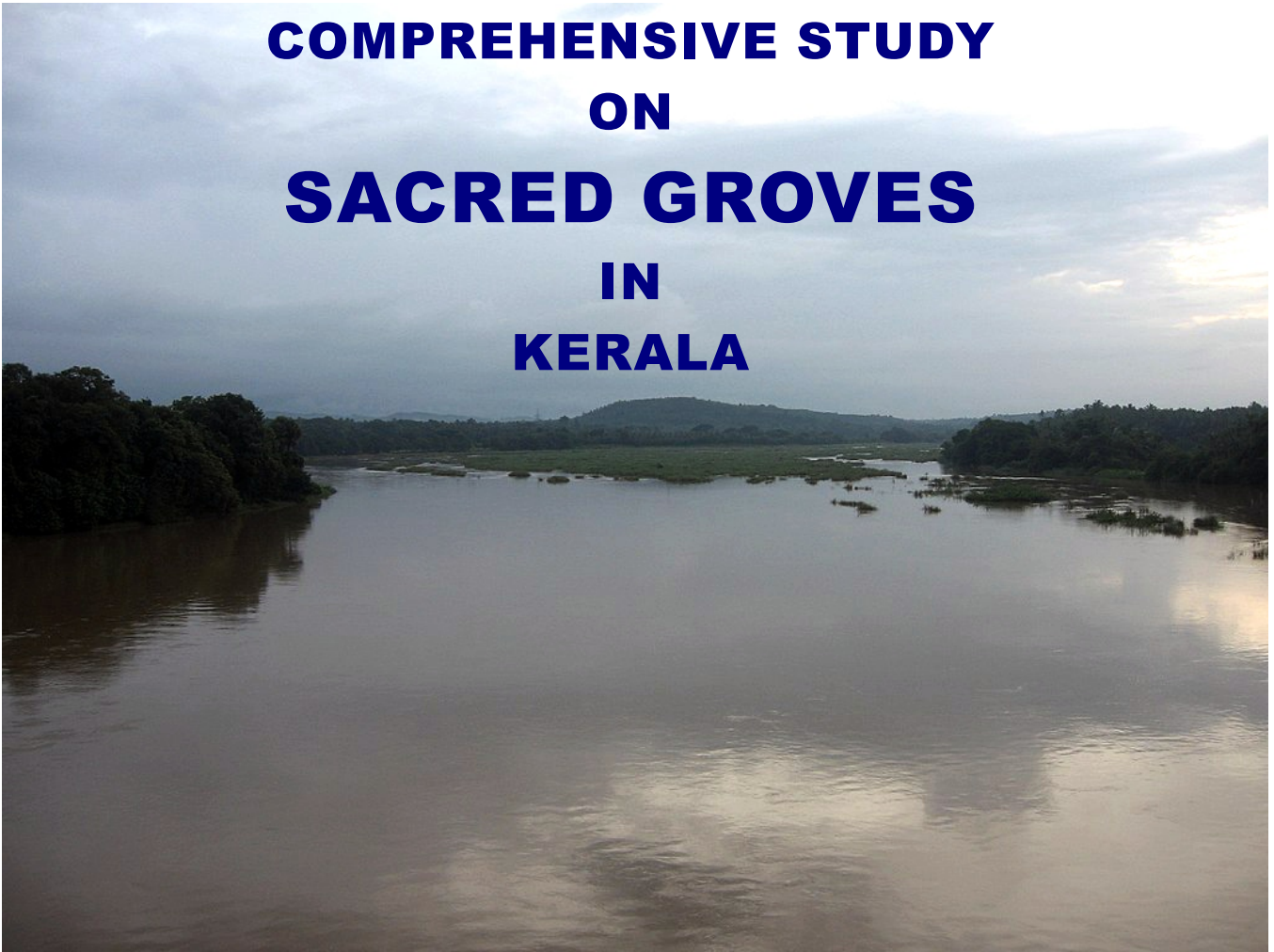




INSTITUTION OF FORESTERS KERALA

**COMPREHENSIVE STUDY
ON
SACRED GROVES
IN
KERALA**



Report No:9

Palakkad District

Submitted to

CHAIRMAN

Kerala Forest Development Fund

Kerala Forest and Wildlife Department



AUGUST 2020

PREFACE

Institution of Foresters Kerala (IFK) is a society registered in the year 1987 under the Travancore Literary, Scientific and Charitable Societies Act 1955 with its Central office at Thiruvananthapuram. Later it has established two Regional Chapters one at Thrissur and another at Kozhikode. One of the objectives of IFK is to undertake studies on topics useful in Forest Management and Biodiversity conservation. Accordingly a Project- “A comprehensive study on the socio-economic and cultural aspects of sacred groves in the whole of Kerala” was prepared and submitted to Kerala Forest Department in June 2012. This project was examined and discussed by the Kerala Forest Development Fund Research Committee in its meeting held on 18th August 2012 and it was approved for implementation. The project envisages a detailed study of Sacred Groves (SGs) in all the 14 districts of Kerala one by one.

To start with Thiruvananthapuram District was allotted and IFK completed the study and submitted the report in November 2013. It was followed by similar study in another five districts by 2018. By this time we have covered more than 60 % of the sacred groves in Kerala. As the remaining districts have comparatively lesser number of SGs, on our request KFD was pleased to give a blanket sanction for carrying out the work in the remaining eight districts continuously without waiting for specific sanctions for the districts one by one. This approach has enabled us to go fast in the project work for which we record our appreciation and gratitude to Sri Rajan Sehgal the then Additional Principal Chief Conservator of Forests who was the Chairman of KFDF Committee. After executing the agreement with KFD on 26-02-18, study was commenced in four districts such as Kottayam, Palakkad, Malappuram and Kasaragod. The unprecedented floods of 2018 which was followed by the floods of 2019 adversely affected the progress of our work also. The subsequent virus pandemic took its share in still harder way. However before end of June 2020, we could submit the report on Kottayam and Idukki Districts. And now we are submitting the report on Palakkad District though it was taken up in 2018. Two field teams headed by retired Section Forest Officers with one local helper each carried out the work under the local supervision of a Retd. .ACF and randomly checked by the Senior team from IFK Headquarters..

IFK record its immense gratitude to Kerala Forest Department in entrusting this glorious task with it. We also thank Sri. S. Gopalakrishnan IFS, Addl. PCCF and Chairman KFDF for his guidance and also that of Mr. Devendra Kumar Verma Principal Chief Conservator of Forests (Planning and Development) for his promptness in removal of impediments in the most appropriate manner to complete the study in the best possible way. Our thanks are due to the experts who co-opted with us and members of the KFDF Research Committee for their positive attitude in IFK's activities. Finally we express our thanks in no small measure to other officers and staff at Forest Headquarters, in extending fair approach to IFK to make this activity hassle free.

This study report may serve as the valid document on the status and distribution of Sacred Groves in the district. It is our modest expectation that it forms the basis for future planning on the conservation of this precious eco system

It will be our pleasure to clarify any of the details included in this report to all those concerned. It may please be noted that ownership details and similar matters are recorded based on information supplied by the custodian or his representative and not by perusing legal documents which is not practicable always. Rectifications will be made by corrections on receiving convincing reasons.

20th Aug. 2020

M.S.Nair (President)
Institution of Foresters Kerala

ACKNOWLEDGEMENT FOR SERVICES RENDERED

This project report is the result of the sincere and hard work contributed by a number of members of IFK and Botany expert. On behalf of IFK, I take immense pleasure in extending deep gratitude to them. The nature of work contributed by them is acknowledged as below:

Field Enumeration & Data Collection	S / Sri.P. Ganesan, and P. Vasudevan Section Forest Officers (Rtd)
Field supervision & Field coordination	Sri. S. Shaji (ACF Rtd)
Flora identification	Dr. N. Sasidharan. (KFRI Peechi)
Field checking	Sri. M.S.Nair Sri. Patric Gomez
Data entry	M/s. Jaicom Facilities Centre
Verification of data entry & Compilation	Sri. M.S.Nair Sri. Patric Gomez
REPORT PREPARATION	
Review of literature	Sri. M.S.Nair
Result of Study	Sri. Patric Gomez
List of Plants in selected groves	Dr. N.Sasidharan
Frequency distribution of flora	Dr.N.Sasidharan
Ecological status	Sri.M.S.Nair
Socio-Cultural aspects	Sri. Patric Gomez

All other chapters	Sri. M.S.Nair
Photographs contributed	Sri. M.S.Nair , Dr. N.Sasidharan.
Editing & Finalization of the Report	Sri. M.S. Nair (Principal Investigator of the project) Sri. Patric Gomez (Chief Coordinator of the project)

Also, I take this opportunity to sincerely acknowledge the co-operation, and valuable suggestions contributed by the Executive Committee members of IFK from time to time to accomplish this task at the best of our ability.

20th Aug. 2020

M.S.Nair (President)
Institution of Foresters Kerala

EXECUTIVE SUMMARY

Name of Project: **A COMPREHENSIVE STUDY ON THE
SOCIO-ECONOMIC & CULTURAL ASPECTS OF
SACRED GROVES IN KERALA**

Report No.9 - **Palakkad District**

General

Sanctioning Authority	- Addl. Principal Chief Conservator and Chairman, KFDF Research Committee.
Implementing Agency	- Institution of Foresters Kerala
Principal Investigator	- M. S. NAIR
Date of Agreement	- 26-02-2018
Area of Study	- Palakkad District.
Geographical extent	- 4480 sq.km
Forest area	- 1761 sq.km
No. of Taluks	- Six

PART I

Chapter . I

INTRODUCTION

Objectives

- Arrive at an exhaustive list of Sacred Groves in the District.
- Detailed study of flora and fauna
- Documentation of geographical and legal details.
- Study on Socio-economic and cultural aspects
- Recording ecological status as observed & reported.

Uniqueness

- Exhaustive inventory of Sacred Groves.
- Creation of a databank on geographical and legal status of sacred groves.
- Detailed study on flora.
- Documentation of Socio-economic and Cultural aspects.
- Mapping SGs providing Id numbers.

Methodology

Described steps followed in data collection (through publicity , word of mouth etc.) and documentation including mapping.

Chapter II : Results of Study

Total number of SGs district wise, Taluk wise, distribution under different size categories, management details.

PALAKKAD DISTRICT

Sl. No.	Name of Taluk	No. of Sacred Groves	Extent (Ha.)
1	Alathur	14	11.09
2	Chittur	9	2.85
3	Mannarkkat	16	1.37
4	Ottapalam	33	2.36
5	Palakkad	20	0.68
6	Pattambi	92	3.66
Total		184	22.03

Management

Four main categories identified-

- i. Devaswam Board.
- ii. Public trust-
- iii. Public Committee,-
- iv. Private- (- Kudumbakavu & Kudumba Trust)-

Id Numbers to Sacred Groves.(SG)

Id numbers have been provided taluk wise-

The list of all the SGs have been given serial numbers coming in each taluk and details from name, ownership up to North and East co-ordinates.

A Statement giving all other information including management category has been attached.

Mapping

Separate map for each taluk has been prepared showing the location and Id numbers of SGs.

Chapter III : Composition of Vegetation.

Occurrence of important species have been described and rare species seen in the SGs have been listed out-

Trees-, Shrubs- , Climbers-. Herbs-

Chater IV: List of flora in Selected Sacred Groves.

In all 18.SG falling in the three regions low land, middle land and high land- have been inspected and prepared by an expert on Botany and Taxonomy. The important species identified are tabulated SG wise.

Chapter V: Frequency distribution of flora.

The distribution of plant species in various sacred groves has been analysed and tabulated in 16 categories of varying frequency of occurrence.

Chapter VI: Ecological Status

<i>Vegetation-</i>	Plant diversity with rare species, Natural regeneration, nature of occurrence of species region wise,
<i>Soil condition-</i>	Nature of soil and water conservation discussed.
<i>Faunal significance-</i>	Useful and harmful role of bats, termites, etc.as could be collected with their habitats.

Chapter VII : Social Dimensions of Sacred Groves.

Sacred Groves falling in different regions totalling were selected and the social conditions in relation to the Sacred Groves have been studied. Mainly three stake holders have been identified such as, i-Local people, ii. Custodians, iii, Priest hood. Representatives belonging to all the above categories have been contacted and analyzed their views.

Study revealed that there is a strong network of social system centred around sacred groves built with faith on God, observance of customs, social harmony and flow of income. It is estimated that the following is the minimum effect on socio-economic condition.

Financial scarcity tell upon th quality of maintenance.

Development of strong trend in protection of vegetation due to fear of God/environmental benefits.

Employment-Man days --...14150.....

Total amount generated through various sources-Rs 347.lakhs.

Other shop vendors depending on SGs for their livelihood – very negligible.

Chapter VIII : Socio-Cultural Aspects of Sacred Groves

This study has covered the belief entertained by devotees on various deities, the rituals performed during worship, and different cultural programmes being organized in festivals.

Chapter IX : Myth & Legends-

Described three cases with pictures.

Chapter X- Threats & Recommendations

Regarding threats, only very few-- discussed .

Main recommendations

- i. Awareness programmes including suggestions to prevent dumping solid waste
- ii. Arrangement for fair distribution of grant to deserving custodians,
- iii. Production of quality seedlings of selected species,
- iv. Interference by government to be done only cautiously .
- v. Conducting research on ecology and carbon sequestration in Sacred Groves

Pictures on various sites, activities and plants-

PART II

Maps of SGs with Id numbers- taluk wise.

Alathur- PKD/ Altr— 1 to 14

Chittur- PKD/ Chtr- 1 to 9

Mannarkad- PKD/ Mrkd- 1 to 16

Ottapalam- PKD/ Otpm- 1 to 33

Palakkad- PKD/ Plkd- 1 to 20

Pattambi- PKD/ Ptmb- 1 to 92

Detailed statements on Management & Geographical details of SGs - talukwise.

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CHAPTER I

INTRODUCTION

The existence of sacred groves in India dates back to ancient pre-agrarian hunter gathering era and their presence has been documented since early 1800's. Believing that trees are the abode of deities and ancestral spirits, many communities set aside sanctified areas of forest and established rules and customs to ensure their protection prohibiting felling trees, killing animals etc. The prevailing belief among devotees is that the presiding deities administer punishment to individuals or entire community in the form of diseases or crop failure if in case they violate the established customs. As a result of such restrictions and strict adherence to the accepted customs by the devotees, several endemic and endangered plant and animal species have survived in the sacred groves for so many years since. Sacred groves attain religious and holy significance all over.

The Earth Summit of 1992 emphasized the immediate need for protection and conservation of biodiversity. Following that, the approach to biodiversity conservation gained revamping image all over the world. Protection with veneration provided to these patches of forest as Sacred Groves from generations to generations all over the world is significant in the sense that the principles of bio-diversity conservation had been inbuilt in their management. In India the Biological Diversity Act enacted in 2002, stressed the need for implementing various measures for bio-diversity conservation. In the mean while, the Kerala Forestry Project (1998-2003) stressed the need for biodiversity conservation and constituted a Biodiversity Cell in Forest Department. The Kerala Forestry Project (1998) proposed the need for long term conservation of sacred groves by taking up ecological survey and inventory of sacred groves. In addition the project provided for lump sum allocation of grants to local communities and religious groups to improve awareness, demarcation, protection and enhancement of local practices in Sacred Groves. But even after 17 years on completion of the project implementation a clear picture as to the spread of area under vegetation and the related inventory about the sacred groves was lacking. However, the present trend of Kerala Forest Department (KFD) in complying with the objectives in imbibing the theme by promoting IFK's project is worthy of appreciation.

Protection and Conservation of Sacred Groves is one among the schemes and KFD is providing grant to various selected sacred groves under this scheme. For implementing such a scheme a database covering inventory with all relevant details is

very essential in order to obtain financial assistance in the full measure from Central Government. Though studies have been undertaken and reports published on sacred groves of Kerala by various individuals and organizations, such reports do not cover all the relevant details and they cover only part of some aspects, that too in incomplete form. It is in this context this project receives warm acceptance at all levels concerned.

This study is aimed at building a data base on the existence of sacred groves in Kerala and all the accessible information about them.. Already eight districts have been completed. Besides taking an inventory on the number of SGS available, information on the extent of land under vegetation, ownership, legal status, geographical location including GPS data, assigning Id number and such other important information find a place 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 without interfering with the freedom of the custodians. **The absence of such information in the earlier available data base in the state qualifies this study a unique venture.**

This report is presented in two parts. Part 1 contains inventory details, study on vegetation, ecological aspects and Socio-cultural studies, along with photographs of important sacred groves and plants. Part II comprises statements consisting location, ownership, extent, management details and Id numbers computed for each sacred grove taluk wise. Maps showing the location of all the SGs Taluk wise are also included.

As already explained, this report is unique in its objectives.

Objectives

- A comprehensive inventory of sacred groves in Palakkad District with location
- List of flora with analysis on distribution of plant species,
- Identification of important and rare plant species in detail by an expert with regard to selected sacred groves.
- Ecological status based on field observations and reported facts.
- Assigning ID numbers to all the SGs.

- Preparation of a data base on folklore and folk arts.
- Assess impact of the sacred groves in socio-economic scenario.
- Providing photographs of all important species existing in the SGs
- Mapping SGs taluk wise showing the location of SGs based on GPS readings.
- Narration of Myths and legends as could be gathered from various sources relating to the sacred groves visited.
- Locate the threats being confronted in conservation of sacred groves.
- Recommendations

METHODOLOGY

Area of Study

This report covers Palakkad district. There are six taluks such as Pattambi, Ottapalam, Mannarghat, Palakkad, Chittur and Alathur.. Annual rainfall around cm.3000 and. Temperature is 30 to 40 degree c.. This area lies between Latitudes N 10⁰ 20' and 11⁰ 14' & Longitudes E 76⁰ 02 'and 76⁰ 54'. As regards soil is concerned, in most of the area soil is derived from laterite rock. In the rest of the area it is reddish and particularly in the coastal belt sandy loam is predominant.

Culture- Palakkad has a rich history of cultural heritage .

Collection of available data

The probable list of sacred groves has been collected through office records, publicity in the press and word of mouth as was done in earlier cases. In this district two teams were engaged each headed by a Retired Section Forest Officer. Recording details also was done in the same format as in previous cases along with GPS Readings. Supervision was done by one Retired ACF and random checking, by senior members from Head Office. Taxonomist Cum Botany Expert covered 18 sacred groves to prepare the detailed list and frequency of plant species. Regarding ecological status a specialist was engaged to know the availability of part of the fauna like fish and birds. The legal status, address of custodian and extent are gathered from persons holding possession of the SGs based on available records and the information passed on by them. The extent of each SG is assessed by the field team who have experience in judging the area and utmost care has been taken to see that the extent is not exaggerated at any cost.

CHAPTER II

REVIEW OF LITERATURE

There are plenty of literature authored by various scholars such as Gaikward, Oliver Kind, Dr. Raviprasad Rao, Muhamed Jafer Pilot & Radhakrishnan, Mohan C.N & Ganga Prasad, Unnikrishnan, U. M. Unnikrishna and others on the character and status of sacred groves in general which constitute the basis of this chapter partly. In addition there are various articles on SGs in other countries available by surfing internet. Part of those are also included in this.

The sacred Groves came into existence thousands of years ago and in general they are dedicated by local communities to their ancestral spirits or deities. They have been defined by many authors like those above and all the definitions carry more or less the same meaning. The following are the views that emerge out of their contributions.

According to them Sacred Groves (SG) are a patches of vegetation or group of trees protected by the local people through religious and cultural practices evolved to minimize destruction. Sacred groves, the community based repositories of biological diversity are segments of landscapes typically covering a patch of vegetation with perennial water resources. They are patches of wilderness conserved owing to their perceived importance attached to a village deity. Sacred grove is an age-old tradition where a patch of forest is dedicated to local deities and none is allowed to cut plants or to harm animals or do harm to any form of life. Sacred groves are community based monuments of biological diversity.

Global Scenario

Sacred Groves (SG) are distributed across the globe and diverse cultures recognise them in different ways encoding various rules for their protection. Sacred groves associated with religious beliefs were there in many countries from time immemorial. Sacred groves have been reported from many countries like Mexico, Ghana, Nigeria, China, Syria, Europe and America.

The Greek and Roman landscapes were dotted with many sacred places which contain groves of trees and water springs. Groves were in existence in Greece and Rome long back. The most famous sacred grove in Greece was Oak Grove at

Dodona. Outside the walls of Athens the site of the Academy was a sacred grove of olive trees.

Resources from the groves were used for religious purposes. Animals like goats and deer were captured and offered to appease the deity. Trees in the groves could be used for building temple. Wood from sacred trees was believed to have magical powers when fashioned into statues of gods. This kind of multiple use relaxing strict measures on conservation caused decline of SGs in some parts of Europe. One great **Druidic groves in south Gaul (Rome) was cleared by Ceaser's troops** in an attempt to remove spiritual powers inherent in the grove. There was a grove in front of the **church in Weissenbach an der Triesting.** (picture *PLATE II*) In Europe sacred groves survived in the Baltic states longer than in other parts .The sacred grove island Estonia is the one. (See picture *Plate-I*)

In the **Caucasus Mountains** (Russia) each community had its own sacred grove. They worshipped these as sanctuaries built among age old trees which were never to be cut (see picture—*PLATE-- II*).

In Tuna a southern province in **China**, the inhabitants did not dare to touch the native mountain forest because of their fear on wrath of God.

In Africa, among the Kikuyu ,groves of *Migumu* tree are considered sacred and those trees were not to be cut. In these sacred groves, sheep and goats were sacrificed and prayers offered for rain or fine weather or for curing diseases . In Kenya , *Kaya* a sacred forest considered to be an intrinsic source of ritual power and origin of cultural identity . It is also a place of prayer for members of a particular ethnic group-Mijikenda people. The flora was used solely for collection of medicinal plants. Cutting and clearing trees were not permitted. In **Nigeria the Osum-Osobgo sacred grove** containing dense forests is dedicated to fertility god in Yoruba mythology and is dotted with shrines and sculptures . This grove was designated as a **UNESO World Heritage Site** in 2005.(see picture- *PLATE-I*)

In **Japan** the Seifa- Utaki contains a sacred grove, with rare indigenous trees like *Kubanoki* (a kind of *Palm*) and *Yubunikkei*(*Cinnamomum japonicum*) This is UNESCO World Heritage Site of 2003.

A grove near **Leona** all the way down a mountain side up to sea was dedicated to the goddess Artemis at the instance of Alexander the Great. Artemis was considered to be the protector of animals and plants.

In America-The Bohemian Grove located in California is a privately owned sacred grove and in mid July each year they perform symbolic rituals such as Cremation of Care.

(see picture- PLATE-I)

Attitude by different Religions in the world

Due to the rise in dogmatic religions like Christianity and Islam, which advocated faith in one God, the tradition of maintaining sacred groves and sacred trees did not get an unconditional flow of support though sacred groves exist in many countries in some form or other among those religions. We can still get lot of instances to show that this attachment to trees coupled with spiritual beliefs exist among different religions also other than Hinduism.

In the kingdom of Shower in Arabia, tree worship was prevalent in 1860 for getting rain. Muslim Persians invoke the spirits supposed to dwell in certain trees by hanging on the branches , pieces from garments during some ceremonial occasions.

In Indonesia Ficus benghalensis is considered sacred. They believed the existence of holy spirits in the tree which would ensure availability of clean water.

There is a Parish Church of Weissenbach Treisting in Lower Austria, Europe, a grove exists in front of the church. .In Syria there is a grove sacred dedicated to Adonis at Afqa.

Buddha himself gained realization and enlightenment under a pipal tree. Buddha is reported to have been born in a sacred grove-Lumbini full of Sal trees.(Gadgil 1985)

Indian scenario

Of course in India the major religion that holds and protects sacred groves is Hinduism, having several living and non-living elements of nature as objects of worship.

The general belief that sacred groves are maintained by Hindu community only is not fully correct. Other communities also have shown faith in the sacred trees. A little Sal forest in Gorahpur is maintained by a Muslim saint “Mian Sahib” . Nothing was allowed to be cut except for lighting sacred fire.

In Kolhapur district there exists a small sacred grove on the land of a Muslim peasant. This land was purchased by him from a Brahmin priest in 1962. The Muslim peasant observes “agrosaat” and “diwalsaat” (pre-sowing and post sowing ceremonies) at this sacred grove along with adjoining Hindu peasants.

In Murshidabad district (Ragnathgunj town in West Bengal), in a Mazar-a pir is located amidst a grove . On the top of the grave three trees –neem, mahakal, and bel are there which are worshiped by Hindus.

In the heart of Midnapur city, a sacred grove is dedicated to a pir called Hazrat Balak Shahid Rehmatullah Elachi, who died a few centuries back. There is a sacred well inside known as “Sheikh Kuia”. People irrespective of cast or religion fetch water from this well as it is believed to have powers to cure diseases.

In Midnapur itself there is another big sacred grove dedicated to a pir called Baro Huzur and the SG is known as “Tapovan”. This is located at Istreegunj on the western fringe extending over three acres .Entry is restricted here. Wearing shoes is not allowed. Here also there is a sacred pond from where water is considered to have power to cure diseases.

If we take the case of Sabarimala Poonkavanam a typical and extensive sacred grove of Lord Ayyappa, holds the legendary association of “Vaver Swamy” a Muslim, at Erumely which is still in vogue. The facts given stands to reason that sacred grove is not alien to communities other than Hindu..

Global Faith on Sacred Plants & Animals.

Protection of plants-

Ancient religions all over the world never differentiated soul of human beings fashioning statues and soul of animal. During those days itself plants were also considered as living beings. It is generally felt that India is the typical country where this approach to plants and animals relating to sacred sites is keenly felt and practiced. When the global position is examined in more details , the revelation throws light on many similarities in this aspect.

Safeguarding the plant wealth in sacred sites is the motto everywhere by attaching spiritual powers or benefits that may accrue or utility of timber for carving and the like. How the trees in mountains and heritage sited in Greece, Russia, Africa, America etc. are being revered has already been explained in the above paragraphs. In all these cases invariably destroying trees is considered as taboo.

Sacrifice of animals in rituals.-

In some parts of the world sacrificing animals as a ritual to appease God do exist. This is being differently adopted in India also. In India in view of the various legislations on animal protection, the very old practice of making animal sacrifice is usually replaced by resorting to cutting some thing-say vegetable- symbolically.

But in other countries like Muslim dominated countries this is not a taboo during Bakrid. Some of the other countries are, France, Germany, Greece, Spain etc .Among these countries the only option for changes is regarding stunning the animal. Probably by taking the queue from the above cases, in India also there are judgements supporting animal sacrifice as has appeared in the press in accordance with religious requirements. Provision 28 Of the Prevention of Cruelty to Animal Act -1960, -“ Nothing contained in this Act shall render it an offence to kill an animal in the manner ritual slaughter. required by religion of any community ,theoretically leaving open the question of unstunned ritual slaughter. There was a Supreme Court ruling in 2017 as appeared in the press to the effect that – “No ban on animal sacrifice for religious purposes-Telangana” .It is seen that animal sacrifice, mainly goat or poultry is now being performed in a sacred grove Ekalavyam kavu in Chittur tauk of Palakkad District.

In Kerala a Division Bench of High Court have upheld the ban on animal sacrifice in their judgement on 16-06-2020 as per Kerala Animals and Bird sacrifices prohibition Act-1968. An appeal against tis order is now pending before the Supreme Court.

Offering Alcohol as oblation.-

In some sacred groves the God or Goddesses of Sakteya nature (non-virtuous) like Bhadrakali, Kuruman,or Duryadhanan or Karnnan are being worshipped. In such cases, non-brahmins such as SC community, Mala Arayans etc are maintaining the sacred grove or temple out of their ardent belief that such deities are more powerful like warriors in helping and protected the less privileged folk.. Here they serve Toddy, or hard liquor as the offering during the festival. Such cases are seen in Duryodhana Kavu (Muthappan) in kollam, Dussasana kavu in Kanjirappally and Valliamkavu in Peermade taluk.

Number of Sacred Groves

The total number of sacred groves in any state or region estimated and reported is not based on any authentic study. All the reports on the number of SGs go

by rough estimation as can be seen below. The rough estimate of the number of sacred groves in India is around 14000 with an extent of about 55000 hectares . (Nalinakshan P.K – 2004). And more than one lakh (Malhotra-198). These reports do not state the basis of these figures and exact source. However coming to the case of Kerala, reports on estimation is varying. Though many authors have given the total number or list of sacred groves district wise none of them claim that they are exhaustive. Some of the estimations for the state of Kerala-are as below.

i-Only less than 1000 .. (Mohan CN and Ganga Prasad.)

ii-15000-(T-C Area)-(Ward and Conner -1927)

iii-2000- (Rajendra Prasad -1995).

iv-299 –(ENVIS CENTRE) and

v- 364 with district wise estimation.- (Dr. N.C.Induchoodan)

(Source-NATIONAL WORKSHOP ON SACRED GROVES 2004-KERALA)

Flora

The vegetation in sacred groves is generally immensely rich in diversity of species depending on the conditions of habitat prevailing in various regions.. Studies made so far made till 2004 listed out 805 species of flowering and non-flowering plants belonging to 121 families, comprising 673 dicotyledons belonging to 95 families and 126 monocotyledons belonging to 20families (Unni P.N. & Anupama - 2004).

Majority of the species belong to families such as Annonaceae, Menispermaceae, Capparidaceae, Malvaceae, Meliaceae, Vitaceae, Fabaceae, Anacardiaceae, Rubiaceae etc.

Unni. P.N and Anupama have also provided a table listing the above 805 species in their paper ‘Conservation of sacred groves of Kerala: Need and strategies’ presented at the National Workshop on Sacred Groves held in September 2004 at Kozhikode. According to Gadgil and Vivek (1976) , sacred groves are the treasure of rare and endemic species. Many workers supported this view. For example, analysis of phytogeographical elements of sacred groves of Kerala indicates that 721 species recorded from the sacred groves 154 are endemic to western Ghats and 33% of them are trees (Induchoodam 1998)-{ Chandrasekhara u.m.2004} .

Fauna

Similarly, fauna in the sacred groves have been listed out .which contain Amphibians-3, reptiles 10, and birds 164. This include 25 species of birds that breed in sacred groves. The Sacred groves are the last shelter of the common fauna including a variety of insects, reptiles, mammals, birds and micro-organisms. Among the animals, a few are enlisted as threatened in India such as the fresh water and terrestrial tortoises, python, monitor lizard, mongoose, palm civet, Nilgiri Languor, Slender Loris, several amphibians, reptiles, and insects. The Malabar large spotted civet presumed to be extinct is reported last from some of the groves in Malabar. Birds, including a few migratory ones, select groves for nesting and breeding. A phenomenon known as over wintering (staying without going back) among winter visitors of birds is also noticed in some of these groves of Kerala. (Mohan C.N. to Ganga Prasad A-2004).

The major fauna of the groves comprise of snakes (cobra, viper and rat snake) water hen, toddy cat and mongoose. The pond contains various fishes, tortoise, frog and waters snake. (Kannan C.S. Warriar, Kunhi Kannan C and Gunasekaran T-2004).

The birds and bats find their natural nesting places in the sacred groves. They, in addition to their scavenger role check the insect and pest population. The bird droppings rich in phosphorous replenish the phosphorus deficient soil of the region. Snake and mongoose find their home in sacred groves. The snake controls the rodent population, which if left unchecked will destroy the crops of the locality. The snake population is kept under check by the mongoose. Insect fauna, particularly the bees make their hives in sacred groves and facilitate the cross pollination of many plants species of the locality. (U.M.Chandrashekara-2004)

Ecological functions.

According to Rajendraprasad (1995), sacred groves show high porosity and low bulk density compared to the soils of nearby areas. He also observed the thick litter covers and channels created by soil micro-fauna together enhanced the water retention, root system development, gaseous exchange and heat conductance. The role of sacred groves as micro-watershed in local area has been recognized by many workers. (Chandrashekara U.M.- 2004)

As an ecosystem, they help in soil, water and nutrient conservation and the ponds and streams adjacent to these groves are perennial water sources, which adequately explain their hydrological significance, though not evidenced through results of scientific investigation. (Unni P.N.& Anupama C-2004)

CHAPTER III

RESULT OF INVENTORY.

The study reveals that there are in all 184 sacred groves in this district. Out of this almost 63 % are of and below 5 cents in extent. There are only five numbers which are of and above one acre in extent . Pattambi is the taluk containing the maximum number of SGs, but SGs are only very small except around seven large ones. The Parakatt kavu in Alathur taluk having 25 Acres in extent is the largest . This is under Malabar Devaswam. There are other four SGs under it distributed into other taluks. Similarly those under Public ownership as local committee or trust are only five. Leaving these ten SGs all others-174- fall under private ownership. More details about them are appearing in the remaining Chapters.

AREA WISE DISTRIBUTION OF SACRED GROVES IN PALAKKAD DISTRICT

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Area up to 5 Cents	116 Nos	348.00 Cents
2	6 Cents to 10 Cents	31 ,,	262.00 ,,
3	11 Cents to 25 Cents	12 ,,	222.00 ,,
4	26 Cents to 50 Cents	15 ,,	502.00 ,,
5	51 Cents to 100 Cents	5 ,,	383.00 ,,
6	100 Cents to 500 Cents	4 ,,	1225.00 ,,
7	Above 501 Cents	1 ,,	2500.00 ,,
	Total	184 Nos.	5442 Cents (22.03 Ha.)

AREA WISE DISTRIBUTION (TALUK WISE)**ALATHUR TALUK**

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Up to 5 Cents	7 Nos	28.00
2	6 Cents to 10 Cents	3 Nos	28.00
3	11 Cents to 25 Cents	1 Nos	11.00
4	26 Cents to 50 Cents	--	--
5	51 Cents to 100 Cents	2 Nos	173.00
6	Above 100 Cents	1 No	2500.00
	Total	14 Nos	2740 Cents (11.09 Ha)

CHITTUR TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Up to 5 Cents	2 Nos	10.00
2	6 to 10 Cents	1 No	10.00
3	11 to 25 Cents	2 Nos	30.00
4	26 to 50 Cents	2 Nos	90.00
5	51 to 100 Cents	1 No	90.00
6	Above 100 Cents	1 No	475.00
	Total	9 Nos	705 Cents (2.85 Ha)

MANNARKKAT TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Up to 5 Cents	4 Nos	14.50
2	6 Cents to 10 Cents	3 ,,	25.00
3	11 Cents to 25 Cents	--	--
4	26 Cents to 50 Cents	8 ,,	240.00
5	51 Cents to 100 Cents	1 ,,	60.00
6	Above 100 Cents	--	--
	Total	16 Nos	339.5 Cents (1.37 Ha)

OTTAPPALAM TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Up to 5 Cents	20 Nos	65.00 Cents
2	6 to 10 Cents	11 ,,	88.00 ,,
3	11 to 25 Cents	--	--
4	26 to 50 Cents	1 ,,	32.00 ,,
5	51 to 100 Cents	--	--
6	Above 100 Cents	1 ,,	400.00 ,,
	Total	33 Nos	585 Cents (2.36 Ha.)

PALAKKAD TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Up to 5 Cents	12Nos.	50 Cents
2	6 to 10 Cents	5 ,,	41 ,,
3	11 to 25 Cents	2 ,,	47 ,,
4	26 to 50 Cents	1 ,,	30 ,,
	Total	20 Nos	168 Cents (0.68 Ha.)

PATTAMBI TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Up to 5 Cents	71 Nos	180.50
2	6 Cents to 10 Cents	8 ,,	70.00
3	11 Cents to 25 Cents	7 ,,	134.00
4	26 Cents to 50 Cents	3 ,,	110.00
5	51 Cents to 100 Cents	1 ,,	60.00
6	Above 100 Cents	2 ,,	350.00
	Total	92 Nos	904.5 Cents (3.66 Ha.)

**ABSTRACT SHOWING
CUSTODIAN/OWNERSHIP/MANAGEMENT OF
SACRED GROVES
PALAKKAD DISTRICT**

Sl. No.	Ownership/Custodian/Management	No. of Sacred Groves
1	Sacred Grove Owned/Managed by Government	--
2	Sacred Groves Managed by Devaswam Board/Malabar Devaswam/ Local Temple Devaswams	5 Nos.
3	Sacred Groves Managed by Public Trust/ Public Committees/Janakeeya Committees	4 ,,
5	Sacred Groves Managed by Individuals/ Family/Family Trust	175 ,,
	Total	184 Nos

**TALUK WISE MANAGEMENT DETAILS
ALATHUR TALUK**

Sl. No.	Ownership/Custodian/Management	No. of Sacred Groves
1	Sacred Grove Owned by Government	--
2	Sacred Groves Managed by Devaswam Board/Malabar Devaswam/ Local Temple	1
3	Sacred Groves Managed by Public Trust/ Public Committees/Janakeeya Committees	--
5	Sacred Groves Managed by Individuals/ Family/Family Trust/ <i>Tharavad</i>	13
	Total	14 Nos

CHITTUR TALUK

Sl. No.	Ownership/Custodian/ Management	No. of Sacred Groves
1	Sacred Grove Owned by Government	--
2	Sacred Groves Managed by Devaswam Board/Malabar Devaswam/ Local Devaswams	--
3	Sacred Groves Managed by Public Trust/ Public Committees/Janakeeya Committees	2 No.
5	Sacred Groves Managed by Individuals/ Family/Family Trust/ <i>Tharavad</i>	7 ,,
	Total	9 Nos

MANNARKKAT TALUK

Sl. No.	Ownership/Custodian/ Management	No. of Sacred Groves
1	Sacred Grove Owned by Government	--
2	Sacred Groves Managed by Devaswam Board/Malabar Devaswam/ Local Devaswams	--
3	Sacred Groves Managed by Public Trust/ Public Committees/Janakeeya Committees	--
5	Sacred Groves Managed by Individuals/ Family/Family Trust/ <i>Tharavad</i>	16
	Total	16 Nos.

OTTAPPALAM TALUK

Sl. No.	Ownership/Custodian/ Management	No. of Sacred Groves
1	Sacred Grove Owned by Government	--
2	Sacred Groves Managed by Devaswam Board/Malabar Devaswam/ Local Devaswams	1 No.
3	Sacred Groves Managed by Public Trust/ Public Committees/Janakeeya Committees	--
5	Sacred Groves Managed by Individuals/ Family/Family Trust/ <i>Tharavad</i>	32 Nos.

25 Sacred Groves in Palakkad District

	Total	33 Nos.
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PALAKKAD TALUK

Sl. No.	Ownership/Custodian/ Management	No. of Sacred Groves
1	Sacred Grove Owned by Government	--
2	Sacred Groves Managed by Devaswam Board/Malabar Devaswam/ Local Devaswams	1 No.
3	Sacred Groves Managed by Public Trust/ Public Committees/Janakeeya Committees	--
5	Sacred Groves Managed by Individuals/ Family/Family Trust	19 Nos.
	Total	20 Nos.

PATTAMBI TALUK

Sl. No.	Ownership/Custodian/ Management	No. of Sacred Groves
1	Sacred Grove Owned by Government	--
2	Sacred Groves Managed by Devaswam Board/Malabar Devaswam/ Local Devaswams	2 Nos.
3	Sacred Groves Managed by Public Trust/ Public Committees/Janakeeya Committees	3 ,,
5	Sacred Groves Managed by Individuals/ Family/Family Trust/ <i>Tharavad</i>	87 Nos.
	Total	92 Nos.

CHAPTER IV

COMPOSITION OF VEGETATION

The vegetation consists of both deciduous and evergreen types. The peculiarity about the vegetation of sacred groves in Palakkad district is the scarce occurrence of many common plants such as *Artocarpus hirsuta*, *Bombax ceiba*, *Terminalia bellirica*, *Saraca asoka* etc unlike in other districts. As regards diversity, some of the larger sacred groves exhibit high diversity in trees, climbers and herbs. For example the number of herbs in Parakkat kavu having an extent of 25 Acres hold nearly 60 species of herbs. At an average the diversity can be taken as 30 trees, 12 shrubs, 20 climbers and 30 herbs. In Alathur, climbers predominate. Certain families such as Euphorbiaceae, Rutaceae, Rubiaceae and Fabaceae are represented by many species of trees, shrubs and climbers. Among them there are species which are rare and threatened as per IUCN Red list. Sacred groves abode many species which are used in Ayurvedic preparations or as folk medicine. The analysis made on frequency of various species reveal that as many as more than 120 species were noticed occurring only in any one of the SGs out of 18 studied. -

Some of the dominant plants are,

- i. *Antiaris toxicaria*,
- ii. *Olea dioica*,
- iii. *Holigarna arnottiana*,
- iv. *Sterculia guttata*,
- v. *Streblus asper*,
- vi. *Strychnos nux-vomica*
- vii. *Holeptelia integrifolia*,
- viii. *Ficus* species
- ix. *Caryota urens*.

The following are the rare and important plants seen in these SGs. Under this most of them have medicinal value. As the field visits were scattered throughout an year or so the relevant characteristics of the plants were not available for taking pictures. In such cases attempt has been made to adopt pictures copied from internet in order to illustrate just for information.

Rare and Important Plants.

TREE SPECIES	Remarks & Picture No.
Antiaris toxicaria	Elavanchery - 1
Cleistanthus collinus- odukku- Poisous, skin treatments	Parakattukavu - 2
<i>Cordia wallichii</i>	Elavanchery kavu - 3
Diospyros montana---- <i>Malayakathy</i> <i>Fruit poisonous, crushed leaves as fish poison. External use for boils.</i>	Nagakanya Kavu 4
Naringi crenulate- <i>Narinarakom</i> Root and bark for rheumatism	Elavancherry kavu-5
Naringi crenulate- in flowers.	Do -6
Holeptelia integrifolia, .	Nagakanya kavu - 7
Ficus benghalensis	Parakattu kavu- 8
Anthocephalus kadamba. Attuthekku, Medicinal	Elaanchery kavu- 9
Ixora brachiate- Marathetty, Fruits edible	Ethannur kavu -10
Madhuca longifolia	Elavanchery kavu -11
Haldi cordifolia	Parakattu kavu - 12
Dalbergia lanceolaria-- Velleety	Parakattu kavu, - 13
SHRUB	
Bengara malabaica	Vishnukotta kavu – 14
Breynia retusa	Parakattu kavu - 15
Clinacanthus nutanus- Odukku- Poisonous	Ambalahu kavu- 16

Crotalaria pallida, kilukkachedy- medicinal	Parakattu kavu - 17
Ehretia microphylla -Medicinal Dysentery	Ambalathu kavu- 18
Memecylon depressum	Parakattu kavu - 19
Narengina alata	Chingathu kavu-20
Pavetta indica- mallikamutty	Parakattu kavu- 21
Pedianthus tithimaides.- fire hardy	Parakattu kavu -22
Pisonia aculeata – Spines on leaf axil- medicinal- skin & arthritis	Nagakanya kavu- 23
Thespesia lampas	Hariharakunnu kavu -24
CLIMBER	
Adenia hondala- Woody climber, antibacterial.	Ambalathu kav -25
Capparis zeylanica, -leaves anti-oxide and antifungal	Korambath kavu - 26
Cayratia pedate- Conspicuous tendrils-leaves medicinal in problems of uterus. IUCN-Red I	Ambalathu kavu - 27
Combretum albidum- Medicinal, Ulcer, diarrhoea.	Nagakoshtam kavu - 28
Dalbergia volubilis- Cherumullu, Leaf juice applied for oral ulcer	Thalannur kavu- 29
HERB	
Eleutheranthera ruderalis Plant decoction to enhance milk production for nursing mother, also for blood pressure, rheumatic pain.	Vishnukotta kavu - 30-
Sauropus quadrangularis- ..Punarmuringa Dried leaves smoked for tonsillitis.	Ambalathu kavu -31

Lepidagathis incurve- Tribal medicine, veterinary medicine.	Nagakanyaka kavu - 32
Alternathera bettzickiana- Soft laxative & blood purification	Hariharakunnu kavu- 33

CHAPTER V _

LIST OF PLANTS IN SELECTED GROVES

1.	1.Nagakannyaka Temple Kavu, Atthipattamana, Chethallur, Mannarkad date 25.05.19		
	Scientific name	Family	Local name
	Trees		
1	Aegle marmelos	Rutaceae	Koovalam
2	Alangium salvifolium subsp. salvifolium	Alangiaceae	Ankolam,Chorakattap pazham
3	Alstonia scholaris	Apocynaceae	Ezhilampala
4	Antiaris toxicaria	Moraceae	Maravuri
5	Artocarpus heterophyllus	Moraceae	Plavu
6	Borassus flabellifer	Arecaceae	Karimpana
7	Briedelia retusa	Euphorbiaceae	Mullenkaini
8	Caryota urens	Arecaceae	Choondappana, Olattipana
9	Cassia fistula	Leguminosae	Kanikkonna
10	Chrysophyllum oliveri	Sapotaceae	Swarnnapathri
11	Corypha umbraculifera	Arecaceae	Kodapana
12	Diospyros montana	Ebenaceae	Manjakara
13	Erythrina orientalis	Leguminosae	Mullumurukku
14	Gliricidia sepum	Leguminosae	Seemakonna
15	Holigarna arnottiana	Anacardiaceae	Charu, Cheru
16	Holoptelea integrifolia	Ulmaceae	Aaval
17	Hydnocarpus pentandrus	Flacourtiaceae	Marotti
18	Mangifera indica	Anacardiaceae	Mavu
19	Morinda pubescens	Rubiaceae	Manjanathi, Manjapavetta
20	Naringi crenulata	Rutaceae	Narinarakam
21	Pongamia	Leguminosae	Ungu

	pinnata		
22	Pterocarpus marsupium	Leguminosae	Venga
23	Putranjiva roxburghii	Euphorbiaceae	Eranji
24	Santalum album	Santalaceae	Chandanam
25	Schleichera oleosa	Sapindaceae	Poovam
26	Sterculia guttata	Sterculiaceae	Kaavalam
27	Streblus asper	Moraceae	Paruvamaram
28	Strychnos nuxvomica	Loganiaceae	Kanjiram
29	Tamarindus indica	Leguminosae	Puli, Vaalanpuli
30	Tectona grandis	Verbenaceae	Thekku
31	Zanthoxylym rhetza	Rutaceae	Mullilam
	Climbers		
1	Abrus precatorius	Leguminosae	Kunni
2	Alangium salvifolium subsp. hexapatalum	Alangiaceae	Valliankolam, Chorakattappazham
3	Ampelocissus indica	Vitaceae	Chembaravalli
4	Anamirta cocculus	Menispermaceae	Pollakai
5	Calycopteris floribunda	Combretaceae	Pullani
6	Cayratia pedata	Vitaceae	Chorivalli
7	Dioscorea pentaphylla	Dioscoreaceae	Chavalikizhangu
8	Dioscorea sp.	Dioscoreaceae	Kattukachil
9	Hemidesmus indicus	Periplocaceae	Nannari
10	Ichnocarpus frutescens	Apocynaceae	Parvalli
11	Jasminum coarctatum (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
12	Mezoneurum cucullatum	Leguminosae	Verimullu
13	Naravelia zeylanica	Ranunculaceae	Vathamkodi
14	Pothos scandens	Araceae	Paruvakkodi, Thuppilavalli

15	<i>Tiliacora acuminata</i>	Menispermaceae	Vallikanjiram
16	<i>Tinospora sinensis</i>	Menispermaceae	Pothamruthu
17	<i>Zanonia indica</i>	Cucurbitaceae	Peenarvalli
18	<i>Ziziphus oenopia</i>	Rhamnaceae	Cheruthodali
	Shrubs		
1	<i>Canthium angustifolium</i>	Rubiaceae	Kattaramullu
2	<i>Canthium coromandelicum</i>	Rubiaceae	Kattaramullu
3	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	Yamari
4	<i>Clerodendrum infortunatum</i>	Verbenaceae	Peruvelam
5	<i>Glycosmis pentaphylla</i>	Rutaceae	Panal
6	<i>Ixora coccinea</i>	Rubiaceae	Chuvannathetchi
7	<i>Lantana camara</i>	Verbenaceae	Aripoochedi
8	<i>Leea indica</i>	Leeaceae	Njellu, Njekku
9	<i>Pisonia aculeata</i>	Nyctaginaceae	Kodimullaram
10	<i>Sauropus androgynus</i>	Euphorbiaceae	Velicheera
	Herbs		
1	<i>Acampe praemorsa</i>	Orchidaceae	Maravazha
2	<i>Achyranthes aspera</i>	Acanthaceae	Kadaladi
3	<i>Amorphophalus</i> sp.	Araceae	
4	<i>Caladium bicolor</i>	Araceae	Pullichembu, Varnachembu
5	<i>Costus speciosus</i>	Costaceae	Channakoova
6	<i>Commelina benghalensis</i>	Commelinaceae	
7	<i>Curculigo orchioides</i>	Hypoxidaceae	Nilappana
8	<i>Lepidagathis incurva</i>	Acanthaceae	
9	<i>Mimosa pudica</i>	Leguminosae	Thottavadi
10	<i>Naregamia alata</i>	Meliaceae	Nilanarakam
11	<i>Oplismenus compositus</i>	Poaceae	
12	<i>Phaulopsis dorsiflora</i>	Acanthaceae	
13	<i>Piper longum</i>	Piperaceae	Thippali

14	Sida beddomei	Malvaceae	
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2. Ambalath Sarpakavu, Chethallur, Mannarkad date 25.05.19

	Scientific name	Family	Local name
	Trees		
1	Aegle marmelos	Rutaceae	Koovalam
2	Albizia chinensis	Leguminosae	Peelivaka
3	Alstonia scholaria	Apocynaceae	Ezhilampala
4	Anacardium occidentale	Anacardiaceae	Cshew, Kashumavu
5	Annona muricata	Annonaceae	Mullatha, Cancerchakka
6	Briedelia retusa	Euphorbiaceae	Mullenkaini
7	Caryota urens	Arecaceae	Choondappana, Olattipana
8	Cassia fistula	Leguminosae	Kanikkonna
9	Couroupita guianensis	Lecythidaceae	Nagalingamaram
10	Ficus racemosa	Moraceae	Atthi
11	Mallotus philippensis	Euphorbiaceae	Sindoora maram, Kurangumanjal
12	Mangifera indica	Anacardiaceae	Mavu
13	Morinda pubescens	Rubiaceae	Manjanathi, Manjapavetta
14	Olea dioica	Oleaceae	Idala
15	Oroxylum indicum	Bignoniaceae	Palakappayyani
16	Sapindus trifoliatus	Sapindaceae	Pasakotta, Soapinkai maram
17	Schleichera oleosa	Sapindaceae	Poovam
18	Sterculia guttata	Sterculiaceae	Kaavalam
19	Streblus asper	Moraceae	Paruvamaram
20	Terminalia bellirica	Combretaceae	Thaanni
21	Zanthoxylum rhetza	Rutaceae	Mullilam
	Cimbers		
1	Acacia caesia	Leguminosae	Incha
2	Adenia hondala	Passifloraceae	Karimuthakku
3	Anamirta cocculus	Menispermaceae	Pollakai
4	Asparagus racemosus	Liliaceae	Sathavari
5	Briedelia stipularis	Euphorbiaceae	Kanjikottam, Cherukapanachi
6	Calycopteris floribunda	Combretaceae	Pullani
7	Cayratia pedata	Vitaceae	Chorivalli

8	<i>Cosmostigma racemosum</i>	Asclepiadaceae	Kakkakodi
9	<i>Cyclea peltata</i>	Menispermaceae	Padakizhangu
10	<i>Dioscorea pentaphylla</i>	Dioscoreaceae	Chavalikizhangu
11	<i>Dioscorea sp.</i>	Dioscoreaceae	Kattukatchil
12	<i>Gloriosa superba</i>	Liliaceae	Menthonni
13	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
14	<i>Ipomoea marginata</i>	Convolvulaceae	Chuttithiruthali
15	<i>Jasminum coarctatum</i> (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
16	<i>Solena amplexicaulis</i>	Cucurbitaceae	Kakkarikka
17	<i>Tiliacora acuminata</i>	Menispermaceae	Vallikanjiram
18	<i>Tinospora cordifolia</i>	Menispermaceae	Chittamruthu
19	<i>Ziziphus rugosa</i>	Rhamnaceae	Thodali
	Shrubs		
1	<i>Allophylus serratus</i>	Sapindaceae	Mukkannanperuku
2	<i>Antidesma acidum</i>	Euphorbiaceae	Putharaval, Asaripuli
3	<i>Bambusa bambos</i>	Poaceae	Illi, Mula
4	<i>Canthium angustifolium</i>	Rubiaceae	Kattaramullu
5	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	Yamari
6	<i>Clerodendrum infortunatum</i>	Verbenaceae	Peruvelam
7	<i>Clinacanthus nutans</i>	Acanthaceae	Vishamooli
8	<i>Ecbolium virde</i>	Acanthaceae	Odiyamadhantha
9	<i>Ehretia microphylla</i>	Boraginaceae	Aghori
10	<i>Embelia tsjeriam-cottam</i>	Myrsinaceae	Ammimuriyan
11	<i>Glycosmis pentaphylla</i>	Rutaceae	Paanal
12	<i>Leea indica</i>	Leeaceae	Njekku, Njellu
13	<i>Tabernaemontana divaricata</i>	Apocynaceae	Nandiyarvattom
	Herbs		
1	<i>Acampe praemorsa</i>	Orchidaceae	Maravazha

35 Sacred Groves in Palakkad District

2	<i>Achyranthes aspera</i>	Amaranthaceae	Kadaladi
3	<i>Amorphophalus paeniifolius</i>	Araceae	Kaattuchena
4	<i>Cyathula prostrata</i>	Amaranthaceae	Cherukadaladi
5	<i>Curculigo orchoides</i>	Hypoxidaceae	Nilappana
6	<i>Desmodium hererocarpon</i>	Leguminosae	
7	<i>Elephantopus scaber</i>	Asteraceae	Anachuvadi
8	<i>Geophila repens</i>	Rubiaceae	Karimutthil
9	<i>Lepidagathis incurva</i>	Acanthaceae	
10	<i>Mimosa pudica</i>	Leguminosae	Thottavadi
11	<i>Naregamia alata</i>	Meliaceae	Nilanarakam
12	<i>Oplismenus composites</i>	Poaceae	
13	<i>Phaulopsis dorsiflora</i>	Acanthaceae	
14	<i>Sauropus quadrangularis</i>	Euphorbiaceae	Punarmuringa
15	<i>Sebastiania chamaelea</i>	Euphorbiaceae	Njettavanakku

3. Chingathu Sarpakavu, Srikrishnapuram

Sl .n o	Scientific name	Family	Local name
	Trees		
1	<i>Artocarpus heterophyllus</i>	Moraceae	Plavu
2	<i>Caryota urens</i>	Arecaceae	Choondappana, Ola
3	<i>Cassia fistula</i>	Leguminosae	Kanikkonna
4	<i>Holarrhena pubescens</i>	Apocynaceae	Kudakappala
5	<i>Holigarna arnottiana</i>	Anacardiaceae	Charu, Cheru

36 Sacred Groves in Palakkad District

6	<i>Mallotus philippensis</i>	Euphorbiaceae	Sindooramaram, Kurangumanjal
7	<i>Macaranga peltata</i>	Euphorbiaceae	Vatta, Uppothy
8	<i>Morinda pubescens</i>	Rubiaceae	Manjanathi, Manja
9	<i>Olea dioica</i>	Oleaceae	Idala
10	<i>Sterculia guttata</i>	Sterculiaceae	Kaavalam
11	<i>Strychnos nux-vomica</i>	Loganiaceae	Kanjiram
12	<i>Tectona grandis</i>	Verbenaceae	Thekku
	Climbers		
1	<i>Alangium salvifolium</i> subsp. <i>hexapetalum</i>	Alangiaceae	Valliankolam, Chorakattappazhar
2	<i>Calycopteris floribunda</i>	Combretaceae	Pullani
3	<i>Cayratia pedata</i>	Vitaceae	Chorivalli
4	<i>Centrosema molle</i>	Leguminosae	Kattu-payar
5	<i>Cissus latifolia</i>	Vitaceae	Chunnambuvalli
6	<i>Dioscorea</i> sp.	Dioscoreaceae	Kattukatchil
7	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
8	<i>Jasminum coarctatum</i> (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
9	<i>Mallotus repandus</i>	Euphorbiaceae	Thavatti
10	<i>Merremia umbellata</i>	Convolvulaceae	Koravalli
11	<i>Mikania micrantha</i>	Asteraceae	Dhrirastapachha
12	<i>Mucuna pruriens</i>	Leguminosae	Naikurana
13	<i>Pothos scandens</i>	Araceae	Paruvakkodi, Variv
14	<i>Tiliacora acuminata</i>	Menispermaceae	Vallikanjiram
15	<i>Tinospora sinensis</i>	Menispermaceae	Pothamruthu
16	<i>Uvaria narum</i>	Annonaceae	Narumpanal
17	<i>Ziziphus rugosa</i>	Rhamnaceae	Thodali
	Shrubs		
1	<i>Antidesma acidum</i>	Euphorbiaceae	Aripazhachedi, Asa
2	<i>Chassalia curviflora</i> var. <i>ophioxylodes</i>	Rubiaceae	Yamari
3	<i>Clerodendrum infortunatum</i>	Verbenaceae	Peruvelam
4	<i>Chromolaena odorata</i> (<i>Eupatorium odoratum</i>)	Asteraceae	Communistpachha
5	<i>Leea indica</i>	Leeaceae	Njellu, Njekkku
6	<i>Mussaenda frondosa</i>	Rubiaceae	Vellilathaali
7	<i>Solanum torvum</i>	Solanaceae	Chunda, Pachhach
8	<i>Tabernaemontana divaricata</i>	Apocynaceae	Nandiyarvattom
	Herbs		
1	<i>Amorphophalus paeniifolius</i>	Araceae	Kaattuchena
2	<i>Blepharis maderaspatensis</i>	Acanthaceae	Hemakandi
3	<i>Lepidagathis incurva</i>	Acanthaceae	
4	<i>Mimosa pudica</i>	Leguminosae	Thottavadi
5	<i>Naregamia alata</i>	Meliaceae	Nilanarakam

6	Oplismenus compositus	Poaceae	
7	Phaulopsis dorsiflora	Acanthaceae	

4. Pachiri Tharavad Nagakavu, Sreekrishnapuram

date 25.05.2019.

Sl. no	Scientific name	Family	
	Trees		
1	Adenanthera pavonina	Leguminosae	Mancha
2	Aporosa lindleyana	Euphorbiaceae	Vetti
3	Artocarpus hirsutus	Moraceae	Aanjily
4	Cinnamomum malabatum	Lauraceae	Vayana
5	Ficus hispida	Moraceae	Paraka
6	Holigarna arnottiana	Anacardiaceae	Charu,
7	Hydnocarpus pentandrus	Flacourtiaceae	Marotti
8	Mallotus philippensis	Euphorbiaceae	Sindoo, Kurang
9	Morinda pubescens	Euphorbiaceae	Manjar
10	Naringi crenulata	Rutaceae	Narinar, Manjak
11	Olea dioica	Oleaceae	Idala
12	Sterculia guttata	Sterculiaceae	Kaavala
13	Srychnos nux-vomica	Loganiaceae	Kanjira
14	Terminalia paniculata	Combretaceae	Maruth
15	Zanthoxylum rhetza	Rutaceae	Mullila
	Climbers		
1	Anamirta cocculus	Menispermaceae	Pollaka
2	Derris sp.	Leguminosae	
3	Dioscorea sp.	Dioscoreaceae	Kattuk
4	Calycopteris floribunda	Combretaceae	Pullani
5	Cissus latifolia	Vitaceae	Chunn
6	Cosmostigma racemosum	Aslepiadaceae	Kakkak
7	Cyclea peltata	Menispermaceae	Padaki
8	Gnetum edule	Gnetaceae	Thuvak
9	Jasminum coarctatum (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattum

10	Uvaria narum	Annonaceae	Narum
Shrubs			
1	Canthium angustifolium	Rubiaceae	Kattara
2	Chassalia curviflora var. ophioxyloides	Rubiaceae	Yamari
3	Leea indica	Leeaceae	Njellu
4	Memecylon depressum	Melastomata ceae	Kaikka
5	Memecylon umbellatum	Melastomata ceae	Kayam
Herbs			
1	Blepharis maderaspatensis	Acanthaceae	Hemak
2	Cleome burmannii	Capparaceae	Kattuk
3	Curculigo orchioides	Hypoxidaceae	Nilapar
4	Cyathula prostrata	Amaranthace ae	Cheruk

**5. Tharavath Tharavad Kavu, Nagaripuram, Mannur
25.05.2019.**

Sl.n o	Scientific name	Family	Local name
Trees			
1	Albizia odoratissima	Leguminosae	Kunnivaka
2	Alstonia scholaris	Apocynaceae	Ezhilampala
3	Caryota urens	Arecaceae	Choondappana, Olattipana
4	Cassia fistula	Leguminosae	Kanikkonna
5	Ficus exasperata	Moraceae	Therakam
6	Hydnocarpus pentandrus	Flacourtiaceae	Marotti
7	Mallotus philippensis	Euphorbiaceae	Sindoora maram, Kurungumanjal
8	Morinda pubescens	Rubiaceae	Manjanathi, Manjapavetta
9	Olea dioica	OLEaceae	Idala
10	Sapindus trifoliatus	Sapindaceae	Pasakotta, Soapinkai
11	Sterculia guttata	Sterculiaceae	Kaavalam
12	Streblus asper	Moraceae	Paruvamaram
Climbers			
1	Alangium salvifolium subsp. hexapetalum	Alangiaceae	Valliankolam, Chorakattappazham
2	Ampelocissus	Vitaceae	Chemparavalli

	indica		
3	Anamirta cocculus	Menispermaceae	Pollakai
4	Cissus latifolia	Vitaceae	Chunnambuvalli
5	Centrosema molle	Leguminosae	Kattu-payar
6	Cosmostigma racemosum	Asclepiadaceae	Kakkakodi
7	Dioscorea sp.	Dioscoreaceae	Kattukatchil
8	Hemidesmus indicus	Periplocaceae	Nannari, Naruneendi
9	Hiptage benghalensis	Malpighiaceae	Chittilakody
10	Ichnocarpus frutescens	Apocynaceae	Parvalli
11	Jasminum coarctatum (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
12	Merremia umbellata	Convolvulaceae	Koravalli
13	Mikania micrantha	Asteraceae	Dhrirastapachha
14	Pothos scandens	Araceae	Paruvakkodi, Varivalli
15	Tiliacora acuminata	Menispermaceae	Vallikanjiram
16	Tinospora sinensis	Menispermaceae	Pothamruthu
17	Ziziphus oenoplia	Rhamnaceae	Cheruthodali
	Shrubs		
1	Canthium coromandelicum	Rubiaceae	Karamullu
2	Catunaregam spinosa	Rubiaceae	Malankara
3	Chassalia curviflora var. ophioxyloides	Rubiaceae	Yamari
4	Chromolaena odorata (<i>Eupatorium odoratum</i>)	Asteraceae	Communistpatcha
5	Clerodendrum infortunatum	Verbenaceae	Peruvelam
6	Ehretia microphylla	Boraginaceae	Aghori
7	Helicteres isora	Sterculiaceae	Idampiri-Valampiri
8	Leea indica	Leeaceae	Njellu

9	Tabernaemontana divaricata	Apocynaceae	Nandiyarvattom
10	Thespesia lampas	Malvaceae	Kattuparathi
	Herbs		
1	Achyranthes aspera	Acanthaceae	Kadaladi
2	Ceome visosa	Capparaceae	Kaattukadugu, Adunarivela
3	Oplismenus compositus	Poaceae	
4	Phaulopsis dorsiflora	Acanthaceae	
5	Sauropus quadrangularis	Euphorbiaceae	Punarmuringa
6	Zigiber zerumbet	Zingiberaceae	Malayinchi

6.Parakkattu Kavu, Kavissery, Alathur 26.09.2019

Sl.No	Scientific name	Family	Local name
	Trees		
1	Ailanthus triphysa	Simaroubaceae	Matti, Perumaram
2	Albizia odoratissima	Leguminosae	Kunnivaka
3	Alstonia scholaris	Apocynaceae	Ezhilampala
4	Annona squamosa	Annonaceae	Aatha, Seethapazham
5	Artocarpus heterophyllus	Moraceae	Plavu
6	Azadirachta indica	Meliaceae	Veppu, Aryaveppu
7	Bombax ceiba L.	Bombacaceae	Mullilavu
8	Borassus	Arecaceae	Karimpana

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	flabellifer L.		
9	Butea monosperma	Leguminosae	Plash
10	Casearia wynadensis	Flacourtiaceae	
11	Cassia fistula	Leguminosae	Kanikkonna
12	Casuarina equisetifolia	Casuarinaceae	Choolamaram
13	Ceiba pentandra	Bombacaceae	Panjimaram
14	Cleistanthus collinus	Euphorbiaceae	Odaku
15	Dalbergia lanceolaria	Laguminosae	Velleetti
16	Diospyros montana	Ebenaceae	Manjakara
17	Ficus benghalensis	Moraceae	Peral
18	Ficus exasperata	Moraceae	Therakam
19	Ficus hispida	Moraceae	Paarakam
20	Ficus religiosa	Moraceae	Arayal
21	Flacourtia indica	Flacortiaceae	Kattu-luica
22	Gliricidia sepium	Leguminosae	Seemakkonna
23	Haldina cordifolia	Rubiaceae	Manjakadambu
24	Holarrhena pubescens	Apocynaceae	Kudagappala
25	Holoptelea integrifolia	Ulmaceae	Aaval
26	Madhuca longifolia var.	Sapotaceae	Ilippa

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	latifolia		
27	Mallotus philippensis	Euphorbiaceae	Sindooram, Kurangumanjal
28	Mangifera indica	Anacardiaceae	Mavu
29	Manihot glaziovii	Euphorbiaceae	Kattu rubber
30	Miliusa tomentosa	Annonaceae	Kanakaittha
31	Morinda pubescens	Rubiaceae	Manjapavatta, Manjanathi
32	Plumeria alba	Apocynaceae	Vella chempakappala
33	Polyalthia longifolia	Annonaceae	Aranamaram
34	Pongamia pinnata	Leguminosae	Ungu
35	Putranjiva roxburghii	Euphorbiaceae	Erani
36	Samanea saman	Leguminosae	Mazhamaram
37	Sterculia guttata	Sterculiaceae	Kaavalam
38	Streblus asper	Moraceae	Paruvamaram
39	Strychnos nux-vomica	Moraceae	Kanjiram
40	Tamarindus indica	Leguminosae	Puli, Vaalanpuli
41	Tectona grandis	Verbenaceae	Thekku
42	Terminalia paniculata	Combretaceae	Maruthi
43	Thevetia peruviana	Apocynaceae	Manja-arali

44	Trema orientalis	Ulmaceae	Pottama
	Climbers		
1	Abrus preparatorius	Leguminosae	Kunni
2	Aristolochia indica	Aristolochiaceae	Karalakam
3	Calycopteris floribunda	Combretaceae	Pullani
4	Capparis zeylanica	Capparaceae	
5	Cardiospermum halicacabum	Sapindaceae	Uzhinja
6	Cayratia pedata	Vitaceae	Chorivalli
7	Centrosema molle	Leguminosae	Kaattupayar
8	Ceropegia candelabrum	Asclepiadaceae	Thirinagathumba
9	Cissampelos pareira L. var. hirsuta	Menispermaceae	Padakizhangu
10	Cissus arnottiana	Vitaceae	Chunnambuvalli
11	Cryptolepis buchananii	Periplocaceae	Kattupalvalli
12	Cyclea peltata	Menispermaceae	Padakizhangu
13	Cynanchum callialatum	Asclepiadaceae	

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14	Dalbergia horrida	Leguminosae	Anamullu
15	Dioscorea bulbifera	Dioscoreaceae	Erachikatchil
16	Dioscorea hispida	Dioscoreaceae	Kaattukatchil
17	Dioscorea pentaphylla	Dioscoreaceae	Chaavali
18	Gloriosa superba	Liliaceae	Menthonni
19	Hemidesmus indicus	Periplocaceae	Nannari
20	Ichnocarpus frutescens	Apocynaceae	Parvalli
21	Ipomoea marginata	Convolvulaceae	Chuttithiruthali
22	Merremia umbellata	Convolvulaceae	Koravalli
23	Mukia maderaspatana	Cucurbitaceae	
24	Naravelia zeylanica	Ranunculaceae	Vathamkodi
25	Passiflora foetida	Passifloraceae	Poochappazham
26	Solena amplexicaulis	Cucurbitaceae	Kakkarika
27	Tinospora cordifolia	Menispermaceae	Amruthu, Chittamruthu
28	Tinospora sinensis	Menispermaceae	Potthamruthu
29	Toxocarpus kleinii	Asclepiadaceae	
30	Wattakaka volubilis	Asclepiadaceae	Vattakakkakodi

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31	Xenostegia tridentata	Convolvulaceae	Prasarani
32	Ziziphus oenoplia	Rhamnaceae	Thodali
	Shrubs		
1	Allophylus serratus	Sapindaceae	Mukkannaperuku
2	Antidesma acidum	Euphorbiaceae	Asaripuli, Putharaval
3	Bambusa bambos	Poaceae	Illi, Mula
4	Breynia retusa	Euphorbiaceae	Mullenkaini
5	Canthium coromandelicum	Rubiaceae	Kattaramullu
6	Cereus pterogonus	Cactaceae	Chathurakkalli
7	Chassalia curviflora var. ophioxyloides	Rubiaceae	Yamari
8	Chromolaena odorata (Eupatorium odoratum)	Asteraceae	Communistpatcha
9	Clerodendrum infortunatum	Verbenaceae	Peruku
10	Crotalaria pallida	Leguminosae	Kilukilipa
11	Dendrophthoe falcata	Loranthaceae	Itthil-kanni
12	Glycosmis	Rutaceae	Paanal

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	pentaphylla		
13	Hibiscus hispidissimus	Malvaceae	Panachan
14	Hyptis suaveolens	Lamiaceae	Naattapoochedi
15	Jatropha gossypifolia	Euphorbiaceae	Chuvannakadalavanakku
16	Justicia gendarussa	Acanthaceae	Vathamkolli
17	Lantana camara	Verbenaceae	Arippoochedi, Kongini
18	Mussaenda frondosa	Rubiaceae	Vellila
19	Pavetta indica	Rubiaceae	Pavatta
20	Pedilanthus tithymaloides	Euphorbiaceae	Thatthamma-chedi
21	Ricinus communis	Euphorbiaceae	Aavanakku
22	Senna hirsuta	Leguminosae	Thakara
23	Senna occidentalis	Leguminosae	Ponnamthakara
24	Triumfetta rhomboidea	Tiliaceae	Ottukayai
25	Urena lobata subsp. sinuata	Malvaceae	Uthiram
	Herbs		
1	Acalypha indica	Euphorbiaceae	Kuppameni
2	Acampe ochracea	Orchidaceae	Maravazha
3	Acanthospermu	Asteraceae	Kaattu-njerinjil

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	m hispidum		
4	Achyranthes aspera	Amaranthaceae	Kadaladi
5	Aerva lanata	Amaranthaceae	Cherula
6	Aeschynomene americana	Leguminosae	
7	Ageratum conyzoides	Asteraceae	
8	Alternanthera bettzickiana	Amaranthaceae	
9	Amaranthus spinosus	Amaranthaceae	Mullencheera
10	Biophytum reinwardtii	Oxalidaceae	Mukkutti
11	Blepharis maderaspatensis	Acanthaceae	Hemakandi
12	Boerhavia diffusa	Nyctaginaceae	Thazhuthama
13	Cleome viscosa	Capparaceae	Kattukaduku, Adunarivela
14	Corchorus aestuans	Tiliaceae	
15	Curculigo orchioides	Hypoxidaceae	Nilappana
16	Dactyloctenium aegyptium	Poaceae	Kakkakalanpullu
17	Desmodium heterophyllum	Leguminosae	Nilamparanda
18	Desmodium triflorum	Leguminosae	Nilamparanda
19	Desmodium triquetrum	Leguminosae	Adakkachokki
20	Dipteracanthus	Acanthaceae	Velipadakkam

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	prostratus		
21	Echinochloa colonum	Poaceae	
22	Eclipta prostrata	Asteraceae	Kanjunni
23	Elephantopus scaber	Asteraceae	Aanachuvadi
24	Eleusine indica	Poaceae	
25	Eranthemum capense	Acanthaceae	
26	Evolvulus alsinoides	Convolvulaceae	Visnukranthi
27	Heliotropium indicum	Boraginaceae	Thelkada
28	Heteropogon contortus	Poaceae	Ooshipullu
29	Indigofera linnaei	Leguminosae	Cherru-pulladi
30	Justicia trinervia	Acanthaceae	
31	Laportea interrupta	Urticaceae	Aanachhoriyanam
32	Leucas angularis	Lamiaceae	Thumba
33	Leucas aspera	Lamiaceae	Thumba
34	Mimosa pudica	Leguminosae	Thottavadi
35	Mitracarpus hirtus	Rubiaceae	
36	Naregamia alata	Meliaceae	Nilanarakam
37	Ocimum americanum.	Lamiaceae	Thulasi, Krishnathulasi
38	Oldenlandia corymbosa	Rubiaceae	Parpidakapullu
39	Pentanema	Asteraceae	Kammal-poovu

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	indicum		
40	Perotis indica	Poaceae	Meesapullu
41	Phyla nodiflora	Verbenaceae	
42	Phyllanthus amarus	Euphorbiaceae	Keezharnelli
43	Phyllanthus urinaria	Euphorbiaceae	Chuvanna-keezharnelli
44	Physalis angulata	Solanaceae	Njotta-njodien
45	Platostoma hispidum	Lamiaceae	
46	Pseudarthria viscida	Leguminosae	Moovila
47	Pupalia lappacea	Amaranthaceae	
48	Sebastiana chamaelea	Euphorbiaceae	Njettavanakku
49	Senna tora	Leguminosae	Oolanthakara
50	Sida acuta	Malvaceae	Anakurumthotti
51	Sida alnifolia	Malvaceae	Kurumthotti
52	Sida cordata	Malvaceae	Vallikurumthotti
53	Sida cordifolia	Malvaceae	Oorpan, Vatta- kurumthotti
54	Sida mysorensis	Malvaceae	
55	Spermacoce hispidia	Rubiaceae	Tharthavel
56	Spermacoce latifolia	Rubiaceae	Vellatharavu
57	Synedrella nodiflora	Asetraceae	Mudiyanpachha
58	Tephrosia	Leguminosae	Kozhinjil

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	purpurea		
59	Tragia involucrata	Euphorbiaceae	Kodithoova
60	Tridax procumbens	Asteraceae	Kumminippacha
61	Uraria rufescens	Leguminosae	
62	Vernonia cinerea	Asteraceae	Poovamkurunnila
63	Zornia diphylla	Leguminosae	Murikkotti

7.Ethannur Pandalangattu Tharavad Sarpakavu, Koduvayur

Chitur Taluk 26.05.2019

Sl.no	Scientific name	Family	
	Trees		
1	Aegle marmelos	Rutaceae	Koovala
2	Albizia saman (<i>Samanea saman</i>)	Leguminosae	Rain tree
3	Cassia fistula	Leguminosae	Kanikkolam
4	Cleistanthus collinus	Euphorbiaceae	Odaku
5	Ixora brachiata	Rubiaceae	Marach
6	Mallotus philippensis	Euphorbiaceae	Sindoor Kurang
7	Madhuca longifolia var. latifolia	Sapotaceae	Irippa
8	Morinda pubescens	Rubiaceae	Manjan Manjap
9	Olea dioica	Oleaceae	Idala
10	Putranjiva roxburghii	Euphorbiaceae	Eranji
11	Schleichera oleosa	Sapindaceae	
12	Spathodea campanulata	Bignoniaceae	Spatho
13	Streblus asper	Moraceae	Paruvan
14	Srychnos nux-vomica	Loganiaceae	Kanjiran
15	Thevetia peruviana	Apocynaceae	Maja- a
	Climbers		
1	Anamirta cocculus	Menispermaceae	Pollakai
2	Asparagus racemosus	Liliaceae	Sathava
3	Calycopteris floribunda	Combretaceae	Pullani

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4	<i>Capparis zeylanica</i>	Capparaceae	
5	<i>Cayratia pedata</i>	Vitaceae	Choriva
6	<i>Combretum albidum</i>	Combretaceae	Manjaka
7	<i>Dioscorea</i> sp.	Dioscoreaceae	Kattuka
8	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
9	<i>Jasminum coarctatum</i> (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattum
10	<i>Mallotus repandus</i>	Euphorbiaceae	Thavatt
11	<i>Ziziphus oenopia</i>	Rhamnaceae	Cheruth
	Shrubs		
1	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	Yamari
2	<i>Clerodendrum infortunatum</i>	Verbenaceae	Peruvela
3	<i>Glycosmis pentaphylla</i>	Rutaceae	Paanal
	Herbs		
1	<i>Cyathula prostrata</i>	Amaranthaceae	Cheruka
2	<i>Curculigo orchioides</i>	Hypoxidaceae	Nilappa
3	<i>Mimosa pudica</i>	Leguminosae	Thottav
4	<i>Naregamia alata</i>	Meliaceae	Nilanara
5	<i>Oplismenus composites</i>	Poaceae	
6	<i>Phaulopsis dorsiflora</i>	Acanthaceae	

8.Koramparambu Sarpakavu, Melarkode, Alathur.

9.2.2020

Sl.no	Scientific name	Family	Local name
	Trees		
1	<i>Albizia lebbeck</i>	Leguminosae	Karivaka
2	<i>Azadirachta indica</i>	Meliaceae	Vepu, Aryavepu
3	<i>Borassus flabellifer</i>	Arecaceae	Karimpana
4	<i>Briedelia retusa</i>	Euphorbiaceae	Mullenkaini
5	<i>Butea monosperma</i>	Leguminosae	Plash
6	<i>Cassia fistula</i>	Leguminosae	Kanikkonna
7	<i>Ceiba pentandra</i>	Bombaceae	Panjimaram
8	<i>Gliricidia sepum</i>	Leguminosae	Seemakonna
9	<i>Holarrhena pubescens</i>	Apocynaceae	Kudagappala

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10	Madhuca longifolia var. latifolia	Sapotaceae	Irippa
11	Manihot glaziovii	Euphorbiaceae	Kattu-rubber
12	Morinda pubescens	Rubiaceae	Manjanathi, Manjapavetta
13	Ployalthia longifolia	Annonaceae	Aranamaram
14	Pterocarpus marsupium	Leguminosae	Venga, Karavenga
15	Santalum album	Santalaceae	Chandanam
16	Streblus asper	Moraceae	Paruvamaram
17	Strychnos nux-vomica	Loganiaceae	Kanjiram
18	Tamarindus indica	Leguminosae	Puli, Vaalanpuli
19	Tectona grandis	Verbenaceae	Thekku
	Climbers		
1	Acacia torta	Leguminosae	Kakkincha
2	Argyrea sp.	Convolvulaceae	
3	Capparis zeylanica	Capparaceae	
4	Calycopteris floribunda	Combretaceae	Pullani
5	Combretum albidum	Combretaceae	Manjakody
6	Cyclea peltata	Menispermaceae	Padakizhangu
7	Dioscorea sp.	Dioscoreaceae	Kattukachil
8	Ichnocarpus frutescens	Apocynaceae	Parvalli
9	Jasminum coarctatum (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
10	Mikania micrantha	Compositae	Dhirastrapacha
11	Tinospora cordifolia	Menispermaceae	Amruthu, Chittamruthu
	Shrubs		
1	Barleria prionitis	Acanthaceae	Manjakankambaram
2	Bambusa bambos	Poaceae	Mula, Illi
3	Chromolaena odorata	Compositae	Communistpatcha

	<i>(Eupatorium odoratum)</i>		
4	<i>Embelia tsjeriam-cottam</i>	Myrsinaceae	Ammimuriyan
5	<i>Glycosmis pentaphylla</i>	Rutaceae	Panal
6	<i>Pedilanthus tithymaloides</i>	Euphorbiaceae	Thatthamma chedi
Herbs			
1	<i>Eranthemum capense</i>	Acanthaceae	
2	<i>Mimosa pudica</i>	Leguminosae	Thottavadi
3	<i>Oplismenus compositus</i>	Poaceae	
4	<i>Pennisetum pedicellatum</i>	Poaceae	Poochavalan pullu
5	<i>Sida cordata</i>	Malvaceae	Vallikurunthotti
6	<i>Synedrella nodiflora</i>	Asteraceae	Mudiyan pacha
7	<i>Uraria rufescens</i>	Leguminosae	

9. Nagakayagoshtam, Vithinasseri, Nenmara.

9.2.20

Sl.no	Scientific name	Family	Local name
Trees			
1	<i>Cassia fistula</i>	Leguminosae	Kanikkonna
2	<i>Couroupita guianensis</i>	Lecythidaceae	Nagalingamaram
3	<i>Briedelia retusa</i>	Euphorbiaceae	Mullenkaini
4	<i>Morinda pubescens</i>	Rubiaceae	Manjanathi, Manjapavetta
5	<i>Miliusa tomentosa</i>	Annonaceae	Kanakaitha
6	<i>Schleichera oleosa</i>	Sapindaceae	Poovam
7	<i>Strebles asper</i>	Moraceae	Paruvamaram
8	<i>Strychnos nux-vomica</i>	Loganiaceae	Kanjiram
9	<i>Thevetia peruviana</i>	Apocynaceae	Manja-arali
Climbers			
1	<i>Acacia caesia</i>	Leguminosae	Incha
2	<i>Combretum</i>	Combretaceae	Manjavalli

	albidum		
3	Passiflora foetida	Passifloraceae	Poochapazham
4	Tiliacora acuminata	Menspermaceae	Vallikanjiram
5	Wattakaka volubilis	Asclepiadaceae	Vattakakkakodi
	Shrubs		
1	Thunbergia erecta	Acanthaceae	

10. Elavanchery Kizhakke Mundarath Temple, Kavu, Elovanchery, Chittur Taluk. 9.2.2020.

Sl.no	Scientific name	Family	Local name
	Trees		
1	Aegle marmelos	Rutaceae	Koovalam
2	Azadirachta indica	Meliaceae	Aryaveppu, Veppu
3	Borassus flabellifer	Arecaceae	Karimpana
4	Briedelia retusa	Euphorbiaceae	Mullenkaini
5	Cassia fistula	Leguminosae	Kanikonna
6	Cordia wallichiana	Boraginaceae	
7	Gliricidia sepium	Leguminosae	Seemakonna
8	Leucaena leucocephala	Leguminosae	Ipilippil
9	Madhuca longifolia var. latifolia	Sapotaceae	Irippa
10	Miliusa tomentosa	Annonaceae	Kanakaitha
11	Neolamarckia cadamba (Anthocephalus cadamba)	Rubiaceae	Kadambu
12	Mangifera indica	Anacardiaceae	Mavu
13	Santalum album	Santalaceae	Chandanam
14	Streblus asper	Moraceae	Paruvamaram
15	Thevetia peruviana	Apocynaceae	Manjarali
	Climbers		
1	Argyreia sp.	Convolvulaceae	
2	Capparis	Capparaceae	

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	zeylanica		
3	Centrosema molle	Leguminosae	Kattu-payar
4	Combretum albidum	Combretaceae	Manjakody
5	Dioscorea sp.	Dioscoreaceae	Kattukachil
6	Hewittia malabarica	Convolvulaceae	Ohanamvalli
7	Ichnocarpus frutescens	Apocynaceae	Parvalli
8	Jasminum coarctatum (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
9	Merremia vitifolia	Convolvulaceae	Manja vayaravalli
10	Mikania micrantha	Asteraceae	Dhrirastapachha
11	Tinospora sinensis	Menispermaceae	Pothamruth
12	Tiliacora acuminata	Menispermaceae	Vallikanjiram
13	Ziziphus oenoplia	Rhamnaceae	Cheruthodali
	Shrubs		
1	Bauhinia tomentosa	Leguminosae	Manjamandaram
2	Caesalpinia mimosoides	Leguminosae	Poomullu
3	Clycosmis pentaphylla	Rutaceae	Panal
4	Chromolaena odorata (<i>Eupatorium odoratum</i>)	Compositae	Communistpatcha
5	Hibiscus rosa-sinensis	Malvaceae	Chemparathi
6	Ixora coccinea	Rubiaceae	Chuvanna thetchi
7	Phyllanthus reticulates	Euphorbiaceae	Neeroli
8	Tabernaemontana divaricata	Apocynaceae	Nandiyarvattom
	Herbs		
1	Aerva lanata	Amaranthaceae	Cherula
2	Acampe praemorsa	Orchidaceae	Maravazha
3	Achyranthes aspera	Amaranthaceae	Kadaladi
4	Boerhavia diffusa	Nyctaginaceae	Thazuthama
5	Cymbopogon flexuosus	Poaceae	Inchipullu

6	<i>Eranthemum capense</i>	Acanthaceae	
7	<i>Mimosa pudica</i>	Leguminosae	Thottavadi
8	<i>Oplismenus compositus</i>	Poaceae	
9	<i>Pennisetum pedicellatum</i>	Poaceae	Poochavalan pullu
10	<i>Pseudanthistiria umbellata</i>	Poaceae	
11	<i>Synedrella nodiflora</i>	Asteraceae	Mudiyapachha

11. Tholannur Valiyathodi Kavu, Tholannur, Alathur

9.2.2020

Sl.no	Scientific name	Family	Local name
	Trees		
1	<i>Caryota urens</i>	Arecaceae	Choondapana, Olattipana
2	<i>Gliricidia sepium</i>	Leguminosae	Seemakkonna
3	<i>Grewia tiliifolia</i>	Tiliaceae	Chadachi
4	<i>Holoptelea integrifolia</i>	Ulmaceae	Aaval
5	<i>Leucaena leucocephala</i>	Leguminosae	Subabul
6	<i>Mallotus philippensis</i>	Euphorbiaceae	Sindoora maram, Kurangumanjal
7	<i>Mangifera indica</i>	Anacardiaceae	Mavu
8	<i>Miliusa tomentosa</i>	Annonaceae	Kanakaittha
9	<i>Morinda pubescens</i>	Rubiaceae	Manjanathi, Manjapavatta
10	<i>Naringi crenulata</i>	Rutaceae	Manjakoovalam
11	<i>Putranjiva roxburghii</i>	Euphorbiaceae	Eranji
12	<i>Schleichera oleosa</i>	Sapindaceae	Poovam
13	<i>Sterculia guttata</i>	Sterculiaceae	Kaavalam
14	<i>Streblus asper</i>	Moraceae	Paruvamaram
15	<i>Strychnos nux-vomica</i>	Loganiaceae	Kanjiram
16	<i>Tamarindus indica</i>	Leguminosae	Puli, Vaalanpuli

17	<i>Tectona grandis</i>	Verbenaceae	Thekku
18	<i>Zanthoxyllum rhetza</i>	Rutaceae	Mullilam
	Climbers		
1	<i>Cardiospermum halicacabum</i>	Sapindaceae	Uzhinja
2	<i>Cayratia pedata</i>	Vitaceae	Chorivalli
3	<i>Centrosema molle</i>	Leguminosae	Kattu-payar
4	<i>Dalbergia volubilis</i>	Leguminosae	
5	<i>Dioscorea sp.</i>	Dioscoreaceae	Kattukachil
6	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
7	<i>Merremia umbellata</i>	Convolvulaceae	Koravalli
8	<i>Merremia vitifolia</i>	Convolvulaceae	Manjavayaravalli
9	<i>Tinospora sinensis</i>	Menispermaceae	Pothamruthu
10	<i>Ziziphus oenoplia</i>	Rhamnaceae	Cheruthodali
	Shrubs		
1	<i>Abelmoschus manihot</i>	Malvaceae	
2	<i>Bambusa bambos</i>	Poaceae	Illi, Mula
3	<i>Chromolaena odorata (Eupatorium odoratum)</i>	Compositae	Communistpatcha
4	<i>Hibiscus rosa-sinensis</i>	Malvaceae	Chemparathi
5	<i>Ixora coccinea</i>	Rubiaceae	Chuvanna thetchi
6	<i>Ricinus communis</i>	Euphorbiaceae	Aavanakku
7	<i>Triumfetta rhomboidea</i>	Tiliaceae	Ottukai
8	<i>Urena lobata subsp. lobata</i>	Malvaceae	Uthiram
	Herbs		
1	<i>Blumea lacera</i>	Asteraceae	Venapachha
2	<i>Brachiaria miliiformis</i>	Poaceae	
3	<i>Chrysopogon aciculatus</i>	Poaceae	
4	<i>Costus speciosus</i>	Costaceae	Channakoova
5	<i>Desmodium scorpiurus</i>	Leguminosae	

6	Ischaemum indicum	Poaceae	
7	Justicia wynaadensis	Acanthaceae	
8	Mimosa pudica	Leguminosae	Thottavadi
9	Ocimum tenuiflorum	Lamiaceae	Thulasi, Krishnathulasi

**12.Chola Kavu, Siva Temple, Thiruvegapara, Pallippuram,
Pattambi 10.2.2020.**

Sl.n o	Scientific name	Family	Local name
	Trees		
1	Aegle marmelos	Rutaceae	Koovalam
2	Ailanthus triphysa	Simaroubacea e	Pongiliyam, Matti
3	Alstonia scholaris	Apocynaceae	Ezhilampala
4	Antiaris toxicaria	Moraceae	Maravuri
5	Artocarpus heterophyllus	Moraceae	Plavu
6	Azadirachta indica	Meliaceae	Veppu, Aryaveppu
7	Bauhinia purpurea	Leguminosae	Mandaram
8	Briedelia retusa	Euphorbiaceae	Mullenkaini
9	Caryota urens	Arecaceae	Choondappana, Olattipana
10	Cassia fistula	Leguminosae	Kanikonna
11	Ficus benghalensis	Moraceae	Peral
12	Ficus exasperata	Moraceae	Therakam
13	Ficus religiosa	Moraceae	Arayal
14	Ficus tsjahela	Moraceae	Chela
15	Gmelina arborea	Verbenaceae	Kumizhu
16	Holarrhena pubescens	Apocynaceae	Kudagappala
17	Holigarna arnottiana	Anacardiaceae	Charu, Cheru
18	Hydnocarpus pentandrus	Flacourtiaceae	Marotti
19	Magnolia champaca	Magnonliaceae	Chempakam
20	Mallotus philippensis	Euphorbiaceae	Sindoora maram, Kurangumanjal
21	Macaranga peltata	Euphorbiaceae	Vatta, Uppothy
22	Mangifera indica	Anacardiaceae	Mavu
23	Morinda pubescens	Rubiaceae	Manjanathi,

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			Manjapavatta
24	<i>Naringi crenulata</i>	Rutaceae	Manjakoovalam
25	<i>Olea dioica</i>	Oleaceae	Idala
26	<i>Pterocarpus santalinus</i>	Leguminosae	Raktachandanam
27	<i>Samanea saman</i>	Leguminosae	Rain tree
28	<i>Simarouba glauca</i>	Simaroubaceae	Lakshmitharu
29	<i>Santalum album</i>	Santalaceae	Chandanam
30	<i>Spondias pinnata</i>	Anacardiaceae	Ambazham
31	<i>Saraca asoca</i>	Leguminosae	Ashokam
32	<i>Sterculia guttata</i>	Sterculiaceae	Kaavalam
33	<i>Strychnos nuxvomica</i>	Loganiaceae	Kanjiram
34	<i>Tectona grandis</i>	Verbenaceae	Thekku
35	<i>Terminalia catappa</i>	Combretaceae	Adamaram
36	<i>Trema orientalis</i>	Ulmaceae	Pottama
37	<i>Zanthoxylum rhetza</i>	Rutaceae	Mullilam
	Climbers		
1	<i>Abrus pulchellus</i>	Leguminosae	Kaattumuthira
2	<i>Alangium salvifolium</i> subsp. <i>hexapetalum</i>	Alangiaceae	Valliankolam, Chorakattappazham
3	<i>Anamirta cocculus</i>	Menispermaceae	Pollakai
4	<i>Asparagus racemosus</i>	Liliaceae	Sathavari
5	<i>Calycopteris floribunda</i>	Combretaceae	Pullani
6	<i>Cayratia pedata</i>	Vitaceae	Chorivalli
7	<i>Centrosema molle</i>	Leguminosae	Kattu-payar
8	<i>Cissus heyneana</i>	Vitaceae	Chunnambuvalli
9	<i>Combretum latifolium</i>	Combretaceae	
10	<i>Cyclea peltata</i>	Menispermaceae	Padakizhangu
11	<i>Dalbergia horrida</i>	Leguminosae	Anamullu
12	<i>Derris eualata</i>	Leguminosae	
13	<i>Dioscorea</i> sp.	Dioscoreaceae	Kattukachil
14	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
15	<i>Jasminum coarctatum</i> (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
16	<i>Merremia vitifolia</i>	Convolvulaceae	Manja vayaravalli

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		e	
17	Merremia umbellata	Convolvulaceae	Koravalli
18	Mucuna pruriens	Leguminosae	Naikurana
19	Naravelia zeylanica	Ranunculaceae	Vathamkodi
20	Pothos scandens	Araceae	Paruvakkodi, Varivalli
21	Tiliacora acuminata	Menispermaceae	Vallikanjiram
22	Tragia involucrata	Euphorbiaceae	
23	Uvaria narum	Annonaceae	Narumpanal
24	Ziziphus oenoplia	Rhamnaceae	Cheruthodali
Shrubs			
1	Bambusa bambos	Poaceae	Illi, Mula
2	Barleria prionitis	Acanthaceae	Manjakankambaram
3	Bauhinia tomentosa	Leguminosae	Manjamandaram
4	Justicia adathoda	Acanthaceae	Adalodakam
5	Justicia gendarussa	Acanthaceae	Vathamkolli
6	Canthium angustifolium	Rubiaceae	Kattaramullu
7	Chassalia curviflora var. ophioxyloides	Rubiaceae	Yamari
8	Chromolaena odorata (Eupatorium odoratum)	Asteraceae	Communistpachha
9	Clerodendrum infortunatum	Verbenaceae	Peruvelam
10	Cycas circinalis	Cycadaceae	Eenth
11	Ecbolium virde	Acanthaceae	Odiyamadantha
12	Hibiscus hispidissimus	Malvaceae	Panachan, Kalapoo
13	Ixora coccinea	Rubiaceae	Chuvanna thetchi
14	Ixora javanica	Rubiaceae	Ashokathetti
15	Mussaenda frondosa	Rubiaceae	Vellila
16	Pseuderanthemum malabaricum	Acanthaceae	Chuttimulla
17	Ricinus communis	Euphorbiaceae	Aavanakku
18	Sauropus androgynus	Euphorbiaceae	Velicheera
Herbs			
1	Acampe praemorsa	Orchidaceae	Maravazha

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2	Alternanthera bettzickiana	Amaranthaceae	
3	Alternanthera brasiliana	Amaranthaceae	Chemcheera
4	Anisochilus carnosus	Lamiaceae	Mathilkoorkka
5	Blepharis maderaspatensis	Acanthaceae	Hemakandi
6	Blumea laevis	Asteraceae	
7	Blumea oxyodonta	Asteraceae	
8	Centella asiatica	Apiaceae	Mutthil, Kodangal
9	Mimosa pudica	Leguminosae	Thottavadi
10	Naregamia alata	Meliaceae	Nilanarakam
11	Oplismenus compositus	Poaceae	
12	Pennisetum pedicellatum	Poaceae	Poochavalan pullu

13.Govindapuram Vishnukotta Kavu-TRUST.			
Sl.no	Scientific name	Family	Local name
Trees			
1	Ailanthus triphysa	Simaroubaceae	Matti, Perumaram
2	Alstonia scholaris	Apocynaceae	Ezhilampala
3	Artocarpus heterophyllus	Moraceae	Plavu, Jack fruit
4	Briedelia retusa	Euphorbiaceae	Mulluvenga, Mullenkaini
5	Caryota urens	Arecaceae	Choondappana, Olattipana
6	Cassia fistula	Leguminosae	Kanikkonna
7	Delonix regia	Leguminosae	Poomaram, Gulmohar
8	Erythrina orientalis	Leguminosae	Mullumurukku

9	Holigarna arnottiana	Anacardiaceae	Charu, Cheru
10	Holarrhena pubescens	Apocynaceae	Kudakappala
11	Lanea coromandelica	Anacardiaceae	Karasu, Udhi
12	Mallotus philippensis	Euphorbiaceae	Sindoora maram, Kurangumanjal
13	Macaranga peltata	Euphorbiaceae	Vatta, Uppothy
14	Mangifera indica	Anacardiaceae	Mavu, Mango
15	Morinda pubescens	Rubiaceae	Manjanathi, Manjapavetta
16	Naringi crenulata	Rutaceae	Narinarakam
17	Olea dioica	Oleaceae	Edala
18	Pterocarpus marsupium	Leguminosae	Venga
19	Putranjiva roxburghii	Euphorbiaceae	Eranji
20	Santalum album	Santalaceae	Chandanam
21	Simarouba glauca	Simaroubaceae	Lakshmitharu
22	Sterculia guttata	Sterculiaceae	Kaavalam
23	Streblus asper	Moraceae	Paruvamaram
24	Strychnos nux- vomica	Loganiaceae	Kanjiram
25	Swietenia mahagoni	Meliaceae	Mahagani
26	Tamarindus indica	Leguminosae	Valanpuli
27	Tectona grandis	Verbenaceae	Thekku
28	Trema orientalis	Ulmaceae	Amathali, Pottamaram
29	Wrightia tinctoria	Apocynaceae	Dhanthappala
30	Zanthoxylym rhetza	Rutaceae	Mullilam
	Climbers		

1	<i>Abrus pulchellus</i>	Leguminosae	Kattumuthira
2	<i>Ampelocissus indica</i>	Vitaceae	Chembaravalli
3	<i>Anamirta cocculus</i>	Menispermaceae	Pollakai
4	<i>Briedelia stipularis</i>	Euphorbiaceae	Cherupanachi , Kanjikottam
5	<i>Calycopteris floribunda</i>	Combretaceae	Pullani
6	<i>Dioscorea pentaphylla</i>	Dioscoreaceae	Chavalikizhangu
7	<i>Dioscorea sp.</i>	Dioscoreaceae	Kattukachil
8	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
9	<i>Jasminum coarctatum</i> (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
10	<i>Merremia vitifolia</i>	Convolvulaceae	Manjavayaravalli
11	<i>Mikania micrantha</i>	Asteraceae	Dhirastrapacha
12	<i>Pothos scandens</i>	Araceae	Paruvakkodi, Varivalli
13	<i>Tiliacora acuminata</i>	Menispermaceae	Vallikanjiram
14	<i>Uvaria narum</i>	Annonaceae	Narumpanal
15	<i>Ziziphus oenoplia</i>	Rhamnaceae	Cheruthodali
	Shrubs		
1	<i>Antidesma acidum</i>	Euphorbiaceae	Aripazhachedi, Asaripuli
2	<i>Benkara malabarica</i>	Rubiaceae	Cholakkara
3	<i>Canthium coromandelicum</i>	Rubiaceae	Kattaramullu
4	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	Yamari

5	Clerodendrum infortunatum	Verbenaceae	Peruvelam
6	Ixora coccinea	Rubiaceae	Chuvanna thetchi
7	Lantana camara	Verbenaceae	Aripoochedi
8	Leea indica	Leeaceae	Njellu
9	Sida cordata	Malvaceae	Kurumthotti
10	Herbs		
11	Acampe praemorsa	Orchidaceae	Maravazha
12	Achyranthes aspera	Acanthaceae	Kadaladi
13	Costus speciosus	Costaceae	Channakoova
14	Curculigo orchioides	Hypoxidaceae	Nilappana
15	Eleutheranthera ruderalis	Asteraceae	
16	Lepidagathis incurva	Acanthaceae	
17	Mimosa pudica	Leguminosae	Thottavadi
18	Naregamia alata	Meliaceae	Nilanarakam
19	Oplismenus compositus	Poaceae	
20	Phaulopsis dorsiflora	Acanthaceae	
21	Piper longum	Piperaceae	Thippali
22	Zigiber zerumbet	Zingiberaceae	Malayinchi
	14.- Chamarathu mana -Pattambi		

Sl.no	Trees Scientific name	Family	Local name
1	Aegle marmelos	Rutaceae	Koovalam
2	Borassus flabellifer	Arecaceae	Karimpana
3	Caesalpinia pulcherrima	Leguminosae	Rajamalli
4	Caryota urens	Arecaceae	Choondappana, Olattipana
5	Cassia fistula	Leguminosae	Kanikkonna
6	Holigarna arnottiana	Anacardiaceae	Charu, Cheru
7	Mallotus philippensis	Euphorbiaceae	Sindoora maram, Kurangumanjal
8	Mangifera indica	Anacardiaceae	Mavu, Mango
9	Santalum album	Santalaceae	Chandanam
10	Streblus asper	Moraceae	Paruvamaram
11	Swietenia mahagoni	Meliaceae	Mahagani
12	Tamarindus indica	Leguminosae	Valanpuli
13	Tectona grandis	Verbenaceae	Thekku
	CLIMBER		
1	Tecoma stans	Bignoniaceae	Manja arali
2	Ampelocissus indica	Vitaceae	Chemparavalli
3	Anamirta cocculus	Menispermaceae	Pollakai
4	Centrosema molle	Leguminosae	Kattu-payar
5	Dioscorea pentaphylla	Dioscoreaceae	Chavalikizhangu
6	Dioscorea sp.	Dioscoreaceae	Kattukachil
7	Ichnocarpus frutescens	Apocynaceae	Parvalli
8	Jasminum coarctatum (<i>Jasminum</i>)	Oleaceae	Kattumulla

	<i>rottlerianum)</i>		
9	<i>Merremia vitifolia</i>	Convolvulaceae	Manjavayaravalli
10	<i>Pothos scandens</i>	Araceae	Paruvakkodi, Varivalli
	SHRUB		
1	<i>Bauhinia acuminata</i>	Leguminosae	Vellamandaram
2	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	Yamari
3	<i>Clerodendrum infortunatum</i>	Verbenaceae	Peruvelam
4	<i>Mussaenda frondosa</i>	Rubiaceae	Vellila
5	<i>Tabernaemontana divaricata</i>	Apocynaceae	Nandiyar-vattom
	Herbs		
1	<i>Blepharis maderaspatensis</i>	Acanthaceae	Hemakandi
2	<i>Caladium bicolor</i>	Araceae	Pullichembu
3	<i>Elephantopus scaber</i>	Asteraceae	Anachuvadi
4	<i>Imperata cylindrica</i>	Poaceae	Dharbha
5	<i>Lepidagathis incurva</i>	Acanthaceae	
6	<i>Mimosa pudica</i>	Leguminosae	Thottavadi
7	<i>Naregamia alata</i>	Meliaceae	Nilanarakam
8	<i>Oplismenus compositus</i>	Poaceae	
9	<i>Phaulopsis dorsiflora</i>	Acanthaceae	
10	<i>Piper longum</i>	Piperaceae	Thippali
11	<i>Pupalia lappacea</i>	Amaranthaceae	
12	<i>Zigiber zerumbet</i>	Zingiberaceae	Malayinchi

15. Charakkumalil Pattambi			
1.12.2018			
Sl.no	Scientific name	Family	Local name
Trees			
1	Albizia odoratissima	Leguminosae	Kunnivaka
2	Annona reticulata	Annonaceae	Aatha
3	Artocarpus heterophyllus	Moraceae	Plavu
4	Caesalpinia pulcherrima	Leguminosae	Rajamalli
5	Caryota urens	Arecaceae	Choondappana, Olattipana
6	Cassia fistula	Leguminosae	Kanikkonna
7	Cordia obliqua	Boraginaceae	Virimaram, Pasakaimaram
8	Holigarna arnottiana	Anacardiaceae	Charu, Cheru
9	Mallotus philippensis	Euphorbiaceae	Sindoora maram, Kurangumanjal
10	Macaranga peltata	Euphorbiaceae	Vatta, Uppothy
11	Mangifera indica	Anacardiaceae	Mavu, Mango
12	Morinda pubescens	Rubiaceae	Manjanathi, Manjapavetta
13	Murraya koenigii	Rutaceae	Kariveppu
14	Olea dioica	Oleaceae	Idala
15	Santalum album	Santalaceae	Chandanam
16	Sterculia guttata	Sterculiaceae	Kaavalam
17	Streblus asper	Moraceae	Paruvamaram
18	Strychnos nux-vomica	Loganiaceae	Kanjiram
19	Tamarindus indica	Leguminosae	Valanpuli
20	Tectona grandis	Verbenaceae	Thekku

21	<i>Zanthoxylum rhetza</i>	Rutaceae	Mullilam
Climber			
1	<i>Anamirta cocculus</i>	Menispermaceae	Pollakai
2	<i>Briedelia stipularis</i>	Euphorbiaceae	Cherupanachi , Kanjikottam
3	<i>Cayratia pedata</i>	Vitaceae	Chorivalli
4	<i>Centrosema molle</i>	Leguminosae	Kattu-payar
5	<i>Dioscorea sp.</i>	Dioscoreaceae	Kattukachil
6	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
7	<i>Jasminum coarctatum</i> (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
8	<i>Mallotus repandus</i>	Euphorbiaceae	Thavatti
9	<i>Pothos scandens</i>	Araceae	Paruvakkodi, Varivalli
Shrubs			
1	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	Yamari
2	<i>Clerodendrum infortunatum</i>	Verbenaceae	Peruvelam
3	<i>Flueggea virosa</i>	Euphorbiaceae	Perinklavu
4	<i>Ixora coccinea</i>	Rubiaceae	Chuvanna thetchi
5	<i>Pavetta indica</i>	Rubiaceae	Pavetta
6	<i>Tabernaemontana divaricata</i>	Apocynaceae	Nandiyar- vattom
Herbs			
1	<i>Acampe praemorsa</i>	Orchidaceae	Maravazha
2	<i>Blepharis maderaspatensis</i>	Acanthaceae	Hemakandi
3	<i>Caladium bicolor</i>	Araceae	Pullichembu
4	<i>Lepidagathis incurva</i>	Acanthaceae	
5	<i>Mimosa pudica</i>	Leguminosae	Thottavadi

6	Naregamia alata	Meliaceae	Nilanarakam
7	Oplismenus compositus	Poaceae	
8	Phaulopsis dorsiflora	Acanthaceae	
9	Piper longum	Piperaceae	Thippali
10	Pupalia lappacea	Amaranthaceae	

16. Cherukkummalil--- Custodian Krishnakumar.

	Scientific name	Family	Local name
Sl.no	Trees		
1	Caryota urens	Arecaceae	Choondappana, Olattipana
2	Cassia fistula	Leguminosae	Kanikkonna
3	Ficus callosa	Moraceae	Mulamplachi
4	Ficus drupacea var. pubescens	Moraceae	Manja-aal
5	Holigarna arnottiana	Anacardiaceae	Charu, Cheru
6	Hydnocarpus pentandra	Flacourtiaceae	Marotti
7	Mallotus philippensis	Euphorbiaceae	Sindoora maram, Kurangumanjal
8	Macaranga peltata	Euphorbiaceae	Vatta, Uppothy
9	Mangifera indica	Anacardiaceae	Mavu, Mango
10	Persea macrantha	Lauraceae	Kulamavu
11	Schleichera oleosa	Sapindaceae	Poovam
12	Sterculia guttata	Sterculiaceae	Kaavalam
13	Streblus asper	Moraceae	Paruvamaram
14	Tectona grandis	Verbenaceae	Thekku
	Climbers		
1	Abrus pulchellus	Leguminosae	Kattumuthira
2	Alangium salvifolium subsp. hexapetalum	Alangiaceae	Valli ankolam

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3	<i>Anamirta cocculus</i>	Menispermaceae	Pollakai
4	<i>Dioscorea</i> sp.	Dioscoreaceae	Kattukachil
5	<i>Gnetum edule</i>	Gnetaceae	Thuvakkai
6	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
7	<i>Jasminum coarctatum</i> (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
8	<i>Pothos scandens</i>	Araceae	Paruvakkodi, Varivalli
9	<i>Smilax zeylanica</i>	Smilacaceae	Kareelanchi
10	<i>Tinospora sinensis</i>	Menispermaceae	Pothamruthu
Shrubs			
1	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	Yamari
2	<i>Clerodendrum infortunatum</i>	Verbenaceae	Peruvelam
3	<i>Cycas circinalis</i>	Cycadaceae	Eenth
4	<i>Leea indica</i>	Leeaceae	Njellu
Herbs			
1	<i>Blepharis maderaspatensis</i>	Acanthaceae	Hemakandi
2	<i>Caladium bicolor</i>	Araceae	Pullichembu
3	<i>Capscicum frutescens</i>	Solanaceae	Cheenimulaku, Kanthrimulaku
4	<i>Dicliptera foetida</i>	Acanthaceae	
5	<i>Geophila repens</i>	Rubiaceae	Karimuthil
6	<i>Lepidagathis incurva</i>	Acanthaceae	
7	<i>Mimosa pudica</i>	Leguminosae	Thottavadi
8	<i>Naregamia alata</i>	Meliaceae	Nilanarakam
9	<i>Oplismenus compositus</i>	Poaceae	

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10	Phaulopsis dorsiflora	Acanthaceae	
11	Piper longum	Piperaceae	Thippali

Note: The notable feature of this scared grove is the presence of 2 very large mango trees.

This scared grove is not infested with exotic weeds and the vegetation is dense.

17. Pullanikulangara Sacred Grove, Vadakkumuri, Pattambi

1.12.2018.

	Scientific name	Family	Local name
Sl.no	Trees		
1	Alstonia scholaris	Apocynaceae	Ezhilampala
2	Briedelia retusa	Euphorbiaceae	Mullenkaini, Mulluvenga
3	Caryota urens	Arecaceae	Choondappana, Olattipana
4	Cassia fistula	Leguminosae	Kanikkonna
5	Gliricidia sepium	Leguminosae	Seemakonna
6	Mallotus philippensis	Euphorbiaceae	Sindoora maram, Kurangumanjal
7	Macaranga peltata	Euphorbiaceae	Vatta, Uppothy
8	Mangifera indica	Anacardiaceae	Mavu, Mango
9	Morinda pubescens	Rubiaceae	Manjanathi, Manjapavetta
10	Naringi crenulata	Rutaceae	Narinarakam
11	Olea dioica	OLEaceae	Idala
12	Plumeria rubra	Apocynaceae	Chembakappala
13	Sterculia balanghas	Sterculiaceae	Thondi
14	Strychnos nux-vomica	Loganiaceae	Kanjiram
15	Tectona grandis	Verbenaceae	Thekku

Climbers			
1	<i>Abrus pulchellus</i>	Leguminosae	Kattumuthira
2	<i>Acacia caesia</i>	Leguminosae	Incha
3	<i>Dioscorea</i> sp.	Dioscoreaceae	Kattukachil
4	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
5	<i>Jasminum coarctatum</i> (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
6	<i>Mikania micrantha</i>	Asteraceae	Dhristapachha
7	<i>Pothos scandens</i>	Araceae	Paruvakkodi, Varivalli
8	<i>Tiliacora acuminata</i>	Menispermaceae	Vallikanjiram
9	<i>Ziziphus oenoplia</i>	Rhamnaceae	Cheruthodali
Shrubs			
1	<i>Bambusa bambos</i>	Poaceae	Mula, Illi
2	<i>Bauhinia tomentosa</i>	Leguminosae	Manjamandaram
3	<i>Catunaregam spinosa</i>	Rubiaceae	Malankara
4	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	Yamari
5	<i>Clerodendrum infortunatum</i>	Verbenaceae	Peruvelam
6	<i>Justicia adhatoda</i> (<i>Adhatoda zeylanica</i>)	Acanthaceae	Adalodakam
7	<i>Leea indica</i>	Leeaceae	Njellu
89	<i>Murraya paniculata</i>	Rutaceae	Maramulla

10	<i>Pavetta indica</i>	Rubiaceae	Pavetta
11	<i>Pedilanthus tithymaloides</i>	Euphorbiaceae	Thathamma chedi
12	<i>Sansevieria roxburghiana</i>	Dracaenaceae	Maanji
13	<i>Triumfetta rhomboidea</i>	Tiliaceae	Oorpam
	Herbs		
1	<i>Achyranthes aspera</i>	Acanthaceae	Kadaladi
2	<i>Lepidagathis incurva</i>	Acanthaceae	
3	<i>Mimosa pudica</i>	Leguminosae	Thottavadi
4	<i>Naregamia alata</i>	Meliaceae	Nilanarakam
5	<i>Oplismenus compositus</i>	Poaceae	
6	<i>Phaulopsis dorsiflora</i>	Acanthaceae	
7	<i>Piper longum</i>	Piperaceae	Thippali
8	<i>Zigiber zerumbet</i>	Zingiberaceae	Malayinchi

18. Haraharakunnu Temple Sacred grove, Mannamgode

Sl.no	Scientific name	Family	Local name
	Trees		
1	<i>Adenantha pavonina</i>	Leguminosae	Manchadi
2	<i>Aegle marmelos</i>	Rutaceae	Koovalam
3	<i>Ailanthus triphysa</i>	Simaroubaceae	Matti, Perumaram
4	<i>Alstonia scholaris</i>	Apocynaceae	Ezhilampala
5	<i>Anacardium</i>	Anacardiaceae	Cshew, Kashumavu

	occidentale		
6	Antiaris toxicaria	Moraceae	Maravuri
7	Aphanamixis polystachya	Meliaceae	Chemmaram
8	Artocarpus heterophyllus	Moraceae	Plavu
9	Briedelia retusa	Euphorbiaceae	Mullenkaini
10	Caryota urens	Arecaceae	Choondappana, Olattipana
11	Cassia fistula	Leguminosae	Kanikkonna
12	Ficus hispida	Moraceae	Parakam
13	Holigarna arnottiana	Anacardiaceae	Charu, Cheru
14	Holarrhena pubescens	Apocynaceae	Kudakappala
15	Hydnocarpus pentandrus	Flacourtiaceae	Marotti
16	Ixora brachiata	Rubiaceae	Marathetchi
17	Mallotus philippensis	Euphorbiaceae	Sindoora maram, Kurangumanjal
18	Morinda pubescens	Rubiaceae	Manjanathi, Manjapavetta
19	Olea dioica	Oleaceae	Idala
20	Pterocarpus marsupium	Leguminosae	Venga
21	Santalum album	Santalaceae	Chandanam
22	Schleichera oleosa	Sapindaceae	Poovam
23	Sterculia guttata	Sterculiaceae	Kaavalam
24	Streblus asper	Moraceae	Paruvamaram
25	Strychnos nuxvomica	Loganiaceae	Kanjiram
26	Swietenia macrophylla	Meliaceae	Mahagani
	Cimbers		
1	Alangium salvifolium subsp. hexapatalum	Alangiaceae	Valliankolam, Chorakattappazham
2	Anamirta cocculus	Menispermaceae	Pollakai
3	Briedelia stipularis	Euphorbiaceae	Kanjikottam, Cherukapanachi
4	Calycopteris floribunda	Combretaceae	Pullani

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5	<i>Cayratia pedata</i>	Vitaceae	Chorivalli
6	<i>Cansjera rheedei</i>	Opiliaceae	Cherukanjaravalli
7	<i>Cissus latifolia</i>	Vitaceae	Chunnambuvalli
8	<i>Dalbergia horrida</i>	Leguminosae	Anamullu
9	<i>Dioscorea pentaphylla</i>	Dioscoreaceae	Chavalikizhangu
10	<i>Dioscorea sp.</i>	Dioscoreaceae	Kattukatchil
11	<i>Gnetum edule</i>	Gnetaceae	Thuvakkai
12	<i>Ichnocarpus frutescens</i>	Apocynaceae	Parvalli
13	<i>Jasminum coarctatum</i> (<i>Jasminum rottlerianum</i>)	Oleaceae	Kattumulla
14	<i>Mallotus repandus</i>	Euphorbiaceae	Thavatti
15	<i>Mucuna pruriens</i>	Leguminosae	Naikkurana
16	<i>Pothos scandens</i>	Araceae	Paruvakkodi, Thuppilavalli
17	<i>Sarcostigma kleinii</i>	Icacinaceae	Vellodal
18	<i>Tiliacora acuminata</i>	Menispermaceae	Vallikanjiram
19	<i>Tinospora sinensis</i>	Menispermaceae	Pothamuruthu
20	<i>Ziziphus rugosa</i>	Rhamnaceae	Thodali
Shrubs			
1	<i>Allophylus serratus</i>	Sapindaceae	Mukkannanperuku
2	<i>Antidesma acidum</i>	Euphorbiaceae	Putharaval, Asaripuli
3	<i>Bambusa bambos</i>	Poaceae	Illi, Mula
4	<i>Canthium angustifolium</i>	Rubiaceae	Kattaramullu
5	<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Rubiaceae	Yamari
6	<i>Clerodendrum infortunatum</i>	Verbenaceae	Peruvelam
7	<i>Chromolaena odorata</i> (<i>Eupatorium odoratum</i>)	Asteraceae	Communistpachha
8	<i>Ehretia</i>	Boraginaceae	Aghori

	microphylla		
9	Glycosmis pentaphylla	Rutaceae	Paanal
10	Lantana camara	Verbenaceae	Aripoochedi
11	Leea indica	Leeaceae	Njekku, Njellu
12	Sauropus androgynus	Euphorbiaceae	Velicheera
	Herbs		
1	Cyathula prostrata	Amaranthaceae	Cherukadaladi
2	Mimosa pudica	Leguminosae	Thottavadi
3	Naregamia alata	Meliaceae	Nilanarakam
4	Pennisetum pedicellatum	Poaceae	Poochavalan pullu
5	Phaulopsis dorsiflora	Acanthaceae	
6	Synedrella nodiflora	Asteraceae	Mudiyanpacha

CHAPTER VI

FREQUENCY DISTRIBUTION OF PLANTS>

Species distribution in the sacred groves.

Among the *sacred groves (SGs) of the district, one time enumeration was carried out in 18 SGs based on the extant of area, vegetation type and location in the six taluks viz. Palakkad, Mannarkad, Chittoor, Pattambi, Ottappalam and Alathur. Among the 332 species enumerated, 106 are trees, 71 climbers, 56 shrubs and 99 herbs. With regards to the frequency of distribution, *Cassia fistula*, *Ichnocarpus frutescens* and *Dioscorea* sp. were found in 16 SGs studied; followed by *Jasminum coarctatum* and *Mimosa pudica* in 15 SGs; *Chassalia curviflora* var. *ophioxyloides*, *Mallotus philippensis* and *Streblus asper* in 14 SGs. As many as 171 species are occurring in one SG; 47 species in two SGs; 29 species in three SGs and 22 species in four SGs. The frequency of occurrence of species in different sacred groves is provided in table 1-16 and figure

ABBREVIATIONS- Sacred Groves-PALAKKAD DISTRICT

1.N T	Nagakanyaka Tmple kavu
2.A S	Ambalathu Sarpakavu
3.C S	Chingathu Sarpakavu
4.P T	Pachiri Tharavad Kavu
5.T R	Tharavath Tharaward Kavu
6.P K	Parakkattu KavU
7.E P	Ethannur Pandalangattu kavu
8.K S	Koramparambu Sarpakavu
9.N K	Naga Kanya Goshtam
10.E K	Elavanchery Kizhakke Mundarathu
11.T V	Thlannur Valiathodi kavu
12.C K	Chola kavu
13.H T	Harihara kunnu Temple kavu
14.G V	Govindapuram Vishnukotta
15.C M	Chamarathumana KavU
16.C R	Charakunnil Sacred grove
17.C H	Cherukunnil Sacred Grove
18.P U	Pulanikulangara Sacred Grove

*the total number of sacred groves in Palakkad

Analysis of species distribution shows that as many as 73 species enumerated from Parakkattukavu have not been recorded from other SGs; CholaKavu has 22 species unique to it; TholannurValiyathodiKavu has 11.

Table 1. Species occurring in 1 sacred grove

Sl.no	SPECIES	KAVU
1	Abelmoschus manihot	TV
2	Acacia torta	KS
3	Acalypha indica	PK
4	Acampe ochracea	PK
5	Acanthospermum hispidum	PK
6	Adenia hondala	AS
7	Aeschynomene americana	PK
8	Ageratum conyzoides	PK
9	Alangium salvifolium subsp. salvifolium	NT

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10	<i>Albizia chinensis</i>	AS
11	<i>Albizia lebeck</i>	KS
12	<i>Alternanthera brasiliana</i>	CK
13	<i>Amaranthus spinosus</i>	PK
14	<i>Amorphophalus</i> sp.	NT
15	<i>Anisochilus carnosus</i>	CK
16	<i>Annona muricata</i>	AS
17	<i>Annona reticulata</i>	CR
18	<i>Annona squamosa</i>	PK
19	<i>Aphanamixis polystachya</i>	HT
20	<i>Aporosa lindleyana</i>	PT
21	<i>Aristolochia indica</i>	PK
22	<i>Artocarpus hirsutus</i>	PT
23	<i>Bauhinia acuminata</i>	CM
24	<i>Bauhinia purpurea</i>	CK
25	<i>Benkara malabarica</i>	GV
26	<i>Biophytum reinwardtii</i>	PK
28	<i>Blumea lacera</i>	TV
29	<i>Blumea laevis</i>	CK
30	<i>Blumea oxyodonta</i>	CK
31	<i>Bombax ceiba</i>	PK
32	<i>Brachiaria miliiformis</i>	TV
33	<i>Breynia retusa</i>	PK
34	<i>Caesalpinia mimosoides</i>	EK
35	<i>Cansjera rheedei</i>	HT
36	<i>Capscicum frutescens</i>	CH
37	<i>Casearia wynadensis</i>	PK
38	<i>Casuarina equisetifolia</i>	PK
39	<i>Centella asiatica</i>	CK
40	<i>Cereus pterogonus</i>	PK
41	<i>Ceropegia candelabrum</i>	PK
42	<i>Chrysophyllum oliveri</i>	NT
43	<i>Chrysopogon aciculatus</i>	TV
44	<i>Cinnamomum malabatrum</i>	PT
45	<i>Cissampelos pareira</i> . var. <i>hirsuta</i>	PK
46	<i>Cissus arnottiana</i>	PK
47	<i>Cissus heyneana</i>	CK
48	<i>Cleome burmannii</i>	PT
49	<i>Clinacanthus nutans</i>	AS
50	<i>Combretum latifolium</i>	CK
51	<i>Commelina benghalensis</i>	NT
52	<i>Corchorus aestuans</i>	PK

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53	<i>Cordia obliqua</i>	CR
54	<i>Cordia wallichiana</i>	EK
55	<i>Corypha umbraculifera</i>	NT
56	<i>Crotalaria pallida</i>	PK
57	<i>Cryptolepis buchananii</i>	PK
58	<i>Cymbopogon flexuosus</i>	EK
59	<i>Cynanchum callialatum</i>	PK
60	<i>Dactyloctenium aegyptium</i>	PK
61	<i>Dalbergia lanceolaria</i>	PK
70	<i>Dalbergia volubilis</i>	TV
71	<i>Delonix regia</i>	GV
72	<i>Dendrophthoe falcata</i>	PK
73	<i>Derris eualata</i>	CK
74	<i>Derris sp.</i>	PT
75	<i>Desmodium heterocarpon</i>	AS
76	<i>Desmodium heterophyllum</i>	PK
77	<i>Desmodium scorpiurus</i>	TV
78	<i>Desmodium triflorum</i>	PK
79	<i>Desmodium triquetrum</i>	PK
80	<i>Dicliptera foetida</i>	CH
81	<i>Dioscorea bulbifera</i>	PK
82	<i>Dioscorea hispida</i>	PK
83	<i>Dipteracanthus prostratus</i>	PK
84	<i>Echinochloa colonum</i>	PK
85	<i>Eclipta prostrata</i>	PK
86	<i>Eleusine indica</i>	PK
87	<i>Eleutheranthera ruderalis</i>	GV
88	<i>Evolvulus alsinoides</i>	PK
89	<i>Ficus callosa</i>	CH
90	<i>Ficus drupacea</i> var. <i>pubescens</i>	CH
91	<i>Ficus racemosa</i>	AS
92	<i>Ficus tsjahela</i>	CK
93	<i>Flacourtia indica</i>	PK
94	<i>Flueggea virosa</i>	CR
95	<i>Gmelina arborea</i>	CK
96	<i>Grewia tiliifolia</i>	TV
97	<i>Haldina cordifolia</i>	PK
98	<i>Helicteres isora</i>	TR
99	<i>Heliotropium indicum</i>	PK
100	<i>Heteropogon contortus</i>	PK
101	<i>Hewittia malabarica</i>	EK

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102	<i>Hiptage benghalensis</i>	TR
103	<i>Hyptis suaveolens</i>	PK
104	<i>Imperata cylindrica</i>	CM
105	<i>Indigofera linnaei</i>	PK
106	<i>Ischaemum indicum</i>	TV
107	<i>Ixora javanica</i>	CK
108	<i>Jatropha gossypifolia</i>	PK
109	<i>Justicia trinervia</i>	PK
110	<i>Justicia wynaadensis</i>	TV
111	<i>Lanea coromandelica</i>	GV
112	<i>Laportea interrupta</i>	PK
113	<i>Leucas angularis</i>	PK
114	<i>Leucas aspera</i>	PK
115	<i>Magnolia champaca</i>	CK
116	<i>Memecylon depressum</i>	PT
117	<i>Memecylon umbellatum</i>	PT
118	<i>Mezoneurum cucullatum</i>	NT
119	<i>Mitracarpus hirtus</i>	PK
120	<i>Mukia maderaspatana</i>	PK
121	<i>Murraya koenigii</i>	CR
122	<i>Murraya paniculata</i>	PU
123	<i>Neolamarckia cadamba</i>	EK
124	<i>Ocimum americanum.</i>	PK
125	<i>Ocimum tenuiflorum</i>	TV
126	<i>Oldenlandia corymbosa</i>	PK
127	<i>Oroxylum indicum</i>	AS
128	<i>Passiflora foetida</i>	PK
129	<i>Pentanema indicum</i>	PK
130	<i>Perotis indica</i>	PK
131	<i>Persea macrantha</i>	CH
132	<i>Phyla nodiflora</i>	PK
133	<i>Phyllanthus amarus</i>	PK
134	<i>Phyllanthus reticulatus</i>	EK
135	<i>Phyllanthus urinaria</i>	PK
136	<i>Physalis angulata</i>	PK
137	<i>Pisonia aculeata</i>	NT
138	<i>Platostoma hispidum</i>	PK
139	<i>Plumeria alba</i>	PK
140	<i>Plumeria rubra</i>	PU
141	<i>Pseudanthistiria umbellata</i>	EK
142	<i>Pseudarthria viscida</i>	PK

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143	<i>Pseuderanthemum malabaricum</i>	CK
144	<i>Pterocarpus santalinus</i>	CK
145	<i>Sansevieria roxburghiana</i>	PU
146	<i>Saraca asoca</i>	CK
147	<i>Sarcostigma kleinii</i>	HT
148	<i>Senna hirsuta</i>	PK
149	<i>Senna occidentalis</i>	PK
150	<i>Senna tora</i>	PK
151	<i>Sida acuta</i>	PK
152	<i>Sida alnifolia</i>	PK
153	<i>Sida beddomei</i>	NT
154	<i>Sida cordifolia</i>	PK
155	<i>Sida mysorensis</i>	PK
156	<i>Smilax zeylanica</i>	CH
157	<i>Solanum torvum</i>	CS
158	<i>Spathodea campanulata</i>	EP
159	<i>Spermacoce hispida</i>	PK
160	<i>Spermacoce latifolia</i>	PK
161	<i>Spondias pinnata</i>	CK
162	<i>Sterculia balanghas</i>	PU
163	<i>Swietenia macrophylla</i>	HT
164	<i>Tecoma stans</i>	CM
165	<i>Tephrosia purpurea</i>	PK
166	<i>Terminalia bellirica</i>	AS
167	<i>Terminalia catappa</i>	CK
168	<i>Thespesia lampas</i>	TR
169	<i>Thunbergia erecta</i>	NK
170	<i>Toxicarpus kleinii</i>	PK
171	<i>Tridax procumbens</i>	PK
172	<i>Urenalobata</i> subsp. <i>lobata</i>	TV
173	<i>Urenalobata</i> subsp. <i>sinuata</i>	PK
174	<i>Vernonia cinerea</i>	TR
175	<i>Wrightia tinctoria</i>	GV
176	<i>Xenostegia tridentata</i>	PK
177	<i>Zanonia indica</i>	NT
178	<i>Zornia diphylla</i>	PK

Table 2. Species occurring in 2 sacred grove

SPECIES	KAVU
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<i>Abrus precatorius</i>	NT, PK
<i>Adenanthera pavonina</i>	PT, HT
<i>Aerva lanata</i>	PK,EK
<i>Alternanthera bettzickiana</i>	PK,CK
<i>Amorphophalus paeniifolius</i>	AS,CS
<i>Anacardium occidentale</i>	AS,HT
<i>Argyreia</i> sp.	KS,EK
<i>Barleria prionitis</i>	KS,CK
<i>Boerhavia diffusa</i>	PK,EK
<i>Butea monosperma</i>	PK,KS
<i>Caesalpinia pulcherrima</i>	CM,CR
<i>Cardiospermum halicacabum</i>	PK,TV
<i>Catunaregam spinosa</i>	TR,PU
<i>Ceiba pentandra</i>	PK,KS
<i>Cleistanthus collinus</i>	PK,EP
<i>Cleome viscosa</i>	TR,PK
<i>Couroupita guianensis</i>	AS,NK
<i>Cycas circinalis</i>	CK,CH
<i>Diospyros montana</i>	NT,PK
<i>Ecbolium virde</i>	AS,CK
<i>Embelia tsjeriam-cottam</i>	AS,KS
<i>Erythrina orientalis</i>	NT,GV
<i>Ficus benghalensis</i>	PK,CK
<i>Ficus religiosa</i>	PK,CK
<i>Geophila repens</i>	AS,CH
<i>Gloriosa superba</i>	AS,PK
<i>Hibiscus hispidissimus</i>	PK,CK
<i>Hibiscus rosa-sinensis</i>	EK,TV
<i>Ipomoea marginata</i>	AS,PK
<i>Ixora brachiata</i>	EP,HT
<i>Justicia adhatoda</i>	CK,PU
<i>Justicia gendarussa</i>	PK,CK
<i>Leucaena leucocephala</i>	EK,TV
<i>Manihot glaziovii</i>	PK,KS
<i>Polyalthia longifolia</i>	PK,KS
<i>Pongamia pinnata</i>	NT,PK
<i>Sapindus trifoliatus</i>	AS,TR
<i>Sauropus quadrangularis</i>	AS,TR
<i>Sebastiania chamaelea</i>	AS,PK

Simarouba glauca	CK,GV
Solena amplexicaulis	AS,PK
Swietenia mahagoni	GV,CM
Terminalia paniculata	PT,PK
Tragia involucrata	PK,CK
Uraria rufescens	PK,KS
Wattakaka volubilis	PK,NK

Table 3. Species occurring in 3 sacred grove

SPECIES	KAVU
Acacia caesia	AS,NK,PU
Albizia odoratissima	TR,PK,CR
Allophylus serratus	AS,PK,HT
Antiaris toxicaria	NT,CK,HT
Asparagus racemosus	AS,EP,CK
Bauhinia tomentosa	EK,CK,PU
Cosmostigma racemosum	AS,GV,TR
Costus speciosus	NT,TV,GV
Dalbergia horrida	PK,CK,HT
Ehretia microphylla	AS,TR,HT
Elephantopus scaber	AS,PK,CM
Eranthemum capense	PK,KS,EK
Ficus exasperata	TR,PK,CK
Ficus hispida	PT,PK,HT
Gnetum edule	PT,HT,CH
Hemidesmus indicus	NT,TR,PK
Holoptelea integrifolia	NT,PK,TV
Mucuna pruriens	CS,CK,HT
Naravelia zeylanica	NT,PK,CK
Pavetta indica	PK,CR,PU
Pedilanthus tithymaloides	PK,KS,PU
Pupalia lappacea	PK,CM,CR
Ricinus communis	PK,TV,CK
Samanea saman	PK,CK,EP
Sauropus androgynus	NT,CK,HT
Sida cordata	PK,KS,GV
Tinospora cordifolia	AS,PK,KS
Trema orientalis	PK,CK,GV
Triumfetta rhomboidea	PK,TV,PU
Ziziphus rugosa	AS,CS,HT

Table 4. Species occurring in 4 sacred grove

SPECIES	KAVU
<i>Abrus pulchellus</i>	CK,GV,CH,PU
<i>Ailanthus triphysa</i>	PK,CK,HT,GV
<i>Ampelocissus indica</i>	NT,TR,GV,CM
<i>Azadirachta indica</i>	PK,KS,EK,CK
<i>Briedelia stipularis</i>	AS,HT,GV,CR
<i>Caladium bicolor</i>	NT,CM,CR,CH
<i>Canthium coromandelicum</i>	NT,TR,PK,GV
<i>Capparis zeylanica</i>	PK,EP,KS,EK
<i>Cissus latifolia</i>	CS,PT,TR,HT
<i>Combretum albidum</i>	EP,KS,NK,EK
<i>Cyathula prostrata</i>	AS,PT,EP,HT
<i>Lantana camara</i>	NT,PK,HT,GV
<i>Madhuca longifolia</i> var. <i>latifolia</i>	PK,EP,KS,EK
<i>Mallotus repandus</i>	CS,EP,HT,CR
<i>Miliusa tomentosa</i>	PK,NK,EK,TV
<i>Mussaenda frondosa</i>	CS,PK,CK,CM
<i>Pennisetum pedicellatum</i>	KS,EK,CK,HT
<i>Pterocarpus marsupium</i>	NT,KS,HT,GV
<i>Synedrella nodiflora</i>	PK,KS,EK,HT
<i>Thevetia peruviana</i>	PK,EP,NK,EK
<i>Uvaria narum</i>	CS,PT,CK,GV
<i>Zigiber zerumbet</i>	TR,GV,CM,PU

Table 5. Species occurring in 5 sacred grove

SPECIES	KAVU
<i>Antidesma acidum</i>	AS,CS,PK,HT,GV
<i>Borassus flabellifer</i>	NT,PK,KS,EK,CM
<i>Canthium angustifolium</i>	NT,AS,PT,CK,HT
<i>Cyclea peltata</i>	AS,PT,PK,KS,CK
<i>Gliricidia sepium</i>	PK,KS,EK,TV,PU
<i>Merremia umbellata</i>	CS,TR,PK,TV,CK
<i>Merremia vitifolia</i>	EK,TV,CK,GV,CM
<i>Putranjiva roxburghii</i>	NT,PK,EP,TV,GV

Table 6. Species occurring in 6 sacred grove

SPECIES	KAVU
<i>Acampe praemorsa</i>	NT,AS,EK,CK,GV,CR
<i>Alangium salvifolium</i> subsp. <i>hexapatalum</i>	NT,CS,TR,CK,HT,CH
<i>Curculigo orchioides</i>	NT,AS,PT,PK,EP,GV
<i>Dioscorea pentaphylla</i>	NT,AS,PK,HT,GV,CM
<i>Holarrhena pubescens</i>	CS,PK,KS,CK,HT,CM
<i>Hydnocarpus</i> <i>pentandrus</i>	NT,PT,TR,CK,HT,CH
<i>Ixora coccinea</i>	NT,EK,TV,CK,GV,CR
<i>Macaranga peltata</i>	CS,CK,GV,CR,CH,PU
<i>Mikania micrantha</i>	CS,TR,KS,EK,GV,PU
<i>Naringi crenulata</i>	NT,PT,TV,CK,GV,PU
<i>Piper longum</i>	NT,PT,CM,CR,CH,PU
<i>Tabernaemontana</i> <i>divaricata</i>	AS,CS,TR,EK,CM,CR

Table 7. Species occurring in 7 sacred grove

SPECIES	KAVU
<i>Achyranthes aspera</i>	NT,AS,TR,PK,EK,GV,PU
<i>Aegle marmelos</i>	NT,AS,EP,EK,CK,HT,CM
<i>Artocarpus</i> <i>heterophyllus</i>	NT,CS,PK,CK,HT,GV,CR
<i>Bambusa bambos</i>	AS,PK,KS,TV,CK,HT,PU
<i>Blepharis</i> <i>maderaspatensis</i>	CS,PT,PK,CK,CM,CR,CH
<i>Glycosmis pentaphylla</i>	NT,AS,PK,EP,KS,EK,HT
<i>Schleichera oleosa</i>	NT,AS,EP,NK,TV,HT,CH
<i>Tamarindus indica</i>	NT,PK,KS,TV,GV,CM,CR
<i>Zanthoxylym rhetza</i>	NT,AS,PT,TV,CK,GV,CR

Table 8. Species occurring in 8 sacred grove

SPECIES	KAVU
<i>Alstonia scholaris</i>	NT,AS,TR,PK,CK,HT,GV,PU
<i>Centrosema molle</i>	CS,TR,PK,EK,TV,CK,CM,CR
<i>Chromolaena odorata</i>	CS,TR,PK,KS,EK,TV,CK,HT
<i>Lepidagathis incurva</i>	NT,AS,CS,GV,CM,CR,CH,PU
<i>Santalum album</i>	NT,KS,EK,CK,HT,GV,CM,CR
<i>Tinospora sinensis</i>	NT,CS,TR,PK,EK,TV,HT,CH

Table 9. Species occurring in 9 sacred grove

SPECIES	KAVU
<i>Briedelia retusa</i>	NT,AS,KS,NK,EK,CK,HT,GV,PU
<i>Cayratia pedata</i>	NT,AS,CS,PK,EP,TV,CK,HT,CR
<i>Holigarna arnottiana</i>	NT,CS,PT,CK,HT,GV,CK,CR,CH
<i>Leea indica</i>	NT,AS,CS,PT,TR,HT,GV,CH,PU
<i>Ziziphus oenoplia</i>	NT,TR,PK,EP,EK,TV,CK,GV,PU

Table 10. Species occurring in 10 sacred grove

SPECIES	KAVU
<i>Calycopteris floribunda</i>	NT,AS,CS,PT,PK,EP,KS,CK,HT,GV
<i>Olea dioica</i>	AS,CS,PT,TR,EP,CK,HT,GV,CR,PU
<i>Pothos scandens</i>	NT,CS,TR,CK,HT,GV,CM,CR,CH,PU
<i>Tiliacora acuminata</i>	NT,AS,CS,TR,NK,EK,CK,HT,GV,PU

Table 11. Species occurring in 11 sacred grove

SPECIES	KAVU
<i>Anamirta cocculus</i>	NT,AS,PT,TR,EP,CK,HT,GV,CM,CR,CH
<i>Mangifera indica</i>	NT,AS,PK,EK,TV,CK,GV,CM,CR,CH,PU
<i>Phaulopsis dorsiflora</i>	NT,AS,CS,TR,EP,HT,GV,CM,CR,CH,PU
<i>Tectona grandis</i>	NT,CS,PK,KS,TV,CK,GV,CM,CR,CH,PU

Table 12. Species occurring in 12 sacred grove

SPECIES	KAVU
<i>Caryota urens</i>	NT,AS,CS,TR,TV,CK,HT,GV,CM,CR,CH,PU
<i>Naregamia alata</i>	NT,AS,CS,PK,EP,CK,HT,GV,CM,CR,CH,PU
<i>Sterculia guttata</i>	NT,AS,CS,PT,TR,PK,TV,CK,HT,GV,CR,CH

Table 13. Species occurring in 13 sacred grove

SPECIES	KAVU
<i>Clerodendrum infortunatum</i>	Except PT,KS,NK,EK,TV
<i>Morinda pubescens</i>	Except NT,CS,EK,CM,CH
<i>Oplismenus compositus</i>	Except PT,PK,NK,TV,HT
<i>Strychnos nux-vomica</i>	Except CM,TR,EK,CM,CH

Table 14. Species occurring in 14 sacred grove

SPECIES	KAVU
<i>Chassalia curviflora</i> var. <i>ophioxyloides</i>	Except KS,NK,EK,TV
<i>Mallotus philippensis</i>	Except NT,KS,NK,EK
<i>Streblus asper</i>	Except CS, PT, CK, PU

Table 15. Species occurring in 15 sacred grove

SPECIES	KAVU
<i>Jasminum coarctatum</i>	Except PK, NK, TV
<i>Mimosa pudica</i>	Except PT, TR, NK

Table 16. Species occurring in 16 sacred grove

SPECIES	KAVU
<i>Cassia fistula</i>	Except PT, TV
<i>Dioscorea</i> sp.	Except PK, NK
<i>Ichnocarpus frutescens</i>	Except PT, NK

Abbreviations: Nagakannyaka Temple KavU (NT);Ambalath Sarpakavu (AS);;Chingathu Sarpakavu (CS); Pachiri Tharavad Nagakavu (PT); Tharavath TharavadKavu (TR); Parakkattu KavU (PK); Ethannur Pandalangattu TharavadSarpakavu (EP); Koramparambu Sarpakavu (KS); Nagakayagoshtam (NK); Elavanchery Kizhakke Mundarath Temple (EK); Tholannur Valiyathodi KavU (TV); CholaKavu (CK); Haraharakunnu Temple KavU (HT); Govindapuram Vishnukotta KavU (GV); Chamarathumana KavU (CM); Charakkunnil Sacred Grove (CR); Cherukkummalil Sacred Grove (CH); Pullanikulangara Sacred Grove (PU)

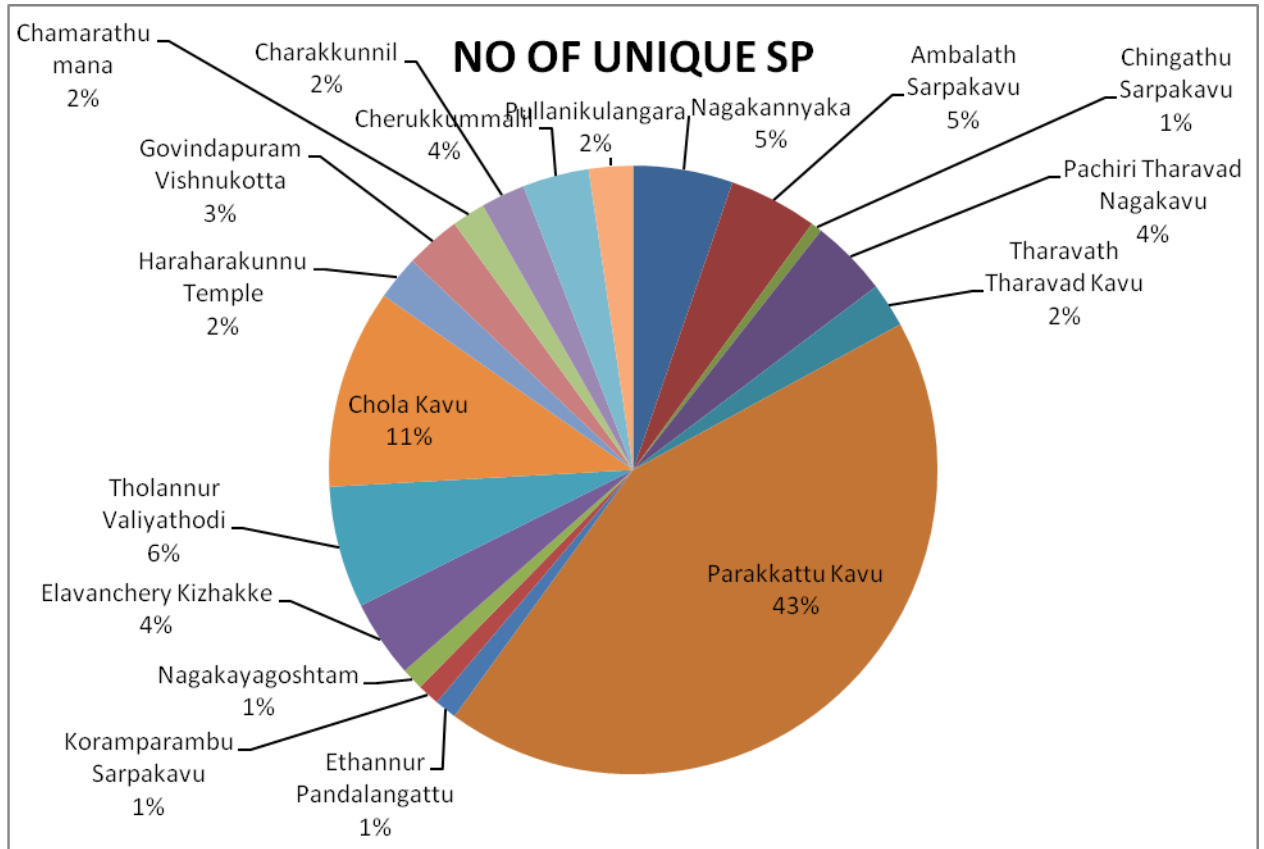


Figure 1. Number of species unique to the sacred grove

The number of trees, shrubs and climbers in the 18 sacred groves is provided in table 17 and Taluk wise occurrence of trees, shrubs and climbers in table 18.

Table 17. The number of species of trees, shrubs and climbers in the 18 sacred groves

Sl.No	Name of Sacred grove	Trees	shrubs	climbers	Herbs	Total
1.	Nagakannyaka	29	10	18	14	71
2	Ambalath Sarpakavu	21	13	19	15	68
3	Chingathu Sarpakavu	11	8	17	7	43
4	PachiriTharavad Nagakavu	15	5	10	4	34
5	TharavathTharavad Kavay	12	8	19	7	46
6	Parakkattu Kavay	44	25	32	62	163
7	Ethannur Pandalangattu	15	3	11	6	35
8	Koramparambu Sarpakavu	19	7	11	7	44
9	Nagakayagoshtam	9	1	5	0	15
10	Elavanchery Kizhakke	15	8	13	11	47

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11	Tholannur Valiyathodi	18	8	10	9	45
12	CholaKavu	37	18	23	13	91
13	Haraharakunnu Temple	26	12	20	6	64
14	Govindapuram Vishnukotta	30	8	15	13	66
15	Chamarathumanath	14	5	9	12	40
16	Charakkunnil	21	6	9	10	46
17	Cherukkummalil	14	4	10	11	39
18	Pullanikulangara	15	12	9	8	44

Diversity is high in ParakkattuKavu followed by CholaKavu.

Table 28. Taluk-wise occurrence of species of trees, shrubs and climbers

Taluk	Trees	Shrubs	Climbers	Herbs	Total
Mannarkad	40	18	29	21	108
Ottappalam	34	17	27	12	90
Alathur	54	31	40	72	197
Chittoor	26	12	21	15	74
Pattambi	60	32	32	29	153
Palakkad	12	8	20	7	47

Among the taluks, Alathur has the highest species diversity.

CHAPTER VII

ECOLOGICAL STATUS.

Ecological condition in a sacred grove revolves around its relationship and influence imparted on various components like microclimate, soil and moisture retention, soil nutrients, nature of vegetation and other life forms that associate. The vegetation as well as the biological setup in a sacred grove is normally fully protected from human interference through customary taboos and sanctions with cultural and ecological implications. In such a typical condition there can be immense activity among and between all living organisms providing plenty of resources for research on some of the aspects not seen studied hitherto. In this report there is only limited scope to undertake a study on this vast subject, and this chapter is confined to vegetation, soil conditions, faunal significance and water conservation .as could be observed and understood.

Vegetation

The composition of vegetation exhibit more number of tree species while the frequency is poor. Same is the case with herbs. Among trees about eight species of Ficus are represented. But their frequency of occurrence is very low Ficus provide a safe haven for wasps, bees and other insects. As different species of Ficus flower during different periods the birds and insects largely converge on such trees. Overall picture shows that the density of vegetation is poor. Out of the 184 sacred groves more than 60 % are of or below 5 cents in extent. A number of plants , particularly herbs, are having medicinal value. Under these circumstances the scope for a study on the ecological status is very limited. The open canopy density receiving direct sunlight and long period of dry season coupled with the wind blowing along the Palakkad gap might have created a situation to promote more having plants of medicinal value.

Keystone species

Apart from direct benefits of biodiversity conservation, there are indirect benefits which flow from sacred groves through ecosystem functions. Some species, though present in small numbers, play very important role by their unique abilities such as nitrogen fixation and attracting many birds, animals etc. and help maintaining life forms in plenty. They are known as keystone species. These species have

disproportionate large effect on other species in a community. Law (2002) tried to identify keystone species in two SGs based on following parameters.

Once such species are removed from an ecosystem it may create dramatic changes in the rest of the community. Many studies have not been made on this aspect in respect of the SGs in Kerala. In Tamil Nadu *Ficus religiosa* and *F. benghalensis* - known as strangler figs, are considered to be Keystone species. These species have aggressive growth habit ensuring their regeneration and survival. They bear pulpy small fruits during dry summer when most of the other species do not. Hence they attract frugivorous birds, a few mammals and reptiles and several species of insects. Many pollinators and seed dispersers are attracted to promote regeneration in the plant community. In the given situation the availability of plant species to be suggested as keystone species is remote.

A scientific study is seen carried out by experts (Rajasri Ray -IIS-and others) in 2017 in respect of some selected groves in Palakkad Region. They have categorised the area into disturbed and less disturbed. It was noticed that invasive species are more in disturbed areas which are mostly small in extent. In disturbed areas pollination mechanism is based on insects. Insect pollinators are butterflies, bumble bees, moths, wasps, beetles and bugs. The disturbed areas have abundance of small juicy fruits like berry and drupe. They facilitate crosspollination. The pollination in less disturbed area is by birds and small mammals.

Regeneration

The species composition of trees in sacred groves consists of light demanders, shade bearers and shade tolerant. Seedlings of species, for which securing light condition is less pronounced, may come up or compete with the seedlings of top canopy species. As the top canopy trees of varying growth requirements survive well, their regeneration under less favourable conditions particularly when the light condition is restricted, is a matter of study. Regeneration of shade bearing and shade tolerant species do come up, but it persists for long periods in whippy form till favourable light conditions set in. These seedlings survive if soil conditions are favourable and root competition is less provided they could build up reasonable level of root stock. It is by keeping these basic principles in mind the flora of the sacred groves have been examined. However, in these SGs the existence of number of various tree species stand to reason that regeneration and subsequent establishment of the seedlings is assured. This may be due to the tolerance level of these species and low soil acidity.

. Natural regeneration is generally good in the case of Uletty (*Caryotta urens*), Marotty (*Hydnocarpus pentandra*), Puthrejiva spp, Streblus asper etc. which are common in almost all the sacred groves. Regeneration in the form of root suckers is also noticed in the case of *Strychnos nux-vomica*. As regards *Olea dioica* regeneration is good since the soil is less acidic in many areas.

Saraca asoca (Ashokam) is a shade loving tree and is considered to be one of the species in Sacred Groves. Besides regeneration from seeds it produces coppice shoots. It is understood from literature that there are chances for pods of *Saraca* getting infected by pests before they become ripe to disperse mature seeds. Some of the species though shade tolerant when young need overhead light to grow well after they reach sapling stage

Soil Condition

Soil is found to be highly diverse with clayey gravel of lateritic origin which is common along large areas . An assessment made on nutrient status of soil applying MAM App of Agriculture Department showed the following results. Copper, Iron, Sulphur and zinc are high. Organic carbon and potassium are medium and Boron low. pH is 5.8. Predominance of *Pavetta indica*, *Ixora* spp., *Strychnos nux-vomica* show that the soil is generally less acidic .

Soil conservation

In the absence of rapid litter decomposition and the root mat development with plenty of fine roots on the surface layer of the soil, ground biomass soil is very much open with signs of soil erosion on plain and sloppy tracts. In SGs like Shola kavu where incidence climbers is high ,soil erosion is controlled even the terrain is sloppy. Bamboos coming up along slopes in some of the SGs also prevent soil erosion.

Water conservation

The existence of ponds in the sacred groves of Palakkad is conspicuous by their absence. One reason is that majority of the SGs are small in size. The underlying structure of the geological layers may not be impermeable to hold water percolating through the sandy soil. More over there are extensive long stretches of paddy fields to receive the drainage with out allowing any water stagnation in the groves. Of course some of the large SGs having more than an acre do have ponds as could be seen in Shola kavu in pattambi taluk and Parakkat Kavuvu of Alathur taluk

One of the adverse effect of this state of affairs is that there is absence of amphibians. like frogs, turtles , snakes which would contribute the healthy atmosphere for plant protection.

Incidence of fire-

Though signs of frequent fire or reports on this are absent, the nature of vegetation in in large sacred groves like Parakkat kavu, Koramparambu kavu supporting stunted scrub jungle and the long stretches of pole crop indicate there might have been frequent fire damage also. The scrub jungle contain *Borassus* seedlings as a cluster. The promotion of *Pedilanthus* shrub in Parakkat kavu is preventing fire from spreading.

Faunal significance

The sacred grooves harbour numerous birds, butter flies and bats apart from primates and small mammals (Chandran, 1993). In the absence of ponds and thick vegetation in most of the area, bats, small mammals, civets, monitor lizard, monkeys and peacock very rarely visit these SGs. Existence of the paddy fields all around can also be attributed this state of affairs.

Role of termites

Termites form a significant element of soil micro-fauna. The food of termites mainly is plant material. Termites can also feed on animal products such as dung and fresh mammalian carcasses. Studies on termites also reveal that they have no sight and they are deaf also. They recognize their nest mate by their special odour. They leave scent trails to food sources outside the nest. The scent comes from a gland present on the under side of the abdomen.

Below ground nests are very common where moisture remains at low levels throughout the year. In this district above ground termite mounds are very common. They break down litter into smaller particles and expose inner surfaces of litter for early action by bacteria and fungi. Their mounts are seen in some of these SGs where leaf litter is plenty during cold season. Eg- Nagakanya Kavu.

Bats and Peacock

The bats visiting the SGs fall under the category of fruit bats. They are seen rarely. Even if they are seen, no damage to trees is reported by any people. Peacock visits some of the SGs finding favourable conditions of food. It feeds on plant parts,

insects, white ants etc. Also it takes plenty of water. It can devour even snakes. It scratches termite mound in sacred groves and eat the ants coming out. Pea fowl is also reported to be rare. But they are mostly on the move. They prefer SGs adjoining paddy fields. Local information is that they suddenly appear in the morning or evenings soon after rain subsides. Sacred groves with light canopy and bushy undergrowth or tall grass are stated to be their favorite. Their way of foraging make the surroundings healthy. They feed on lizards, rodents, and even small snakes. They avoid flying but do fly to tall trees for roosting. By virtue of their iridescent bluish green plumage and beautiful large tail they are noticed easily by people. They escape from falling victim to the hunters as long as they are in the vicinity of sacred groves.

Butterflies are the outnumbering faunal groups among the groves studied. This was followed by the birds, reptiles and mammals. The availability of food plants in and the premises of the groves for the larval survival and growth could be a reason for the high abundance of butterflies.

Carbon sequestration

Sacred groves cannot be taken as an isolated system. By their presence amidst a mosaic of landscape such as fringe forests, cultivated areas and human settlements sacred groves enhance the landscape heterogeneity and biodiversity. An assessment on this contribution by sacred groves is a matter of study to be undertaken by competent organizations like Bio-diversity Board or Research Institutions to assess and evaluate their contribution in carbon sequestration.

CHAPTER VIII

SOCIO CULTURAL ASPECTS

General

Palakkad District is one of the 14 districts of Kerala. Palakkad is bordered on the northwest by Malappuram District, on the southwest by Thrissur District, on the northeast by Nilgiris District, and on the east by Coimbatore district of Tamil Nadu. The district is 24.4% urbanized according to the census of 2011. The district is nicknamed "the granary of Kerala". Palakkad is the gateway to Kerala due to the presence of the Palakkad Gap in the Western Ghats. Most parts of the district fall in the midland region. The climate is pleasant for most parts of the year; the exception is the summer months. There is sufficient rainfall and it receives more rainfall than the extreme southern districts of Kerala. The district is blessed with many small and medium rivers, which are tributaries of the Bharathapuzha River. A number of dams have been built across these rivers, the largest being the Malampuzha dam. The largest in volume capacity is the Parambikulam Dam. Palakkad, Chittur, Alathur, Mannarkkad, Ottappalam and Pattambi are the six taluks in the district.

Historical background of the district

Evidence in the form of relics suggests that Palakkad existed during the Paleolithic age. First millennium AD saw the Perumal rulers exercising their control over the land. This control was later disintegrated into smaller divisions by the Perumal Governors. Accounts of William Logan, the Scottish author of the Malabar Manual also mentions Palakkad as one of the Malabar regions that was captured by the Pallavas. Another record describes a war that was fought by the king of Palakkad in 988 AD to stop the invading army of King of Kongunadu at Chittur. The victory of Palakkad in that war is still celebrated in the form of a festival. In 1757, yet another invasion by the Zamorins made the then Raja seek the help of Mysore ruler, Hyder Ali. Hyder Ali obliged and eventually secured Palakkad for himself and later his son, Tipu Sultan. It is reported in '*Temples of Palakkad district*' by Jayasankar "*Tipu Sultan issued orders to his army that every being in the district without distinction should be honored with Islam and all means of truth and falsehood, force or fraud*

should be employed to effect their universal conversion. Tippu's followers desecrated the age old temples, broke the idols, raised the structures to ground and compelled the Hindus to either flee or live in disguise". It is also in the history that many people belonging to upper caste fled to Travancore areas to escape from the disgrace and forceful conversion. After the period of Tippu, many returned to their homes. However, with the defeat of Tippu in the third Anglo Mysore war of 1792, Palakkad, along with other Malabar territories (belonging to Tipu) passed off to the British. Malabar played a great role in the freedom struggles from very early days. The British made Palakkad a part of the Malabar District of Madras Presidency which post independence became a part of the Madras state. In 1956, when Kerala came into existence, Palakkad became a part of it.

Religious background

During the ancient period, people in this region followed *Dravidian* practices which were independent of any particular religious philosophy. It is believed that *Jainism* entered this land around the third century B.C. Their mode of worship was based on peace and tranquility of mind. Many people were attracted by this practice. *Buddhism* also entered this land during the same period. *Buddhism* paved the way for learning and literacy. The *Brahminical* influence from north India entered the State in the fifth century. Their influence on the mode of worship was immense. Both *Jainism* and *Buddhism* declined by the revival of *Hinduism* by the great efforts of *Sankaracharya*. The arrival of Portuguese towards the close of the 15th century accelerated the growth of Christianity in the district. The population of Christianity was negligible here till the large scale migration of Christians from south Kerala to the eastern hilly tracts of the district for agricultural purposes. The 2011 census shows the religion wise distribution of population as, 69% Hindus, 29% Muslims, 4% Christians, and balance Sikhs, Buddhists, Jains etc. Places such as Mannarkkat and Ongallur, Muslim population predominates. The upper classes of Hindus of the district, ie, *Nampoothiripats* and *Nampoothiries* or *Pottis* still continue to enjoy the occupation of priesthood in temples.

It is an important factor that the various historical incidences that took place in the district have changed the religious composition of the population drastically. A good number of temples were destroyed during the attack by the Mysoreans and during the

subsequent Mappila riots. The implementation of the Land Reforms Act alienated the properties of the temples thereby affecting their very existence.

Cultural traditions

Palakkad district has a glorious cultural tradition. Thunchathu Ramanujan Ezhuthachan, the father of Malayalam literature, is said to have spent his last days in Chittur. To commemorate this, there is the “Thunchathu Acharya Madam” at Chittur. Kunjan nambiar, the most popular poet of Malayalam and the founder of Thullal, purely a Kerala art form, had his birth in a small village called Killikurissimangalam (Lakkidi) in this district. Worthy contributions have been made by talented artists of this district for maintaining and enriching the classical dance forms of Kerala, such as Chakkari Koothu, Thullal, Kathakali and Mohiniattom. Mani Madhava Chakkari for ‘Koothu’ and Vazhenkada Kunju Nair for Kathakali are the two names to be remembered in this context. The “ Kalluvazhichitta”, the most popular school of ‘Kathakali’ had its origin in Palakkad district and its exponent was late Sri Vazhenkada Kunju Nair. The musical tradition of Palakkad district is unchallenged. The district has been blessed with the birth of the late Sri Chembai Vaidyanatha Bhagavathar, the exponent of Carnatic music and Sri Palakkad Mani Iyer, the inimitable maestro of mridangam. Sri C. Sankaran Nair also belongs to Mankara, a place in this district. Other celebrities of the district are:- Melpattoor Narayana Bhattatirippat (*Narayaneeyam*), and Poontanam Nampoothiri (*Jnanappana, Santanagopalam*).

Among the other eminent personalities of the district are the late K.P.S. Menon, and the late K.P.Kesava Menon. Swadeshbhimani Ramakrishna Pillai spent his life in exile at Vadakkanthara near Palakkad town.

The Concept of Sacred Groves

Sacred Groves, from time immemorial, were in existence attached to temples or *Taravads*. Traditional and indigenous communities in India are of the religious belief that medicinal groves and plants are sacred in nature. Sacred groves (SGs) are patches of trees on forest land that are protected communally with religious zeal and connotations. These forest areas have been protected since ages by traditional societies and indigenous communities with their socio-cultural and religious practices. Sacred groves as a rule are treated piously. Sacred trees are prohibited from cutting

and not axed except when wood is needed for the religious purposes like construction and repair of temple buildings or in cases like worshiping, death ceremonies and temple rituals. Thus, SGs carry direct and everlasting pious status and assist in maintaining social fabric of the society. Sometimes, they are also known as natural museums of giant trees, treasure houses of threatened species, dispensaries of medicinal plants, regulators of water sheds, recreation centers for urban life, veritable gardens for botanists, gene banks of economic species as well as rare and endangered species, paradise for nature-lovers and so on.

In India, different religions are having different traditions, beliefs, and rituals that are associated with conservation of biodiversity and forests. In Hindu religion, it is a traditional belief that nature shows a reverence for five basic elements i.e., Earth (Prithvi), Fire (Agni), Water (Jal), Air (Wayo) and Space (Akash). All the five elements are treated as a body of God and are worshipped. These five elements are protected for religious, cultural and spiritual reasons. There are many studies entitled to further quantify this ethics, which leads to biodiversity conservation and sustainable ecosystem (Pal and Mukhopadhyay [2011]).

Sacred Groves in the District

From time immemorial, sacred groves were in existence attached to temples or important *tharavad*. Though there are more than 250 important temples in the district, Sacred Groves attached to such temples are very few in number when compared with other districts. Out of the 184 SGs in the district, 175 SGs are managed or owned by private individuals or families or family trusts. Historical information states that most of the temples had in its possession thousands of acres of paddy fields or dry lands, but because of the Land Reforms Act implemented in the State, the temples lost such extensive lands. The present situation in the district is that most of the sacred groves are attached to *Tharavad* or *mana* and generally known as *Pampin kavu*. It is interesting to note that many of the major temples in the district (more than 25) have its name prefixed with the word '*kavu*'. If one visits such temples in search of a *Kavu* (Sacred grove) no such grove or '*kavu*' are seen existing, but for an idol of a *naga* deity or a stone on a *peetom* or under a *Banyan tree*. To quote some examples of such temples are; *Malamel kavu sastha* temple, *Kurunni kavu Durgadevi* temple, *Chamundi kavu Bhagavathi* temple, *Peringott kavu Bhagavathi* temple, *Mangottu kavu Bhadrakali* temple etc. It is also a fact that many places which are said to have

the existence of a kavu, on inspection, it was noticed that there exists either no vegetation, nor even a tree but just a stone or an idol. Therefore such so called *kavu* are not taken in to account in this survey.

Ownership of majority of SGs in the district belongs to *Tharavad /Illam or Mana*. *Mana/Illam* is the family houses of Nampoothiries and these *illam* are hundreds of years old. Source of income for the male members of these *mana* are mostly from the remuneration or *dakshina* received as *Tantries* or *santikaran* of temples. The financial conditions of such *mana* are diminishing year by year. This is reflecting up on the maintenance of the *kavu* as well as conducting festivals in the *kavu*. It is purely out of ardent faith and cultural heritage; they protect these pieces of land and perform the religious practices there.



150 years old Athippatta mana

Athippatta mana in Thachanattukara village maintains a kavu of 60 cents. The legend is that one of the ancestors of this *mana* was the *Tantri* in Vaikom Mahadeva temple and when he was coming back to his home here from the temple, a *Sarpam* accompanied him hiding on his palm leaf umbrella and the next day a *pampin puttu* (*termite mount*) was formed in front of the *mana* which became the *moola sthanam* of the present temple. This is said to have happened on the day of *thaiipooya maholsavam of Makaram*.

The result of the study shows that there are only 184 SGs spread over in the six taluks of the district. Pattambi taluk supports the maximum number of 92 and least in Chittur taluk with 9 only. Unlike in the other districts of Malabar area, like Kozhikode or Kannur, very large sacred groves are rare in the district. The largest SG in the district is the SG attached to Parakkat Bhagavathy Kshethram in Kavissery village of Alathur taluk having 25 Acres.

The SG attached to Ekalavyasramam in Chittur taluk having an extent of 4.75 Acres is the second largest and Pathirikunnathu mana kavu in Chalavara village of Ottappalam taluk is the next with 4.00 Acres. Chola kavu in Thiruvegappara village

of Pattambi taluk with an extent of 2.00 Acres of sacred grove is another note worthy SG in the district.



Temple pond in Chola kavu



Temple pond of Parakkat Bhagavathy kshethram

Worship

In the district, as explained already, ownership of most of the *Kavus* vests with either *tharavad* or *mana*. Caste wise most of the SGs belong to Brahmin community, especially Nampoothiry families. **Some Kavus belong to Nair community and a few with Eezhava and other Communities. Scheduled casts and Scheduled tribes own certain SGs. Pazhathara Nagamanikkan kavu in Alathur taluk and Padinjarevedu Arupuzha kavu in Palakkad taluk are managed by members of Viswakarma community. Thattathara Veluthan kavu in Palakkad Taluk is owned by Thattan community, Kariyattil sarpakavu by Harijan families, Cherukad Nagakavu by Assari families.**

At various stages of evolution, people adopted different modes of worship like nature-worship, spirit worship, image worship etc. The mode of worship and belief of people vary considerably between aboriginal tribes and various sections of Hindus. Worship pattern among the tribes, especially in places bordering the hilly tract have peculiar religious rites and practices. They treat the supernatural with more fear than reverence. However they prefer to worship some deities of their own. *Serpant* spirits are worshipped in almost all *Tharavad* and the rituals are performed systematically and diligently by *Barhmin* priests.

Since some of the SGs are lying in the border villages of Tamil Nadu, mode of worship has influence of Tamil culture. They have peculiar religious rites and practices.

Though the ownership is as mentioned above, *poojas* are mainly *brahmana* pooja. *Abrahmina poojas* are performed by pulluvas or other members belonging to the Scheduled casts. In Kottekunninmel kavu in Pattambi taluk, one pooja in every year is performed by Pulluvas; but after the pooja by Pulluvas, Brahmin poojaris will do the *sudhikalasam* by pouring *punnyaham*. In Pazhathara *naga manikkan kavu*, ayillia pooja in the month of *kanni* is performed by the leader of *viswakarma* community.

Since majority of SGs belong to families, worship patterns, rituals and festivals vary from place to place. Unlike in the case of SGs attached to major temples, expenses on poojas and festivals would be very restricted because they themselves have to find out the resources for the festivals. In the family SGs, daily poojas are not taking place, instead lighting lamp in the SGs by members of the family is uninterruptedly carried out. It represents unity and collective action of the family members.

Deities- generally, the Deities in the Temples include a wide spectrum based on different *sankalpas* (splendid conceptions). In the case of Sacred Groves, the Deities are a sort of Spirit cult. Worship of these semi divine spirits is primitive. Though these are classified in many categories, those most common in this district are *serpent*



101 headed Ananthan in Hariharankunnu



Nagathara of Koramparambu Sarpakavu

(*Naga*) deities. **All classes of Hindu consider *Naga* worship as divine.** The *Serpent God* is known by different names. Devotees consider it necessary to worship them to ensure progeny and prosperity in their families. The devotees treat *naga*

idol

Naga Thara of Chola kavu



Naga Thara of Kotakakam kavu



with great veneration and some sort of fear. The general belief is that if a person shows disrespect or kills a serpent he will meet with punishment. The *serpant* spirits that are worshipped in the *Pampin kavu* of the district are; *Nagaraja, Naga Yakshi, Naga kanya, Naga brahma, Naga kali, Naga Bhagavathi, Karinagam, Maninagam, Anjana mani nagam* etc. Some of the other Deities worshiped in the SGs of the district are *Vettakorumakan, Neelabhattachiri, Sreekurumba, BrahmaRakshas Pazhayakavilamma, Kantakarnan, KuttichathaBhuvaneswari, Kothalamuthan, Loka paramewswari* etc. Generally there will be a stone basement- *chithrakoodam*- with granite stone *prathishtas* of *Nagaraja, Nagakanyaka, Nagayakshi, Naga kali, Naga Bhagavathi* and other attendant *Nagas*, all facing the east. In Cholakavu the idols include that of *Nagaraja, Nagakanya, Maninagam and Anjanamaninagam*. Among the idols, the idol of *Nagaraja* is slightly bigger.

Offerings

There is a wide range of offerings in every temple and every SG. In common usage, offering is known as *vazhipad*. *Vazhipad* is slightly different from *nercha*. Offering or *vazhipat* is for the favor and blessings from the deity and therefore it has an in built element of personal sacrifice. *Nercha* on the other hand is normally offered after fulfillment of the desire. Each *vazhipad* is performed for specific intentions. In the SG attached to Ekalavyasramam, offering is made in a peculiar way. Goat or cock or duck offered are killed after conducting poojas and cooked at site for the fulfillment of desires.

Vellari nivedyam is the most common offering in most of the SGs. Another offering is *noorum palum in ayillia nal. Kathir vela* in the month of *Thulam*, *Kalamezhuthupattu* in *Vrichikam, Ponnin poovu* in the month of *Makaram, Koothu* in

the month of *Kumbham* and *Aluvela* in the month of *Edavam* are some of the other offerings made in temples.



Heaps of naga idols as nercha in Hariharakunnu kavu

In Hariharakunnu kavu in Koppam village, a peculiar type of nercha is made by the worshippers. They bring idols of Naga deities and place it in the kavu as *nercha*. A heap of such idols could be seen in the *kavu* area. Though *Pampin thullal* is a folk art

form, it is performed as an offering to the *sepant deity*. In many of the

SGs, *pampin thullal* is performed during the Ayiliya pooja every year. In panthakkal Bhagavathy Kshethra kavu in Pattambi taluk, naveekarana kalasam for the *sarpam* are done once in every three years. In Kottekunninmel kavu, *pampin thullal* is performed once in three years. In Cherukad naga kavu in Palakkad taluk, it was shown in the *prasnam* that *pampin thullal* shall not be done there.

Festivals

Unlike in other districts, the peculiarity observed in the district is that festivals are rarely celebrated in SGs in auspicious days. Since majority of the SGs are private owned, expenses for festivals have to be met by the family members and this has restricted very expensive programme in festivals. Therefore it can be said that festivals are mostly temple related functions. In the months of March and April, after the harvests, festivals called *Vela* are celebrated in many villages. These festivals feature a parade of caparisoned elephants, traditional orchestra of percussion instruments (called *Panchavadyam*, *Thayambaka*, *Pandimelam* etc) and fireworks. These festivals are very popular; people from neighboring districts and Tamil Nadu come to witness them. *Nemmara Vellangi Vela* and *Chinakkathur Pooram* are the most popular among them.

Another important festival in the district is the Kalpathy Ratholsavam, which has no relation with SGs. This is a festival of the Tamil Brahmins. The deities of the various temples are taken out on a procession in chariots. It is believed that the God goes out to see his people on these days.

Folklore and Folk Arts

The art, culture and customs of the people of the district are mostly the same as those of the people in the neighboring districts of north Kerala. A large number of art forms including folk dances, dramas, folk-songs, etc. have gone into oblivion. *Kalamezhuthu, pattu, Pulluvan pattu, Thullal, Pambum thullal or Sarpam thullal, Theyyam, Theyyam pattu, Thuri uzichil, Kozhi vettu, Kanyarkali* etc are some of the folk art forms performed during the festivals in the SGs. In major temples, *Ganamela, Bale, Drama, etc* are performed during temple festivals.

The ritual of *Kalamezhuthu pattu* develops through three stages – *Kalamezhuthu*, drawing of the picture, *Kalam*. There are 28 types of *Naga kalams - Pattu*, which involves the rendering of the myth related to the deity to the accompaniment of some traditional instruments and *Kalam Thullal*, the final stage in which the myth is performed in a stylized form following which the *Kalam* is erased. This art form is multi-dimensional in that it bears religious, aesthetic and social aspects.

Theyyam: *Theyyam means deivam. That means Theyyam is a god.* These gods are not the typical Aryan god. They are mainly heroes who died for great causes or spirits of



Bhagavathy theyyam

ancestors. It is performed as a dance festival and is celebrated mostly in the Malabar area of the State. This dance is performed in honor of the heroes and ancestral spirits. Ancestor worship and hero worship were a common practice among primitive communities. This dance form is also

known as kaliyattam in some places. This dance form incorporates a dance, and music with mime. The performers are from scheduled cast or scheduled tribe communities. *Theyyam* is believed to have many types; each has its unique style, make-up, costumes, songs and choreography. The most prominent *Theyyams* are *Pottan, Gulikan, Bhagavathi, Chamundi*, etc. Note worthy things about *theyyam* are the ornamental decorations, their size and appearance.



Pulluvan pattu

they are called *Nagampadikal* (people who sing snake songs).

Kanyarkali is a typical ritual folk art form performed during the festivals of temples in Palakkad district. The movements in this dance form are swift, emphasizing its martial connection. The dance is accompanied by music.

Another traditional cultural folk art form of Palakkad alone is the ***Poraattu nadakam*** or ***Poraattu kali***. This is performed in connection with *pongal* festivals in the district.

CHAPTER IX SOCIO- ECONOMIC ASPECTS.

A. CUSTODIANS OF SACRED GROVES.

The custodians of sacred groves fall under different categories depending on the social conditions and legal status of land. Mainly three categories are identified namely Private management, Public management and management by Government supported Institutions like Devaswam Board

I. Private Management

The basic factor here is that the full propriety of the land supporting sacred grove belongs to one family or group of families. There are in all 175 such SGs coming under private category in this district. They are either .Kudumbakavu, or Kudumba Trust. In this case ,as is generally seen in respect of Hindu families, the sacred grove form part of own property of the family being maintained traditionally from generations to generations with the purpose of maintaining general protection of the family and worshipping deity based on their religious belief. The head of family normally is the top authority in the management. Since these sacred groves are hundreds of years old they hold a link to the family partition deed wherein stipulations are there for the maintenance of sacred grove and allotment of additional area for generating income to maintain them. .

In certain cases the partition deed stipulates the responsibility of maintaining the sacred grove with a specific family and when the same family expands into more number of families later without losing their right and responsibility to preserve the sacred grove; these families work jointly to manage the affairs of the SG. In such cases they have the option to form a committee or register a trust as the case may be without altering the legal status as private. The trust periodically elect office bearers like President, Secretary and committee members to manage the activities relating to the SG. A byelaw is only optional and they sometimes manage with clear understanding among them.

II. Public Management.

In this case the ownership goes to a public body which governs the management according to generally approved legal principles. It can be registered as public committee or function as a public committee with oral understanding. In either of the cases many or all of the members are from the public having faith in Sacred Groves. In this there are four such cases in this district.

i. Public Committee.

Such committees are usually formed when an owner of the SG is financially too poor to manage the affairs of the SG while at the same time the local people consists of devotees having faith in the deity or sacred grove. Another reason is when the SG is on the verge of complete destruction or encroachment by other people inviting resentment from local devotees . All such instances immediately provoke the local people to form committees to maintain and protect the SG. Again instance are there when the land under an SG is *Puramboke* under Revenue, Forest or Panchayat, like minded people constitute a public committee for security.. Some such committees go in for registration with local Registrar's Office. They maintain registers of accounts for every monetary transaction and present all matters during the meetings. There are 5 SGs listed under such committees.

III. Malabar Devaswam Board.

There are SGs attached to Temples under the management of Devaswam Board. Though more attention is given in the affairs of temple equal importance is given to the rituals in the SG also, thereby providing sufficient security to SG..There are five such cases here.

A statement of SGs under the above categories is given below. It can be seen that majority of the SGs are under private management.

Name of Taluk	Private	Public Committee	Malabar Devaswam Board	Total
Alathur	13	--	1	14
Chittur	8	1	--	9
Mannarkkad	16	--	--	16
Ottapalam	32	--	1	33
Palakkad	19	--	1	20
Pattambi	86	4	2	92
TOTAL	175	5	5	184

A. ATTITUDE OF CUSTODIANS

The very fact that 63 % of the sacred groves are of or below five cents in extent, clearly reveals the poor interest in maintaining these SGs. This can be attributed to various factors.

1. Financial stringency- in meeting the annual maintenance cost.

Out of the 20 Ss in Palakkad taluk, one is attached to a temple. The rest are managed by the owners. But they conduct pooja only once in year. Not even daily lighting lamp is seldom done. Example is Maniyamkulam tharavattu kavu in Keralassery village and Chovur Veedu kavu in Kannat village.

In Ottapalam taluk except one SG, in all the other 32 SGs pooja is performed once in year . But some of them organise Teyyam which may be sponsored by rich people a times. Less attendance of devotees and consequent poor income add to this crisis.

2- Fear of wrath from Lord Deity.. –

Since the custodians have faith in God and they are afraid of completely eliminating the sacred groves passed on to them by the ancestors. Hence they are tempted to retain a portion of the SG for worship by the members of the family.

The Kariyadin Sarpa Kavu in Keralassery village of Palakkad Taluk owned by Brahmins was abandoned and it came into the hands of Harijan Colony. As they noticed presence of serpent regularly , they went in for getting advice from an astrologer and got the advice to perform pooja at least once in a year. They arrange to get it performed by Brahmin priest.

In Chittur taluk, Manangot powchodappan kavu (Id.1) was originally owned by Brahmins. During period of Tippu Sultan's Padayottam they fled away and the sacred grove came to be managed by local people forming a committee. The extent is only 5 cents.

Some isolated instances-

The examples narrated above show the main background of most of the sacred groves. Still there are a few which are being managed in a systematic manner. There are only around ten sacred groves where rituals are seen systematically in the conventional manner. The main one is Parakkat kavu in Alathur taluk under Malabar Devaswam, having a large extent of 25 acres. Here pooja is being held all the three times and income and expenditure is very high with participation of floating devotees also.

Another is the Hariharakunnu Kavu of Pattambi taluk maintained by Public Trust . Though the extent is around one acre the area is well maintained and organising all rituals elaborately. There one can see huge collection of Naga idols shifted from other sacred groves.

Chola kavu in Pattambi taluk is the one under Malabar Devaswam having an extent of nearly two acres, comprises an undulating terrain with ponds and temples of different deities. The Ekalavyan kavu in Kollenkode is another one which is attracting lot of devotees and the peculiarity is that animal sacrifice is also being performed-a rare ritual these days.

Tholannur Valiathode kavu in Alathur taluk is well organised by the local people and they are taking action to register it as a trust. Here also rituals are systematically followed with active association of the local people.

A Unique case

In Thachanattukara village of Mannarkkad taluk there is one Ayurveda Hospital by name ADITHYA -a very popular one. The Doctor in charge enthusiastic about the plants in sacred groves has sponsored the maintenance of five small four SGs of 30 cents each and the last one with 3.5 cents.. They are Panakurishi Siva sailam kshetra kavu,, -Thachanattu kavu, -Ambalath kavu, -Musaliathu kavu and -Nellikurich which are existing close by. Though all these five SGs are under private ownership, there is public support in managing this at the instance of the hospital staff. This is a unique case.

B. SOCIO-ECONOMIC CONDITION

As already explained, the socio-economic condition revolves around faith in worship, fear of God, respect for taboos, disciplined maintenance and local appreciation besides environmental considerations affording protection of nature .But for the very few instances of major cases narrated above the general status of socio-economic condition of the sacred groves in Palakkad district is bleak.

Considering the low number of SGs and the large number of small sacred groves a realistic assessment on the economic situation of these SGs cannot be done. However, a discussion among the enumerators on the possible economic situation was arranged and the consensus emerged is tabulated as below.

- i. The sacred groves can be categorised into three namely- Small, Medium and Major.
- ii. Based on the experience in observing the status of these SGs the number under each category can be safely taken as -Small-130, - Medium -44, Major- 10
- iii. a). In the case of Small category, there is only one pooja in an year. The expenses are very little and income also low. But the custodian may have to spend a reasonable amount for conducting pooja including remuneration to priest and helper. It is also possible there can be part time person to oversee the cleaning of the site once in a month. Hence it is safer to assume a total of 15 man days in an year. Thus the total expenditure and income for this category per SG, is estimated as ---Mandays-15, Expenditure- Rs. 25,000./- Income – Rs.50,000./-
- iv. b). Under the Medium category, the rituals are more. Besides once a year pooja, there are Ayilya pooja, other Hindu religious festivals like, Shri Sabarimala related functions , Sivrathri, Navarathri, etc when at least poojas are performed at least in a small way. At random they may even organise Theyyam with some one coming forward to sponsor it. Thus there can be more devotees and money in circulation will be necessarily more. The expenditure and income is estimated as at an average in respect of one SG can be -- Mandays 100, Expenditure -Rs. 2.5 lakh and Income-Rs. 3 lakh.
- v. Major category constitute a special case and a generalisation is not feasible since one is not comparable to another owing to factors such as rituals, attendance of devotees and financial background of ownership The Parakattu temple kavu under the management of Malabar Devaswam Board is the one outstanding in all respects in this district. But the other nine sacred groves coming under trust, Devaswam or local people maintain more or less the same standard. In respect of Parakattu there are more activities since it is only a part of the main temple where hundreds of devotees attend almost every day. Only 10% of the monetary impact can be set off against the sacred grove here.

Therefore an average socio-economic condition can be arrived at for all the major SGs irrespective of the data in respect of Parakattu kavu. In general, pooja rituals, festivals do take place in the generally accepted manner . There will be one priest and one helper every day. During festivals of an average ten days, five more persons will be deployed. Festivals include certain cultural programmes and there can be many devotees attending and offering donations and oblation. An assessment of average financial status in an year for each of the ten groves can be taken as- below.....

Man days- 780/yr- ,Expenditure including cost of festivals – Rs. 11 lakhs, and Income-Rs. 15 lakhs.

A total picture of money in circulation in an year is arrived at as in the Table below-

ANNUAL ECONOMIC STATUS.

Rs. in Lakhs.

Category of SG	Total no.	Man days	Expenditure	Income
Small	130	15 x 130= 1950	0.25 x 130= 32.5	0.5x 130= 65
Medium	44	10 0x44= 4400	2.5x44 = 110	3 x 44= 132
Major	10	780 x 10= 7800	11x 10= 110	15x 10=150
TOTAL	184	14150	252.5	347

The special case of Major Kavuu-Parakattu

The financial status as could be ascertained from the Parakat Temple Kavuu official is tabulated below for favour of information. Here, main expenditure is for managing the temple under Devaswam board and sacred grove is only a minor site. Hence not more than 10 % of the expenditure and income can be set off against the SG.

Expenditure & Income in the Special case

Particulars	Number	Man days In an year	Annual Expenditure on remuneration	Annual expenditure	Total annual Rs.
Priest	3x365 days	1095			
Helpers	5 do	1825			
Festival -15 days	5x 15	75			
Man days		2995	20,00,000		
Festivals including monthly and yearly				45,00,000	
Total EXPENDITURE					. 65 Lakhs
INCOME					One Crore

CHAPTER X

MYTHS AND LEGENDS

Myth is a story, based on traditional knowledge passed on to generations, which people are inclined to believe depending on their attitude to the subject matter. Although some myths can be accounts of factual events, they have become transformed by symbolic meanings. Myths or stories about sacred groves would be fascinating or even frightening.

A legend is a semi true story, which has been passed on from person to person and has important meaning or symbolism for the culture in which it originates. A legend usually includes an element of truth, or is based on historical facts, but with mythical qualities. In Palakkad district there are only very few cases which can be partly a myth and partly legend.

Athipatta mana-

The Nagakanya Kavu owned by Athipatta mana is situated in Manarkkad Taluk of Palakkad District. It has an extent of 60 cents. This is one of the SGs well managed by Namboothiri family. Long ago one of the Namboothiries went on a pilgrimage to Vaikom temple. While returning he lamented loudly to himself “ how he might ever be able to have *Darsan* of Lord of Vaikom again”. Moved by his devotion the Lord decided to accompany him by attaching himself to the palm leaf umbrella to Athipatta. On reaching the Mana, Vaikathappan chose to lose himself and took the shape of a golden serpent in the courtyard of the Illam. Soon an Ant-hill appeared on the ground there and the serpent disappeared. The Ant -hill is supposed to be same what we now see also. (See picture).

On further steps taken towards this incident including *prasna*, a sanctum and temple were soon build there itself. The *Thypooyam* in the month of *Makaram* is even now being observed as installation day. Also the Vaikath Ashtami in the month *Vrischikom* is celebrated here on account of this. The *Thypooyam* is known as Nagini Festival meaning that serpent maid having been transferred into serpent goddess. The offerings include little icons of serpent and its eggs crafted in silver. The devotees are tendered mud particles from the sanctum or kohl made from the soot of the wick burnt at the alter stone. These are believed to be antidotes for skin and eye diseases.

A legend-

The very same Athippatta mana is also famous for a legend regarding curing eye problems. This is reported to have had some access to a herb used in treating eye diseases. Still no body knows what it was. When one member of the he was called upon to help an eye patient. The patient was a “*cheruman*” -a lower cast. The Namboothiri jokingly shouted at the patient and helped him administer a herbal medicine which was harmful to eye causing blindness. The credulous patient dutifully applied the medicine and got himself fully cured. This incident was a surprise to all. It was later found that this medication was due to the visitation of snake gods and that the snake gods entered the ground near the Ficus tree under which the patient was standing. Thus this bottom of the tree has become a worshipping centre on all *Thaipooyam* days.

(Source-Internet by Athipatta Ravi. of the Mana)

Ekalavyasram Kavu in Chittur taluk.

Popular in Animal Sacrifice.

This one of the famous sacred grove where many rituals are reported to be taking place which are not very common. Animal sacrifice during pooja and menstruating women attending as devotees are among them .The belief is that the presiding deity Karuppuswamy is worshipped for the health of human beings and domestic animals. It is reported that on sunaays there is elaborate pooja rituals when animals like goat and birds like hen are sacrificed virtually. The sacred grove idol is placed under a Ficus tree large enough to cover a long spread of area.

Hariharakunnu Kav-

This sacred grove is situated in Koppam village of Pattabmi taluk.The temple ha a swayambhoo idol of Lord Siva.This sacred grove is famous because of the fact that serpents are set free in the area after the priest sprinkle Holi water . These serpents without disturbing any one proceed to a place generally set apart for the serpents. This is a routine feature in this area. None has seen the serpents after that which have been set free. Only the mountings of snakes are noticed around the path.

On all Sundays there used to be a ritual in which the stone idols are offered to be installed after pooja. This Kav is now a store house of hundreds of such idols as can be seen in the picture.

CHAPTER XI

THREATS & RECOMMENDATIONS

There are various factors that pose a threat to the survival of some of the SGs. This has direct bearing on the attitude of the custodians. During the period when joint families system existed there used to be a sense of feeling to strictly follow the maintenance of the SGs situated in the *tharawad* property. When the system made a change over to partition of family properties, many SGs got destroyed or reduced in extent. But that tendency, though not arrested completely, has become a rarity now on account of popular belief in prayers and role of SGs in social binding of culture.

Following are the observations regarding threat in this district under various issues.-:

THREATS

1. Intention to reduce the extent for self motive

Already most of the SGs have been reduced in size and this appears to be a fait accompli.

2. Finance for maintenance of SGs.

Scarcity of finance is keenly felt by most of the custodians.

3. Grazing-

Does not appear to be a menace since other sources are plenty in this extensive paddy fields around.

4. Dumping Solid Waste.

The SGs are very distantly located from congested areas and that reduces the severity of this problem.

5. Damage by invasive species.

Most of the Sacred Groves are protected with compound wall and fence, the invasion of exotic and isolated small bits weeds do not constitute a threat to the conservation of Kavu.

RECOMMENDATIONS

1. Separate project for Central Assistance to Sacred Groves.

Financial grant for maintenance of sacred groves received from Government of India is being distributed to the custodians of sacred groves. The present allotment is naturally very low when compared to the actual number of SGs in Kerala. According to the recorded information with Government (refer. website on sacred groves) the total number is 1500. By now with the results coming out of IFK's study in five districts the total number exceeds 6000. It is likely the total in the whole state would be around 10,000 and at least 30 % of them deserve financial and technical assistance from government agency. More over forest department had no authentic data on the total extent of vegetation under SGs in the state except those recorded in four districts by IFK. It is high time that KFD has to come out with detailed proposals for central grant to the custodians who have been protecting these natural patches rendering valuable and intangible contribution to bio-diversity.

2. Awareness Campaign.

Social Forestry wing or Bio-diversity wing of KFD should consider planning awareness programmes in conservation of sacred groves for the benefit of the public & Custodians of sacred groves particularly regarding hygiene of the grove and premises. Present status and importance of sacred groves should be one in the agenda for extension activities targeted on students.

3. Production of quality seedlings of plants.

Social forestry wing may also consider producing quality seedlings of species which are essential trees and other plants as would be emerged from this report. This has to be done after convincing and ascertaining the willingness of the custodians. A few seedlings considered to be typical for sacred groves are noted below for information of social forestry wing of KFD.

Trees- *Vateria indica*, *Aglaia elaeagnoides*, *Holigarna arnottiana*, *Ficus* species, *Aphanamixis polystachya* (Chemmaram), *Vatica chinensis*, *Cynometra travancorica*, and *Dipterocarpus indicus*. These are producing plenty of fruits most of which are liked by fauna, there by promoting biodiversity status. *Dipterocarpus indicus* (kalpine) is a vulnerable species.

Shrubs-*Clerodendrum serratum* (Cheruthekku), *Anidesma diandrum*, *Allophyllus serratus*, *Flacourtia indica*, *Glycosmis pentaphylla* etc. These plants have medicinal properties.

Climbers like *Alangium salvifolium*, *Coscinium fenesatum* and herbs like *Scoparia dulcis*, *Crotalaria retusa*, *Geophila repens* having medicinal value also can be promoted in sacred groves.

More details if required can be seen in pages 21-23 under the chapter-IV Composition of Vegetation.

4. Dealing with invasive species.

This is posing a major threat to the existence of sacred groves. Removal and preventing further growth of invasive species is very essential. But the methods to bring about this task with out affecting the general structure and ritual concepts have to be designed by a team of forest officials and scientists conversant with this issue which may be ideal.

5. Ensure fair distribution of grant

When grants are distributed to SGs, it has to ensure that the process is made as fair as possible by verification by a superior. Details if any required can be gathered from IFK in districts where field study has been completed .Poorly maintained SGs if any may be considered only if improvement is ensured. An effective follow up on utilisation after distributing grant is essential

6. Encourage waterholes or ponds.

The necessity of water availability for attracting small fauna and amphibians is very essential or a healthy environment for sacred groves. Hence this may be insisted for SGs above 10 cents in extent while granting financial assistance.

Publicity for data collected.

In order to bring the Id numbers of the sacred groves to the notice of all custodians concerned, department may take action for publicity in the press and social media and ARANYAM Magazine.

7. Research studies.

The following studies by a research wing may be considered.

- i. Natural regeneration of various plants in SGs.
- ii. Role of fauna like termites, bats and many frequenting birds.
- iii. Identifying keystone species.
- iv. Detailed study on soils in Sacred Groves.
- v. Methods to quantify role of SGs in Carbon Sequestration.

8. Sharing Data.

The knowledge gained in carrying out studies on sacred groves may have to be shared with other related organizations within and outside the forest department including Biodiversity Board, Department of Science and technology and other stake holders since such information is required for the benefit of the people as a whole.

9. Recognition on contribution for Carbon Sequestration.

Above all it is necessary to recognize the service of the custodians in the appropriate manner and give them enough encouragement for the valuable amount of carbon sequestration being contributed by them.

10. Intervention by Government.

The sacred groves are being well protected and conserved in general by the custodians without any legal enforcement. Therefore any intervention in the affairs of these sites by Forest Department or Government need to be planned and designed with caution not to disturb the freedom of custodians as it is a sensitive issue.

Norms Suggested for Distribution of Grant under International Bio-diversity Campaign to Sacred Groves by Social Forestry Wing.

1. Necessity

Sacred Groves are now fragmented habitats housing gene pools and have become the last refuge for many threatened, endangered and endemic plant and animal species. Outside the forest limits they constitute isolated vegetative patches in

a mosaic form and are protected by the custodians who contribute in Conservation of Bio-diversity and establishment of healthy bondage among local people through faith in God. But they are not free from threats that can cause degradation or disappearance, particularly when there exists rising land value and greed for land for non-forest purpose. Hence it is only appropriate that all possible assistance for the upkeep of this pristine vegetation is extended by Government for proper maintenance.

2. Objective

Ensure fair distribution of financial assistance to the deserving applicants for maintenance activities for protection of the SGs.

3. Identification of requirement

Activities

- Construction of Compound Wall,
- Cleaning and maintenance of existing pond,
- Eliminating invasive species scientifically.
- Supplementing regeneration of tree species----site specific.
- Monitoring growth and regeneration of important plants and movements of fauna in selected SGs.
- In general, observe phenology of plant and animal life, by engaging trained students in selected SGs.

This is essential for creating awareness among the youth on conservation of Bio-diversity.

4. Eligibility

- SG should have old trees of typical species under reasonable upkeep.
- Should have local acceptance in the neighbourhood.
- Low annual income.
- SGs associated with prominent temples and under Public Trust, Devaswom Board etc, to be **excluded**.
- Eliminate SGs having ownership dispute.

- Proper performance in utilisation of previous grant if any.
- Contribution in carbon sequestration.
- **Grading-** Based on the above considerations, the SGs in each district may be categorised into three or four categories before fixing the quantum of grant.

5. Allotment of Funds.

Total amount received may be apportioned among various districts according to the number of SGs. As regards the districts where IFK has taken up the inventory, the number can be taken in descending order as below.

Alappuzha
Kozhikode
Kannur
Thrissur
Kollam
Kottayam
Thiruvananthapuram.and
Idukki

6. Financial Support

i. Financial assistance

This depends on the amount available and the cost of activities proposed. This payment has to be followed up by inspection later.

ii. Grant

A grant in the form of reward for the best managed sacred grove in a Taluk or District can be considered if funds are available. Irrespective of the quantum of amount, awarding such a grant would go a long way in creating awareness and enhancing bio-diversity conservation.

7. Selection of SGs.

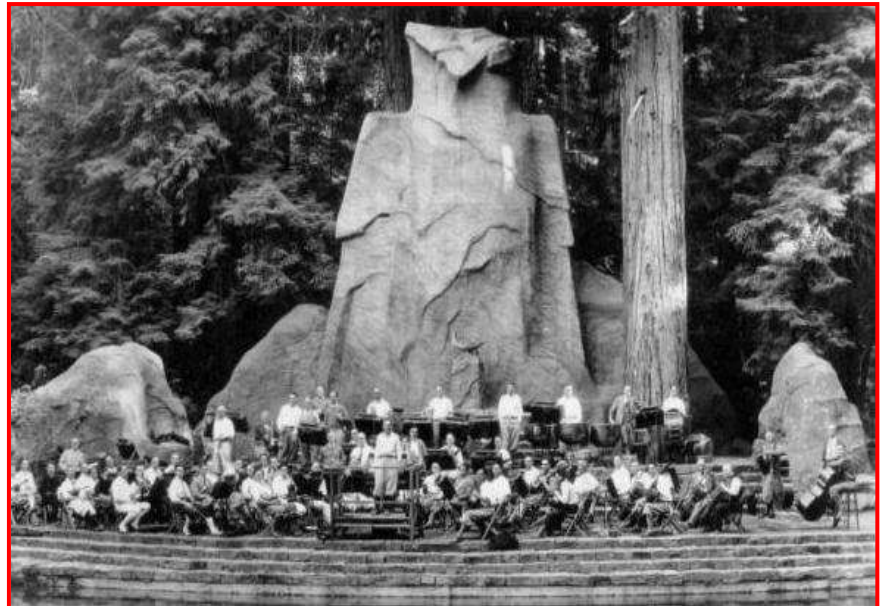
In selecting SGs from among the applicants, preference can be given to community owned SGs and SGs existing on areas of high land value like those in cities, towns and road sides.

Plate I

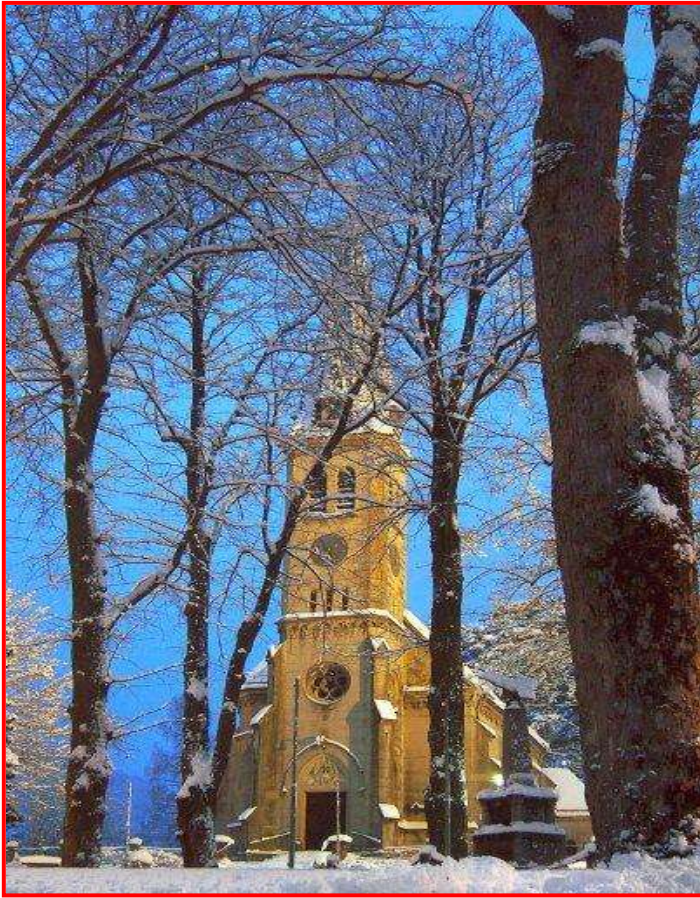


*1.Sacred Grove Island
Estonia. Baltic states-
Europe*

*2Bohemain Grove-a
Sacred Grove in
California..*



*3.Osun-Osogbo Sacred
Grove-Nigeria-
UNESCO-World
Heritage Site 2005*



4 Grove in front of the church in weissenbach an der Triesting.

5. Sacred grove in Caucasus mountains (Russia) .



TYPICAL SGS



Pazhathythara
Nagamanikom-kavu
Alathur taluk
-5 cents

Koramparamb kavu
Melarkode- Alathur
10 cents



Ambalathu sarpakavu
Mannarkad
30 cents

TYPICAL SGS



Tholannur valiathode kavu

Alathur- 85 cents

Govindapuram
vishnukotta-

50 cents



Cholakavu-koppam

Pattambi taluk

200 cents.

TYPICAL SGS



Hariharakunnu kavu-- Pattambi- 60 cents



Parakkat kavu- Malabar Devaswam- Alathur

2500 -cents.

TREES



1- *Antiaris toxicaria*

2- *Cleistanthus collinus*



3- *Cordia wallichii*.

TREES



4 – *Diospyros montana*

5 – *Naringi crenulata*



6 – *Naringi* in flower.



7 - *Holeptelia integrifolia*

TREES



8 – *Ficus benghalensis*

9 – *Antoephalus cadamba*



10 – *Ixora brachiata*

TREES



11 – *Madhuca longifolia*



12 – *Haldi cordifolia*



13 – *Dalbergia lenceolaria*

SHRUB

14 -Bengara malabarica



15 – Breyntia retusa



16 –Clinacanthus nutanus



17 – Crotalaria pallida

SHRUB



18 – *Ehretia microphylla*



19 – *Memecylon depressum*



20 – *Narengamia alata*



21 – *Pavetta indica*

SHRUB



22 – *Pedilanthus tithimaiodes*.

23 – *Pisonia aculeata*



24 – *Thespesia lampas*.

CLIMBER



25 – *Adenia hondala*

26 – *Capparis zeylanica*



27-*Cayratia pedata*

CLIMBER



28 – *Combretum albidum*



29 - *Dalbergiavolubilis*



30 – *Eleutheranthera ruderalis*

31-*Sauropus quadrangularis*



32. *Leptogathis incurve*

33. *Alternanthera bettzickian*



ECOLOGY



ECOLOGY





Tholannur kavu-
Loal committee meets

Parakkat kavu-
Premises provide-
Recreation ground
For locals.



This received
financial
help from Forest
Department.
Pattambi.



Athipatta mana

Termite mound-



Hariharakunnu kavu-
Serpents are drive to ---



Hariharakunnu-
Naga idols offered.

Eklavya Ashram-



Offerings to Lord
Karuppaswamy
At Ekalavya Ashram.