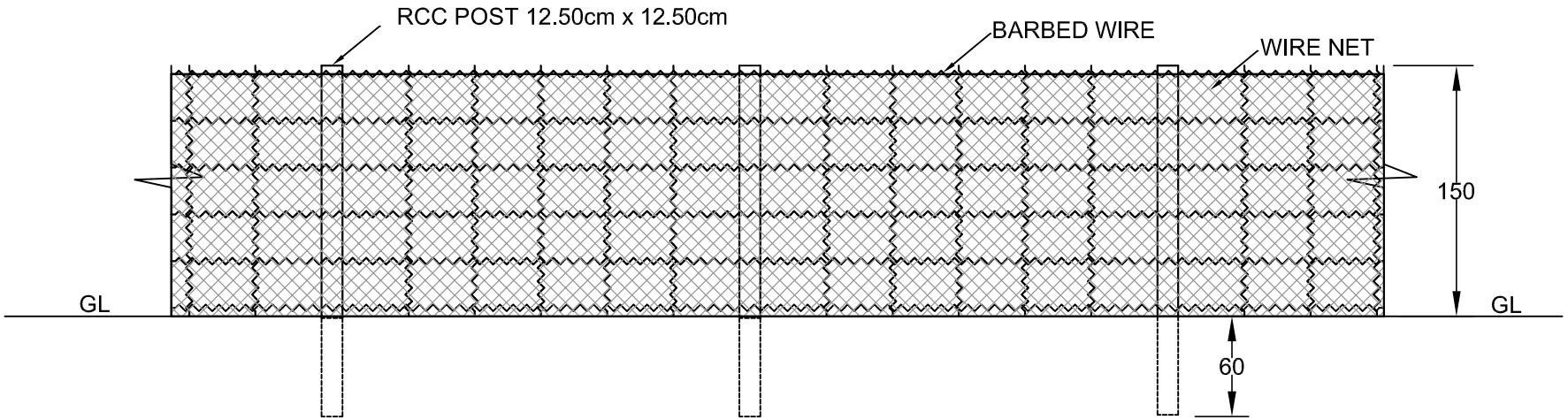
| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3.3 Analysis of species diversity and species richness using standard methods | | | | | | | | | | | | | | | | | |
| | | 3.4 Analysing community structure of species | | | | | | | | | | | | | | | | | |
| | | 3.5 Analysis of soil in selected sacred groves | | | | | | | | | | | | | | | | | |
| | | 3.6 Analysis of the extent of water bodies and their status | | | | | | | | | | | | | | | | | |
| 4. | Joint Planning | 4.1 Identification of the roles and responsibilities of the temple committee, MSSRF and other stakeholders | | | | | | | | | | | | | | | | | |
| | | 4.2 Identification of interventions for protection | | | | | | | | | | | | | | | | | |
| | | 4.3 Identification of interventions - renovate of water bodies including wells | | | | | | | | | | | | | | | | | |
| | | 4.4 Identification of interventions - planting of trees and after care | | | | | | | | | | | | | | | | | |
| | | 4.5 Preparation of micro plans showing activities, timeline, cost involved | | | | | | | | | | | | | | | | | |
| 5 | Establishment of nursery | 5.1 Identification of site for nursery development | | | | | | | | | | | | | | | | | |
| | | 5.2 Land preparation | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5.3 Identification species to be grown in the nursery | | | | | | | | | | | | | | | | | |
| | | 5.4 Establishing necessary facilities for nursery | | | | | | | | | | | | | | | | | |
| | | 5.5 Raising saplings | | | | | | | | | | | | | | | | | |
| 6 | Fencing | 6.1 Marking perimeter of the sacred groves | | | | | | | | | | | | | | | | | |
| | | 6.2 Purchase of granite stone pillar, barbed wires and chainlinks | | | | | | | | | | | | | | | | | |
| | | 6.3 Establishing the chian link fencing with 8 feet interval between granite stone pillar | | | | | | | | | | | | | | | | | |
| 7 | Restoration of water bodies | 7.1 Marking perimeter of the water bodies to be restored | | | | | | | | | | | | | | | | | |
| | | 7.2 Removing of weeds from the bunds and water bodies | | | | | | | | | | | | | | | | | |
| | | 7.3 Desiliting supply channels | | | | | | | | | | | | | | | | | |
| | | 7.4 Removing silt from the water bodies | | | | | | | | | | | | | | | | | |
| | | 7.5 Strengthening bunds with the silt removed | | | | | | | | | | | | | | | | | |
| | | 7.6 Creating small mounds inside the water bodies | | | | | | | | | | | | | | | | | |
| 8 | Restoration of | 8.1 Removal of weeds | | | | | | | | | | | | | | | | | |
| | | 8.2 Pumping out water | | | | | | | | | | | | | | | | | |

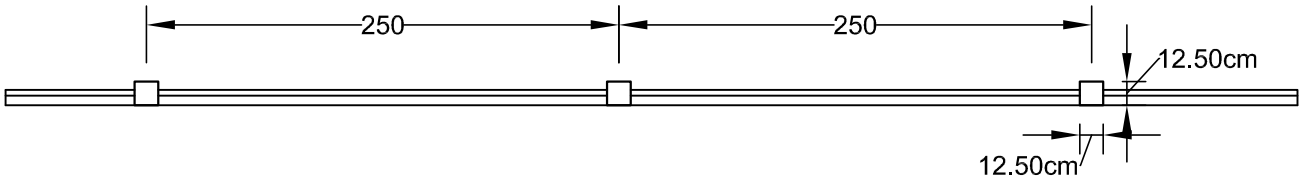
| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | brick wells | 8.3 Assessment of the damage | | | | | | | | | | | | | | | | | |
| | | 8.4 Reconstructing the damaged portion with bricks | | | | | | | | | | | | | | | | | |
| | | 8.5 Construction of cement parapet | | | | | | | | | | | | | | | | | |
| | | 8.6 Establishing pully system | | | | | | | | | | | | | | | | | |
| 9 | Construction of new brick wells | 9.1 Identification of place for well construction | | | | | | | | | | | | | | | | | |
| | | 9.2 Deciding dimension of the well | | | | | | | | | | | | | | | | | |
| | | 9.3 Removal of sand as per the dimension | | | | | | | | | | | | | | | | | |
| | | 9.4 Laying wooden ring at the bottom | | | | | | | | | | | | | | | | | |
| | | 9.5 Constructing birck walls of the well on top of the ring | | | | | | | | | | | | | | | | | |
| | | 9.6 Construction of cement parapet | | | | | | | | | | | | | | | | | |
| | | 9.7 Establishing pully system | | | | | | | | | | | | | | | | | |
| 10 | Planting TDEF trees | 10.1 Survey and demarcation of the plantation site | | | | | | | | | | | | | | | | | |
| | | 10.2 Purchase of saplings | | | | | | | | | | | | | | | | | |
| | | 10.3 Pitting | | | | | | | | | | | | | | | | | |
| | | 10.4 Planting including initial watering | | | | | | | | | | | | | | | | | |
| | | 10.5 Watch and Ward | | | | | | | | | | | | | | | | | |
| 11 | After care and | 11.1 Continous monitoring and assessing causality | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | monitoring | 11.2 Raising and collecting seedlings for causality replacement | | | | | | | | | | | | | | | | | |
| | | 11.3Casualty replacement | | | | | | | | | | | | | | | | | |
| | | 11.4 Social auditing of plantation | | | | | | | | | | | | | | | | | |
| 12 | Documentation | 12.1Publishing a book on trees and shrubs of coastal sacred groves | | | | | | | | | | | | | | | | | |
| | | 12.2Publishing atlas of coastal sacred groves | | | | | | | | | | | | | | | | | |
| | | 12.3Publishing articles in peer reviewed journals | | | | | | | | | | | | | | | | | |
| 13 | Awareness raising | 13.1Preparation of awareness materials | | | | | | | | | | | | | | | | | |
| | | 13.2Organizing awareness meeting with the community and other local stakeholders | | | | | | | | | | | | | | | | | |
| | | 13.3Distribution of awareness materials to all the stakeholders | | | | | | | | | | | | | | | | | |
| 14 | Rejuvenation of temple management committee | 14.1 Assessment of the structure of the temple management committee | | | | | | | | | | | | | | | | | |
| | | 14.2 Existing norms in the governance of sacred grove and associated water bodies | | | | | | | | | | | | | | | | | |
| | | 14.3 Identifying gaps | | | | | | | | | | | | | | | | | |
| | | 14.4 Developing new structure and norms | | | | | | | | | | | | | | | | | |

# DETAILES OF FENCING FOR THAZHE PURAKKAL TEMPLE AT MAYANAD IN CALICUT CORPORATION




**ELEVATION**




**PLAN**

## MALABAR BOTANICAL GARDEN AND INSTITUTE FOR PLANT SCIENCES

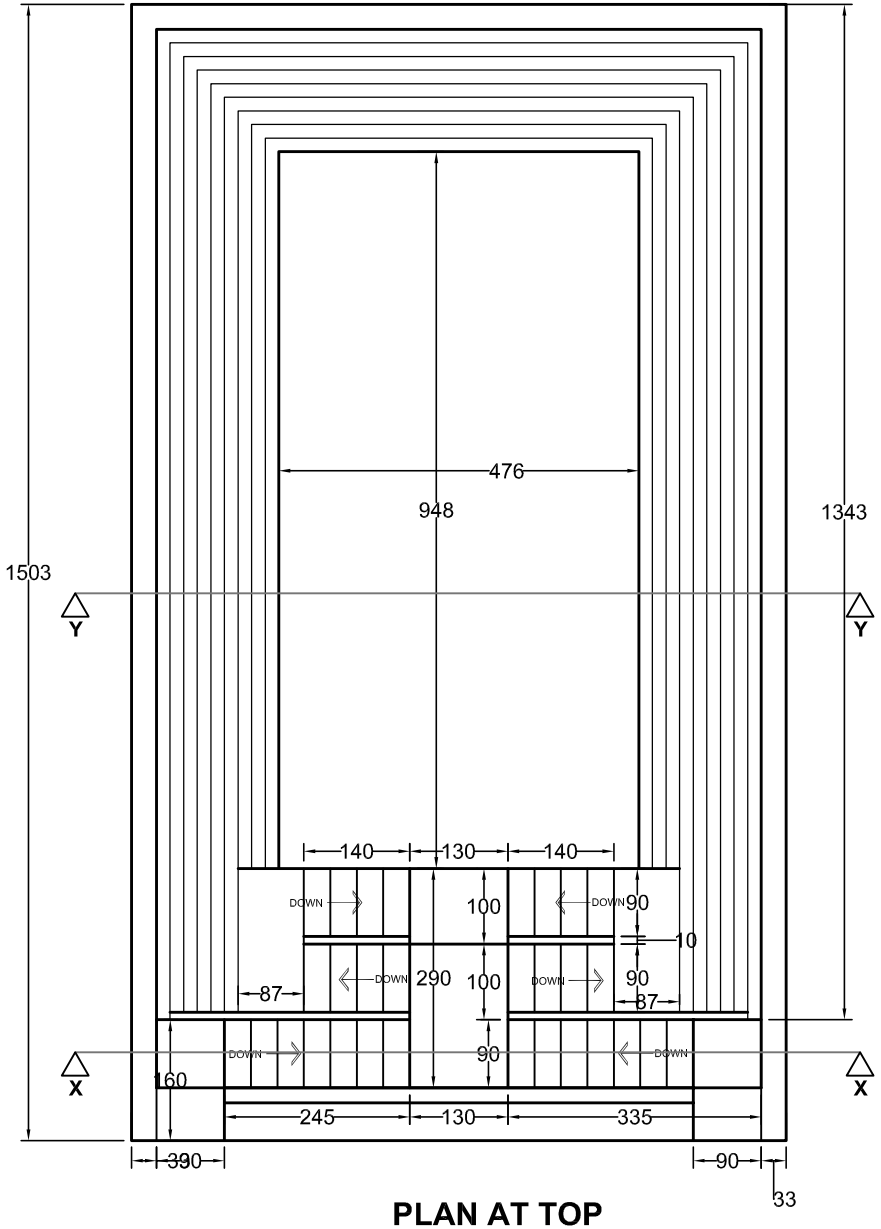
**Name of work :- Providing Barbed wire Fencing for Thazhe Purakkal Temple at Mayanad in Calicut Corporation**

**DETAILED ESTIMATE**

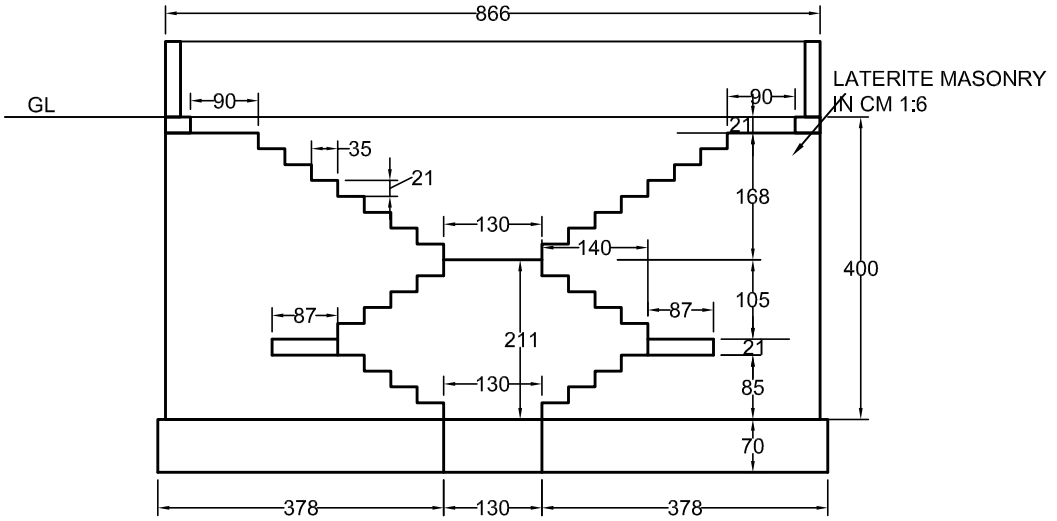
| Item No | Description | No | Measurements | | | Quantity | Rate | Amount |
|---|---|---|---|---|---|---|---|---|
| | | | L | B | D | | | |
| 1 | DSR 2016- 2.8.1<br>Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth, lead up to 50m and lift up to 1.5m,as directed by Engineer-in-Charge.<br>All kinds of soil. | | | | | | | |
| | Foundation of post | 160 | 0.30 | 0.30 | 0.60 | 8.64 | | |
| | **Total** | | | | | **9.00 m³** | **218.08 /m³** | **1,963** |
| 2 | 4.1.6<br>1:3:6 (1 Cement : 3 coarse sand(zone-III) : 6 graded stone aggregate 40 mm nominal size). | | | | | | | |
| | Foundation of post | 160 | 0.30 | 0.30 | 0.60 | 8.64 | | |
| | Total | | | | | 8.64 m³ | | |
| | **Say** | | | | | **9.00 m³** | **6309.95 /m³** | **56,790** |
| 2 | DSR 16.15.1<br>Supplying at at site R.C.C. Standards post/ struts/rails/ pales of mix 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 12.5 mm nominal size) with wooden plugs or 6mm bar nibs wherever required as per direction of Engineer-in-charge (cost of earth works in excavation, concrete works in foundation to be paid separately). | | | | | | | |
| | Post | 160 | 0.125 | 0.125 | 2.10 | 5.25 | | |
| | Total | | | | | 5.25 m³ | | |
| | **Say** | | | | | **6.00 m³** | **25916.53 /m³** | **155,499** |
| 3 | DSR 16.17.1<br>Fencing with R.C.C. post placed at required distance, embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post one side only, provided with horizontal lines and two diagonals of barbed wire weighing 9.38 kg per 100metres (minimum), between the two posts fitted and fixed with G.I. staples on wooden plugs or G.I. binding wire tied to 6 mm bar nibs fixed while casting the post (cost of R.C.C. posts, struts, earth work and concrete to be paid for separately) :- Payment to be made per metre cost of total length of barbed wire used. | | | | | | | |
| | Fencing- hori | 1 x 6 | 364.00 | | | 2184.00 | | |
| | do vertical | 160 x 5 | 1.50 | | | 1200.00 | | |
| | **Total** | | | | | **3384.00 m** | **10.81 /m** | **36,581** |
| 4 | DSR 16.15.2<br>Welded steel wire fabric of required width having rectangular mesh painted with two or more coats of enamel paint of approved shade over a coat of primer (Priming & Painting to be paid for separately). | | | | | | | |
| | Fencing- hori | 1 x 1 | 364.00 | | 1.50 | 546.00 m² | | |
| | Weight | | 546.00 | m²@ | 5kg/m² | 2730.00 kg | | |
| | **Total** | | | | | **2730.00 kg** | **78.70 /kg** | **214,851** |
| | **Total** | | | | | | | **465,684** |
| 5 | **Add GST 12%** | | | | | | | **55,882** |

| Item No | Description | No | Measurements | | | Quantity | Rate | Amount |
|---|---|---|---|---|---|---|---|---|
| | | | L | B | D | | | |
| 6 | **Add charges for preparing plan , Estimate, supervision, scrutiny fees etc** | | 5% | | | | | **23,284** |
| 7 | Unfore seen items | | | | | | | **5,150** |
| | **Total Estimate Amount** | | | | | | | **550,000** |
| **(Rupees Five lakh and fifty thousand only)** | | | | | | | | |

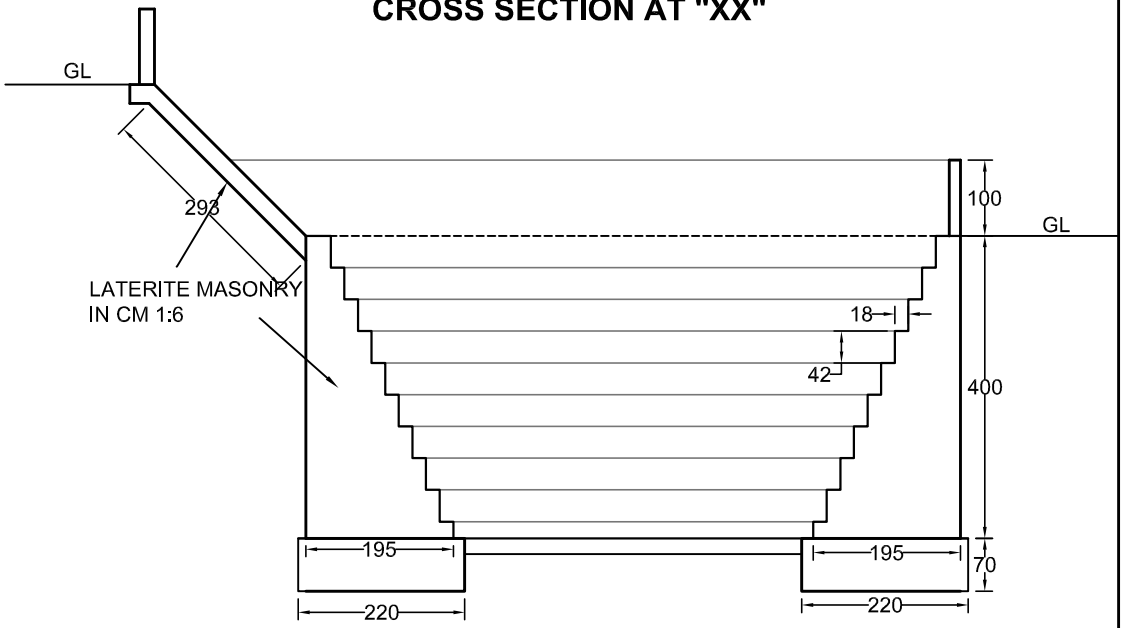
# PLAN FOR IMPROVEMENTS TO EXISTING POND OF THAZHE PURAKKAL TEMPLE AT MAYANAD IN CALICUT CORPORATION




PLAN AT TOP




CROSS SECTION AT "XX"




CROSS SECTION AT "YY"

## MALABAR BOTANICAL GARDEN AND INSTITUTE FOR PLANT SCIENCES

### Name of work :- Improvements to Existing Pond of Thazhe Purakkal Temple at Mayanad, in Calicut Corporation

### DETAILED ESTIMATE

| Item No | Description | No | Measurements | | | Quantity | Rate | Amount |
|---|---|---|---|---|---|---|---|---|
| | | | L | B | D | | | |
| 1 | DSR 2016- 2.6.1<br>Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth, lead up to 50m and lift up to 1.5m,as directed by Engineer-in-Charge. | | | | | | | |
| | Removing silt | 1 x 1 | 8.86 | 15.23 | 2.50 | 337.34 | | |
| | **Total** | | | | | **337.34 m³** | **165.07 /m³** | **55,685** |
| | | | | | | | | |
| 2 | DSR 2016- 2.8.1<br>Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth, lead up to 50m and lift up to 1.5m,as directed by Engineer-in-Charge.<br>All kinds of soil. | | | | | | | |
| | Foundation | 1 x 2 | 15.23 | 2.20 | 0.70 | 46.91 | | |
| | do | 1 x 1 | 4.46 | 2.20 | 0.70 | 6.87 | | |
| | do | 1 x 1 | 4.46 | 3.60 | 0.70 | 11.24 | | |
| | Add extra | | | | | 0.98 | | |
| | **Total** | | | | | **66.00 m³** | **218.08 /m³** | **14,393** |
| 3 | 50.6.7.1<br>Laterite masonry with neatly dressed Laterite stone of size 40x20x15cm or nearest size in cement mortar 1:6 for **foundation and basement** including all cost of materials, labour charges etc | | | | | | | |
| | Foundation | 1 x 2 | 15.23 | 2.20 | 0.70 | 46.91 | | |
| | do | 1 x 1 | 4.46 | 2.20 | 0.70 | 6.87 | | |
| | do | 1 x 1 | 4.46 | 3.60 | 0.70 | 11.24 | | |
| | Paving | 1 x 1 | 9.48 | 4.76 | 0.20 | 9.02 | | |
| | Add extra | | | | | 0.96 | | |
| | | | | | | 75.00 m³ | | |
| | **Total** | | | | | **75.00 m³** | **6215.34 /m³** | **466,151** |
| 4 | 50.6.7.2<br>Laterite masonry with neatly dressed Laterite stone of size 40x20x15cm or nearest size in cement mortar 1:6 for **superstructure above plinth level up to floor two level** including all cost of materials, labour charges etc | | | | | | | |
| | **Retaining wall & steps** | | | | | | | |
| | South & North sudes | 1 x 2 | 13.43 | 1.14 | 4.00 | 122.48 | | |
| | West side | 1 x 1 | 6.38 | 1.14 | 4.00 | 29.09 | | |
| | East side- Landings | 1 x 1 | 1.30 | 2.00 | 2.11 | 5.49 | | |
| | do | 1 x 2 | 0.87 | 0.90 | 1.06 | 1.66 | | |
| | do | 1 x 2 | 0.90 | 0.90 | 3.79 | 6.14 | | |
| | | 1 x 1 | 8.66 | 0.70 | 4.00 | 24.25 | | |
| | Steps | 2 x 1 | 2.45 | 0.90 | 0.84 | 3.70 | | |
| | | 2 x 1 | 1.40 | 0.90 | 1.05 | 2.65 | | |
| | | 2 x 1 | 1.40 | 0.90 | 0.53 | 1.34 | | |
| | Parapet | 1 x 1 | 38.52 | 0.20 | 1.00 | 7.70 | | |
| | | 1 x 1 | 6.20 | 0.20 | 1.00 | 1.24 | | |
| | Pitching | 1 x 1 | 16.00 | 3.23 | 0.20 | 10.34 | | |

| Item No | Description | No | Measurements | | | Quantity | Rate | Amount |
|---|---|---|---|---|---|---|---|---|
| | | | L | B | D | | | |
| | **Total** | | | | | **216.08 m³** | | |
| | Add extra | | | | | 0.92 **m³** | | |
| | Total | | | | | **217.00 m³** | **6705.70 /m³** | **1,455,137** |
| | | | | | | | | |
| 5 | 50.2.3.1<br>Pumping or Bailing out water and removing slush etc by using pump set including cost of labour, oil hire charges of pumpset, etc complete | | | | | | | |
| | seven days- 10hours | 7 x 10 | | | | 70.00 | | |
| | **Say** | | | | | **70.00 Hr** | **189.19 /Hr** | **13,243** |
| 6 | DSR 2.16.1<br>Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).Depth not exceeding 1.5m | | | | | | | |
| | 4 sides | 1 x 1 | 47.38 | 1.50 | | 71.07 | | |
| | Add extra | | | | | 0.93 | | |
| | **Say** | | | | | **72.00 m²** | **142.33 /m²** | **10,248** |
| 7 | DSR 2.16.2<br>Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).Depth exceeding 1.5 m but not exceeding 3 m | | | | | | | |
| | 4 sides | 1 x 1 | 47.38 | 1.50 | | 71.07 | | |
| | Add extra | | | | | 0.93 | | |
| | **Say** | | | | | **72.00 m²** | **150.78 /m²** | **10,856** |
| | **Total** | | | | | | | **2,025,713** |
| 8 | **Add GST 12%** | | | | | | | **243,086** |
| 9 | **Add charges for preparing plan , Estimate, supervision, scrutiny fees etc** | | 5% | | | | | **113,440** |
| 10 | Unfore seen items | | | | | | | **17,761** |
| | **Total Estimate Amount** | | | | | | | **2,400,000** |
| **Rupees Twenty Four Lakhs only** | | | | | | | | |