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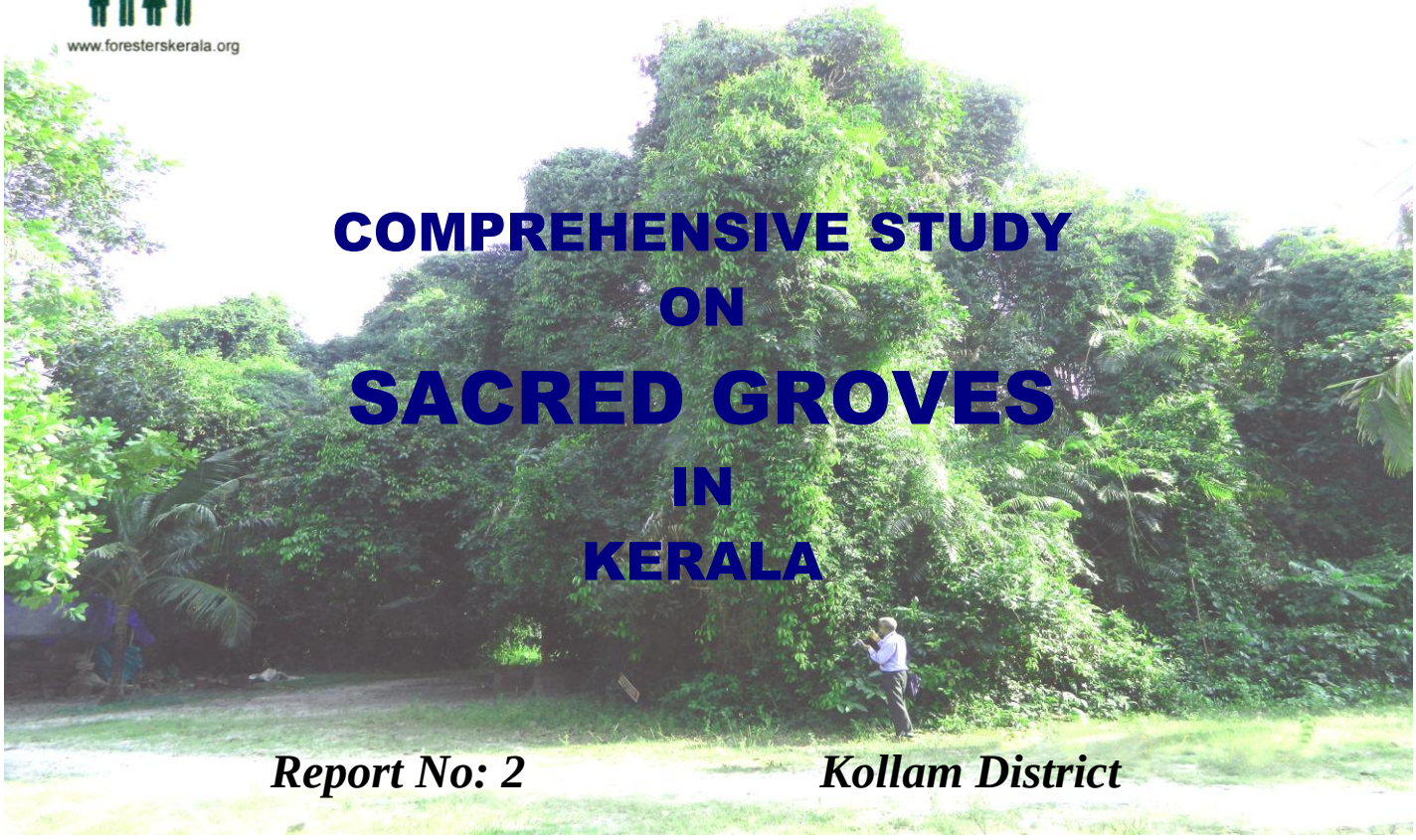

COMPREHENSIVE STUDY ON SACRED GROVES IN KERALA

Report No: 2 ***Kollam District***

Submitted to

CHAIRMAN

Kerala Forest Development Fund

Kerala Forest and Wildlife Department

SEPTEMBER 2015

INSTITUTION OF FORESTERS KERALA

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ON
SACRED GROVES
IN
KERALA

Report No: 2 ***Kollam District***

Sponsored By

KERALA FORESTS & WILDLIFE DEPARTMENT

SEPTEMBER 2015

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List of Medicinal Plants		**5 pages**

PREFACE

Institution of Foresters Kerala (IFK) is a society registered in the year 1987 under the Travancore Literary, Science 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. Accordingly a Project- "A comprehensive study on the socio-economic and cultural aspects of sacred groves in 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 was approved for implementation. The project envisages a detailed study of Sacred Groves (SGs) in all the 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.The KFDF Research Committee which met on 16-11-2013 allotted Kollam District for the study and the MOU was executed on 13-01-2014 (vide-No. A 10(A) 18400/2012 dt-08-01-14). By completing the field work the number of sacred groves was found to be 895 against the expected number of less than 100.

Three field teams headed by retired Section Forest Officers and supervised by one retired Assistant Conservators of Forests and one retired Deputy Conservator of Forests could complete the field work. The data collection was checked in the field at random by senior members of IFK Executive Committee on different occasions. The field team had a laborious task before them to reach the SGs in remote areas and to visit the same SGs on different times to complete the data collection. Dr. N. Sasidharan, Expert on Botany joined us in detailed identification of flora in selected 36 SGs distributed over all the taluks.

IFK record its immense gratitude to Kerala Forest Department in entrusting this glorious task with it. We also thank Shri. S.C.Joshi IFS (PCCF-D&PM) and Sri. L.K.Vashney IFS, Addl.PCCF and Chairman KFDF for their guidance and 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 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, particularly Shri. Santhosh K John IFS (DCF Development) and his assisting team 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.

25-09-2015

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 a few others from outside and 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	**Sri. Chandra Babu,** Section Forest Officer (Rtd) **Sri. Jamaludeen kutty,** Section Forest Officer (Rtd) **Sri. Jagajeevan** Section Forest Officer (Rtd) **Sri. Joy** (Skilled worker)
Field supervision & Field coordination	**Sri. S. Sasidharan**(ACF Rtd) **Sri. K.V.Ravikumar**(DCF Rtd)
Flora identification	**Dr. N. Sasidharan**. (Ex. KFRI Peechi)
Field checking	**Sri. M.S.Nair** **Sri. C.K.Karunakaran** **Sri. Patric Gomez** **Sri. N.Balakrishna Pillai**
Data entry	**M/s. Jaicom Facility Centre**
Verification of data entry & Compilation	**Sri. M.S.Nair,** **Sri. Patric Gomez,** **Sri. N. Balakrishna Pillai** **Sri. E.B.Chandra Babu,**
REPORT PREPARATION	
Review of literature	**Sri. M.S.Nair** **Sri. C.K.Karunakaran**
Ecological status	**Dr. N.Sasidharan** **Sri. M.S.Nair**
List of Plants	**Dr. N.Sasidharan**
Socio-Cultural aspects	**Sri. Patric Gomez**
Note on Iconography	**Dr. M.G. Sasibhooshan**
All other Chapters	**Sri. M.S.Nair**

Photographs contributed	**Sri. M.S.Nair** **Dr. N.Sasidharan** **Sri. E.B. Chandra Babu**
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 cooperation, contributions and valuable suggestions given by the Executive Committee members of IFK from time to time to carry out this task constraint free.

And finally, let me dedicate this study report **in memory of the departed soul and IFK member Sasanka Sekhar,** one among those who pushed through this project proposal which made IFK activities meaningful.

25/9/2015

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.2 - Kollam District

General

Sanctioning Authority - Addl.Principal Chief Conservator (Development) and Chairman, KFDF Research Committee.

Implementing Agency - Institution of Foresters Kerala

Principal Investigator - M. S. NAIR

Date of Agreement - 13th January 2014

Area of Study - Kollam District.

Geographycal extent of the District - 2491 sq.km

No. of Taluks - 6

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
- Conduct study on ecological status

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 with Id numbers.

Methodology

Described data collection and documentation.

Chapter II : Review of Literature

Definition, global scenario, attitude of different religions in the world towards sacred groves, Indian scenario, number of SGs, flora and fauna documented earlier etc.

Chapter III : Results of Study

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

KOLLAM DISTRCT

Sl. No.	Name of Taluk	No. of Sacred Groves	Extent (Cents)
1	Kollam	147 Nos.	43.05 Acres
2	Karunagappally	214 Nos.	56.40 " ..
3	Kunnathur	255 Nos	71.26 ,,
4	Kottarakkara	191 Nos	49.32 ,,
5	Pathanapuram	23 Nos	8.00 ,,
6	Punalur	65 Nos	12.75 "
	Total	**895 Nos.**	**240.78 Acres (97.5) Ha.**

Management

Five main categories identified-

i. Devaswam Board.

ii. Public trust

iii. Local Committee,

iv. Private- a)- Kudumbakavu & Kudumba Trust,

b)- Community owned.

Id Numbers to Sacred Groves.

Id numbers have been provided taluk wise-

Kollam	KL/KLM	1 to 147
Karunagappaly	KL/ KAR	1 to 214
Kunnathur	KL/KNTH	1 to 255
Kottarakkara	KL/KTR	1 to 191
Pathanapuram	KL/PPM	1 to 23
Punalur	KL/PLR	1 to 65

All the SGs have been given serial numbers coming in each taluk. details up to North and East co-ordinates.

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

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

Chapter IV : Composition of Vegetation.

i- Rare Species seen in the SGs have been listed out-

ii. Species found to be important or rare have been listed noting conservation status

Trees-33, Shrubs-16 , Climbers-28.Herbs-6

.

Detailed Study of Selected Sacred Groves.

In all 36 SGs falling in the three regions low land-middle land and high land-have been inspectedand prepared by an expert on Botany and Taxonomy and the important species identified are tabulated SG wise .

Chapter V: Ecological Status

Vegetation- Plant diversity with rare Invasive species, Keystone species, Natural regeneration, nature of occurrence of species region wise,

Soil condition- result of soil tests and analysis, soil and water conservation discussed.

Faunal significance- Useful and harmful role of bats, termites,peafowl indigenous fish etc.as could be collected with their habits.

Chapter VI : Social Dimensions of Sacred Groves.

Sacred Groves falling in different regions totaling 80 numbers were selected and the social conditions in relation to the Sacred Groves have been studied. Mainly five stake holders have been identified such as, i-Local people, ii. Custodians, iii, Priest hood, iv. Shop keepers and v. younger generation. Representatives belonging to all the above categories have been contacted with suitable questionnaire and analyzed their views.

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

Employment - 1141 persons Remuneration- Rs. 398 lakhs

Total amount generated under various sources-Rs. 1438 lakhs.

Other shop vendors depending on SGs for their livelihood – 1350

Chapter VII : 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.The importance of star trees and their mythological relation with different deities being worshiped in SGs is also an informative part of this study.

The study completes with the conclusion that interference with the sacred groves have been restricted culturally also resulting in added protection to this ecosystem.

Chapter VIII : Myths & Legends.

Prepared based on information narrated by custodians and related people.

Chapter X : Threats and Recommendations

Regarding threats, intention showed by a few to reduce extent by shifting deity, encroachment, disputes on ownership, dumping waste etc. are discussed with examples.

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.Non – interference by government to the extent that may dissuade the faith and right of custodians ,

v.Appropriate recognition to custodians for their contribution in sequestration of carbon.

Pictures on various sites activities and plants- 35 plates.

PART II

Maps of SGs with Id numbers taluk wise.

Detailed statements on SGs talukwise.

PART - I

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 measurers 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 15 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.

The year 2010-11 was declared as International Year of Biodiversity and various programmes were launched as part of its observance. 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. 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 gets warm acceptance at all levels concerned.

This study is aimed at building a data base on the existence of sacred groves in Kerala. The work in Thiruvananthapuram District has been completed and report submitted in 2013. Against earlier anticipated 100 numbers of sacred groves (SG) it finally turned out to be 452. The report on Kollam district is now submitted. Study in other three districts are in different stages of completion. Besides taking an inventory on the number of SGS available, information on the extent of 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 over 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 various statements on location, geographical information, 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 approach and delivery as below :-

- A comprehensive inventory of sacred groves in Kollam District with location
- List of flora and fauna ,
- Identification of important and rare plant species in detail by an expert with regard to selected sacred groves.
- Suggesting ID numbers to all the SGs.
- Preparation of a data base on folklore aspects
- 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.
- The threats to be confronted in conservation of sacred groves.

METHODOLOGY

Area of Study

The project proposal envisages to take up the study in all the 14 districts of Kerala. This report covers Kollam district. The district stretches along the shore of Arabian sea for a total area of 2491 sq km and population of 25.84 lakhs.. There are six taluks viz. Kollam, Karunagapally, Kunnathur, Kottarakkara, Pathanapuram and Punalur.. Except the last two, all other taluks cover middle and coastal belt.. Annual rainfall is 270cms. Mean and max. temperatue is 24.4 degree and 36. degree respectively. As regards soil is concerned , coastal belt has sandy loam and in the rest of the area laterite and forest soil are met with.

Objectives:

1. Arrive at an exhaustive list of manageable size of the sacred groves and their extent.
2. Conduct a study of the vegetation and fauna including the prospects for conservation
3. Collect data on the legal status of these groves and socio-economic conditions
4. Documentation of present religious practices like festivals, folklore and folk art prevailing in these sacred groves.
5. Assess the ecological status based on observations made in the field.
6. Mapping the SG locations taluk wise.
7. Evolve suggestions for future conservation and management of these sacred groves .

Collection of available data

Before taking up field study a complete list of sacred groves had to be obtained. The list of Sacred Groves (SGs) available with Social Forestry Division contained only around 200 numbers. Hence publicity was given in news papers in the district calling for the information from the custodians of SGs to be received . The response was good and IFK received more than 300 applications giving all the relevant details. It is after that the field work was started.

During the course of field work the field team received information locally about nearby sacred groves for which no application had been received. Such SGs have also been visited and documented. Finally, from available data with Social Forestry, publicity in the press and through word of month, the number of sacred groves totaled 895 against the earlier recorded number below 100 in the past.

Constitution of Field Team

Two retired Section Forest Officers and one to two supporting hands formed the field team. They were provided with necessary format for recording details and G.P.S equipment for recording latitudes and longitudes. Their work was supervised and checked by two retired ACFs and at random by the senior members of the Executive Committee.

Format for recording data

A format was designed for the collection of data while visiting a sacred grove which proposed to collect information on name of SG, location, name and address of custodian, extent, sy. no, village ,existence of compound wall, ponds, fauna locally seen or reported etc. Further, details on inspection would carry the vegetation, legal status, information of presiding deity, temples attached, a brief note on the route to reach the SG from a known place and similar essential facts in respect of each grove.

Supervision of data collection and expenditure

The IFK Executive Committee, meeting from time to time, took appropriate decisions on expenditure and undertook checking the data collected according to the format by making field inspections at random.

Extent of sacred grove

The extent of sacred grove is recorded based on the actual area under vegetative cover. The documents if any produced by custodian may include the extent of temples or other ancillary areas. In such cases the actual area under vegetation is taken based on the experience of forest staff. They have also made it mandatory to record it in a very conservative manner in order to avoid any distorted figure on the higher side.

Legal status

Legal status was looked into to classify the sacred groves into the following categories as could be verified from reliable records or information. (i) Managed by Devaswam Board (ii) Under public Trust, (iii) Under Local Committee (iv) Private

(includes family trust or kudumba ownership). More details about these will appear in the chapter on Sociological Dimensions.

Documentation of Flora and Fauna.

Generally the field team is conversant with the identification of the species and common shrubs. But they have also taken the help of persons conversant with the identification of uncommon shrubs and herbs including medicinal plants. In addition services of Botany Expert was obtained to identify and arrive at the complete list of flora in selected sacred groves. He has done total inventory in as much as 36 selected SGs distributed over all the six taluks and the lists are included in the report.

Mapping-

Location of all the SGs has been marked in maps talukwise based on GPS readings. The serial numbers have been allotted village wise. These serial numbers have been adopted as Id numbers of the sacred groves.

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.

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 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.

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*).

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 od 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 troop**s 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 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 sacred and those trees were not to be cut. In these sacred groves, sheeps 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 bengalensis 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 enlightment under a pipal tree. Buddha is reported to have been born in a sacred grove-Lumbinivana-full of Sal trees.(Gadgil 1985)

Indian scenario

Of course in India the major religion that holds and protects sacred groves is Hindism, 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 (Raghnathgunj town in West Bengal),in a mazaar-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 Kua". 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..

Number of Sacred Groves

The total number of sacred groves in any state or region estimated and reported is not based on any authentic sturdy. 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). Another statement is that there are more than 50,000 sacred groves in India conserving the indigenous flora and fauna for the present and future generations. (Induchoodan N.C. Dr:) . It has been estimated that total number of sacred groves in the country lie between 100,000 and 150,000 (Malhotra,: 1998)- {Kannan C.S. Warrier, Kunhikannan. C & Gunasekharan. T – 2004}. However the overall picture in respect of India as a whole is not a matter of study in this report.But this calls for a comprehensive sturdy over the whole country.

In the beginning of the 19th Century, there were more than 30,000 groves in Kerala. A recent survey revealed that only less than 1000 sacred groves exist and most of them are less than 10 m^2 in extent. (Mohanan C.N. & Ganga Prasad.A). . It may be mentioned that Ward and Conner (1927) reported about 15,000 sacred groves in Travancore and Cochin regions ,of Kerala. On the other hand, it is estimated recently that only 2000 well preserved sacred groves are present in the whole state (Rajendra Prasad, 1995) {Chandrasekhara U.M -2004}. Kerala State is having only 556 sacred groves preserved with maximum numbers in Kozhikode (148) followed by Kasargod (112) and Kannur (67) in the North and Thiruvananthapuram (49) and Kollam (48) districts in the South- (Unni P N & Anupama C). The ENVIS Centre on Conservation of Ecological Heritage and sacred Sites of India gives a list of 299 SGs in Kerala .As for Kollam District the estimation is 44 by Dr. Induchoodan and 28 by ENVIS Centre. The Web Site of Kerala Forests and Wildlife Department adopted the figure -1500 for the state (2009). It is evident that there is no reliability in the reports by various authors on the projected number of sacred groves and they are all far from actual position as can be seen in this study.

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 dycotyledons 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,Rutaceae, Meliaceae, Vitaceae, MyrisThe lticaceae, 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 (including Gnetum ula) 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, aves 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. (Mohanan C.N. to Ganga Prasasd 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. (KannanC.S. Warrier, KunhiKannan 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, particularity 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

RESULTS OF STUDY

General

The study revealed that there are 895 sacred groves covering an extent of around 98 ha of vegetative cover.Most of them are having 0.5 to 0.9 canopy density.Among these 28 numbers have more than one acre in extent.The largest one is Thiravoor kavu (KAR-80)having 2.5 Acs.in Karunagappally district.

In Kollam taluk out of the 27 villages there is high consentration of SGs in Thrikkarava, Mulanava, Perinad, Mundackal, and KollamAshtamudi and paravoor are two main waterbodies in this taluk and SGs are more around these lakes.In Karunagappally taluk there is high concentration of SGs in the villages along northern part such as Thazhava ,Ochira, Klappana,Thodiyur and Kulasegharapuram.Many of them have ponds in side.It is in this taluk maximun number of ponds has been noticed in the SGs.In Kunnathur Taluk out of the seven villages almost all of them have more or less the same concertation and this the taluk in which highest number of SGs (255) has been recorded. In Kottarakkara taluk out of the 27 villages the concentration of SGs is mainly in four villages namely, Kulakkada, Kalayapuram,Mylom and Neduvannur which are on the northern part adjoining Kunnathur taluk.In Punalur and Pathanapuram taluks the number is much less particularly Pathanapuam having only 23 numbers.

KOLLAM DISTRICT

TALUK WISE AREA DISTRIBUTION OF SACRED GROVES

KOLLAM TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Less than three Cents	2 Nos.	4.00 Cents
2	3 Cents to 5 Cents	18 Nos.	81.00 ..
3	6 Cents to 10 Cents	35 Nos	313.00 ,,
4	11 Cents to 25 Cents	43 Nos	780.00 ,,
5	26 Cents to 50 Cents	31 Nos	1192.00 ,,
6	51 Cents to 100 Cents	13 Nos	996.00 ,,
7	Above 100 Cents	5 Nos	939.00 ,,
	Total	**147 Nos.**	**4305.5 Cents (43.05 Acres) 17.42 Ha.**

KARUNAGAPPALLY TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Less than three Cents	2 Nos.	4.00 Cents
2	3 Cents to 5 Cents	40 Nos.	196.00 ..
3	6 Cents to 10 Cents	56 Nos	481.00 ,,
4	11 Cents to 25 Cents	52 Nos	949.00 ,,
5	26 Cents to 50 Cents	38 Nos	1425.00 ,,
6	51 Cents to 100 Cents	18 Nos	1377.00 ,,
7	Above 100 Cents	8 Nos	1208.00 ,,
	Total	**214 Nos**	**5640 Cents (56.40 Acres) 22.83 Ha.**

KUNNATHUR TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Less than three Cents	0 Nos.	0.00 Cents
2	3 Cents to 5 Cents	32 Nos.	155.00 ..
3	6 Cents to 10 Cents	68 Nos	619.00 ,,
4	11 Cents to 25 Cents	74 Nos	1312.50 ,,
5	26 Cents to 50 Cents	47 Nos	1945.50 ,,
6	51 Cents to 100 Cents	26 Nos	1865.60 ,,
7	Above 100 Cents	8 Nos	1194.00 ,,
	Total	**255 Nos.**	**7091.6 Cents (70.91 Acres) 28.70 Ha.**

KOTTARAKKARA TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Less than three Cents	3 Nos.	6.50 Cents
2	3 Cents to 5 Cents	27 Nos.	130.00 ..
3	6 Cents to 10 Cents	47 Nos	421.00 ,,
4	11 Cents to 25 Cents	52 Nos	979.00 ,,
5	26 Cents to 50 Cents	45 Nos	1740.00 ,,
6	51 Cents to 100 Cents	15 Nos	1306.00 ,,
7	Above 100 Cents	2 Nos	350.00 ,,
	Total	**191 Nos**	**4932.50 Cents (49.32 Acres) 19.96 Ha.**

PATHANAPURAM TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Less than three Cents	0 Nos.	0.00 Cents
2	3 Cents to 5 Cents	4 Nos.	20.00 ..
3	6 Cents to 10 Cents	6 Nos	54.00 ,,
4	11 Cents to 25 Cents	6 Nos	107.00 ,,
5	26 Cents to 50 Cents	4 Nos	159.00 ,,
6	51 Cents to 100 Cents	1 Nos	60.00 ,,
7	Above 100 Cents	2 Nos	400.00 ,,
	Total	**23 Nos.**	**800 Cents (8 Acres) 3.23 Ha.**

PUNALUR TALUK

Sl. No.	Area class	No. of Sacred Groves	Extent (Cents)
1	Less than three Cents	0 Nos.	0.00 Cents
2	3 Cents to 5 Cents	14 Nos.	70.00 ..
3	6 Cents to 10 Cents	14 Nos	132.00 ,,
4	11 Cents to 25 Cents	22 Nos	396.00 ,,
5	26 Cents to 50 Cents	14 Nos	554.00 ,,
6	51 Cents to 100 Cents	1 Nos	100.00 ,,
	Total	**65 Nos.**	**1232 Cents (12.32 Acres) 4.98 Ha.**

KOLLAM DISTRCT

Sl. No.	Name of Taluk	No. of Sacred Groves	Extent (Cents)
1	Kollam	147 Nos.	43.05 Acres
2	Karunagappally	214 Nos.	56.40 " ..
3	Kunnathur	255 Nos	71.26 ,,
4	Kottarakkara	191 Nos	49.32 ,,
5	Pathanapuram	23 Nos	8.00 ,,
6	Punalur	65 Nos	12.75 "
	Total	**895 Nos.**	**240.78 Acres (97.5) Ha.**

As regards the total position in respect of the SGs according to size category is as below.It can be seen that very small ones are only 7 which amounts even less than one percent.

KOLLAM DISTRICT - SIZE WISE

Sl. No.	Size class	No. of Sacred Groves
1	Less than three Cents	7 Nos.
2	3 Cents to 5 Cents	135 Nos.
3	6 Cents to 10 Cents	226 Nos
4	11 Cents to 25 Cents	249 Nos
5	26 Cents to 50 Cents	179 Nos
6	51 Cents to 100 Cents	74 Nos
7	Above 100 Cents	25 Nos
	Total	**895 Nos.**

Management

Four main categories identified as holding possession and responsibility in the maintenance of sacred groves.-

i. Private : a) Kudumbakavu & Kudumba Trust,

b) Community owned.

All such SGs amount to 698 numbers.

ii. Public Committee- 120 numbers

iii. Public Trust – 42 Numbers

iv. Devaswam Board- 35 Numbers.

More details on this are appearing in the chaper on Social Dynamics.

Id Numbers to Sacred Groves.

Id numbers have been provided taluk wise-

Kollam	KL/KLM	1 to 147
Karunagappaly	KL/ KAR	1 to 214
Kunnathur	KL/KNTH	1 to 255
Kottarakkara	KL/KTR	1 to 191
Pathanapuram	KL/PPM	1 to 23
Punalur	KL/PLR	1 to 65

All the SGs have been given serial numbers coming in each taluk and also details up to North and East co-ordinates.-GPS readings.

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

Mapping- Separate map for each taluk has been prepared giving the location and Id numbers of SGs as explained under methodology..

CHAPTER IV

COMPOSITION OF VEGETATION.

The vegetation in these sacred groves has been identified species wise by the field team and recorded as such in the field format. In addition selected SGs in all the taluks have been inspected by an Expert on Flora who has listed out the complete list of species coming under trees, shrubs, climbers, herbs etc . In this manner 36 SGs have been enumerated and the lists in respect of each such SGs have been given in this chapter. The study reveals that most of these SGs contain as much as 12 to 24 species , 10 to 22 shrubs and 25 to 34 climbers. Rere and threatened species like Myristica malabarica, Gynecranthera farquhariana, ans Syzygium travancoricum etc have been listed out.The families such as Euphorbiaceae, Lauraceae,Fabaceae,Rubiaceae and Apocynaceae are very well represented.

A list of of species coming under trees (32), Shrubs(16), Climbers (28) and Herbs (6) giving their conservation status as is available is also given below.

RARE PLANTS IN SACRED GROVES

OF KOLLAM DISTRICT

	Scientific name	**Common/ local names**	**Remarks/Family Conservation status**
	TREE		
1	Aporusa cardiosperma (*Aporusa lindleyana*)	Vetti	Euphorbiaceae
2	Antiaris toxicaria	Maravuri, Aranthal	MORACEAE
3	Aphanamixis polystachya	Chemmaram	MELIACEAE Rare
4	Artocarpus hirsutus	Anjili	MORACEAE
5	Beilschmiedia bourrdillonii	Morakuthi	LAURACEA
6	Buchanania axillaris	Kulamavu	LAURACEA
7	Calophyllum apetalum	Cherupunna	CLUSIACEAE Vulnerable Seed oil- leprosy & scabies

8	Chukrasia tabularis	Chuvannakil	MELIACEAE
9	Cinnamomum malabaricum	Vayana	LAURACEAE
10	Diospyros candollena	Karimaram	EBONACEAE
11	Diospyros peregrine	Panachi	EBONACEAE
12	Garcinia gummigutta	Pinampuli	GUTTIFERAE Near vulnerable
13	Glochidion zeylanicum	Neervetti	EUPHORBIACEAE Endangered
14	Gymnocranthera farquhariana	Undapyne	MYRISTICACEAE
15	Hopea ponga	Pongu	DIPTEROCARPACEAE Vulnerable
16	Hydnocarpus pentandra	Marotti	FLACOURTIACEAE Vulnerable
17	Knema attenuata	Chorapyne	MYRISTICACEA
18	Litsea coriacea	Pattuthali	LAURACEAE
19	Madhuka neerifolia	Attilippa	SAPOTACEAE
20	Pterospermum diversifolium	Pambaram	STERCULIACEAE
21	Santalum album	Chandanam	SANTALACEA Endangered
22	Schleichera oleosa	Poovam	SAPINDACEAE
23	Symplocos cochinsinensis	Pachotti	SYMPLOCACEA Rare
24	Syzygium lanceolatum		MYRTACEAE
25	Syzygium travancoricum	Poriyal	MYRTACEAE Endangered
26	Syzygium caryophyllatum	Karinjara	MYRTACEAE
27	Tabernaemontana heyneana	Kundalapala	APOCYNACEAE Threatened
28	Ixora brachiata	Marachethi	RUBIACEAE
29	Vateria chinensis	Adakkapine	DIPTEROCARPACEAE
30	Vateria indica	Vellapine	DIPTEROCARPACEAE Vulnerable
31	Vitex pinnata	Kattumyla	VERBINACEAE

32	Xanthophyllum arnottianum	Madakka	POLYGLACEAE
	SHRUB		
1	Allophylus cobbe	Moongpezhu	SAPINDACEAE
2	Antidesma alexiteria	Thathalamaram	EUPHORBIACEA
3	Coffea travacorensis	Pushkaramoolam	RUBIACEAE
4	Connarus monocarpus	Kuriel	CONNARACEAE
5	Diospyros ferrea sp. buxifolia	Irumpalei	EBONACEAE
6	Flacourtia indica	Aghori Karkadakapazham	FLACOURTIACEAE
7	Glycosmis pentaphylla	Panal	RUBIACEAE Vulnerable Medicinal
8	Grewia microcos	Kottaka	TILIACEAE
9	Isonandra lanceolata	Vellapala	SAPOTACEAE
10	Psilanthus travancoreca	Pushkaramoolam	RUBIACEAE
11	Memecylon umbellatum	Kasavu, Kayampoo	MELASTOMATACEAE
12	Meiogyne ramarowii	Pandalmaram	ANNONACEAE
13	Pavetta indica	Pavetta	RUBIACEAE
14	Psychotria flavida	South Indian Wild coffee	RUBIACEAE
15	Scaevola sericea	Cheria rudraksham	GOODENIACEAE
16	Streblus taxoides *(Phyllochlamys spinosa)*	Kadala	MORACEA
	CLIMBER		
1	Alangium salvifolium	Kuthirappazham	ALANGIACEAE
2	Anodendron paniculatum	Kakkakodi	APPOCYNACEAE
3	Cansjera rheedei		OPILIACEAE Medicinal
4	Chonemorpha fragrans	Perumkurumba	APOCYNACEAE
5	Cuscuta chinensis	Moodillathali	CONVOLVULACEAE
6	Dalbergia horrida	Anamullu	FABACEAE
7	Gnetum edule	Karuthodal	GNETACEAE
8	Gloriosa superba	Menthonni	LILIACEAE

9	Fragellaria indica	Panambuvally	FLAGELLARIACEAE
10	Holostemma ada-kodien	dapathiyan	ASCLEPIADACEAE Rare
11	Hiptage bengalensis	Madhavilatha	MALPIGHIACEAE
12	Hugonia mistax		LINACEAE
13	Ipomoea mauritiana (*Ipomoea palmata*)	Palmuthakku	CONVOLVULACEAE
14	Jasminum angustifolium	Kattumulla	OLEACEAE
15	Kamettia caryophyllatum	Narumara-thivu	APOCYNACEAE Chennala-kavu
16	Maclura spinosa	Vennikodi	MORACEAE
17	Morinda umbellata	Neyvalli	RUBIACEAE
18	Mussaenda frondosa	Vellila	RUBIACEAE
19	Rourea minor	Kuriel	CONNARACEAE
20	Salacia fruticosa	Ponkurandi	HYPOCRATACEAE Endangered Medicinal
21	Sphenodesme paniculata	Njaramodal	COMPANULACEAE
22	Strychnos minor	Vallikanjiram	LONGANIACEAE
23	Strophanthus wightianus	Kambetti	APOCYNACEAE
24	Toxocarpus kleinii		ASCLEPIADACEAE
25	Tetrastigma leucostaphylum		VITACEAE Medicinal
26	Tetracera akara	Nakkuvalli, Kottavalli	DILLINIACEAE
27	Uvaria narum	Narumpanal	ANNONIACEAE
28	Vigna pilosa	Kattupayar	FABACEAE

	HERB		
1	Zingiber zerumbet	Malayinchi	ZINGIBERACEAE
2	Mollugo disticha		MOLLUGINACEAE
3	Hypoltrum nemorum Spelling ?		
4	Gisekia pharnaceoides	Manalkeera	MOLLUGINACEAE
5	Euphorbia heterophylla		EUPHORBIACEAE
6	Adiantum lalifolium		POLYPODIACEAE

LIST OF PLANTS IN THE 36 SELECTED SACRED GROVES

1. Durga Bhagavathi Temple, Uliyakovil, Kollam- KL/KLM-75

Habit	Scientific name	Common name	Remarks
	TREES		
1	Adenanthera pavonina	Manchadi	
2	Ailanthus triphysa (*A. malabarica*)	Perumaram, Matti	
3	Artocarpus hirsutus	Anjili, Ayani	
4	Cananga odorata	Kanakamaram	
5	Carallia brachiata	Vallabham	
6	Caryota urens	Choondapana, Olattipana	
7	Cassia fistula	Kanikonna	
8	Cinnamomum verum (C. *zeylanicum*)	Vayana, Karuva	
9	Diospyros candolleana	Karimaram	
10	Ficus benghalensis	Peral	
11	Garcinia gummi-gutta (*G. cambogia*)	Pinar, Kodampuli	
12	Holigrna arnottiana	Cheru, Charu	
13	Hopea ponga (*H. wightiana*)	Kambakam, Naikambakam	
14	Hydnocarpus pentandra (*H. wightiana*)	Marotti	
15	Lannea coromandelica (*Odina wodier*)	Udhi, Karasam	
16	Macaranga peltata	Vatta	
17	Mangifera indica	Mavu	
18	Morinda pubescens	Manjanathi	

	(*M. tinctoria*)		
19	Olea dioica	Edana	
20	Santalum album	Chandanam	
21	Syzygium lanceolatum (*S. wightianum*)	Karinjaval	
22	Sterculia balanghas	Thondi	
	SHRUB		
1	Antidesma acidum (*A. dianadrum*)	Aripazhachedi	
2	Canthium rheedei	Karamullu	
3	Carica papaya	Papaya	
4	Chassalia ophioxyloides	Karutha-amalpori	
5	Coffea travancorensis	Pushkaramoolam	
6	Grewia microcos	Kottakai	
7	Hibiscus hispidissimus	Kalapoovu	
8	Isonandra lanceolata	Vellapala	
9	Ixora coccinea	Chuvanna thetchi	
10	Mussaenda frondosa	Vellila	
11	Ochna integerrima		
12	Pavetta indica	Pavetta	
13	Pavetta indica var. tomentosa	Pavetta	
14	Tabernaemontana heyneana	Kundalappala	
	CLIMBER		
1	Abrus precatorius	Kunnikkuru	
2	Asparagus racemosus	Sathavari	
3	Cansjera rheedei		
4	Cayratia pedata	Oonjalvalli	
5	Centrosema molle (*C. pubescens*)	Kattupayar, Kattushangupushpam	
6	Cissampelos pariera	Malathangi	

7	Cissus latifolia	Chunnambuvalli	
8	Coccinia grandis	Koval	
9	Connarus monocarpus	Puzhukadikai	
10	Cuscuta chinensis	Moodillathali	
11	Dalbergia horrida (*D. spinosa*)	Anamullu	
12	Dioscorea bulbifera	Kezhakachil	
13	Erycibe paniculata	Nakkuvalli	
14	Gnetum edule *(G. ula)*	Karuthodal, Oolakkodi	
15	Ichnocarpus frutescens	Parvalli	
16	Mikania micrantha	Dhrirastrapacha	
17	Morinda umbellata	Neyvalli	
18	Pothos scandens	Paruvakkodi	
19	Salacia chinensis	Ponkoranti	
20	Salacia fruticosa	Ponkoranti	
21	Smilax zeylanica	Kareelanchi	
22	Strychnos minor	Vallikanjiram	
23	Tetracera akara (*T. laevis*)	Nennelvalli, Kottavalli	
24	Tinospora cordifolia	Chittamruhu	
25	Trichosanthes lepiniana		
26	Uvaria narum	Narumpanal	
	HERB		
1	Achyranthes aspera	Kadaladi	

2. Shri Indaliyappan Shankaranarayana Swamy Temple, Ayathil. KL/KLM-71

Habit	Scientific name	Common name	Remarks
	TREES		
1	Adenanthera pavonina	Manchadi	
2	Aegle marmelos	Koovalam	
3	Ailanthus triphysa (*A. malabarica*)	Perumaram, Matti	
4	Alstonia scholaris	Ezhilampala	
5	Artocarpus heterophyllus	Plavu	
6	Artocarpus hirsutus	Anjili, Ayini	
7	Caryota urens	Choondappana, Olattipana	
8	Cassia fistula	Kanikonna	
9	Cinnamomum malabathrum	Vayana	
10	Diospyros candolleana	Karimaram	
11	Ficus benghalensis	Peral	
12	Ficus racemosa	Atthi	
13	Holigarna arnottiana	Cheru, Charu	
14	Hopea ponga (*H. wightiana*)	Kambakam, Naikambakam	
15	Hydnocarpus pentandra (*H. wightiana*)	Marotti	
16	Lannea coromandelica (*Odina wodier*)	Udhi, Karash	
17	Macaranga peltata	Vatta	
18	Morinda pubescens (*M. tinctoria*)	Manjanathi	
19	Samanea saman	Rain tree,	

		Urakamthoongimaram	
20	Sterculia balanghas	Thondi	
21	Strychnos nux-vomica	Kanjiram	
22	Tecoma stans	Manjarali	
23	Xanthophyllum arnottianum (*X. flavescens*)	Madakka	
24	Vitex pinnata	Kattumyla	
	SHRUB		
1	Allamanda cathartica	Manjakolambi	
2	Bauhinia acuminata	Vellamandaram	
3	Calotropis gigantea	Erikku	
4	Canthium rheedei	Kattukara	
5	Chassalia ophioxyloides	Karutha-amalpori	
6	Clerodendrum inerme	Peruvalam	
7	Ixora malabarica		
8	Jasminum sambac	Kudamulla	
9	Scaevola sericea	Cheriyarudrasham	
10	Tabernaemontana coronaria	Nanthiyarvattam	
	CLIMBER		
1	Calycopteris floribunda	Pullani	
2	Cayratia pedata	Oonjalvalli	
3	Cissus latifolia	Chunnambuvalli	
4	Coccinia grandis	Koval	
5	Dalbergia horrida	Anamullu	
6	Derris scandens	Poonjali	
7	Dioscorea pentaphylla	Kattukachil	
8	Hiptage bengalensis (*H. madabolta*)	Madhavilatha	
9	Loeseneriella arnottiana	Puramkodi	
10	Merremia umbellata	Koravalli	
11	Mikania micrantha	Dhrirastrapacha	

12	Pothos scandens	Paruvakodi	
13	Smilax zeylanica	Kareelanchi	
14	Srtychnos minior	Vallikanjiram	
15	Strychnos minor	Vallikanjiram	
16	Tinospora cordifolia	Chittamruthu	
17	Uvaria narum	Narumpanal	
18	Wattakaka volubilis	Vattakakakodi	
	HERB		
1	Alternanthera bettzickiana		
2	Assystacia gangetica		
3	Desmodium tortuosum		
4	Lagenandra ovata	Aandavazha	

3. Pazhangalam Sacred Grove, Kollam. KL/KLM-63

Habit	Scientific name	Common name	Remarks
TREES			
1	Anacardium occidentale	Cashew	
2	Butea monosperma *(B. frondosa)*	Chamatha, Plash	
3	Calophyllum decipiens	Aattupunna, Cherupunna	
4	Caryota urens	Choondappana, Olattippana	
5	Cassia fistula	Kanikonna	
6	Dalbergia sissoides	Veeti	
7	Diospyros candolleana	Karimaram	
8	Diospyros peregrina	Panachi	
9	Elaeis guineensis	Ennappana, Oil palm	
10	Ficus microcarpa	Ithi	
11	Ficus religiosa	Arayal	
12	Garcinia gummi-gutta (*G. cambogia*)	Pinar, Kodampuli	
13	Gymnacranthera farquhariana (*G. canarica*)	Undappayin	
14	Holigarna arnottiana	Cheru, Charu	
15	Hopea ponga (*H. wightiana*)	Kambakam, Naipongu	
16	Macaranga peltata	Vatta	
17	Madhuca neriifolia *(Bassia malabarica)*	Attu-ilippa	
18	Mimusops elengi	Elengi	

19	Morinda pubescens (*M. tinctoria*)	Manjanathi	
20	Persea macrantha *(Machilus macrantha)*	Ooravu	
21	Strychnos nux-vomica	Kanjiram	
22	Syzygium lanceolatum (*S. wightianum*)	Karinjaval	
SHRUB			
1	Antidesma acidum (*A. dianadrum*)	Aripazhachedi	
2	Atalantia wightii	Kattunarakam	
3	Calotropis gigantea	Erikku	
4	Canthium coromandelicum *(Plectronia parviflora)*	Kattaramullu	
5	Carissa spinarum var. microphylla	Cherumulli	
6	Chassalia ophioxyloides	Karutha-amalpori	
7	Flacourtia indica	Aghori	
8	Hibiscus hispidissimus	Kalapoovu	
9	Ixora coccinea	Thetchi	
10	Ixora malabarica	Kattuthetchi	
11	Ixora nigricans		
12	Leea indica	Njellu	
13	Ochlandra travancorica	Eetta, Eera	
14	Tabernaemontana heyneana	Kundalappala	
15	Thevetia peruviana *(T. neriifolia)*	Manja-arali	

16	Streblus taxoides *(Phyllochlamys spinosa)*	Munamadaki	
17	Psydrax dicoccos *(Plectronia didyma)* *(Canthium dicoccum)*	Irumbarappan	
CLIMBER			
1	Abrus precatorius	Kunnikkuru	
2	Asparagus racemosus	Sathavari	
3	Calamus rotang	Chooral	
4	Calycopteris floribunda	Pullani	
5	Cayratia pedata	Oonjalvalli	
6	Cissus latifolia	Chunnambuvalli	
7	Combretum latifolium (*C. extensum*)		
8	Cosmostigma racemosum	Vattuvalli	
9	Cyclea peltata	Padakizhangu	
10	Dalbergia horrida	Anamullu	
11	Flagellaria indica	Panambuvalli	
12	Holostemma ada-kodien *H. annulare*	Adapathiyan	
13	Maclura spinosa *Plecospermum spinosum*	Venninkodi	
14	Morinda umbellata	Neyvalli	
15	Pothos scandens	Paruvakkodi	
16	Quisqualis indica	Kulamarianchethi	
18	Salacia fruticosa	Ponkoranti	
19	Smilax zeylanica	Kareelanchi	

20	Stenoclina palustris	Climbing fern	
21	zStrophanthus wightianus	Kambetti	
22	Tinospora cordifolia	Chittamruthu	
23	Uvaria narum	Narumpanal	
24	Ziziphus oenoplia	Cheruthodali	
HERB			
1	Acampe praemorsa *(A. wightiana)*	Maravazha	
2	Achyranthes aspera	Kadaladi	
3	Hypolytrum nemorum	Cherukaitha	
4	Mimosa pudica	Thottavadi	

4. Mampuzha Shri Indaliyappan Temple,Kottamkara, Kollam. KL/KLM-91

Habit	Scientific name	Habit	Common name	Remarks
	TREE			
1	Adenanthera pavonina	Tree	Manchadi	
2	Anacardium occidentale	Tree	Cashew	
3	Calophyllum decipiens	Tree	Aattupunna, Cherupunna	
4	Caryota urens	Tree	Choondappana, Olattippana	
5	Cassia fistula	Tree	Kanikonna	
6	Gymnacranthera farquhariana (*G. canarica*)	Tree	Undappayin	
7	Holigarna arnottiana	Tree	Cheru, Charu	
8	Macaranga peltata	Tree	Vatta	
9	Madhuca neriifolia *(Bassia malabarica)*	Tree	Attu-ilippa	
10	Litsea coriacea	Tree	Pattuthali	
11	Olea dioica	Tree	Edana	
12	Strychnos nux-vomica	Tree	Kanjiram	
13	Syzygium lanceolatum (*S. wightianum*)	Tree	Karinjaval	
14	Syzygium travancoricum	Tree	Vathamkollimaram	
15	Vateria indica	Tree	Vellappayin	

16	Xanthophyllum arnottianum (*X. flavescens*)	Tree	Madakka	
	SHRUB			
1	Canthium coromandelicum *(Plectronia parviflora)*	Shrub	Kattaramullu	
2	Benkara malabarica *(Randia malabarica)*	Shrub	Cholakkara	
3	Gomphia serrata *(Ouratea angustifolia)*	Shrub	Chavakambu	
4	Dichapetalum gelonioides	Shrub		
5	Ixora coccinia	Shrub	Thetchi	
6	Leea indica	Shrub	Njellu	
7	Memecylon depressum	Shrub	Kanjavu	
8	Pavetta indica	Shrub	Pavatta	
9	Syzygium zeylanicum	Shrub	Poochapazham	
10	Tabernaemontana heyneana	Shrub	Kundalappala	
11	Acronychia pedunculata *(Acronychia laurifolia)*	Small tree	Verukutheeni Vidukanali	
	CLIMBER			
1	Ancistrocladus heyneanus	Climber	Modiravalli	
2	Anodendron paniculatum	Climber	Kakkakodi	

3	Coccinia grandis	Climber	Koval	
4	Connarus monocarpus	Climber	Puzhukadikai	
5	Dalbergia horrida	Climber	Anamullu	
6	Erycibe paniculata	Climber	Nakkuvalli	
7	Gnetum edule *(G. ula)*	Climber	Karuthodal, Oolakkodi	
8	Ichnocarpus frutescens	Climber	Parvalli	
9	Morinda umbellata	Climber	Neyvalli	
10	Rourea minor *(R. santaloides)*	Climber	Kuriel	
11	Salacia fruticosa	Climber	Ponkoranti	
12	Smilax zeylanica	Climber	Kareelanchi	
13	Strophanthus wightianus	Climber	Kambetti	
14	Strychnos minor	Climber	Vallikanjiram	
15	Tetracera akara (*T. laevis*)	Climber	Nennelvalli, Kottavalli	
16	Uvaria narum	Climber	Narumpanal	

5. Kallelibhagam Shambuvalappil Shri Durga Temple , KL/KAR-92

Habit	Scientific name	Habit	Common names	Remarks
TREE				
1	Acacia auriculiformis	Tree	Acacia	
2	Artocarpus hirsutus	Tree	Anjili	
3	Carallia brachiata	Tree	Vallabham	
4	Ficus religiosa	Tree	Arayal	
5	Hopea ponga (*Hopea wightiana*)	Tree	Kambakam, Thambakam	
6	Hydnocarpus pentandra	Tree	Marotti	
7	Lannea coromandelica	Tree	Udhi, Karasu	
8	Madhuca neriifolia (*M. malabarica*)	Tree	Aatu-ilippa	
9	Mangifera indica	Tree	Mavu	
10	Mimusops elengi	Tree	Elengi	
11	Olea dioica	Tree	Edana	
12	Sterculia balanghas	Tree	Thondi	
13	Syzygium caryophyllatum	Tree	Karinjara	
14	Vitex pinnata	Tree	Kaatumyla	
SHURB				
1	Benkara malabarica *(Randia malabarica)*	Shrub	Cholakkara	

2	Breynia vitis-ideaea	Shrub	Pavalapoola	
3	Canthium coromandelicum	Shrub	Kattaramullu	
4	Connarus monocarpus	Shrub	Kuriel	
5	Gomphia serrata	Shrub	Valermani	
6	Isonandra lanceolata	Shrub	Vellappala	
7	Grewia microcos	Shrub	Kottaka	
8	Leea indica	Shrub	Njellu	
9	Memecylon umbellatum	Shrub	Kshavu, Kayampoo	
10	Pavetta indica	Shrub	Pavetta	
11	Syzygium zeylanicum	Large shrub	Poochappazham	
12	Premna serratifolia	Shrub	Munja	
13	Tabernaemontana heyneana	Shrub	Kundalappala	
14	Tarenna asiatica *(Chomelia asiatica)*	Shrub	Kuppipoovu	
Climber				
1	Abrus precatorius	Climber	Kunnikkuru	
2	Asparagus racemosus	Climber	Sathavari	
3	Cayratia pedata	Climber	Chorivally	
4	Cyclea petata	Climber	Padakizhangu	
5	Dioscorea bulbifera	Climber	Kattukachil	
6	Dioscorea sp.	Climber		

7	Gloriosa superba	Climber	Menthonni	
8	Hugonia mystax	Climber	Modhirakkanni	
9	Ipomoea pes-tigridis	Climber	Pulichuvadi	
10	Jasminum angustifolium	Climber	Kattumulla	
11	Rourea minor	Climber	Kuriel	
12	Salacia fruticosa	Climber	Ponkoranti	
13	Strychnos minor	Climber	Vallikanjiram	
14	Tetracera akara	Climber	Nennelvalli, Kottavalli	
15	Tinospora cordifolia	Climber	Amruthu, Chittamrurhu	
16	Trichosanthes lepiniana	Climber		
17	Uvaria narum	Climber	Narumpanal	
18	Uvaria zeylanica	Climber		
19	Xenostegia tridentata (*Merremia tridentata*)	Slender climber	Prasarani	
HERB				
1	Evolvulus alsinoides	Herb	Visnukaranthi	
2	Imperata cylindrica	Herb	Darbhapullu	

6. Chennalakavu, Thazhava KL/KAR-90

Habit	Scientific name	Local/Common name	Remarks
TREES			
1	Adenanthera pavonina	Manchadi	
2	Artocarpus hirsutus	Anjili	
3	Carallia brachiata	Vallabham	
4	Cinnamomum malabathrum	Vayana, Therali	
5	Ficus drupacea var. pubescens (*Ficus mysorensis*)	Chela	
6	Ficus tsjahela	Chela	
7	Holigarna arnottiana	Charu	
8	Hopea ponga (*Hopea wightiana*)	Kambakam, Thambakam	
9	Macaranga peltata	Vatta	
10	Madhuca neriifolia	Attu-ilippa	
11	Quassia indica (*Samadera indica)*	Karinjotta	
12	Sterculia balanghas	Thondi	
13	Vateria indica	Vellappayin	
14	Vitex pinnata	Kaatumyla	
15	Xanthophyllum arnottianum	Madakka	
16	Strychnos nux-vomica	Kanjiram	
17	Syzygium caryophyllatum	Karinjara	

SHRUB			
1	Chromolaena odorata (*Eupatorium odoratum*)	Communistpacha	
2	Chassalia ophioxyloides	Vellakurinji	
3	Ixora coccinea	Thetchi	
4	Clerodendrum infortunatum	Peruvalam	
5	Grewia microcos	Kottaka	
6	Memecylon depressum	Kaikkachethi	
7	Tabernaemontana heyneana	Kundalappala	
8	Mussaenda frondosa	Vellila	
9	Pavetta indica	Pavetta	
CLIMBER			
1	Dalbergia horrida	Anamullu	
2	Dioscorea sp.		
3	Erycibe paniculata	Nakkuvalli	
4	Cissus trilobata	Neelachunnambuvalli	
5	Cissus latifolia	Chunnambuvalli	
6	Abrus precatorius	Kunnikkuru	
7	Cayratia pedata	Chorivally	
8	Gnutum edule	Karuthodal	
9	Ichnocarpus frutescens	Parvalli	
10	Ipomoea mauritiana (*Ipomoea palmata*)	Palmuthakku	

11	Ipomoea pes-tigridis	Pulichuvadi	
12	Kamettia caryophyllata (*Ellertonia rheedei)*	Narumarathivu	
13	Pothos scandens	Paruvakkodi	
14	Smilax zeylanica	Kareelanchi	
15	Stenochlaena palustris	Climbing fern	
16	Mikania micrantha	Dhirastrapacha	
17	Strophanthus wightianus	Kambetti	
18	Strychnos minor	Vallikanjiram	
19	Tetracera akara	Nennelvalli, Kottavalli	
20	Uvaria narum	Narumpanal	
HERB			
1	Lagenandra ovata	Aandavazha	
2	Gloriosa superba	Menthonni	

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7. Plavannoor Durga Devi temple Sacred Grove, Thazhava. KL/KAR-181

Habit	Scientific name	Common/Local names	Remarks
TREE			
1	Adenanthera pavonina	Manchadi	
2	Ailanthus triphysa (*Ailanthus malabarica*)	Perumaram	
3	Artocarpus heterophyllus	Plavu	
4	Artocarpus hirsutus	Anjili	
5	Calophyllum decipiens	Chrupunna	
6	Cinnamomum malabathrum	Vayana, Therali	
7	Ficus drupacea var. pubescens (*Ficus mysorensis*)	Chela	
8	Ficus tsjahela	Chela	
9	Garcinia gummi-gutta (*Garcinia cambogia*)	Pinar	
10	Holigarna arnottiana	Charu	
11	Hopea ponga (*Hopea wightiana*)	Kambakam, Thambakam	
12	Hydnocarpus pentandra	Marotti	
13	Macaranga peltata	Vatta	
14	Mangifera indica	Mavu	
15	Myristica malabarica	Ponnampoo	

16	Olea dioica	Edana	
17	Polyalthia longifolia	Aranamaram	
18	Quassia indica (*Samadera indica)*	Karinjotta	
19	Sterculia balanghas	Thondi	
20	Swietenia macrophylla	Mahogani	
21	Syzygium caryophyllatum	Karinjaval	
22	Thespesia populnea	Cheelanthi, Poovarashu	
23	Vateria indica	Vellappayin	
24	Vitex pinnata	Kattumyla	
25	Xanthophyllum arnottianum	Madakka	
SHRUB			
1	Chassalia ophioxyloides	Vellakurinji	
2			
3	Antidesma acidum (*Antidesma diandrum*)	Asaripuli	
4	Tabernaemontana heyneana	Kundalappala	
5	Grewia microcos	Kottaka	
6	Ixora coccinea	Thetchi	
7	Melastoma malabathricum	Kalampotti, Mashikai	
8	Memecylon umbellatum	Kasavu, Kayambu	
9	Pandanus sp.	Kaitha	
10	Syzygium zeylanicum	Poochapazham	

CLIMBER			
1	Asparagus racemosus	Sathavari	
2	Calamus rotang	Chooral	
3	Derris scandens	Poonjali	
4	Connarus monocarpus	Kuriel	
5	Dioscorea sp.		
6	Ichnocarpus frutescens	Parvalli	
7	Pothos scandens	Paruvakkodi	
8	Quisqualis indica	Kulamarinji, Thookuchethi	
9	Smilax zeylanica	Kareelanchi	
10	Stenochlaena palustris	Climbing fern	
11	Strychnos minor	Vallikanjiram	
12	Uvaria zeylanica		
HERB			
1	Gloriosa superba	Menthonni	
2	Costus pictus	Insulinchedi	
3	Zingiber zerumbet	Malayinchi	
4	Costus speciosus	Channakoova	

8. Parambilkavu, Kadathur, Thazhava. KL/KAR-194

Habit	Scientific name	Common/Local name	Remarks
TREES			
1	Acacia auriculiformis	Acacia	
2	Aporusa lindleyana	Vetti	
3	Artocarpus hirsutus	Anjili	
4	Calophyllum elatum	Cherupunna	
5	Carallia brachiata	Vallabham	
6	Caryota urens	Choondapana, Anapatta	
7	Holigarna arnottiana	Charu	
8	Hopea ponga (*Hopea wightiana*)	Kambakam, Thambakam	
9	Cinnamomum malabathrum	Vayana, Therali	
10	Ficus tsjahela	Chela	
11	Macaranga peltata	Vatta	
12	Olea dioica	Edana	
13	Syzygium caryophyllatum	Karinjaval	
14	Vateria indica	Vellappayin	
15	Vitex pinnata	Kattumyla	

SHRUB			
1	Antidesma alexiteria	Thathalamaram	
2	Antidesma acidum (*Antidesma diandrum*)	Asaripuli	
3	Canthium coromandelicum	Kattaramullu	
4	Grewia microcos	Kottaka	
5	Mussaenda frondosa	Vellila	
CLIMBER			
1	Anodendron paniculatum	Kakkakodi	
2	Calamus rotang	Chooral	
3	Cissus trilobata	Neelachunnambuvalli	
4	Coccinia grandis	Koval	
5	Connarus monocarpus	Kuriel	
6	Dalbergia horrida	Anamullu	
7	Dioscorea bulbifera	Kattukachil	
8	Erycibe paniculata	Nakkuvalli	
9	Gnetum edule	Karuthodal	
10	Jasminum angustifolium	Kattumulla	
11	Kamettia caryophyllata *(Ellertonia rheedei)*	Narumarathivu	
12	Morinda umbellata	Neyvalli	

13	Smilax zeylanica	Kareelanchi	
14	Strophanthus wightianus	Kambetti	
15	Tetracera akara	Nennelvalli, Kottavalli	
16	Trichsanthes lepiniana		
17	Uvaria narum	Narumpanal	
18	Uvaria zeylanica		

9. Valiyaveetilkavu, Thazhava, Karunagapally. KL/KAR-199

Habit	Scientific name	Habit	Common/Local name	Remarks
TREES				
1	Adenanthera pavonina	Tree	Manchadi	
2	Artocarpus hirsutus	Tree	Anjili	
3	Calophyllum elatum	Tree	Cherupunna	
4	Cinnamomum verum	Tree	Vayana, Karuva	
5	Ficus drupacea var. pubescens (*Ficus mysorensis*)	Tree	Chela	
6	Ficus sp.	Tree	Aalu	
7	Ficus tsjahela	Tree	Chela	
8	Garcinia gummi-gutta (*Garcinia cambogia*)	Tree	Pinar	
9	Holigarna arnottiana	Tree	Charu	
10	Hydnocarpus pentandra	Tree	Marotti	
11	Macaranga peltata	Tree	Vatta	
12	Madhuca neriifolia	Tree	Attu-ilippa	
13	Olea dioica	Tree	Edana	
14	Sterculia balanghas	Tree	Thondi	
15	Quassia indica (*Samadera indica)*	Tree	Karinjotta	

16	Strychnos nux-vomica	Tree	Kanjiram	
17	Syzygium caryophyllatum	Tree	Karinjaval	
18	Vateria indica	Tree	Vellappayin	
19	Vitex pinnata	Tree	Kattumyla	
20	Xanthophyllum arnottianum	Tree	Madakka	
SHRUB				
1	Canthium coromandelicum	Shrub	Kattaramullu	
2	Chassalia ophioxyloides	Shrub	Vellakurinji	
3	Isonandra lanceolata	Shrub	Vellappala	
4	Melastoma malabathricum	Shrub	Kalampotti, Mashikai	
5	Mussaenda frondosa	Shrub	Vellila	
6	Psilanthus travancorensis *(Coffea travancorensis)*	Shrub	Pushkaramulla	
CLIMBER				
1	Anamirta cocculus	Climer	Pollakkai	
2	Asparagus racemosus	Cimber	Sathavari	
3	Calamus rotang	Climber	Chooral	
4	Cansjera rheedei	Climber		
5	Cayratia pedata	Climber	Chorivally	
6	Cissus latifolia	Climber	Chunnambuvalli	

7	Cissus trilobata	Climber	Neelachunnambuvalli	
8	Coccinia grandis	Climber	Koval	
9	Cyclea petata	Climber	Padakizhangu	
10	Dalbergia horrida	Climber	Anamullu	
11	Erycibe paniculata	Climber	Nakkuvalli	
12	Gnetum edule	Climber	Karuthodal	
13	Ichnocarpus frutescens	Climber	Parvalli	
14	Kamettia caryophyllata	Climber	Narumarathivu	
15	Morinda umbellata	Climber	Neyvalli	
16	Pothos scandens	Climber	Paruvakkodi	
17	Quisqualis indica	Climber	Kulamarinji, Thookuchethi	
18	Salacia fruticosa	Climber	Ponkoranti	
19	Smilax zeylanica	Climber	Kareelanchi	
20	Stenochlaena palustris	Climber	Climbing fern	
21	Strophanthus wightianus	Climber	Kambetti	
22	Strychnos minor	Climber	Vallikanjiram	
23	Tetracera akara	Climber	Nennelvalli, Kottavalli	
24	Uvaria narum	Climber	Narumpanal	
HERB				
1	Gloriosa superba	Herb	Menthonni	

10-Perinthodathu Sastha Kavu, Thazhava, Karunagaaplly. KL/KAR-196

Scientific name	Habit	Common/Local name
Ailanthus triphysa (*Ailanthus malabarica*)	Tree	Perumaram
Aporusa lindleyana	Tree	Vetti
Artocarpus hirsutus	Tree	Anjili
Calophyllum elatum	Tree	Cherupunna
Cinnamomum verum	Tree	Vayana, Karuva
Garcinia gummi-gutta (*Garcinia cambogia*)	Tree	Pinar
Holigarna arnottiana	Tree	Charu
Hopea ponga (*Hopea wightiana*)	Tree	Kambakam, Thambakam
Lannea coromandelica	Tree	Udhi, Karasu
Macaranga peltata	Tree	Vatta
Olea dioica	Tree	Edana
Syzygium caryophyllatum	Tree	Karinjaval
Vitex pinnata	Tree	Kattumyla
Antidesma acidum (*Antidesma diandrum*)	Shrub	Asaripuli
Canthium coromandelicum	Shrub	Kattaramullu
Memecylon umbellatum	Shrub	Kshavu, Kayampoo
Syzygium zeylanicum	Shrub	Poochappazham

Andrographis paniculata	Herb	Kiriyath
Gloriosa superba	Herb	Menthonni
Calamus rotang	Climber	Chooral
Asparagus racemosus	Cimber	Sathavari
Cissus latifolia	Climber	Chunnambuvalli
Cissus trilobata	Climber	Neelachunnambuvalli
Connarus monocarpus	Climber	Kuriel
Dalbergia horrida	Climber	Anamullu
Erycibe paniculata	Climber	Nakkuvalli
Gnetum edule	Climber	Karuthodal
Ichnocarpus frutescens	Climber	Parvalli
Jasminum angustifolium	Climber	Kattumulla
Morinda umbellata	Climber	Neyvalli
Rourea minor	Climber	Kuriel
Smilax zeylanica	Climber	Kareelanchi
Strychnos minor	Climber	Vallikanjiram
Tetracera akara	Climber	Nennelvalli, Kottavalli
Uvaria narum	Climber	Narumpanal

11. Kannattukavu Nagaraja Temple Sacred Grove, Sasthamkotta

Date: 16.09.2014 **KL/KNTH- 63**

Habit	Scientific name	Common name	Remarks
TREES			
1	Alstonia scholaris	Ezhilampala	
2	Aporusa cardiosperma (*Aporusa lindleyana*)	Vetti	
3	Artocarpus heterophyllus	Plavu	
4	Artocarpus hirsutus	Anjili	
5	Bridelia retusa	Mulluvenga	
6	Carallia brachiata	Vallabham	
7	Caryota urens	Choondappana	
8	Chrysophyllum cainito	Star apple	
9	Cinnamomum malabathrum	Vayana	
10	Ficus benghalensis	Peral	
11	Ficus callosa	Kadaplavu	
12	Holigarna arnottiana	Cheru, Charu	
13	Hydnocarpus pentandra	Marotti	
14	Lannea coromandelica	Udhi, Karasu	
15	Ficus callosa	Kadaplavu	
16	Macaranga peltata	Vatta	
17	Mallotus atrovirens		
18	Mallotus tetracoccus	Vattakumbil	

19	Mangifera indica	Mavu	
20	Litsea coriacea	Maravettithali	
21	Mimusops elengi	Elengi	
22	Morinda pubescens *(Morinda tinctoria)*	Manjanathi	
23	Sterculia balanghas	Thondi	
24	Strychnos nux-vomica	Kanjiram	
25	Syzygium caryophyllatum	Karinjara	
26	Vitex pinnata	Kaatumyla	
SHRUB			
1	Antidesma acidum (*Antidesma diandrum*)	Asaripuli	
2	Canthium rheedei	Kattaramullu	
3	Clerodendrum infortunatum	Peruvalam	
4	Coffea liberica	Kaappi	
5	Connarus monocarpus	Kuriel	
6	Cordia cylindristachya		
7	Diospyros ferrea ssp. buxifolia	Irumpalei	
8	Breynia vitis-ideaea	Pavalapoola	
9	Grewia microcos 1	Kottaka	
10	Leea indica	Njellu	
11	Melastoma malabathricum	Kadali, Kalampotti	
12	Memecylon depressum	Kaikkathetti	
13	Isonandra lanceolata	Vellappala	

14	Ixora coccinea	Thetchi	
15	Ixora malabarica	Cherukuravu	
16	Ochlandra travancorica	Eetta, Eera	
17	Ochlandra scriptoria	Kolingil	
18	Pandanus sp.	Kaitha	
19	Tabernaemontana heyneana	Kundalappala	
20	Syzygium zeylanicum	Poochappazham	
CLIMBER			
1	Abrus precatorius	Kunnikkuru	
2	Asparagus racemosus	Sathavari	
3	Calamus rotang	Chooral	
4	Calycopteris floribunda	Pullani	
5	Cassytha filiformis	Moodillathali	
6	Cayratia pedata	Chorivally	
7	Chonemorpha fragrans	Perumkurumba	
8	Cissus latifolia	Chunnambuvalli	
9	Cissus trilobata	Neelachunnambuvalli	
10	Cryptolepis chananii	Kilipalvalli	
11	Cyclea petata	Padakizhangu	
12	Dalbergia horrida	Anamullu	
13	Dioscorea bulbifera	Kattukachil	
14	Dioscorea sp.		
15	Flagellaria indica	Panabuvalli	
16	Gloriosa superba 1	Menthonni	
17	Hibiscus hispidissimus	Kalapoo	

	(Hibiscus furcatus)		
18	Hugonia mystax	Modhirakkanni, Munamadakki	
19	Ichnocarpus frutescens	Parvalli	
20	Jasminum angustifolium	Kattumulla	
21	Kamettia caryophyllata *(Ellertonia rheedei)*	Kammattivalli	
22	Lygodium scandens	Polivalli, Naippalli	
23	Mikania micrantha	Dhrirastrapatcha	
24	Morinda umbellata	Neyvalli	
25	Mussaenda frondosa	Vellila	
26	Pothos scandens	Paruvakkodi	
27	Rourea minor	Kuriel	
28	Salacia chinensis	Ponkorandi	
29	Salacia fruticosa	Ponkoranti	
30	Sarcostigma kleinii	Vellodal	
31	Smilax zeylanica	Kareelanchi	
32	Solena amplexicaulis	Kakkarikka, Karaika	
33	Stenochlaena palustris	Climbing fern	
34	Strychnos minor	Vallikanjiram	
35	Tinospora sinensis	Pothamruthu	
36	Tragia involucrata	Choriyaanum, Kodithuva	
37	Uvaria narum	Narumpanal	
HERB			
1	Cyathula prostrata	Cherukadaladi	

12. Poruvazhi Kollasseril Devi Temple Sacred Grove, Sasthamkotta

Date: 16.09.2014 **KL/KNTH**

Habit	Scientific name	Local/Common name	Remarks
TREE			
1	Acronychia pedunculata *(Acronychia laurifolia)*	Verukutheeni Vidukanali	
2	Adenanthera pavonina	Manchadi	
3	Caryota urens	Choondappana	
4	Cinnamomum malabathrum	Vayana, Therali	
5	Ficus costata	Chela	
6	Gymnacranthera farquhariana *(Gymnacranthera canarica)*	Undappayin	
7	Holigarna arnottiana	Charu	
8	Hydnocarpus pentandra	Marotti	
9	Lannea coromandelica	Udhi, Karasu	
10	Macaranga peltata	Vatta	
11	Mallotus tetracoccus	Vattakumbil	
12	Mangifera indica	Mavu, Mango	
13	Mimusops elengi	Elengi	
14	Myristica malabarica	Pathripoovu, Ponnampoovu	
15	Olea dioica	Idala, Idana	
16	Quassia indica (*Samadera indica)*	Karinjotta	

17	Symplocos cochinchinensis	Pachotti	
18	Trema orientalis	Amathali Amarathi	
19	Vateria indica	Vellappayin	
SHRUB			
1	Chassalia ophioxyloides	Vellakurinji	
2	Antidesma diandrum	Asaripuli	
3	Canthium rheedei	Kattaramullu	
4	Clerodendrum infortunatum	Peruvalam	
5	Gomphia serrata	Valarmani	
6	Grewia microcos	Kottaka	
7	Ixora coccinea	Thetchi	
8	Ixora malabarica	Cherukuravu	
9	Litsea ligustrina	Kuttipanal	
10	Melastoma malabathricum	Kadali, Kalampotti	
11	Mussaenda frondosa	Vellil,a	
12	Psychotria flavida		
13	Tabernaemontana heyneana	Kundalappala	
CLIMBER			
1	Calamus rotang	Chooral	
2	Calycopteris floribunda	Pullani	
3	Centrosema molle *(Centrosema virginianum)*	Kattupayar	

4	Chonemorpha fragrans	Perumkurumba	
5	Cissus latifolia	Chunnambuvalli	
6	Cissus trilobata	Neelachunnambuvalli	
7	Combretum latifolium		
8	Dalbergia horrida	Anamullu	
9	Dioscorea alata	Kaachil	
10	Dioscorea bulbifera	Kattukaachil	
11	Ichnocarpus frutescens	Parvalli	
12	Kamettia caryophyllata (*Ellertonia rheedei)*	Kammattivalli	
13	Mikania micrantha	Dhirastrapacha	
14	Morinda umbellata	Neyvalli	
15	Oxyceros rugulosus		
16	Pothos scandens	Paruvakkodi	
17	Salacia fruticosa	Ponkoranti	
18	Strychnos minor	Vallikanjiram	
19	Tetracera akara	Nakkuvalli, Kottavalli	
20	Uvaria narum	Narumpanal	
21	Ziziphus oenoplia	Cherumulli, Thodali	
HERB			
1	Lagenandra ovata	Aandavazha	

13. Thiruvoorkavu Sacred Grove, Karunagapally

Date: 17.09.2014 **KL/KAR-80**

Habit	Scientific name	Common/Local names	Remarks
TREE			
1	Adenanthera pavonina	Manchadi	
2	Aegle marmelos	Koovalam	
3	Annona reticulata	Aatha	
4	Aphanamixis polystachya	Chemmaram	
5	Artocarpus hirsutus	Anjili	
6	Caryota urens	Choondappana	
7	Cinnamomum verum	Karuva	
8	Cocos nucifera	Thengu	
9	Ficus benjamina	Vella-aal	
10	Ficus benghalensis	Peral	
11	Garcinia gummi-gutta (*Garcinia cambogia*)	Pinar	
12	Holigarna arnottiana	Charu	
13	Hopea ponga (*Hopea wightiana*)	Kambakam, Thambakam	
14	Hydnocarpus pentandra	Marotti	
15	Lannea coromandelica	Udhi, Karasu	
16	Macaranga peltata	Vatta	
17	Madhuca neriifolia	Attu-ilippa	

18	Mimusops elengi	Elengi	
19	Morinda pubescens *(Morinda tinctoria)*	Manjanathi	
20	Olea dioica	Edana	
21	Polyalthia longifolia	Aranamaram	
22	Samanea saman	Rain tree, Urakkamthoongimaram	
23	Quassia indica (*Samadera indica)*	Karinjotta	
24	Strychnos nux-vomica	Kanjiram	
25	Terminalia catappa	Thallithenga	
26	Vateria indica	Vellappayin	
27	Vitex pinnata	Kattumyla	
28	Xanthophyllum arnottianum	Madakka	
SHRUB			
1	Antidesma acidum (*Antidesma diandrum*)	Asaripuli	
2	Chassalia ophioxyloides	Vellakurinji	
3	Eugenia mooniana		
4	Grewia microcos	Kottaka	
5	Ixora javanica	Ashokathetchi	
6	Ixora javanica	Ashokathetchi	
7	Mussaenda frondosa	Vellila	
8	Phyllanthus reticulates	Neeroli	

CLIMBER			
1	Anamirta cocculus	Pollakkai	
2	Argyreia hirsuta	Pathavan valli	
3	Asparagus racemosus	Sathavari	
4	Coccinia grandis	Koval	
5	Dalbergia horrida	Anamullu	
6	Derris sp.	Poonjali	
7	Dioscorea pentaphylla	Kattukachil	
8	Dioscorea bulbifera	Kattukachil	
9	Erycibe paniculata	Nakkuvalli, Vadayara	
10	Mikania micrantha	Dhirastrapacha	
11	Ichnocarpus frutescens	Parvalli	
12	Morinda umbellata	Neyvalli	
13	Pothos scandens	Paruvakkodi	
14	Smilax zeylanica	Kareelanchi	
15	Strophanthus wightianus	Kambetti	
16	Strychnos minor	Vallikanjiram	
17			
18	Tetracera akara	Nakkuvalli, Kottavalli	
19	Uvaria narum	Narumpanal	
HERB			
1	Gloriosa superba	Menthonni	

14. Vellimanakavu, Karunagapally Date:19.09.2014 KL/KAR 79

Habit	Scientific name	Common/Local name	Remarks
TREE			
1	Adenanthera pavonina	Manchadi	
2	Alstonia scholaris	Ezhilampala	
3	Artocarpus hirsutus	Anjili	
4	Caryota urens	Choondapana, Anapatta	
5	Ficus sp.	Chela	
6	Holigarna arnottiana	Charu	
7	Macaranga peltata	Vatta	
8	Madhuca neriifolia	Attu-ilippa	
9	Samanea saman	Rain tree, Urakkamthoongimaram	
10	Sterculia balanghas	Thondi	
11	Vateria indica	Vellappayin	
12	Xanthophyllum arnottianum	Madakka	

SHRUB			
1	Chassalia ophioxyloides	Vellakurinji	
2	Grewia microcos	Kottaka	
3	Mussaenda frondosa	Vellila	
CLIMBER			
1	Ampelocissus indica	Chemparavalli	
2	Anodendron paniculatum	Kakkakodi	
3	Anamirta cocculus	Pollakkai	
4	Cissus trilobata	Neelachunnambuvalli	
5	Coccinia grandis	Koval	
6	Dioscorea bulbifera	Kattukachil	
7	Ichnocarpus frutescens	Parvalli	
8	Morinda umbellata	Neyvalli	
9	Pothos scandens	Paruvakodi	
10	Sarcostigma kleinii	Vellodal	
11	Tetracera akara	Nakkuvalli, Kottavalli	
12	Toxocarpus kleinii		
13	Uvaria narum	Narumpanal	

15 . Vallikkavu Shri Bhagavathi temple Sacredgrove

Date: 17.09.2014 **KL/KAR-134**

Habit	Scientific name	Common/Local name	Remarks
TREE			
1	Aporusa lindleyana	Vetti	
2	Artocarpus hirsutus	Anjili	
3	Calophyllum inophyllum	Punna	
4	Carallia brachiata	Vallabham	
5	Caryota urens	Choondappana	
6	Chrysophyllum cainito	Star apple	
7	Diospyros peregrina	Panachi	
8	Ficus religiosa	Arayal	
9	Holigarna arnottiana	Charu	
10	Hopea ponga (*Hopea wightiana*)	Kambakam, Thambakam	
11	Hydnocarpus pentandra	Marotti	
12	Lannea coromandelica	Udhi, Karasu	
13	Litsea coriacea	Maravettithali	
14	Mimusops elengi	Elengi	
15	Olea dioica	Edana	
16	Quassia indica (*Samadera indica)*	Karinjotta	
17	Sterculia balanghas	Thondi	
18	Strychnos nux-vomica	Kanjiram	
19	Vateria indica	Vellappayin	

SHRUB			
1	Antidesma acidum (*Antidesma diandrum*)	Asaripuli	
2	Breynia vitis-idaea	Pavilapoola	
3	Canthium rheedei	Kattaramullu	
4	Chassalia ophioxyloides	Vellakurinji	
5	Connarus monocarpus	Valamkadikkai	
6	Glochidion zeylanicum	Neervetti, Pannimutti	
7	Grewia microcos	Kottaka	
8	Ixora coccinea	Thetchi	
9	Ixora malabarica	Kattuthetchi	
10	Justicia gendarusa	Vathamkolli	
11	Lantana camara	Poochedi	
12	Leea indica	Njellu, Njekku	
13	Memecylon depressum	Kaikkathetti	
14	Mussaenda frondosa	Vellila	
15	Tabernaemontana heyneana	Kundalappala	
CLIMBER			
1	Ampelocissus indica	Chemparavalli	
2	Anodendron paniculatum	Kakkakodi	
3	Asparagus racemosus	Sathavari	
4	Calamus rotang	Chooral	
5	Cayratia pedata	Chorivally	

6	Centrosema molle *(Centrosema virginianum)*	Kattupayar	
7	Chonemorpha fragrans	Perumkurumba	
8	Cissus latifolia	Chunnambuvalli	
9	Cissus trilobata	Neelachunnambuvalli	
10	Coccinia grandis	Koval	
11	Cyclea petata	Padakizhangu	
	Dalbergia horrida	Anamullu	
12	Dioscorea pentaphylla	Kattukachil	
13	Dioscorea wallichii	Kattukachil	
14	Diplocyclos palmatus	Neyyunni	
15	Erycibe paniculata	Nakkuvalli	
16	Flagellaria indica	Panambuvalli	
17	Gnetum edule	Karuthodal	
18	Hemidesmus indicus	Naruneendi	
19	Hibiscus hispidissimus *(Hibiscus furcatus)*	Kalapoo	
20	Ichnocarpus frutescens	Parvalli	
21	Ipomoea mauritiana (*Ipomoea palmata*)	Palmuthakku	
22	Jasminum angustifolium	Kattumulla	
23	Kamettia caryophyllata	Narumarathivu	
24	Mikania micrantha	Dhirastrapacha	

25	Morinda umbellata	Neyvalli	
26	Pothos scandens	Paruvakkodi	
27	Rourea minor	Kuriel	
28	Salacia chinensis	Ponkoranti	
29	Salacia fruticosa	Ponkoranti	
30	Smilax zeylanica	Kareelanchi	
31	Stenochlaena palustris	Climbing fern	
32	Strychnos minor	Vallikanjiram	
33	Tetracera akara	Nennelvalli, Kottavalli	
34	Toxocarpus kleinii		
35	Uvaria narum	Narumpanal	
HERB			
1	Gloriosa superba	Menthonni	
2	Costus speciosus	Channakoova	

16. Mavolil Bhagavathi Temple Sacredgrove, Adinad north, Karunagaaplly.
Date: 17.09.2014 KL/KAR-133

Habit	Scientific name	Common/Local name	Remarks
TREE			
1	Adenanthera pavonina	Manchadi	
2	Artocarpus hirsutus	Anjili	
3	Casuarina equisetifolia	Kattadi, Choolamaram	
4	Cinnamomum malabathrum	Vayana, Therali	
5	Holigarna arnottiana	Charu	
6	Lannea coromandelica	Udhi, Karasu	
7	Litsea coriacea	Maravettithali	
8	Macaranga peltata	Vatta	
9	Holigarna arnottiana	Charu	
10	Quassia indica (*Samadera indica)*	Karinjotta	
11	Syzygium caryophyllatum	Karinjaval	
12	Symplocos cochinchinensis	Pachotti	
13	Terminalia catappa	Thallithenga	
14	Vateria indica	Vellappine	
SHRUB			
1	Canthium rheedei	Kattaramullu	
2	Grewia microcos	Kottaka	
3	Memecylon depressum	Kaikkathetti	

4			
5	Mussaenda frondosa	Vellila	
CLIMBER			
1	Ampelocissus indica	Chemparavalli	
2	Anamirta cocculus	Pollakkai	
3	Calamus rotang	Chooral	
4	Chonemorpha fragrans	Perumkurumba	
5	Dalbergia horrida	Anamullu	
6	Dioscorea bulbifera	Kattukachil	
7	Dioscorea pentaphylla	Kattukachil	
8	Dioscorea wallichii	Kattukachil	
9	Flagellaria indica	Panambuvalli	
10	Morinda umbellata	Neyvalli	
11	Pothos scandens	Paruvakodi	
12	Rourea minor	Kuriel	
13	Salacia fruticosa	Ponkoranti	
14	Smilax zeylanica	Kareelanchi	
15	Stenochlaena palustris	Climbing fern	
16	Strychnos minor	Vallikanjiram	
17	Tetracera akara	Nennelvalli, Kottavalli	
18	Uvaria narum	Narumpanal	
HERB			
1	Zingiber zerumbet	Malayinchi	

17. Chavarakkal Sacredgrove, Kollaga, Karunagapally

Date: 17.09.2014 **KL/KAR-52**

Habit	Scientific name	Common/Local name	Remarks
TREE			
1	Adenanthera pavonina	Manchadi	
2	Aglaia elaeagnoidea	Punyava	
3	Artocarpus hirsutus	Anjili	
4	Caryota urens	Choondappana	
5	Cinnamomum verum	Karuva	
6	Holigarna arnottiana	Charu	
7	Hydnocarpus pentandra	Marotti	
8	Lannea coromandelica	Udhi, Karasu	
9	Litsea coriacea	Maravettithali	
10	Macaranga peltata	Vatta	
11	Mimusops elengi	Elengi	
12	Olea dioica	Idala	
13	Persea macrantha (*Machilus macrantha*)	Ooravu	
14	Quassia indica (*Samadera indica)*	Karinjotta	
15	Sapindus trifoliatus	Pasakkotta	
16	Sterculia balanghas	Thondi	
17	Terminalia catappa	Thallithenga	
18	Vateria indica		

SHRUB			
1	Antidesma acidum (*Antidesma diandrum*)	Asaripuli	
2	Canthium rheedei	Kattaramullu	
3	Chassalia ophioxyloides	Vellakurinji	
4	Glycosmis pentaphylla	Panal	
5	Grewia microcos	Kottaka	
6	Ixora malabarica	Cherukuravu	
7	Mussaenda frondosa	Vellila	
CLIMBER			
1	Ampelocissus indica	Chemparavalli	
2	Anamirta cocculus	Pollakkai	
3	Calamus rotang	Chooral	
4	Chonemorpha fragrans	Perumkurumba	
5	Dalbergia horrida	Anamullu	
6	Dioscorea bulbifera	Kattukachil	
7	Derris sp.	Vellappine	
8	Morinda umbellata	Neyvalli	
9	Pothos scandens	Paruvakodi	
10	Salacia chinensis	Ponkoranti	
11	Salacia fruticosa	Ponkoranti	
12	Sarcostigma kleinii	Vellodal	
13	Stenochlaena palustris	Climbing fern	
14	Strychnos minor	Vallikanjiram	
15	Tetracera akara	Nakkuvalli, Kottavalli	
16	Uvaria narum	Narumpanal	

18. Bunglavilkavu, Kollaga, Karunagapally

Date: 17.09.2014 **KL/KAR-43**

Habit	Scientific name	Common/Local name	Remarks
TREE			
1	Alstonia scholaris	Ezhilampala	
2	Artocarpus hirsutus	Anjili	
3	Caryota urens	Choondappana	
4	Ficus religiosa	Arayal	
5	Holigarna arnottiana	Charu	
6	Hopea ponga (*Hopea wightiana*)	Thambakam	
7	Macaranga peltata	Vatta	
8	Madhuca neriifolia	Attu-ilippa	
9	Mangifera indica	Mavu	
10	Syzygium sp.	Njaval	
11	Terminalia catappa	Thallithenga	
SHRUB			
1	Chassalia ophioxyloides	Vellakurinji	
2	Clerodendrum infortunatum	Peruvalam	

3	Grewia microcos	Kottaka	
4	Ixora coccinea	Thetchi	
5	Mussaenda frondosa	Vellila	
CLIMBER			
1	Ampelocissus indica	Chemparavalli	
2	Anamirta cocculus	Pollakkai	
3	Cissus trilobata	Neelachunnambuvalli	
4	Erycibe paniculata	Nakkuvalli	
5	Morinda umbellata	Neyvalli	
6	Strychnos minor	Vallikanjiram	
7	Tetracera akara	Nennelvalli, Kottavalli	
8	Uvaria narum	Narumpanal	
HERB			
1	Zingiber zerumbet	Malayinchi	
2	Costus speciosus	Channakoova	

19. Thazhathathu Kavu, Kollaga, Karunagapally.

Date: 17.09.2014 KL/KAR-42

Habit	Scientific name	Common/Local name	Remarks
TREE			
1	Borassus flabellifer	Karimpana	
2	Caryota urens	Choondappana	
3	Holigarna arnottiana	Charu	
4	Hopea ponga (*Hopea wightiana*)	Thampakam	
5	Macaranga peltata	Vatta	
6	Madhuca neriifolia	Attu-ilippa	
7	Olea dioica	Idala	
8	Strychnos nux-vomica	Kanjiram	
SHRUB			
1	Breynia vitis-idaea	Pavalapoola	
2	Chassalia ophioxyloides	Vellakurinji	
3	Chromolaena odorata (*Eupatorium odoratum*)	Communistpacha	
4	Ixora malabarica	Cherukuravu	
5	Mussaenda frondosa	Vellila	

CLIMBER			
1	Abrus precatorius	Kunnikkuru	
2	Anamirta cocculus	Pollakkai	
3	Bridelia stipularis (*Bridelia scandens)*	Cherukapanachi	
4	Combretum latifolium		
5	Dioscorea bulbifera	Kattukatchil	
6	Gnetum edule	Karuthodal	
7	Ichnocarpus frutescens	Parvalli	
8	Merremia tridentata	Prasarani	
9	Morinda umbellata	Neyvalli	
10	Pothos scandens	Paruvakkodi	
11	Salacia fruticosa	Ponkorandi	
12	Stenochlaena palustris	Climbing fern	
13	Strychnos minor	Vallikanjiram	
14	Tinospora sinensis	Pothamruthu	
15	Uvaria narum	Narumpanal	
HERB			
1	Zingiber zerumbet	Malayinchi	

20. Mullikkalakavu, Puthoor, Kottarakkara

Date: 18.09.2014 **KL/KTR-121**

Habit	Scientific name	Common/ local names	Remarks
TREE			
1	Adenanthera pavonina	Manchadi	
2	Ailanthus triphysa *(Ailanthus malabarica)*	Perumaram	
3	Alstonia scholaris	Ezhilampala	
4	Aporusa cardiosperma (*Aporusa lindleyana*)	Vetti	
5	Antiaris toxicaria	Maravuri, Aranthal	
6	Artocarpus hirsutus	Anjili	
7	Buchanania axillaris	Kulamavu	
8	Chukrasia tabularis	Chuvannakil	
9	Cinnamomum malabathrum	Vayana	
10	Diospyros peregrina	Panachi	
11	Ficus religiosa	Arayal	
12	Holigarna arnottiana	Cheru, Charu	
13	Hydnocarpus pentandra	Marotti	
14	Lannea coromandelica	Udhi, Karasu	
15	Mangifera indica	Mavu	
16	Mimusops elengi	Elengi	
17	Olea dioica	Idala	

18	Schleichera oleosa	Poovam, Poovanam	
19	Sterculia balanghas	Thondi	
20	Strychnos nux-vomica	Kanjiram	
21	Trema orientalis	Amathali Amarathi	
22	Ixora brachiata	Marachethi	
23	Bambusa bambos *(Bambusa arundinacea)*	MulluMula	
SHRUB			
1	Antidesma alexiteria	Thathalamaram	
2	Canthium rheedei	Kattaramullu	
3	Chassalia ophioxyloides	Vellakurinji	
4	Chromolaena odorata (*Eupatorium odoratum*)	Communistpacha	
5	Clerodendrum infortunatum	Peruvalam	
6	Connarus monocarpus	Kuriel	
7	Diospyros ferrea ssp. buxifolia	Irumpalei	
8	Glycosmis pentaphylla	Panal	
9	Grewia microcos	Kottaka	
10	Ixora coccinea	Thetchi	
11	Justicia gendarusa	Vathamkolli	
12	Leea indica	Njellu	
13	Memecylon umbellatum	Kasavu, Kayampoo	
14	Psychotria flavida		
15	Streblus taxoides	Kadala	

	(Phyllochlamys spinosa)		
16	Tabernaemontana heyneana	Kundalappala	
CLIMBER			
1	Anodendron paniculatum	Kakkakodi	
2	Calycopteris floribunda	Pullani	
3	Canavalia gladiata	Valaripayar	
4	Cansjera rheedei		
5	Cayratia pedata	Chorivally	
6	Chonemorpha fragrans	Perumkurumba	
7	Cissampelos pareira	Malathangi	
8	Cissus latifolia	Chunnambuvalli	
9	Cosmostigma racemosum	Vattuvalli	
10	Dalbergia horrida	Anamullu	
11	Dioscorea bulbifera	Kattukachil	
12	Dioscorea pentaphylla		
13	Gloriosa superba	Menthonni	
14	Hibiscus hispidissimus *(Hibiscus furcatus)*	Kalapoo	
15	Ichnocarpus frutescens	Parvalli	
16	Ipomoea mauritiana (*Ipomoea palmata*)	Palmuthakku	
17	Jasminum angustifolium	Kattumulla	
18	Mallotus repandus	Thavatti valli	
19	Mikania micrantha	Dhrirastrapatcha	

20	Morinda umbellata	Neyvalli	
21	Mussaenda frondosa	Vellila	
22	Pothos scandens	Paruvakkodi	
23	Rourea minor	Kuriel	
24	Strychnos minor	Vallikanjiram	
26	Toxocarpus kleinii		
27	Tetrastigma leucostaphylum		
28	Tetracera akara	Nakkuvalli, Kottavalli	
29	Tinospora sinensis	Pothamruthu	
30	Uvaria narum	Narumpanal	
31	Ziziphus oenoplia	Cherumulli, Thodali	
32	Ziziphus rugosa	Malamthudali	
HERB			
1	Costus speciosus	Channakoova	
2	Zingiber zerumbet	Malayinchi	

21. Shri Jadayankavu Devi Temple, Padinjattinkara, Kottarakkara

Date: 19.09.2014 **KL/KTR-111**

Habit	Scientific name	Common/Local name	Remarks
TREE			
1	Annona reticulata	Aatha	
2	Antiaris toxicaria	Maravuri, Aranthal	
3	Aporusa cardiosperma (*Aporusa lindleyana*)	Vetti	
4	Artocarpus heterophyllus	Plavu	
5	Bombax ceiba (*Bombax malabaricum*)	Mullilavu	
6	Bauhinia purpurea	Chuvannamandaram	
7	Caryota urens	Choondappana	
8	Chrysophyllum cainito	Starapple	
9	Delonix regia	Poomaram, Gulmohar	
10	Elaeis guineensis	Ennappana, Oil palm	
11	Ficus racemosa	Atthi	
12	Ficus religiosa	Arayal	
13	Hydnocarpus pentandra	Marotti	
14	Hymenodictyon orixense *(Hymenodictyon excelsum)*	Perumtholi	
15	Mangifera indica	Mavu	
16	Mimusops elengi	Elengi	
17	Olea dioica	Idala	

18	Sapindus trifoliatus	Pasakkotta	
19	Sterculia balanghas	Thondi	
20	Strychnos nux-vomica	Kanjiram	
21	Thevetia peruviana *(Thevetia neriifolia)*	Manjaruli	
22	Terminalia bellirica	Thaanni	
23	Terminalia paniculata	Maruthi	
SHRUB			
1	Chassalia ophioxyloides	Vellakurinji	
2	Clerodendrum infortunatum	Peruvalam	
3	Flueggea virosa	Perimklavu	
4	Ixora finlaysoniana	Vellathetchi	
5	Mussaenda frondosa	Vellila	
6	Streblus taxoides *(Phyllochlamys spinosa)*	Kadala	
7	Thunbergia erecta	Blue bell	
CLIMBER			
1	Abrus precatorius	Kunnikkuru	
2	Acacia caesia	Incha	
3	Alangium salvifolium ssp.hexapetalum	Kuthirapazham	
4	Anamirta cocculus	Pollakkai	
5	Cayratia pedata	Chorivalli	
6	Cissus trilobata	Neelachunnambuvalli	

7	Derris sp.		
8	Dioscorea bulbifera	Kattukachil	
9	Dioscorea pentaphylla	Kattukachil	
10	Maclura spinosa *(Plecospermum spinosum)*	Venninkodi	
11	Mallotus repandus	Thavatti valli	
12	Morinda umbellata	Neyvalli	
13	Pothos scandens	Paruvakodi	
14	Rhaphidophora pertusa	Elatthadi	
15	Rourea minor	Kuriel	
16	Salacia chinensis	Ponkoranti	
17	Tinospora sinensis	Pothamruthu	
18	Toxocarpus kleinii		

22. Mulavanakkavu Sastha temple, Kottarakkara

Date: 19.09.2014 **KL/KTR-110**

Habit	Scientific name	Common/Local name	Remarks
TREE			
1	Adenanthera pavonina	Manchadi	
2	Aegle marmelos	Koovalam	
3	Alstonia scholaris	Ezhilampala	
4	Aphanamixis polystachya	Chemmaram	
5	Bombax ceiba (*Bombax malabaricum*)	Mullilavu	
6	Caryota urens	Choondappana	
7	Mimusops elengi	Elengi	
8	Streblus asper	Paruvamaram	
9	Strychnos nux-vomica	Kanjiram	
10	Tectona grandis	Thekku	
SHRUB			
1	Chassalia ophioxyloides	Vellakurinji	
2	Flueggea virosa	Perimklavu	
CLIMBER			
1	Acacia caesia	Incha	
2	Alangium salvifolium ssp.hexapetalum	Kuthirapazham	
3	Anamirta cocculus	Pollakkai	
4	Caesalpinia bonduc	Kazhanchi	

5	Coccinia grandis	Koval	
6	Dioscorea pentaphylla	Kattukachil	
7			
8	Maclura spinosa *(Plecospermum spinosum)*	Venninkodi	
9	Pothos scandens	Paruvakodi	
10	Sarcostigma kleinii	Vellodal	
11	Ziziphus rugosa	Malamthudali	

23. Mangattukavu, Edakode, Ezhukone

Date: 18.09.2014 **KL/KTR-125**

Habit	Scientific name	Common	
TREES			
1	Acacia mangium	Mangium	
2	Artocarpus hirsutus	Anjili	
3	Bridelia retusa	Mulluvenga	
4	Buchanania axillaris	Kulamavu	
5	Canthium dicoccum *(Plectronia didyma)*	Irumbarappan	
6	Carallia brachiata	Vallabham	
7	Gliricidia sepium	Sheemakonna	
8	Lannea coromandelica	Udhi, Karasu	
9	Litsea coriacea	Maravettithali	
10	Macaranga peltata	Vatta	
11	Mangifera indica	Mavu	
12	Morinda pubescens *(Morinda tinctoria)*	Manjanathi	
13	Olea dioica	Edana	
14	Vitex pinnata	Kattumyla	
15	Santalum album	Chandanam	
16	Sterculia balanghas	Thondi	

SHRUB			
1	Antidesma acidum (*Antidesma diandrum*)	Asaripuli	
2	Breynia vitis-ideaea	Pavalapoola	
3	Chassalia ophioxyloides	Vellakurinji	
4	Chromolaena odorata (*Eupatorium odoratum*)	Communistpacha	
5	Hyptis suaveolens	Naattapoochedi	
6	Ixora coccinea	Thetchi	
7	Leea indica	Njellu, Njekku	
8	Mussaenda frondosa	Vellila	
9	Psilanthus travancorensis *(Coffea travancorensis)*	Pushkaramulla	
10	Tabernaemontana heyneana	Kundalappala	
HERB			
1	Alysicarpus vaginalis	Nila-orila	
2	Andrographis paniculata	Kiriyath	
3	Desmodium trquetrum	Adakkachokki	
4	Evolvulus alsinoides	Vishnukranthi	
5	Euphorbia heterophylla		
6	Gloriosa superba	Menthonni	

7	Microstachys chamaelea *(Sebastiana chamaelea)*	Njettavanakku	
8	Zornia diphylla	Murikkotti	
9	Spermacoce latifolia	Tharavuchedi	
CLIMBER			
1	Cansjera rheedei		
2	Cayratia pedata	Chorivally	
3	Cissus latifolia	Chunnambuvalli	
4	Cissus trilobata	Neelachunnambuvalli	
5	Cosmostigma racemosum	Vattuvalli	
6	Dalbergia horrida	Anamullu	
7	Derris sp.	Poonjali	
8	Hugonia mystax	Modhirakkanni, Munamadakki	
9	Ichnocarpus frutescens	Parvalli	
10	Morinda umbellata	Neyvalli	
11	Passiflora foetida	Ammummapazham	
12	Pothos scandens	Paruvakkodi	
13	Strychnos minor	Vallikanjiram	
14	Tetracera akara	Nakkuvalli, Vennilavalli	
15	Turnera subulata	Nakshathrachutti	
16	Uvaria narum	Narumpanal	
17	Ziziphus oenoplia	Cherumulli, Thodali	
18	Ziziphus rugosa	Malamthudali	

24. Kuzhumathikkad Chirakkadavu Bhagavathi Temple Sacredgrove

Date: 19.09.2014 **KL/KTR-56**

Habit	Scientific name	Common/Local names	Remarks
TREE			
1	Alstonia scholaris	Ezhilampala	
2	Aporusa cardiosperma (*Aporusa lindleyana)*	Vetti	
3	Artocarpus hirsutus	Anjili	
4	Canthium dicoccum *(Plectronia didyma)*	Irumbarappan	
5	Diospyros peregrina	Panachi	
6	Gymnacranthera farquhariana *(Gymnacranthera canarica)*	Undappayin	
7	Holigarna arnottiana	Charu	
8	Hopea ponga (*Hopea wightiana*)	Kambakam, Thambakam	
9	Hydnocarpus pentandra	Marotti	
10	Litsea coriacea	Maravettithali	
11	Lophopetalum wightianum	Venkotta	
12	Morinda pubescens *(Morinda tinctoria)*	Manjanathi	

13	Myristica beddomei	Kothappayin, Pasupathi	
14	Olea dioica	Edana	
15	Schleichera oleosa	Poovam, Poovanam	
16	Strychnos nux-vomica	Kanjiram	
17	Syzygium travancoricum	Poriyal	
18	Vitex pinnata	Kaatumyla	
19	Xanthophyllum arnottianum	Madakka	
SHRUB			
1	Antidesma acidum (*Antidesma diandrum*)	Asaripuli	
2	Breynia vitis-idaea	Pavilapoola	
3	Canthium rheedei	Kattaramullu	
4	Chassalia ophioxyloides	Vellakurinji	
5	Connarus monocarpus	Valamkadikkai	
6	Lantana camara	Poochedi	
7	Leea indica	Njellu, Njekku	
8	Memecylon depressum	Kaikkathetti	
9	Memecylon umbellatum	Kasavu, Kayampoo	
10	Mussaenda frondosa	Vellila	
11	Ixora coccinea	Thetchi	
12	Ixora malabarica	Kattuthetchi	

13	Pavetta indica	Pavatta	
14	Psychotria flavida		
15	Psilanthus travancorensis *(Coffea travancorensis)*	Pushkaramulla	
CLIMBER			
1	Abrus precatorius	Kunnikkuru	
2	Ampelocissus indica 1	Chemparavalli	
3	Asparagus racemosus	Sathavari	
4	Calamus hookerianus	Chooral	
5	Cansjera rheedei		
6	Cayratia pedata	Chorivally	
7	Chonemorpha fragrans	Perumkurumba	
8	Cissus latifolia	Chunnambuvalli	
9	Cissus trilobata	Neelachunnambuvalli	
10	Cosmostigma racemosum	Vattuvalli	
11	Dalbergia horrida	Anamullu	
12	Dioscorea pentaphylla	Kattukachil	
13	Dioscorea oppositifolia	Chandanakizhangu	
14	Diplocyclos palmatus	Neyyunni	
15	Flagellaria indica	Panambuvalli	
16	Hibiscus hispidissimus *(Hibiscus furcatus)*	Kalapoo	
17	Ichnocarpus frutescens	Parvalli	

18	Jasminum angustifolium	Kattumulla	
19	Maclura spinosa *(Plecospermum spinosum)*	Venninkodi	
20	Morinda umbellata	Neyvalli	
21	Pothos scandens	Paruvakkodi	
22	Salacia fruticosa	Ponkoranti	
23	Smilax zeylanica	Kareelanchi	
24	Strychnos minor	Vallikanjiram	
25	Tetracera akara	Nennelvalli, Kottavalli	
26	Uvaria narum	Narumpanal	
HERB			
1	Andrographis sp.	Kakkakodi	

25. Mariyampally kavu, Chadayamangalam, Date 13.02.2015

KL/KTR-24

Sl.no	Scientific name	Common name
	TREES	
1	Aporusa cardiosperma (*Aporusa lindleyana*)	Vetti
2	Artocarpus heterophyllus	Plavu
3	Carallia brachiata	Vallabham, Varangu
4	Caryota urens	Choondappana, Olattipana
5	Chrysophyllum roxburghii	Star apple
6	Cinnamomum malabatrum	Vayana
7	Diospyros peregrine	Panachi
8	Holigarna arnottiana	Charu
9	Olea dioica	Idana
10	Quassia indica (*Samadera indica*)	Karinjotta
11	Saraca asoca	Ashokam
12	Schleichera oleosa	Poovam
13	Sterculia guttata	Kavalam
14	Xanthophyllum arnottianum	Madakka, Mottal
	SHRUBS	
1	Antidesma alexiteria	
2	Canthium rheedei	Kattaramullu
3	Chassalia ophioxyloides	Vellakurinji
4	Ixora brachiata	Marathetchi
5	Ixora javanica	Ashokathetchi
6	Sauropus androgynus	Velicheera
7	Strobilanthes ciliatus	Karimkurinji

	HERB	
1	Achyranthes aspera	Kadaladi
	CLIMBERS	
1	Acacia caesia	Incha
2	Anamirta cocculus	Pollakkai, Karandakam
3	Butea parviflora (*Spatholobus roxburghii*)	Valliplash, Adambuvalli
4	Calycopteris floribunda	Pullani
5	Cayratia pedata	Chorivally, Oonjalvalli
6	Cissus latifolia	Chunnambuvalli
7	Erycibe paniculata	Irumbanvalli
8	Gnetum edule	Oolakkodi, Karuthodal
9	Hiptage bengalensis (*Hiptage madabolta*)	Madhavilatha
10	Maclura spinosa (*Plecospermum spinosum*)	Venninkodi
11	Mallotus repandus	Mulamkumbham
12	Merremia umbellate	Koravalli
13	Morinda reticulate	Neyvalli
14	Salacia chinensis	Ekanayakam
15	Salacia fruticosa	Ponkorandi
16	Sarcostigma kleinii	Odal
17	Stenochlaena palustris	Climbing fern
18	Strychnos minor	Vallikanjiram
19	Ziziphus oenoplia	Thodali

26. Pulayannur kavu, Chadayamangalam, Kollam. – Date : 13.02.2015

KL/KTR-25

Sl.no	Scientific name	Common name
	TREES	
1	Adenanthera pavonina	Manchadi
2	Ailanthus triphysa	Perumaram
3	Alstonia scholaris	Ezhilampala
4	Carallia brachiata	Vallabham, Varangu
5	Caryota urens	Choondappana, Olattipana
6	Ficus tsjahela	Chela
7	Holigarna arnottiana	Charu
8	Hydnocarpus pentandra	Marotti
9	Macaranga peltata	Vatta
10	Mangifera indica	Mavu
11	Melicope lunu-ankenda (*Evodia lunu-ankenda*)	Kanala
12	Olea dioica	Idana
13	Pajanelia longifolia (*Pajanelia rheedei*)	Azhantha
14	Sterculia guttata	Kavalam
15	Strychnos nux-vomica	Kanjiram
16	Tamarindus indica	Puli
17	Xanthophyllum arnottianum	Madakka, Mottal

	SHRUBS	
1	Canthium angustifolium	Kattaramullu
2	Canthium rheedei	Kattaramullu
3	Chassalia ophioxyloides	Vellakurinji
4	Cycas circinalis	Eenthu
5	Flueggea virosa *(Secuinega virosa)*	Perimklavu
6	Glycosmis mauritiana	Panal
7	Ixora coccinea	Thetchi
8	Tabernaemontana heyneana	Kundalappala
9	Thevetia neriifolia	Maja-arali
	CLIMBERS	
1	Acacia caesia	Incha
2	Alangium salvifolium ssp. Hexapetalum	Kuthirapazhan
3	Calycopteris floribunda	Pullani
4	Cansjeera rheedei	
5	Cayratia pedata	Chorivally, Oonjalvalli
6	Centrosema molle *(Centrosema pubescens)*	Kattupayar
7	Cissampelos pariera	Malathangi
8	Cissus latifolia	Chunnambuvalli
9	Combretum latifolium	
10	Connarus monocarpus	Kuriel
11	Gnetum edule	Oolakkodi, Karuthodal

12	Gymnema sylvestre	Chakkarakolli
13	Hibiscus hispidissimus	Kalapoo, Panachan
14	Ichnocarpus frutescens	Palvalli
15	Merremia umbellata	Koravalli
16	Mucuna pruriens	Naikkurana
17	Pothos scandens	Paruvakkodi
18	Sarcostigma kleinii	Odal
19	Tetrastigma leucostaphyllum	Chorivally
20	Toxocarpus kleinii	
21	Wattakaka volubilis	Vattakkakkakodi
22	Ziziphus rugosa	Juli, Vanthodali

27. Karippur kavu, Pulikkode, Valakam - Date :- 13.02.2015

KL/KTR-90

Sl.no	Scientific name	Common name
	TREES	
1	Artocarpus heterophyllus	Plavu
2	Artocarpus hirsutus	Anjili, Ayini
3	Beilschmiedia bourdillonii	Morakuthi
4	Caryota urens	Choondappana, Olattipana
5	Ficus callosa	Kadaplavu
6	Holigarna arnottiana	Cheru, Charu
7	Knema attenuate	Chorappayin
8	Myristica malabarica	Ponnampayin
9	Persea macrantha (*Machilus macrantha*)	Ooravu
10	Prunus ceylanica	Attanaripongu
11	Pterospermum diversifolium	Pambaram
12	Sterculia guttata	Kavalam
13	Xanthophyllum arnottianum (*X. flavescens*)	Madakka

	SHRUBS	
1	Canthium angustifolium	Kattukara
2	Streblus taxoides	Kadala
3	Chassalia ophioxyloides	Karutha-amalpori
4	Pseuderanthemum malabaricum	
5	Stachyphrynium spicatum	Kattukoova
6	Abrus pulchellus	Kattumuthira
7	Pothos scandens	Paruvakodi
8	Sarcostigma kleinii	Vellodal
9	Smilax zeylanica	Kareelanchi

Note: *This sacred grove is unique because of the dominance of tree species. All the trees are indigenous. The undergrowth is dense with Streblus taxoides. There are no exotics weeds in this sacred grove. The tree canopy is occupied by bats. We were informed that sighting of snakes is frequent.*

28. Arakkal Devi Temple Kavu,Edamulakkal. Date - 13.02.2015

KL/PLR-35

Sl. no	Scientific name	Local name
	TREES	
1	Acacia mangium	Mangium
2	Adenanthera pavonina	Manchadi
3	Aporusa cardiosperma (*Aporusa lindleyana*)	Vetti
4	Buchanania axillaris	Kulamavu
5	Caesalpinia sappan	Chappangam
6	Caryota urens	Anapatta, choondapana
7	Cassia fistula	Kanikonna
8	Couroupita guianensis	Nagalingamaram
9	Diospyros peregrina	Panachi
10	Ficus drupacea var. pubescens (*Ficus mysorensis*)	Kallal
11	Ficus racemosa	Atthi
12	Ficus religiosa	Arayal
13	Ficus virens	Chela
14	Hydnocarpus pentandra	Marotti
15	Macaranga peltata	Vatta
16	Mangifera indica	Maavu
17	Mimusops elengi	Elengi
18	Phyllanthus emblica	Nelli

19	Psidium guajava	Pera
20	Santalum album	Chandanam
21	Schleichera oleosa	Poovam
22	Sterculia guttata	Kavalam. Pottakavalam
23	Syzygium cumini	Njaval
24	Tecoma stans	Manjarali
25	Terminalia catappa	Thallithenga
26	Vitex negundo	Karinochi
27	Xanthophyllum arnottianum	Madakka
	SHRUBS	
1	Canthium angustifolium	Kattaramullu
2	Glycosmis mauritiana	Panal
3	Ixora nigricans	
4	Meiogyne ramarowii	Panthalmaram
5	Mussaenda frondosa	Vellila
6	Scaevola sericea	Badraksham, Vellamodakam
7	Tabernaemontana heyneana	Koonampala
	HERB	
1	Imperata cylindrica	Dharbha
	CLIMBERS	
1	Alangium salvifolium ssp. hexapetalum	Kuthirapazhan
2	Calycopteris floribunda	Pullani
3	Cissus quadrangularis	Changalamparanda

4	Combretum extensum	
5	Cyclea peltata	Malathangi
6	Dalbergia horrida	Anamullu
7	Erycibe paniculata	Irumbanvalli
8	Gymnema sylvestre	Chakkarakolli
9	Hiptage bengalensis	Madhavilatha
10	Myxopyrum smilacifolium	Chathuramulla
11	Pothos scandens	Paruvakkodi
12	Rourea minor	Kooriel
13	Strychnos minor	Vallikanjiram
14	Tetracera akara	Nakkuvalli, Kottavalli
15	Tinospora cordifolia	Chittamruthu
16	Toxocarpus kleinii	
17	Ziziphus oenoplia	Cheruthodali

29. Nagaraja Scared Grove, Anchal. Date :- 13.02.2015

KL/PLR- 1

Sl.no	Scientific name	Local name
	TREES	
1	Artocarpus hirsutus	Anjili
2	Carallia brachiata	Vallabham
3	Cassia fistula	Kanikonna
4	Ficus virens	Chela
5	Leucaena leucocephala	Ipilipil
6	Macaranga peltata	Vatta
7	Pajanelia longifolia	Azhantha
8	Strychnos nux-vomica	Kanjiram
	SHRUBS	
1	Blepharistemma serratum	Nirkurunda
2	Canthium rheedei	Kattaramullu
3	Eupatorium odoratum	Commuistpacha
4	Glycosmis pentaphylla	Paanal
5	Streblus taxoides	Kadala
6	Tabernaemontana heyneana	Kundalappala
7	Thevetia neriifolia	Manjaruli

	HERB	
1	Pseuderanthemum malabaricum	
	CLIMBERS	
1	Calamus thwaitesii	Chooral
2	Calycopteris floribunda	Pullani
3	Cissus latifolia	Oonjalvalli
4	Cyclea peltata	Malathangi
5	Dalbergia volubilis	Mrithivalli
6	Diploclisia glaucescens	Vattavalli
7	Gymnema sylvestre	Chakkarakolli
8	Ichnocarpus frutescens	Palvalli
9	Mikania micrantha	Dhrirastrapacha
10	Millettia sp.	
11	Pothos scandens	Paruvakkodi
12	Sarcostigma kleinii	Vellodal
13	Strychnos minor	Vallikanjiram
14	Uvaria narum	Narumpanal

Note: *This sacred grove has no large trees. Weeds like Mikania and Eupatorium have invaded the grove. The climbers like Calycopteris floribunda and Millettia sp. have spread all over the existing trees. There is a big clump of Calamus thwaitesii with several large mature culms.*

30. Ayikkottu Kavu, Punalur

Date - 13.02.2015 **KL/PLR-55**

Sl.no	Scientific name	Local name
	TREES	
1	Artocarpus hirsutus	Anjili
2	Carallia brachiata	Vallabham
3	Caryota urens	Anapatta, choondapana
4	Couropita guianensis	Nagalingamaram
5	Ficus hispida	Parakam
6	Ficus racemosa	Atthi
7	Glochidion zeylanicum	Neervetti
8	Hydnocarpus pentandra	Marotti
9	Litsea coriacea	Pattuthali
10	Lophopetalum wightianum	Venkotta
11	Macaranga peltata	Vatta
12	Mangifera indica	Maavu
13	Pajanelia longifolia	Azhantha
14	Psidium guajava	Pera
15	Sterculia guttata	Kavalam. Pottakavalam
16	Tectona grandis	Teak
17	Xanthophyllum arnottianum	Madakka
	SHRUBS	
1	Hyptis capitata	
2	Lantana camara	Poochedi

	HERBS	
1	Alternanthera bettzickiana	Alligator weed
2	Colocasia esculenta	Madantha
3	Spilanthes ciliata	Akravu
	CLIMBERS	
1	Anamirta cocculus	Karandakam
2	Centrosema molle *(Centrosema pubescens)*	Kattupayar
3	Cyclea peltata	Malathangi
4	Ichnocarpus frutescens	Palvalli
5	Mikania micrantha	Dhrirastrapacha
6	Piper betele	Vettila
7	Pothos scandens	Paruvakkodi
8	Pueraria phaseoloides	Thottapayar
9	Ziziphus oenoplia	Cheruthodali
10	Ziziphus rugosa	Juli

Note: *This sacred grove is partially marshy. Exotic weeds like Mikania micrantha, Pueraria phaseoloides, Hyptis capitata and Alternanthera bettzickiana are very common. Large trees are very few. In the marshy area there is dense growth of Colocasia esculenta.*

31. Sri Kollaga Muthappankavu,Kadakkamon.

Date:-14.02.2015 **KL/PPM-22**

Sl.no	Scientific name	Local name
	TREES	
1	Actinodaphne malabarica	Eyoli
2	Antiaris toxicaria	Aranthal, Maravuri
3	Caryota urens	Anapatta, choondapana
4	Chrysophyllum roxburghii	Starapple
5	Ficus exasperata	Therakam
6	Garcinia gummi-gutta	Pinar
7	Holigarna arnottiana	Charu
8	Hydnocarpus pentandra	Marotti
9	Litsea coriacea	Pattuthali
10	Macaranga peltata	Vatta
11	Mangifera indica	Maavu
12	Saraca asoca	Ashokam
13	Schleichera oleosa	Poovam
14	Xanthophyllum arnottianum	Madakka
	SHRUBS	
1	Allophylus cobbe	Mukkanpezhu
2	Briedelia scandens	Cherukapanachi
3	Canthium angustifolium	Kattaramullu
4	Chassalia ophioxyloides	Vellkurinji
5	Meiogyne ramarowii	Panthalmaram

	CLIMBERS	
1	Acacia torta	Kakkincha
2	Anamirta cocculus	Karandakam
3	Erycibe paniculata	Irumbanvalli
4	Kunstleria keralensis	Kariveppilavalli
5	Merremia vitifolia	Manjavayaravalli
6	Mikania micrantha	Dhrirastrapacha
7	Mucuna bracteata	Mucuna
8	Myxopyrum smilacifolium	Chathuramulla
8	Pothos scandens	Paruvakkodi
9	Pueraria phaseoloides	Thottapayar
10	Salacia fruticosa	Ponkoranti
11	Sarcostigma kleinii	Vellodal
12	Sphenodesme paniculata	Njarambodal
13	Tetracera akara	Nakkuvalli, Kottavalli
14	Ziziphus oenoplia	Cheruthodali

32.Thettiyottu Kavu, Chekam, Kadakkamon

Date:- 14.02.2015 **KL/PPM-23**

Sl.no	Scientific name	Local name
	TREES	
1	Actinodaphne malabarica	Eyoli
2	Antiaris toxicaria	Aranthal, Maravuri
3	Artocarpus hirsutus	Anjili
4	Caryota urens	Anapatta, choondapana
5	Ficus hispida	Parakam
6	Hydnocarpus pentandra	Marotti
7	Litsea coriacea	Pattuthali
8	Macaranga petlata	Vatta
9	Terminalia bellirica	Thaanni
10	Xanthophyllum arnottianum	Madakka
	SHRUBS	
1	Canthium angustifolium	Kattaramullu
2	Chassalia ophioxyloides	Vellkurinji
3	Helicteres isora	Idampiri-valampiri
4	Meiogyne ramarowii	Panthalmaram
	CLIMBERS	
1	Anamirta cocculus	Karandakam
2	Cyclea peltata	Malathangi
3	Mikania micrantha	Dhrirastrapacha
4	Pothos scandens	Paruvakkodi
5	Salacia fruticosa	Ponkoranti
6	Sarcostigma kleinii	Vellodal
7	Sphenodesme paniculata	Njarambodal
8	Tetracera akara	Nakkuvalli, Kottavalli
9	Ziziphus oenoplia	Cheruthodali

33. Sastham Kavu, Pattazhi, Vadakekkara

Date :- 14.02.2015 **KL/PPM-9**

Sl.no	Scientific name	Common/local names
	TREES	
1	Archidendron monadelphum	Muthukolappan
2	Artocarpus heterophyllus	Plavu
3	Artocarpus hirsutus	Anjili
4	Carallia brachiata	Vallabham
5	Caryota urens	Choondappana
6	Dimocarpus longan	Poripoovam, Chempoovam
7	Ficus exasperata	Therakam
8	Ficus hispida	Parakam
9	Ficus virens	Chela
10	Holigarna arnottiana	Cheru, Charu
11	Hydnocarpus pentandra	Marotti
12	Lophopetalum wightianum	Venkotta
13	Macaranga peltata	Vatta
14	Mimusops elengi	Elengi
15	Olea dioica	Edana
16	Persea macrantha (*Machilus macrantha*)	Ooravu
17	Pterospermum reticulatum	Malayuram
18	Pterospermum rubuginosum	Ellooti
19	Sterculia balanghas	Thondi

20	Strychnos nux-vomica	Kanjiram
21	Vitex pinnata	Kaatumyla
	SHRUBS	
1	Antidesma acidum (*Antidesma diandrum*)	Asaripuli
2	Breynia vitis-ideaea	Pavalapoola
3	Canthium rheedei	Kattaramullu
4	Dracaena terniflora	Manjakantha
5	Helicteres isora	Idampiri-valampiri
6	Leea indica	Njellu
7	Nothopegia travancorica	
8	Tabernaemontana heyneana	Kundalappala
	CLIMBERS	
1	Anamirta cocculus	Karandakam
2	Anodendron paniculatum	
3	Argyreia hirsuta	
4	Artabotrys zeylanica	Kattumanoranjini
5	Asparagus racemosus	Sathavari
6	Butea parviflora (*Spathalobus roxburghii*)	Adambuvally, Valliplash
7	Calamus thwaitesii	Chooral
8	Calycopteris floribunda	Pullani
9	Cayratia pedata	Chorivally
10	Chonemorpha fragrans	Perumkurumba

11	Cissus latifolia	Chunnambuvalli
12	Cissus trilobata	Neelachunnambuvalli
13	Cosmostigma racemosum	Kakakodi
14	Dioscorea sp.	
15	Gnetum edule	Karuthodal, Oolakkodi
16	Hibiscus hispidissimus *(Hibiscus furcatus)*	Kalapoo
17	Ichnocarpus frutescens	Parvalli
18	Mikania micrantha	Dhrirastrapatcha
19	Millettia sp.	
20	Mussaenda frondosa	Vellila
21	Myxopyrum smilacifolium	Chathuramulla
22	Piper nigrum	Kurumulagu
23	Pothos scandens	Paruvakkodi
24	Sarcostigma kleinii	Vellodal
25	Smilax zeylanica	Kareelanchi
26	Sphenodesme paniculata	Njarambodal
27	Stenochlaena palustris	Climbing fern
28	Strychnos minor	Vallikanjiram
29	Uvaria narum	Narumpanal
30	Vigna pilosa	Neelapayar
31	Ziziphus rugosa	Thodali

Note: *This sacred grove has dense vegetation with very large trees. Two very large climbers viz. Artabotrys zeylanicus and Gnetum edule have reached the top of almost all the large trees.*

34. Mahadeva Temple Sacreed Grove, Randalum moodu, Pattazhi.

Date :- 14.02.2015 **KL/PPM-8**

Sl.no	Scientific name	Common/local names
	TREES	
1	Acacia auriculiformis	Acacia
2	Aglaia elaeagnoidea	Punnyava
3	Ailanthus triphysa	Perumaram
4	Aphanamixis polystachya	Chemmaram
5	Aporusa cardiosperma (*Aporusa lindleyana*)	Vetti
6	Artocarpus heterophyllus	Plavu
7	Bombax ceiba	Mullilavu
8	Buchanania axillaris	Kulamavu
9	Cinnamomum malabathrum	Vayana
10	Delonix regia	Poomaram
11	Elaeocarpus sphaericus	Rudrasham
12	Ficus bengalensis	Peral
13	Ficus religiosa	Arayal
14	Hydnocarpus pentandra	Marotti
15	Lagerstroemia speciosa (*Lagerstroemia reginae*)	Poomaruthu
16	Macaranga peltata	Vatta
17	Mangifera indica	Mavu

18	Mimusops elengi	Elengi
19	Pongamia pinnata	Ungu
20	Schleichera oleosa	Poovam
21	Sterculia guttata	Kavalam
22	Streblus asper	Paruvamaram
23	Swietenia macrophylla	Mahagani
24	Syzygium cumini	Njaval
25	Terminalia catappa	Thallithenga
26	Vitex pinnata	Kaatumyla
	SHRUBS	
1	Antidesma acidum (*Antidesma diandrum*)	Asaripuli
2	Canthium angustfolium	Kattaramullu
3	Chassalia ophioxyloides	Vellkurinji
4	Flueggea virosa	Perinklavu
5	Glycosmis pentaphylla	Panal
6	Grewia microcos	Kottaka
7	Ixora coccinea	Thetchi
8	Ixora lanceolaria	Cherukuravu
9	Ixora polyantha	Kalingi
10	Leea indica	Njellu
11	Meiogyne ramarowii	Panthalmaram

12	Memecylon umbellatum	Kasavu, Kayampoo
13	Tabernaemontana heyneana	Kundalappala
	HERBS	
1	Adiantum latifolium	
2	Alternanthera brasiliana	Chemcheera
	CLIMBERS	
1	Abrus pulchellus	Kattumuthira
2	Anodendron paniculatum	
3	Asparagus racemosus	Sathavari
4	Calycopteris floribunda	Pullani
5	Cayratia pedata	Chorivally
6	Chonemorpha fragrans	Perumkurumba
7	Cissus latifolia	Chunnambuvalli
8	Combretum latifolium	
9	Cyclea petata	Padakizhangu
10	Dalbergia horrida	Anamullu
11	Dalbergia pinnata var. acaciaefolia	
12	Derris scandens	Poonjali
13	Hibiscus hispidissimus *(Hibiscus furcatus)*	Kalapoo, Panachan
14	Hiptage bengalensis	Madhavilatha
15	Ichnocarpus frutescens	Parvalli

16	Maclura spinosa (*Plecospermum spinosum*)	Venninkodi
17	Mikania micrantha	Dhrirastrapatcha
18	Morinda umbellata	Neyvalli
19	Mussaenda frondosa	Vellila
20	Myxopyrum smilacifolium	Chathuramulla
21	Pothos scandens	Paruvakkodi
22	Rourea minor	Kuriel
23	Salacia fruticosa	Ponkoranti
24	Sarcostigma kleinii	Vellodal
25	Smilax zeylanica	Kareelanchi
26	Strychnos minor	Vallikanjiram
27	Uvaria narum	Narumpanal

35. Thundathil Kavu, Nadutheri, Thalavoor

Date: 14.02.2015 **KL/PPM-6**

Sl.no	Scientific name	Common name
	TREES	
1	Adenanthera pavonina	Manchadi
2	Ailanthus triphysa	Perumaram
3	Aphanamixis polystachya	Chemmaram
4	Caryota urens	Choondappana, Olattipana
5	Diospyros paniculata	Karivella
6	Diospyros peregrina	Panachi
7	Hydnocarpus pentandra	Marotti
8	Melicope lunu-ankenda (*Evodia lunu-ankenda*)	Kanala
9	Mimusops elengi	Elengi
10	Schleichera oleosa	Poovam
11	Xanthophyllum arnottianum (*X. flavescens*)	Madakka
	SHRUBS	
1	Canthium angustifolium	Kattukara
2	Chassalia ophioxyloides	Karutha-amalpori
	HERBS	
1	Desmodium gangeticum	Orila
2	Piper longum	Thippali

	CLIMBERS	
1	Abrus pulchellus	Kattumuthira
2	Acacia caesia	Incha
3	Anamirta cocculus	Karandakam
4	Calamus rotang	Chooral
5	Combretum latifolium	
6	Erycibe paniculata	Irumbanvalli
7	Pothos scandens	Paruvakodi
8	Sarcostigma kleinii	Vellodal
9	Strychnos minor	Vallikanjiram
10	Tetracera akara	Kottavalli, Nakkuvalli
11	Tinospora sinensis	Pothamruthu
12	Ziziphus rugosa	Juli

36. Parasseri kavu, Njarakkad Date : 14.02.2015

KL/PPM- 5

Sl.no	Scientific name	Local name
	TREES	
1	Adenanthera pavonina	Manchadi
2	Antiaris toxicaria	Maravuri
3	Aphanamixis polystachya	Chemmaram
4	Aporusa cardiosperma (*Aporusa lindleyana*)	Vetti
5	Artocarpus hirsutus	Anjily
6	Bombax ceiba	Mullilavu
7	Caryota urens	Anapatta, choondapana
8	Diospyros peregrina	Panachi
9	Elaeis guineensis	Ennapana
10	Hydnocarpus pentandra	Marotti
11	Litsea coriacea	Pattuthali
12	Macaranga peltata	Vatta
13	Mangifera indica	Maavu
14	Mimusops elengi	Elengi
15	Olea dioica	Edana
16	Saraca asoca	Ashokam
17	Schleichera oleosa	Poovam
18	Sterculia balanghas	Thondi
19	Streblus asper	Paruvamaram

20	Strychnos nux-vomica	Kanjiram
21	Vitex pinnata	Kattumyla
22	Xanthophyllum arnottianum	Madakka
	SHRUBS	
1	Allophylus cobbe	Mukkanpezhu
2	Canthium angustifolium	Kattaramullu
3	Chassalia ophioxyloides	Vellkurinji
4	Eupatorium odoratum	Communistpacha
5	Glycosmis pentaphylla	Panal
6	Ixora lanceolaria	Kattuthetchi
7	Meiogyne ramarowii	Panthalmaram
8	Memecylon umbellatum	Kashavu, Kayampoo
9	Tabernaemontana heyneana	Kundalappala
	CLIMBERS	
1	Anamirta cocculus	Karandakam
2	Artabotrys zeylanica	Kattumanoranjini
3	Asparagus racemosus	Sathavari
4	Caesalpinia bonduc	Kazhanchi
5	Calycopteris floribunda	Pullani
6	Derris scandens	Poonjali
7	Hibiscus hispidissimus	Kakkapoovu, Panachan
8	Ichnocarpus frutescens	Palvalli
9	Jasminum flexile	Kattumulla
10	Merremia vitifolia	Manjavayaravalli

11	Mikania micrantha	Dhrirastrapacha
12	Myxopyrum smilacifolium	Chathuramulla
13	Pothos scandens	Paruvakkodi
14	Salacia fruticosa	Ponkoranti
15	Sarcostigma kleinii	Vellodal
16	Smilax zeylanica	Kareelanchi
17	Ziziphus oenoplia	Cheruthodali

Note: *In this sacred grove large trees of Aphanamixis polystachya, Bombax ceibba and Strychnos nux-vomica are seen.*

CHAPTER V

ECOLOGICAL STATUS.

Sacred groves which are rich in biodiversity are of immense ecological significance. 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 chapter with the limited scope to undertake a study on this vast subject, the observations made with the basic principles relating to ecological status have been presented.This is confined to vegetation, soil conditions, faunal significance and water conservation.

Vegetation.

Tree crop- The vegetation has certain distinctive ecological characteristics such as clear tiers of trees, shrubs herbs, besides the climbers, epiphytes parasites etc. The commonly seen trees in the Sacred Groves are *Holigarna arnottiana* (Charu), *Hopea ponga* (Thambakam), *Strychnos nux-vomica* (Kanjiram), *Alstonia scholaris* (Ezhilampala), *Hydnocarpus pentandra* (Marotti), *Sterculia balangas* (Thondi), *Adenanthera pavonina* (Manchadi) and Artocarpus hirsutus (Anjili). The other trees enumerated are *Vateria indica* (Vellappine), *Diospyros peregrina* (Panachi), *Lophopetalum wightianum* (Venkotta), *Antiaris toxicaria* (Maravuri), *Vitex pinnata* (Myla), *Aporusa lindleyana* (Vetti), *Syzygium caryophyllatum* (Karimnjara), *Calaophyllum elatum* (Cherupunna), *Madhuca neriifolia* (Attuilippa), *Syzygium cumini* (Njaval), *Ailanthus triphysa* (Perumaram), *Buchanania axillaris* (Kulamavu), *Chukrassia tabualaris* (Chuvannakil), *Achronychia pedunculata* (Verukutheeni), *Ficus mysorensis* and other species of Ficus etc.

Rare and threatened species such as ***Myristica malabarica*** **(Ponnampoovu),** ***Gymnacranthera farquhariana*** **(Undappayin) and** ***Syzygium travancoricum*** **(Kulavetti)** were also enumerated from the Sacred Groves.

The diversity among shrubs and herbs are comparatively low. The commonly found shrubs are *Ixora coccinea* (Thetchi), *Chassalia ophioxyloides* (Vellakurinji), *Tabernaemontana heyneana* (Kundalappala), *Memecylon umbellatum* (Kasavu), *Pavetta indica* (Pavetta), *Grewia microcos* (Kottaka), *Leea indica* (Njellu), *Clerodendron infortunatum* (Peruvalam), *Canthium rheedei* (Kattaramullu),

Antidesma acidum (Asaripuli), *Psilanthus travancorensis* (Pushkaramulla), *Gomphia serrata* (Valarmani), *Strebles taxoides* (Kadala), *Syzygium zeylanicum* (Poochapazham).

The most notable feature of the Sacred Groves of Kollam district is the preponderance of woody climbers. The frequently seen climbers are *Dalbergia horrida* (Anamullu), *Uvaria narum* (Narumpanal) *Strychnos minor* (Vallikanjiram), *Sarcostigma kleinii* (Vellodal), *Gnetum edule* (Oolakodi) and *Calamus rotang* (Chooral).The other notable woody climbers are *Cissus latifolia* (Chunnambuvally), *Rourea minor* (Kooriel), *Calycopteris floribunda* (Pullani), *Erycibe paniculata* (Erumathali), *Tetracera akara* (Nakkuvalli), *Mallotus repandus* (Mulamkumbam) etc. Medicinally important climbers seen in the Sacred Groves are *Morinda umbellata* (Neyvalli), *Pothos scandens* (Paruvakkodi), *Salacia fruticosa* (Ponkorandi), *Salacia chinensis* (Ekanayakam) *Chonemorpha fragrans* (Perukrumba), *Tinospra cordifolia* (Chittamruthu), *Hugonia mystax* (Modirakani, Munamadakki), *Flagellaria indica* (Panambuvalli), *Cosmostigma racemosum* (Vattuvalli) etc. The climbing fern, *Stenochlaena palustris* is also noted in several Sacred Groves. The very rare climber *Strophanthus wightianus* (Kambetti) so far known only from the Vanadanum Kavu of Alapuzha is now recorded from three sacred groves of Kollam taluk (Id nos. 63,90,& 91). Another rare very large woody thorny climber, *Maclura spinosa* which was not collected earlier from Kerala is enumerated from the Jadayan Kavu (Kottarakkara No.111) and Pazhangalam Sacred Grove, Kollam(Id.no.63). *Kamettia caryophyllata*, an endemic climber of Western Ghats is also recorded from the Poruvazhi Kollasseril Devi Temple Sacred Grove,(Id.no.KNTH-156) Sasthamkotta

Though most of the Sacred Groves are protected with compound wall and fence, the invasion of exotic weeds is threat to the biodiversity. Exotics such as *Mikania micrantha, Eupatorium odoratum, Hyptis suaveolens* and *Lantana camara* are the main exotic weeds. Observations with respect to some of the SGs are given below.Invasive species come up when native species are not able to dominate indicating poor echosystem and degradation.

Karippur kavu-Valakom(KTR-20): This is unique because of the dominance of indigenous tree species. The undergrowth is dense with *Stebulus taxoides.*

Nagaraja kavu-Alayamon Anchal-(PLR1): Here large trees are almost absent. Climbers like *Calycopteris floribunda* and *Millettia* sp. have covered the canopy all over. There is a big clump of *Calamus thwaitesii* with several large mature culms.

Ayikottu kavu-Punalur (PLR-55): This area is partially marshy. Exotic weeds like *Mikania micrantha, Pueraria phaseoloides, Hyptis capitata,* and *Alternanthera bettzickiana* are very common. In the marshy area there is there is dense growth of *Colacasia esculenta*. Though there are 17 tree species, large trees are very few.

Kollanga muthappankavu.-Kadakkamon (PPM-22): This SG is spread over a steep slope. There is dense growth of vegetation with very large trees. Two large climbers *Artabotrys zeylanicus* and *Gnetum edule* have reached the top a many tall trees. Same is the case with Sastha kavu Pattazhi.(PPM-9)

Keystone species

Apart from direct benefits of biodiversity conservation, indigenous societies have always sensed the indirect benefit which flow from sacred groves through ecosystem functions. There are some species, though present in small numbers, play very important role by their unique abilities such as nitrogen fixation and attracting many birds 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.

i. Importance of value index (ivi)'ii - Position of the canopy, iii - Position of growth form, iv. Association with other species (epiphytic growth), mobile links (pollinators, dispersers) ,v. Capacity to supply food resources for faunal diversity, vi. Succession status-light demanding/shade tolerant,vii- Biomass and nutrient allocation pattern to shoot and root.,viii. Shoot / root ratio of seedlings.'ix. Nutrient input to the system**.**

Once such species are removed from an ecosystem it may create dramatic changes in the rest of the community. Much 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 many of the SGs Ficus species are present. Another attraction is that the different species of Ficus bear fruits in different seasons also

.The strong winding roots of ficus prevent soil erosion. It is because of these influences on other community these species are called keystone species. There can be more such species if studies are taken up in this direction.

Taking into consideration of the essential qualities of keystone species the following species seen in these SGs are suggested for consideration.

i. Vateria indica-(Dipterocarpaceae). This is a shade bearer having no problems in regeneration. This has profuse seeding habit. It occupies the canopy in a spreading manner and flowers during January-March.

ii. Caryota urens (Palmae)-This is almost very common in the SGs.It's regeneration status ie excellent. Most of the time it is in flowers or fruits. It is attracted by many birds and mammals. Bats always finish it in course of time.It provides toddy.

iii. Mimusops elengi-(Sapotaceae)-This is a graceful tree with dense crown. Flower profusely during december to February.

iv. Holygarna arnotiana-(Anacardiaceae) This is shade tolerant. Flowering during Jan-Feb. It' fruit is liked by porcupine.This also is a common tree in SGs.

v. Schleichera oliosa-(Sapindaceae) Flowering during February. Produces plenty of seeds.The tree is draught hardy and shade tolerant.It regenerates well both from seeds and roor suckers. It also coppices and pollards in natural conditions.

Regeneration

The species composition of trees in sacred groves consists of light demanders, shade bearers and shade tolerants. 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.

Natural regeneration in humid tropical forest is highly complex and least understood.In a closed canopy, it depends on gaps created by natural agencies like wind, old age of trees and so on. Stool shots generally arise from short lived adventitious buds formed between the wood and bark of the stump.

Natural regeneration depends on the following-

Seed production, age of the tree ,predation of seeds, failure of ovule development, interval of seed production., dispersal and germination-In the case of orthodox seeds -viability is long. As regards recalcitrant seeds, they are killed if moisture content is below a certain value. Large seeds do not germinate unless they are buried beneath the litter or mineral soil as seen in the case of *Diospyros perigrina*. It is a shade bearer. Its seeds are disbursed by bats and monkeys. If exposed to sun for longer period it seldom germinate and grow. This is confined to wet locations of coastal belt. Regeneration in the form of root succers is noticed in respect of *Charallia brachiata and Struchnos nux-vomica* are noticed in some like KTR 24.

Natural regeneration of shrubs and climbers is not a matter of concern since they multiply even under reduced light conditions. As most of the SGs are small in extent unlike large extent of forest growth, light penetration from lateral side is also possible which mitigate adverse condition for the growth of light demanders. Natural regeneration is generally good in the case of Anjily (*Artocarpus hirsutus*), Manchady (*Adanenthera pavonina*), Charu (*Holigarna arnotiana*), Vetty (*Aporusa lindleyana*), Uletty (*Caryotta urens)* ,Marotty (*Hydnocarpus pentandra*), Kanjiram (*Strychnos nu-vomica*), Kulamavu (*Machilus macrantha*), Thanni (*Terminalia bellirica*), Vayana (*Cinnamomum malabathrum*) etc. which are common in almost all the sacred groves.

Certain species which are shade tolerant to a great extent show lesser frequency of occurrence in the total vegetation. *Garcinia cambogia* regenerates well in many sacred groves and was noticed during inspections. But the growth is delayed and that may be the reason why its number among mature trees is low. *Strychnos nux-vomica* (Kanjiram) is a shade tolerant and drought hardy species. It coppices well and also produce root suckers. The root suckers are profuse in certain areas.*Borassus flabellifer* (karimpana) which is generally abundant in southern parts is less so in

Kollam *Syzygium cuminii* (Njaval) can tolerate shade to some extent when young but it needs more light to grow well. But this is rare in the coastal belt.

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. This is observed in gardens and homesteads .But such profuse regeneration is not seen in SGs It is understood from literature that there are chances for pods of *Saraca* get infected by pests before they become ripe to disperse mature seeds. However this species is almost absent in SGs of Kollam.

Some of the species though shade tolerant when young need overhead light to grow well after they reach sapling stage. *Diospyrus ebenum* (Ebony) and *Alstonia scholaris* behave this way. *Phyllanthus emblica* is rarely seen in the sacred groves. Natural regeneration is very poor due to low viability of seeds and sensitivity of seedlings to shade.

Again natural regeneration of some species which are basically deciduous in nature is noticed in the sacred groves. *Holarrhena pubescens* is drought hardy and sensitive to shade. The regeneration of this plant along with mature ones is seen on the boundaries of some of the sacred groves. Sandal wood is generally a light demander though it can tolerate shade to some extent. But we have noticed more sandal saplings in many along fringes.

Species not noticed in certain regions

As already stated no marked difference can be highlighted in the variation of composition in the different regions, from what has been observed. During detailed inspection of selected SGs some differences are noticed between coastal area and other regions in species composition though such observations cannot be taken as definite and conclusive.

Species not seen in coastal SGs.

Antiaris toxicaria (Arayanjily)

Myristica magnifica (Kothapine) (Panthalmaram)

Terminalia bellirica (Thanni)

Spondias pinnata (Ambazham)

Schleichera oleosa (Poovam)

Meiogyne ramarowii

Species seen in Coastal SGs.but un-common in others

Diospyros perigrina (Panachi) *Hopea ponga* (Irumbakam)

Callophyllm elatum (Cheru punna), *Artabostrys hexapelatus* (Manorengini)

Uvaria narum (Narumpanal) *Diploclisia glaucescens* (Vattoli)

Morinda umbellata (Neyvalli)

Soil Conditions in Sacred Groves.

Periodicity of litter fall varies according to seasons. It starts by winter and goes on till March. Fine root production starts in Feb-March and reaches its peak during rains .Studies indicate that litter is the main store house of Nitrogen than fine roots and microbial biomass. Litter decay starts by first few showers and reaches its peak in the rainy season. It releases nutrient fast during rainy season when the up take by plants is very high. Litter and fine roots normally add phosphorus to soil, but relatively less. The input of N is very much higher than that of other nutrients. Mineralization (by which humus is converted into inorganic nutrients) during wet weather and immobilization during the dry season is common as regards N is concerned. Release of nitrogen from decomposing litter is double that from fine roots. When Nitrogen is released in plenty, gall develops and is visible on leaf surface. Gall is an abnormal swelling of plant tissue by parasitic organisms. Parasites stimulate production of galls by secreting chemical irritants on the plant tissue.

SOIL TEST

Soil samples were taken from 11 sacred groves at different locations and at nine sites outside the SGs but close to them for comparison. The results are given in the tabular form. Since the uptake of nutrient from soil is at its peak during rainy season the possibility of losing nutrient in the samples cannot be ruled out. The result of soil test shows that in most of the cases availability of organic carbon is high even though the samples were taken after the areas received very good showers. The high concentration of fine roots in surface layer of soil facilitates rapid uptake of nutrients released from decomposing litter.

Organic Carbon - (OC) is the most important constituent of the soil which influence the plant growth as a source of energy and a trigger for nutrient availability through mineralization. An increase in OC leads to greater biological diversity both in flora and soil organisms. ***Phosphorus*** is the main supplier of microbes and not the litter or fine roots. It also helps growth of roots. When acidity is high phosphorous is

less active. ***Potassium*** is more in clayey soil but it is not in the form for absorption by plants. It is helpful in protein synthesis, opening and closing of stomata and in photosynthesis. Potassium deficiency is common in sandy soils. When the level of potassium and phosphorus is deficient to match the available nitrogen besides general growth, fruiting and flowering of plants retard. These are the basic concepts based on which the effect of soil test result on the vegetation of sacred groves is examined.

The number of soil samples taken is not sufficient enough to make authentic conclusions on the occurrence of various species. Moreover, such a detailed study is beyond the purview of this report. One of the main observations made is that in alkaline soils the species diversity is very low. Again, in respect of SGs having alkaline soil, the outside sites have acidic soil.

Samples taken during July 2015.

Result of Soil Analysis from Sacred Groves and outside SG in Kollam District.

Sl. no	Sacred Grove/ Taluk/ Id.no.	pH	OC	Phosphorus	Potassium	OUTSIDE
	Uliyakovil Sri. Durga Bhagavathy Kollam-77	3.97 Acidic	1.15 Medium	32.16 High	145.6 High	5.98 0.278 35.04 100.00
2	Sri.Sankraranaraya na-Idliyappan Kollam-73	5.28 Acidic	1.15 Medium	1188	347.20 High	5.98 1.71 79.2 358.4
3	Banglavil kavu Karunagappally-43	6.18 Alkaline	0.361 Low	84.96 High	145.6 Medium	3.97 0.48 12.96 123.20
4	Meppilamon Kavu Punalur-49	4.55 Acidic	3.45 High	8.16 Low	504.0 High	----nil---
5	Kavanal Kavu Kottarakara-121	4.43 Acidic	1 Medium	45.6 High	100.8 Low	---nil----
6	Mulavana Kavu Kottarakara-110	5.20 Acidic	2.12 High	24.48 High	425.6 High	4.44 0.987 19.68 358.40
7	Mullikalakavu Kottarakara-121	4.30 Acidic	3.70 High	12.48 Medium	268.88 Medium	4.45 1.26 9.60 235.20
8	Aikkottu Kavu	4.94	2.91	10.08	414.4	4.70

	Punalur-53	Acidic	High	Medium	High	2.30 7.68 235
9	Thundil Kavu Pathanapuram-6	6.44 Alkaline	2.8 High	24 Medium	470 High	5.38 1.26 40.3 302.4
10	Kollasseril Kavu Kunnathur-156	3.93 Acidic	2.17 High	14.4 Medium	100.8 Low	---nil---
11	Kunnattu Kavu Kunnathur-63 Sooranad	4 Acidic	1.13 Medium	14.88 Medium	78.14 Low	--nil---

The result reveals that OC is generally high in almost all SGs except in Benglavil kavu (Karunagappally-KAR-43). In this area pH is high showing high alkalinity. The observation is that the species diversity is low. Though the density of vegetation is very thick there are only around ten species of trees with very few species of shrubs and climbers. In Thundthil kavu (Pathanapuram PPM-35) where the soil is again alkaline, species diversity is low even though OC is high. Though in these two SGs soil is alkaline, out side nearby area it is not so. When compared to Kollasseril kavu (KTH-156) -soil is highly acidic, high OC, high and low potassium- species diversity is much higher .As many as 19 tree species, 13 shrubs and 21 climbers do exist in this.

In Kunnattu kavu (KTH-63), Kollaseril kavu (KTH-156),and Kavanal kavu (KL/KTR-110), the soil condition is almost same with low potassium .Here the typical species such as *Vateria indica, Lannea coromandelica* and *Carallia brachiata* are seen. These species are seldom seen in other areas.

In the Sri. Durga Bhagavathy Kavu ,Uliyakovil, (KL/Klm -75) the soil is conspicuously sandy and it is highly acidic. Here species diversity is high and growth of climber is vigorous. (See picture- Plate-V). In Mullikkala Kavu (KL/Ktr) there is abundance of species in all categories. Heres oil is acidic, OC high and P&K are medium. There are 23 species of trees, 16 , shrubs and 32 climbers.

Soil conservation

Rapid litter decomposition and the root mat development with plenty of fine roots on the surface layer of the soil support large above ground biomass. Many micro organisms, invertebrates, fungi etc flourish. Root mat prevents the nutrients from leaching out. This is visible in many SGs when visited soon after rainy season. The spreading net work of large trees prevents to a great extent soil being washed away.

Water conservation.

Almost all sacred groves are associated with ponds. The water from the pond is used for temples rituals and poojas and therefore, kept clean. As the ponds are either within the groves or along the boundary of the groves, these will not dry up during summer. The ponds play a key role in maintaining the water table of the area around the groves The ponds associated with Sacred Groves in each taluk and the percentage is tabled below. It is noted that pond density is more in Sacred Groves of the coastal plains. It can be seen that the maximum number of ponds are the SGs of Karunagappaly taluk while lowest percent is in Kunnathur taluk.

Name of Taluk	Total SGs	No. of Ponds	
Kollam	147	22	15 .0 %
Karunagappally	214	100	46.7 %
Kunnathur	255	22	9 %
Kottarakkara	191	38	20 %
Punalur	65	12	18 %
Pathanapuram	23	7	30 %

In one kavu has two ponds. According to them, they have seen four types of tortoise ,such as white, ash coloured , black and one with star design. They also claim that it was reported in the press some time ago

Carbon sequestration

Sacred groves cannot be taken as an isolated system. By its 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 bio-diversity organizations.

Faunal significance

The sacred grooves harbour numerous birds, butter flies and bats apart from primates and small mammals.(Chandran-1993). Number of tortoise live in ponds attached to SGs. In one SG- there are two varieties. On the ground there are termites, ants and earth worms which play an important role in building up soil .Around 100 sp. of mammals,476 sp. of birds, 156 sp. of reptiles,91 sp. of amphibians and 196 sp.of fishes are reported to be available in the sacred groves of Kerala.(KFRI Reserch Report.406) Though the above information indicates the potential giving an overall picture, in these pockets of SGs only some of them are available depending on the conditions of the habitat. The animals found are those which nested there in like snakes, frogs, tortoise, lizards etc. and those visit the site for food and temporary shelter like bats. A clear study on this fauna would involve long period of periodical observation by experts, not to speak of the cost. In this report the study team noted the animals seen directly and also gathered information from the custodians or local people and also available literature specific to such cases. Bats and Peacock are the animals very frequently visiting these SGs. Termite mounts are rarely noticed even though they are present inside dead wood and below soil.

Role of termites

Termites are insects that live in colonies composed of individwals (i0 from more than one generation ,(ii) those give co-operative care of the young and (iii) those showing reproductive division of labour. Some species live within wood and others inside soil matrix in nests that are described as diffuse gallery systems. There are still others which while living inside soil build mounds emerging from the soil surface.

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, fresh mammalian carcasses.Some termites feed directly on the wood of living trees while there are others which depend on humus in the soil. The former type posses an intestinal fauna of flagllate protozoa which initiate the digestion of cellulose . The

other one depend on fungi and bacteria acting on food supply before it is eaten.One sub-family of *Termitidae* collects sound wood and stores it (*Macrotermitinae*) within the nest to be worked on by by specific fungi. Another type depends on the humus present in the soil for nourishment and utilizes large amount of excreta for construction of mounds. Studies on termites also reveal that they have no sight and they are deaf. They recognize their nest mate by their special odor. 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. Here evaporation and desiccation remain low. Cellulose is the desired product for them though they feed on grain, dung etc. Lignin from plant particle is used to reinforce nest material and shelter tubes though it is non-digestible. They eat their dead to gain protein-a case of cannibalism. In dry conditions termites are the main decomposers of litter due to their ability to avoid dehydration and face prolonged desiccation.

The influence of termites on living trees adversely affects timber production. But their activity on fallen and dead wood in sacred groves improve the soil fertility. Termite take active role in cellulose processing and soil bioturbation. In doing so they establish symbioses with both microbes in the guts and many organisms in their mounds. They act on soil and litter by feeding and excavating soil. They break down litter into smaller particles and expose inner surfaces of litter for early action by bacteria and fungi..

Bats

The bats visiting the SGs fall under the category of fruit bats and they form abundant group of mammals. They are seen roosting in many sacred groves. They play important ecological roles as prey and predator, arthropod suppression, seed dispersal ,nutrient distribution etc. As studies indicate that the economic benefits from bats in general are, biological pest control, plant pollination, seed dispersal, guano mining, bush meat and medicine, aesthetic value, education and research. In spite of the economic benefits, damage caused on human, livestock and agricultural crops are also reported. They have enemies also such as amphibians, reptiles, owls etc. Most of the bats are predated during roosting or foraging.They form hosts for parasites as we learn about bat fleas, bat flies, bat mite and bugs which live on the skin surface and in fur of bats.

Although pollination by bats is relatively uncommon, in arid and semi-arid habitats agave and cacti are pollinated by bats. Seed dispersal in respect of fleshy fruits done by bats is tremendous. The night foraging fruit bats are more active than birds in foraging fleshy fruits, covering long distances and defecate during flight and thereby contribute seed dispersal.

The guano is having high nutrient potential and it is dispersed over landscape during flight. Bat guano is reported to support diversity of organisms like arthropods, fungi,bacteria and lichens.

With the basic information as described above when we watch their role in sacred groves we feel that many of the observations and their behavior remain unanswered. Generally the bats seen in sacred groves are those having yellow colour at the abdomen which is visible when they hang upside down while roosting. They are commonly seen roosting in trees like, Veteria, Elanji, Jnaval, Elavu Punna and Pana. Evidently they prefer trees bearing fleshy fruits. But we have not come across bats roosting on Antiaris toxicatia.It is presumed that they avoid this tree due the toxic sap this tree contain in their bark.

Another observation is that they are not very common in sacred groves. But there are many SGs where bats are not reported. Though they are seen in one SG in the nearby SGs they are absent. They are seen only in very few SGs attached to temples. Here again they occupy isolated corner where disturbance is least. One reason for their selection of SG may be least disturbance from people, availability of fruit trees not only in the SG but in surrounding area supporting palms like coconut, and areca nut. Apparently they avoid crop applied with pesticides . Local people complain about the damage they cause to the agricultural crop like palms.

There are instances where the trees are destroyed by their roosting in SGs. Caryotta urine , tall Vateria and Adenanthera trees and also coconut and areca nut palms... While some of the custodians raise this complaint against bats, most of the custodians of SGs supporting bats have no such problem. Another observation is that they also roost in trees with out any leaves. They are not bothered even where loud speakers are fixed on trees.on which they hang in connection with festivals. (See picture- plate VI)

Peacock

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 reported from many of the SGs. 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, rhodents, 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 easly by people. They escape from falling victim to the hunters as long as they are in the vicinity of sacred groves.

Indigenous Fishes

Indigenous fishes like varal-snake head (*Channa striatus*) and kaithakkora – climbing perch *(Anabas testudineus*) were noticed in the ponds. These fishes have almost disappeared from the ponds in the villages due to filling of ponds and introduction of exotic fishes. The pond before converting in to fish farms, the water in the pond is treated with chemicals to eradicate indigenous fish fauna.

The ponds also harbour different kinds of tortoise. In Palayil Devi Kshetra Kavu situated in Sooranad of Kunnathur Taluk (No.KNTH-14) there are two ponds. Four types of tortoise were reported from here such as black, white, ash coloured, with star design etc. Thus besides meeting the water requirements of the sacred groves, the ponds play a key role in protecting the vanishing indigenous fauna.

CIVET-(Toddy cat)

This elusive nocturnal animal is mostly herbivorous. Besides fruits they feed on small insects. They relish palm flower sap and has earned the name-Toddy Cat. They are very commonly reported seen in SGs. But nowhere we could get any report about the damages they cause to the plants excepting feeding on fruits.

CHAPTER VI

SOCIAL DIMENSIONS

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 four categories are identified namely Private management, Community management, Public management and management by Government supported Institutions like Devaswam Board. Even among them there are various sub-types according to the ownership.

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 698 such SGs coming under private category in this district. The sub-groups are:-i. Kudumbakavu, ii. Kudumba Trust/Committee and Community managed.

Kudumbakavu.

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 the stipulations are there for the maintenance of sacred grove and allotment of additional area for generating income to maintain them. .

Kudumba Trust / Committee

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/ committee 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.

Community Management

There were instances in which large patches of land supporting vegetation were handed over to certain communities in the past by then ruling Maharajas or rich Brahmin or Nair families (*Tharawad)* as a matter of compensation for service rendered. Most of these communities are *Parayar, Kuravar and Pulayar.* Here also the legal status of land remains private and the ownership rest with a community. They have certain understanding among them as to the selection of leaders for management. There are around 75 such SGs. The peculiarity in this case is that no idol is kept but presiding deity is designed as an imaginative deity and a plat form is constructed showing the place of deity. In most such cases the rituals are conducted by the community members only.

II. Public Management.

In this case the ownership goes to a public body which governs the management according to generally approved legal formula. 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 two sub-categories namely Public Committee and Public Trust.

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. Another instance is when the land under an SG is purambke 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 120 SGs listed under such committees.

ii. Public Trust

This is a more solid and strong institution having more legal backing. They adopt a byelaw as stipulated by Registrar of Societies and obtain registration as per rules. They elect president, secretary, treasurer and committee members and follow their activities according to the duties and responsibilities stipulated in the byelaw. The circumstances leading to the constitution of public trust are the same as in the case of Public Committee.

III. Devaswam Board.

There are SGs attached to Temples under the management of Devaswam Board. temples are constructed by the custodians which were subsequently taken over by Devaswam Board for management. The SGs of this category was formed in this manner. 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..

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	Public Trust	Devaswam Board	Total
Kolaam	116	15	14	2	147
Kunnathur	211	22	4	18	255
Karunagappally	190	15	6	3	214
Kottarakara	134	34	15	8	191
Punalur	38	23	2	2	65
Pathanapuram	9	11	1	2	23
Total	**698**	**120**	**42**	**35**	**895**

The private category include both Kudumba Kavu and a small percent of community owned SGs.

B. Socio-economic Condition

The socio-economic condition prevailing among the people around the sacred groves is very important as it influence the stability of these virgin patches of vegetation. The main stake holders are the custodians, the people employed and engaged in the management of SGs, the devotees and the shopkeepers etc.An attempt has been made to gather data on the expenses in managing the affairs of SGs, the income and employment generated . Out of the 895 sacred groves the custodians fall under various categories as described above. Most of them are private owners which we call Kudumbam as well as community. .The socio-economic condition depend on the activities, rather the rituals, which generate flow of funds for expenses and income. Custodians will have to spend money for payment of honorarium or salary to priests, supporting staff and other accompaniments. Income is received from devotees for various rituals they place oder as offering and fixed rate are decided by the custodians.

An attempt has been made to gather data on this aspect by contacting the stake holders mainly the custodians or their representatives . As many as ten percent of them coming under different categories have been contacted. The data reveal that much variation is not there as regards those under Public Trust, Devaswam Board and Public Committee. But marked variation exists among the privately owned SGs both in the type, frequency and time of rituals and payment to employees. Taking these aspects into consideration the estimation of level of employment, expenditure and income has been made on a very conservative method which would project only the minimum

1. Private SGs

Kudumba kavu owned by familes

Irrespective of the deity every day lighting lamp is done. Every month on *Ayilyam day,* Pooja is performed except in four months Julu to October, corresponding to Malayalam months –*Edavam to Chingom.*

Sl.no	Item	No. of employees	Expenditure/yr	Income/yr
1	Daily lighting - cost of oil etc.1500x12		18000.	6000
2	Remuneration to the employee-	1	12000	
3	Ayilya pooja Priest- 1x2000 Assistant 1--1000 Total 3000x 8months		24000	1500x8=12000
4	Cost of provisions etc. 1000x8		8000	
5	One special pooja or poor feeding or festival or 41 days "Vayana" etc, including cost of provisions and payment to priest &associates		50,000	75000
	Total per year	**1**	**1,12000**	**93000**

Note:- .

Item-2.In many Kudumba SGs, one member from the family lights the lamp. But there are instances where a person is assigned this job..

Income is from devotees by way of offering prayers or donations.

Total expenditure in Kudumba Kavu is usually more than income and the difference is met by the members of the families.

There are a few SGs owned by private people where the income is much more running toRs. two or three lakhs and items of rituals and folk art are evidently many.

(b) Community owned SGs.

In this case the members of the community namely Pulayar, Kuravar etc themselves attend to poojas and up keep of the sacred grove. This is an average case. Expenditure is also less except in cases where the community owned SG is taken over by a Local(Public) Committee.

Sl.no	Item	No. engaged	Expenditure/yr	Income/yr
	Cost ofLighting lamp 500/month		6000	10000
	Remuneration for lighting and cleaning surroundings	1@1000/m	12000.	
	Yearly pooja		30000	40000
	Personal expenses of Head of community		6000	
		1	**54000**	**50000**

Note:- What is given above is an average case. Generally in such SGs the community do not show interest in making it a grand affair. Their only interest is in maintaining their faith and keep it within their fold as long as possible. Income is from devotees. Most of the expenditure is met by themselves. But there are instance like that of SG no. 11 and 60 of Kollam Taluk where many rituals and folk arts are performed incurring large amount ,mostly by way od donations and offerings

Public Committee

The circumstances under which such committees are constituted has been described above. This mostly include community SGs, SGs on Puramboke land and those which require protection from encroachment.

Sl.no	**Particulars**	**No. engaged**	**Expenditure/yr**	**Income**
	Cost of provisions for daily pooja @ 3000/m		36,000	
	Pooja -Santhi-1@7000/m Assistant for upkeep and support-@ 300/m	2	120,000	Offerings-100,000
	Feeding poor people Organizing “Vayana” for atleast 7 days-etc as a festival		1,50,000	300,000
		2	**3,06000**	**4,00,000**

Note: *All other activities are carried out by the members and any income received over and above expenditure is utilised for the improvement of the sacred grove.*

Most of the items are sponsored by the devotees y way of offerings or donations.

Public Trust

In this case there is more legal backing in the activities and management goes according to a specific schedule. The activities are more and payment to employees is higher.

Sl.no	Particulars	No. engaged	Expenditure	Income
	Cost of provisions for pooja@ 10,000/m		120,000	
	Pooja- Santhi-1 @ 10000/m Kazhakom-1 @5000/m Sweeper-1 @ 3000/m	3	2,16000.	2,50,000
	Accountant-1@ 5000/m	1	60,000	
	Festivals including Vayana, Ayilya pooja during different occasions-		1,50,000	5,00,000
	Total	4	5,46000	7,50000

Note: *In most of the SGs under Public Trust, a small set up for temple is also seen and this accounts for higher expenditure and income. Since these temples are originated on account of the sacred grove, they are considered as part of the SGs.*

Devaswam Board.

Under Devaswam Board, generally the sacred grove has only secondary importance in the conduct of poojas when compared to the main temple.

Sl.no	Particulars	No. engaged	Expenditure	Income
1	Santhi-senior 1@20,000/m Santhi-junior 1@ 15000/m Kazhakom 1 @ 13000/m Mucical group-2 @10000each/m	5	8,16,000	
2	Accountant @ 15000/m Sweeper 2 @ 10,000/m	3	1,80,000 2,40,000	15,00,000
3	Total		12,36,000	15,00,000
4	**FOR Sacred Grove**			
	One assistant@13000/m	1	1,56000	
5	Aylyapooja 5000x8		48000.	100,000
6	**Total for SG**	**1**	**204,000**	**100,000**

***Note**:-In these cases, Ayilya pooja is the only main pooja and all other expenses and income goes with main temple.*

Annual Expenditure and Income **Rs. Lakhs**

Category	Persons employed	Salary paid	Total expenditure including salary	Income from devotees .
Kudumba Kavu (603)	603	72.36	675.36	560.79
Community owned(95)	95	11.40	51.13	47.50
Public Committee(120)	240	144.00	367.20	480.00
Public Trust (42)	168	115.92	229.32	315.00
Devaswam Board(35)	35	54.60	71.40	35.00
Total	**1141**	**398.28**	**1394.41**	**1438.29**

In addition to the above there are a number of persons who meet their lively hood by running hotels and shops to cater the needs of the population arriving at the SGs for *Darsanand* and attending other functions.But this is not the case with all the SGs. Here again with the information gained during visits to all the sites, a minimum number of SGs would be around 50% which promote this. Also taking one hotel and two vendors it would amount to three.This accounts for (895x 50%x 3=1342)—say 1350 shopkeepers.

Thus the entire effect of sacred groves on the socio-economic condion financially in an year in Kollam District can be safely assumed as below :-

Number of persons on regular employment-	**1141**
Amount of remuneration paid to them-	Rs. 398 lakhs,
Expenditure for all activities on the part of custodians-	Rs. 1390 lakhs
Amount of income received from all sources-	Rs. 1438 lakhs,
No. of others in business depending on Sacred groves.	**1350.**

Note- The above estimation gives an idea of what could be the minimum.

CHAPTER VII

SOCIO CULTURAL ASPECTS

Deities/Worship/Folklore/ Folk Arts/ Idols

Deities and Worship

Kerala had been geographically isolated, due to the barrier created by the Western Ghats, covered with impenetrable tropical rain forests. The inhabitant believed to have been of Dravidian origin. They worshipped mother goddess ('Bhagawathi'), Serpent god ('Nagar'), Hunter –god ('Sasthappan') etc. People believed that any kind of disturbance in worshipping would invoke wrath of the gods, resulting in diseases, natural calamities, failure of crops and even death. Many experiences, miracles, mishaps and unbelievable incidents added to the strong belief on the sacredness of these pieces of woody patches. The result was strict protection of this eco system for the worship of *Devathas or Deities.*

The local people observed strict code of conduct and many worship patterns to conserve the groves and to maintain its sanctity. From very olden times, the affluent families of Kerala used to worship *Nagar (Sarpa*) (Serpent God) also along with their family deities. Nairs and Ezhavas are the major categories who own these Sacred Groves. A few SGs belong to *Kurava and Pulaya* communities. Same is the picture in the case of *poojas*, where *poojaries* belong to different communities. Accordingly there are *Brahmin pooja, Abrahmin pooja and Harijan pooja*.

Deities in Groves

As already stated the main factor in the conservation of sacred groves is the faith associated with myths and legends that bear a relation with religious concepts. According to the level of beliefs numerous deities are being worshiped. In Kollam district most of the SGs have Nagar (snake) as main deity within the wooded area.

Besides Hindu Gods, spirits are worshipped in many groves . All these come under various categories as below.

1. Dedicated to snake gods (called Sarpakkavu)
   Deities are named as Nagam, Nagaraja, Nagakanya, Nagayakshi etc.

2. Dedicated to Goddess Kali-
   Deities are named as Ayiravalli, Bhadrakali, Durga, Mariamma, Vanadevatha etc.

3. Dedicaeted to Ayyappan(Ayyappankavu).
   Deities are Ayyappan & Sastha.

4. Dedicated to spirits:

This mainly applies to the sacred groves maintained by communities as specified earlier. Under these SGs there may not be any idol. It is only an imaginary idol which in colloquial language called '*Sankalpam'*(Symbolising divinity). In Alampally kavu (No. 67 in Karunagappally taluk) there is no prathista, but people worship a *chithal puttu* (termite mount) formed beneath an *elengi* tree.

As discussed earlier, in majority of the SGs, the important deity is the Serpent God/godess, with different nomenclature as *Nagar, Nagarajav, Nagayakshi, Nagakanyaka, vaishnava sarpam.* Other deities are Mahadevan, Sasthav, Moorthi, Yogeeswaran, Karnan, Sivan, Ganapathi, Madan, Marutha, Arthanareeswaran, Brahmarakshas, Vettakorumakan, Duryodhanan, Malayappoopan, etc. Under the *Devi* sankalpam, the deities are *Parvathi devi, Durga, Annapoorneswari, Bhadra, Bhadrakali, Chamundeswari, Mandakkad Amma, Bhuvaneswari, Vanadurga etc.*

The particular idol is decided according to a consensus among the members or as suggested by an astrologer .The general criteria are local miseries, respects to old leaders of the community.

Duryodhanan and Karnan.

These two are presiding deities in some of the SGs of Kollam District particularly in Kunnathur Taluk.One may wonder how a devil character of Mahabharata is being honoured in sacred groves. Duryodhana is said to be the incarnation of KALI (demon) and an embodiment of evil source . As per the legend though his origin of Karnan is from a lower cast, he was supported by Duryodhana in

the archery contest without caring about his cast inequality. In view of the above concept the lower community believes that they can call upon for remedial measures in times of misery or insecurity. This may be the reason for dedicating SGs for Duryodhanan and Karnan. Incidentally, a section of Hindus also believe Duryodhana as a fair king and dedicated temples to him. The Poruvazhy Malanada Temple is the only temple in south India where Duryodhana is the presiding deity.(Web site-www.malanada.com).

Yakshi & Ammumma

Here again these deities represent Goddess Devi and people take them as incarnations of ferocious nature of Devi who would protect them from enemies and ill-treatment from powerful communities. Ammumma is also considered to be one among the community who had long ago devoted all her time in the worship of sacred grove and lived piously and peacefully. This is prevalent in SGs owned by Kurava and Pulaya communities.

Moorthy

In olden days when small pox was rampant many people fell victims and it took a heavy toll of life among people in the lower community. It was also generally believed that the spread of small pox was a curse from Goddess Devi due to some omissions on the part of local people. In such places people prefer to have Moorthy-which they consider as a deity representing those lost their lives in this manner.

Yogeeswaran, & Muthappan

These deities are considered to be incarnations of Lord Siva as explained above.

The statement gives below shows the deities among the 895 SGs.

Taluk	Nagar	Devi	Sivan	Satha/Ganapthy	No idol
Kollam	87	21	18	4	17
Kunnathur	207	15	9	Duryodhanan-3 Karnan-5	16
Karunagappally	178	2	5	Appupan-2	27
Kottarakara	145	5	21	Vishnu-1	19
Punalur	22	5	4	Ammuma-7 Yogiswaran-2	22

				Kirathamoorthy-2	
Pathanapuram	12	2	1		8
Total	**651**	**50**	**58**	**26**	**110**

Sacred trees and tree worship

Tree worship (dendrolatry) refers to the tendency of many societies throughout history to worship or otherwise mythologize trees. Trees have played an important role in many of the world's mythologies and religions, and have been given deep and sacred meanings throughout the ages.

From ancient time onwards the sages and seers praised many trees as sacred in their speeches and writings. In Hindu culture, astrology prescribes a tree, a bird, or an animal as the *Nakshathra* species of every person born on earth. This belief has persuaded every human being to have a sentimental liking to a particular tree or animal and thereby they build up a commitment to protect and conserve his *nakshathra* species. Other than *nakshathra* trees, many other plants or trees are adored considering them as somehow or other related to the gods or favourites of gods. These trees/plants have acquired social and religious sanctity with the passage of time.

Pala (Alsonia scholaris), *chempaka* (Michelia chempaka), *Aal* (Ficus sps.), *plavu* (Artocarpus hirsoota) *Koovalam (*Aegle marmelos), *Nelli* Emblica officianalis), *Veppu(Neem*), *Kanjiram* (Strychnus nuxvomica), *Elengi* (Mimusops elengi) etc are believed to be the abode of Devi. *Kadambu* tree is believed to be the favourite of Lord Krishna, *Mango* tree of Lord Hanuman, and the *Elavu* tree of Devi Lakshmi. *Bhootham* and *Marutha* lives in *Thanni* and *Kanjiram* trees respectively. *Neem* tree is considered as the wife of Vriksha raja *Arayal*. The tree Strebulus asper (picture-plate-VIII) *(Paruva)* is believed to host evil spirit.

Rituals and Celebrations

Rituals in sacred groves are performed according to the concepts entertained by the people of the region, their cast and the patron deity. The custodians and devotees have a belief that the spirits inhabiting the kavu would manifest their displeasure in different ways adversely affecting the people unless certain rituals to propitiate the spirit are conducted. Though critics condemn such rituals as blind belief, it is this belief that forms the main force in protecting these sacred groves. Some of the rituals being followed in Kollam District are given as below:

1. Noorum palum.

This is an important offering made to snake god (Sarpam/ Nagar). A mix is prepared out of rice powder, turmeric powder, lime, cows milk tender coconut juice, ripe banana, ghee etc. This is considered as most favourite food for snakes. This is performed on the day of Ayilyam star, occurring every month as per local almanac which is expected.(Picture-plate- VII)

2. Kalamezhuthu

Designs of various sketches of Gods are drawn on a plastered floor and yellow (turmeric powder) with five different colours. White (rice powder), black (husk charcoal), green (minutely cut green leaves), red (brick powder) are the colours used. Pooja is conducted by offering flowers, over this by qualified priest who chant prayers also.

3. Animal sacrifice

Associated with goddesses and ancestral spirits this ritual of animal sacrifice expect the blood of animal-say fowls is sacrificed at the altar. The killing of fowl existed till recently in many SGs. But now the procedure is relaxed by offering a fowl before the deity and later selling it in public on auction. Instead of killing the bird, a vegetable gourd is cut in front of the alter.

4. Vayana

This is a common performance of reciting religious classics like, Ramayana, Bhagavatham etc. by experienced persons before a group of audience. Though this is a popular function in temples, in some of the SGs this is organized on first of Malayalam months or during 41 days from the first of month *Vrichikom*.

5. Sarpamthullal

This is a performance arranged very rarely in which girls and priests are employed. Pulluvanpattu, is performed by using pulluvakudam-a traditional musical accompaniment and singing devotional song. The girls listening this shiver and shake which is considered to be a sign of being possessed by serpent Goddess Nagini. The dancing of girls start moving like snakes .The priest also start shaking his body and dancing according to the

rhythm of the drum. Finally the exhausted girls faint and falls .The priest is then possessed by Nagaraja announces the omissions and commissions on the part of the devotees followed by suggestions to do penance.

Some of the other interesting worship patterns are the following:-

In Kookamulathu Bhagavathi kshethra kavu people worship the deity by hanging idols of infants with the belief that they will be blessed with children. This worship is being called as *pillavaipu* locally.

In Koyimukkath Kavu (No.KL-113)at Panayam in Kollam Taluk there exist the practice of praying by couple to get children. When they are blessed with a child and by the time the child grows to about five years, they have to bring a sculpture of a small child of 4or 5 years old and submit before the deity. The child itself should carry the sculpture to the deity and that is the reason why a time lag for this ritual is prescribed. Afterwards such sculptures are fixed outside at a specific place near the sacred grove. (*See picture- Plate-VII)*

In sree bhoothanadha swami kshethra kavu (No. 112- Kottarakkara taluk) for receiving favours, nailing is done on Athi trees.

In methira mana kavu(185- Kottarakkara taluk), *urilikamazhthu* is the worship for getting blessed with children.

In some SGs *mruthinjaya homam* is conducted.

In Bharanikavu devi kshethra kavu, *Iswarya pooja* is done on every full moon day.

Uchara pooja, kurithi pooja, ponkala, anathara pooja, parayidal, pongala koral, agnithandavam etc are some other pooja/ritual varieties practiced here.

The Malaperoor sree Ayiravally Mahadeva kshethra kavu (No.19- Kottarakkara taluk) is conspicuous with its tradition of strict ban on women entering the kavu.

Folklore & Folk Arts

As many anthropologists explain, folklore includes folk art- which encompasses myths, legends, proverbs, riddles and many other art forms represented as dramas, music styles and in rhythm forms. People in ancient times believed that

enactment of various rituals before the public in temples and worship places would solve all their problems. Folk art can be described as the simple art form of the common man. Folk art has its origin in society and therefore does not give any importance to personal emotions. Simplicity and directness are its special features. Folk art aims at instant communications and it speaks social themes. The common man finds it easy to identify and understand the message. Folk art has always an organic link with the community life.

In Kerala, folk arts flourished under the shadow of feudalism. Many of the art forms attempted to register protest of the oppressed classes against rulers. *Kakkarasi natakam, porattu natakam and kurathiyattam* echo the feelings of discontentment in life. To classify the folk arts of Kerala, it can either be considered on the basis of geographical peculiarities; like Malabar, Kochi and Travancore or as North Malabar, South Malabar and Travancore- Kochi or into another set like rural, urban and tribal.

Folk arts in Kollam district can be broadly classified in to ritualistic and non ritualistic forms; ritualistic folk arts can be further divided into Devotional and magical forms. Devotional folk are performed to propitiate a particular God or Goddess. *Thira, , mudiezhunnallathu(*Mungattu sree bhagavathi kshethra kavu), kayal vilaku, kaali poottu, manjaneerattu etc are some of them. Forms like *panappattu and thottampattu* , kalamezhuthu pattu, pulluvan pattu, *are composed in the form of songs. Dramatic folk arts like Kurathiyattam, porattunatakam and kakkarasinatakam* are not associated with the rituals or artistic traditions of Kerala. Their plot structure, manner of presentation, linguistic expressions and characters show the influence of Tamil culture and hence are popular in this boarder district. Traditional arts like *Kathakali, Thalapoli,* Thaipoyam etc are also performed during festivals in many of the SGs.

In Panappetty Asrma kshethra kavu (128- Kunnathur taluk) *Navarathri sangeetholsavam* is performed during the festival. In Koikamukathu Bhagavathi kshethra kavu, *Radholsavam* is celebrated in the month of April every year.

Kadhakali :

It is a classical dance form with its origin in Kerala. It depicts different stories of the *puranas* in dance form. Mostly, the story tells the victory of the good over the bad. It is performed by professionals only and hence expensive. In Mannarkavu Bhagavathy kshethra kavu (Kunnathur taluk) the offering given to the deity is '*kathakali*'and this the only temple where an art form is considered as an offering just to keep this art form live.

Pulluvanpattu

It is a common form of song in the festivals in *sarpakavu*. The devotees do the worship of *Nagar* from the month of K*anni* to *Edavam.* The *pulluvas* use a hand *veena* during the song and this *veena* is an unsophisticated and uncomplicated instrument. This art form is believed to propitiate the *serpant* god and obtain the blessings. Pulluvan pattu is performed in Thannikkal Devi kshethra kavu.

Folk Dances

Most folk dances of Kerala involve only men. Women perform only in such folk dances like *kuravaikoothu* that trace their lineage to the *devadasi* tradition. Tribal dances, however, are performed by both sexes. This could be due to the relatively greater freedom that tribal women generally enjoy. Men and women dance together in *ooralinrittam, paniyarnrittam, irulanrittam*, etc whereas *mudiyattam* involves only women.

Of the other types of folk dances, *tiruvathirakkali, kunni, kolattom, oppana*, etc., have women performers. The more active forms like *kolkali, poorakkali, dappumuttukkali, kambadikkali* etc. are performed by men. Only rarely as in *chavittukali* do women and men dance together.

Ritualistic dance forms also have only men performers. Most of them fall under folk dance category. *Mariyattom, kolamthullal, thidambunrittam, pulikkali, thira*, etc., come under dance and drama.

Conclusion

While many of the groves are looked upon as abodes of Hindu gods, in the recent past shrinkage in the area has occured for construction of shrines and temples. The traditional belief systems, which were the fundamental concept of sacred groves, are now considered mere superstition by the modern generation. The fact that conservation of sacred groves is essential for maintaining local biodiversity has to be given emphasis in all conservation programmes . Preservation of the SGs are important in preserving the socio-cultural integrity of local communities and as a gene pool for insitu conservation. Hence the relics of once existed natural habitat, ‘Kavus’ have to be conserved for human prosperity.

Iconography of serpant idols in Sacred Groves of Kollam District.

(*Contributed by Historian Dr. M.G.Sasibhooshan*)

" Lieuts. Ward and Corner .estimated the number of kavus at 15000 nearly 120 years ago. Some are of great age and repute and richly endowed."

T.K.Velu Pillai, Travancore State Manual (Vol. I 1940)

Serpent groves or Kavus are places with dense under growth as well as out growths of full grown trees like Peraal (Ficus indica) , Pala (Alstonia scholaris), Kanjiram (Strychnos nux-vomica), Athi (Ficus glomerosa), Ithi (Ficus benjamina), Chooral (Calamus rotang) and Oonjal valli (Acacia digitata –around a pond.

A rectangular, crude *peedam* (platform) made of laterite or granite is commonly found inside the groves . This is the sacred place for worship. It is also on this structure that the symbolic abode or Chitrakoodam for the divine serpents is placed. Chitrakoodam or Chitrakooda kallu is a horizontal structure with a circular opening in the middle and a roof of stone . Idols of various sizes and shapes representing the divine serpents like Nagaraja, Nagayakshi, Nageswara etc. are also not uncommon. They are not enshrined within a roofed shrine but stand exposed to the sun and rain. Plastered platforms incorporating elaborate masonry work was certainly a later evolution.

The mode of daily worship in a kaavu is minimal and simple.What is imperative is the lighting of a single wick inside the grove at sunset. Elaborate ritualistic worship is performed on special days like Ayilyam with offerings of malar (puffed rice), aval (Pressed rice flakes), milk and turmeric powder. Cooked rice is offered during sarpabali which is a stalks of the betel-nut.

Men and women belonging to Pullava cast are also engaged to propitiate the nagas. They play on their crude musical instruments like pullavakudam and pullava veena singing the glories of serpents and invoking their blessings.

The idols of Naga Raja, Naga Ykshi, the eight divine nagas and Sivalinga (Nageswara) were sculpted with single or several hoods ranging from three, five, seven or even nine.The mythological serpents were represented with a human torso and a serpent body from the waist down.

Apart from Naga Raja and Naga Yakshi other important idols were those of Nageswara, Anjana Mani Nagom, Mani Nagam, Kuzhi Nagam and Para nagam(Flying serpent). The Nagaraja idols featured a human figure sitting or standing on the coils of a larger serpant with a canopied hood. The hands of the figure featured abhaya (refuge) and varada (blessing) mudras.They were also adorned with sculpted ornaments including a crown.

The ancient serpent grovesof Kollam featured Naga Raja and Naga Yakshi too. It would be well to remember that the Naga Yakshi had not even a remote analogy to those Yakshis, ,fabled blood- sucking enchantresses who inhibited dark and lonely groves. The female counterpart of the Naga Raja was represented by holding serpents in her hands. The Naga Yakshi was worshiped for the protection and prosperity of the family and its members.

Some of the rare Naga idols include that of Naga-Kanyas, seven naga maidens, sculptured in row as relief son a block of granite , each standing on a boat shaped vessel.

CHAPTER VIII

MYTHS AND LEGENDS

A 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.

Myths

Here are some of the myths, prevalent among the devotees of sacred groves in Kollam district.

Kadiyatti Sri Valluvan Mahakali Kavu .(No. Klm-60)

Sri Chathan Pullan who was later named as Kadiyathi Appuppan was born to a Pulaya woman. During his younger days he was an Edayan (Cow boy) of a land lord's family. One day he left the place with the cattle herd and reached Tamil Nadu to learn many godly tricks and gain knowledge. The Land lords failed in their efforts to locate the boy. Many years later he returned after visiting many temples in Karnataka also. He grew up to an elderly person and was well equipped with the blessings from gods. He performed many tricks of astonishment. This time he came in contact with a poor lady of Paraya family. She was well aware of the enimical attitude of the Land lords towards him and warned him against their attack, namely strong beat of 101 times. She also presented him an idol "Moorthy" She told him that it had many spiritual powers and advised him to surrender in case the landlords come to catch him. She also told him that once they beat him, they would not be able to give a second one and they would be forced retreat. As expected this happened. When they came and started beating him complete darkness set in and the landlords flee for life. By that time the erstwhile boy (Appuppan) with his cattle disappeared into the grove which is now being worshiped. The Pulayar community is holding complete ownership and management of this sacred grove.

Mallanthottathu Devi Ksetrakavu ,Vadakevila –(No.-KL/Klm-52)

It is believed that a *sila* (stone) which was found lying in the paddy field, when used for sharpening knife by rubbing, blood oozed out of it. People consecrated this as the idol-Naga deity and this SG came into existence.

In Chiravoor Sreekanta dharma kshethra kavu, it is believed that the cut wing of *Jatayu* fell in this place and hence the name, Chiravoor (*Chiraku veena sthalam)*

Sree Jatayu kavu – one Brahmin boy was doing *thapassu* for 41 days and at the 41st day a *sarpam* (snake) attacked the boy and *Jatayu* saved him by killing the *sarpam*. The place where the head of the snake was fallen was preserved and protected as a Kavu.

Kollathamma Mahadevi kshethra kavu (78- Kollam) – It is believed that the owner family of this kavu belong to a *sankara gothram* of the successors of *Soodracharya* family who came from *sind* and the *mahabali* family.

Kuzhivila Sri Bhagavathy Kshetra kavu-Panayam (No. KL/Km-123)

This is a very old SG attached to a temple.It is locally stated that one Brahmin who was sleeping under a Pala (Alstonia scholaris) tree was looted and killed. The custodian family built a temple and formed this SG to remember him as a penance.

Thennichazhikathu kavu-Perumon (No.KL/Klm-116)

This SG is very near Kollam Trivandrum Rly. Line.This SG was taken over by the Rail Ways for developing the line long back. But when the works started by clearing the vegetation the Rail authorities had to confront various impediments which prompted them to retain remaining five cents of the area as part of the old one.

Muhoorthi Kavu-Eroor- (No.KL/Plr-8) .

The local belief is that he goddess called Eroor Muhoorthy was detained by chain in between rocks in this SG at the instance of the Pricess of Kadackal and Mavenchira kingdom with out allowing her to make her presence for fear of wrath from Her.

Chothirampara kavu-(Within RPL area Punalur)- No. KL/Plr-53

The story is that one cow boy by name Chothiran who belonged to Harijan community happened to cause destruction of the paddy growth owned by local landlords. The infuriated landlords killed Chothiran and buried him under the rock in this place. That is how this SG got this name as CHOTHIRAM PARA. This SG is a favourite place of worship by Sri Lankan Tamilians of Rehabilitation Plantations Ltd. Punalur. A matter of safety for the vegetation of 30 cents.

Legends

Kadayat Kudumba Kavu-(No.-KL/Klm-103). Mulavana.

This is a kudumba kavu and the 32nd generation is holding it now.

This land was received as gift from Maharaja of Travancore and Marthanda Varma Maharaja visited this in 1751.The famous divan Veluthampi Dalawa stayed here and made his famous declaration against British rule in 1809 which is known as "Kundara Proclamation". When he had to flee from there to escape from the attack of soldiers , he left his sword there.

Kadiathara sree valluvan kshethra kavus (32- Kollam)- It is believed that the land was given as a gift by Marthanda Varma Maharaja, exempting from land tax to a family who were believed to be the successors of Valluva Raja's family. Therefore the worship and poojas are done as in Sree Padmanabhaswami temple at Thiruvananthapuram.

Chiravoor Dharmakshetra Kavu- Chithara-(No.KL/KTR-4).

This is a large SG extending over 2 Ac.and managed by a Public Trust .This SG is attached to the very old temple which is said to be 600 years old. This temple is considered to be one among the 108 temples constructed and consecrated by great PARASURAMA. It is believed that the cutportion of the wing "Jadayu" (Kite) of RAMAYANA fell at this place and earned its name as Chiravoor Kavu.

Vanchiyoor Ellam Kavu-Thazhava (No.KL/KAR-201)

This relates to a very old situation prevailed in southern Kerala. During those days there were no Brahmins of the conventional type who would perform pooja and chat "manthra" as contemplated in Veda and Upanishaths. But they were available in North Malabar. In those days such Brahmins-called potty, were lured to south Kerala for poojas. This SG is said to be one established by one such Potty who was brought in by Raja of Kayamkulam from Thirunelly in Wayanad.

CHAPTER IX

THREATS & RECOMMENDATIONS

There are various factors that pose a threat to the survival of some of the SGs. They fall under the following categories.

1. Intention to reduce the extent for self motives.
2. Encroachment by outsiders.
3. Legal disputes on ownership.
4. Dumping solid waste in the SGs.
5. Damage by invasive species.

1.Reducing extent

i.Shifting idol.

Kothamanalathu Kavu-II Thevalakkara (KL/Kar-27)

This is a Family owned SG having 70 cents in extent.. This family has this in two bits, namely Kathamangalathu kavu-1 and Kothamangalathu Kavu II. They have now invoked the idols of this SG II,shifted and consecrated them in the SG no.1.There after they have started selling earth from there for some time. The present management is trying to restore the position.There are a few other cases where shifting idol to others SG or major temple premesis have been noted.But this is not that common.

ii.Clearing for temple construction (Sanscritisation)

There are many instances here portion of the kavu is cleared for construction of temples. The motive behind it can be getting more income in addition to improve rituals and faith among devotees.But this requires some control lest it should not wipe off the vegetation. Poonthalathu Kavu-Panmana-(KL/Kar-38)in karunagappally, Gurunagappa kavu (KLM-8 and Ardhanareeswara Kavu (KLM-53) in Kollam taluk are some of the examples.

2.Encroachment.

There are instances where encroachment takes place when the custodian is weak or he is away keeping remote control.Usually this happens with SGs are owned by community of lower strata.There are a few examples.

i-Chavaru kavu (KLM-6) At present the extent is 30 cents only. This belongs to a Kurava Community. Earier this had two acres when it was handed over to this community by old Hindu family "Tharawad'. Later the neighbours started encroaching the land gradually. Now the local people formed a committee to protect this.

ii.Kunnil kavu- Private –Thodiyur (KL/Kar-95)

This is owned by Kurava community. None of them is locally available. Some devotees are lighting lamp every day. The extent is 80 cents. Chances of its being encroached cannot be ruled out.

iii.Maveli Kavu –Kulakkada-(KL/Ktr-175)-60 cents

This is about 400 years old. This was owned by Maveli Family. When they became impoverished the SG was handed over to Kulakkada Panchayat. Now no pooja is being performed. Local people are protecting it People say Panchayat has no interest. Chances of this getting encroached cannot be ruled out.

3.Legal disputes

i.Court cases.

Kottukkal Kavu- Ettuva Panchayat (No. KL/Ktr-16)-30 cents

This is under a shatra Committee. Dispute is going on regarding complete control between the committee and previous owner. . Awaiting decision from court.Similarly Chirakkara Bhagavathy Kshetrakavu-(KLM-9) is under Receiver Administration on the same reason.

ii. Attitude of neighbours-

All said and done, a resident close to a sacred grove may face sound pollution,and disturbance from plants animals from the kavu. The expanding branches of the trees in the SG do cause overhead shade to the neighbouring cultivated agricultural crop.There are instances where the neighbor of kavu-KAR-3 of Karunagppally taluk sold 4 cents to the custodian and at present this kavu has 27 cents. Similarly in Kottarakkara taluk, the neighbour of Alum mood kavu (KTR-106) is offering his plot for sale for the kavu.(as is understood during field visit) . This kind of guesture can be due to positive or negative attitude. .

4.Dumping Solid Waste.

There are some SGs which are very close to congested residential and commercial places. Dumping solid waste into SGs is not uncommon particularly when there is no boundary wall. In such cases fire damage, damage to regeneration and even feelin of avertion among devotees are the ill effects. (See picture- Plate-V)

5.Damage by invasive species.

A number of climbers such as,Calycopteris floribunda,Cissus repens,Acacia intsia, Combretum sp etc pose a threat to the regeneration of the important plants.Mavolil Kavu (KTR-133) and Kannankarakavu (KNTH-71) are examples. (see picture- Plate- V)

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 ,it is evident that the number is much more. 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 staus 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.

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 may be ideal.

6. Ensure fair distribution of grant-

When grants are distributed to SGs, it has to ensured that the process is made as fair as possible by verification by a superior. Details if any required can be gatherd from IFK in districts where field study bas been completed .Poorly maintained SGs if any may be considered only if improvement is ensured.

7. 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.

8. 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.

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 Sequistration.

. 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.

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15.IFK-Study on Sacred Groves of Thiruvananthapuram District.

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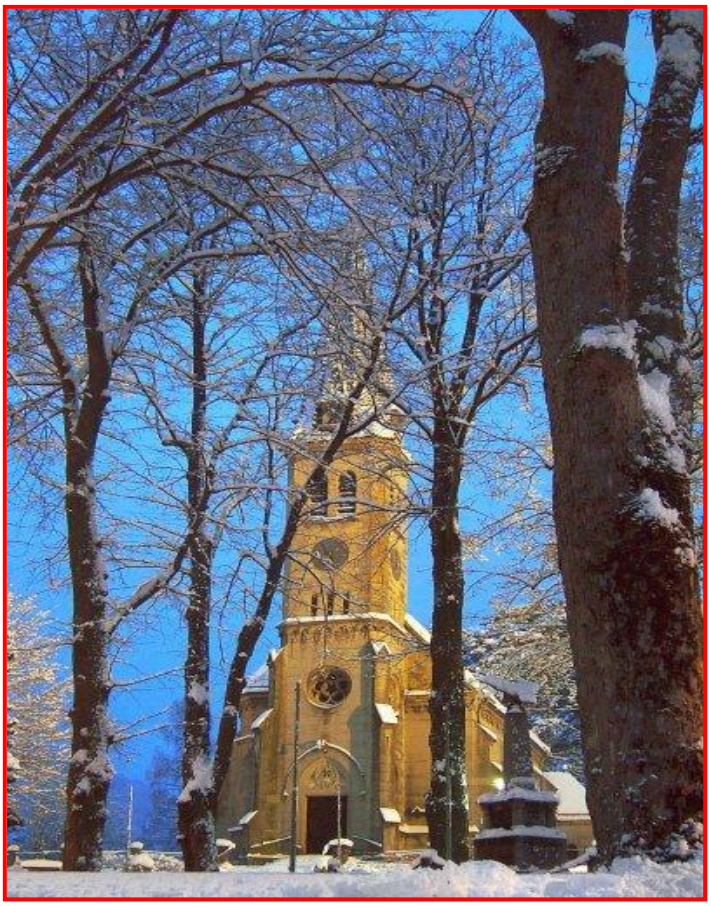
Plate I

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



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

5.Sacred grove in Caucasus mountains (Russia) .

Plate III

1.Chapokkan Udayan Kavu (KL/KTR-169)
Mylam 3 cents

2.Mundamkuzhi kavu (KL/KTR-180)- 5 cents
Kulakkada

3.Valiyaveetil kavu (KL/KAR-57) -30 cents.
Panmana

Plate IV

4.Perumthodathu Kavu
(KL/KAR-196)
30 cents
Thazhava

5.Uliyannur Sree Durgabhagavathy Kavu (KL/KLM-75)-1.5 Ac. Kadappakada

6. Ethiramkode Sarpakavu
(KL/KTR-60)
1.5 Ac.
Odanavattom.
.

Plate V

1. Organizing field work.
Paravoor
Klavara kavu
KLM-17

2. Invasive climbers .

Mavolil kavu
KAR-133

3. Dumping solid waste.
Ollal kavu
Paravoor
KLM-16

Plate VI

4.Bats destroy selected plants

Ayiravally kavu

KLM-20

5.
Bats unconcerned with noise-
Concerned with flowers of Bombax.
Kaliyazhikathu Kshethrakavu
KLM- 39

6.
Climber predomination-
Darkness at noon.
Chavarayil kavu
KAR-52

Plate VII

1.Ayilya pooja

Mariyampally kavu
Chadayamangalam
KTR-24

2. Noorum Palum Pooja
Vilayannur kavu
Chadayamangalam
KTR-25

3.Symbolic divinity.
(sankalpam)
Yakshi, Yogiswaran,
Moohurthy.

Kunnathu kavu
KLM-73

4.
Dolls submitted before deity in return for getting children.
Koikkamukkathu Bhagavathy kshetra kavu
Panayam, kollam
KLM-113

5.
Chtrakoodam-and Pattu (red cloth) hanging.
Pazhangolathu sarpakavu.
KLM-64

6.
Nagaraja – Yakshi
Chandaplavil Kavu
KAR-28

Plate IX

1 .
Flora identification by expert.

2.
Hydnocarpus pendantra. (Marotti)-KAR-187
Thazhava
FLACOURTIACEAE
Fruits visible

3.
Strebulus asper (Paruva)
Root-bark-leaves-medicinal-
Mulavana kavu
MORACEAE
KTR-110

Plate X

4.
Sapindus lourifolia
(Soapnut)-
SAPINDACEAE
KLM-74
Kollam East

5.
Diospyros candoneana
(Karimaram)-
EBONACEAE
KLM-75

6.
Diospyros perigrina
(Panachi)-
EBONACEAE
KAR-134

Plate XI

7.
Canthium dioicum
(Irumbarapa)-
RUBIACEAE
KAR-90
Chennalkavu

8.
Vitex pinnata
(Kattumaila)-
VERBINACEAE
KLM-75

9.
Glochidion zeylanicum
(Neervetti)-KAR-134
UPHORBIACEAE

10.
Samadera indica
(Karinjotta)-
SIMORUBACEAE
Leaves-biological pesticide
Seeds –medicinal
Wood-excellent foot wear in the past.
KAR-134

11.
Madhuca neerifolia
(Attilippa)
SAPOTACEAE
Medicinal-kidney complaints/Rheumatism
KAR-92

12.
Carallia brachiata
(Vallabham)-
RHIZOPHORAEAE
Bark medicinal
KTR-24

Plate XIII

13.
Actinodaphne hookkeri.
(Eyoli)-
LORACEAE
PPM-23

14.
Sterculia belanghas
(Thondi)-
STERCULIACEAE
PPM-9

15.
Aphanamixis polystachia
(Chemmaram)-
MELIACEAE
Bark & Seed medicinal
PPM-5

Plate XIV

16.
Xanthophyllum arnottianum (Madakka)
POLYGLACEAE
KAR-199

17
.Ficus mysorensis (Chela)-
MORACEAE
KAR-181

18.
Olea dioica (Edana)
OLEACEAE
KAR-181

Plate XV

19.
Cinnamomum verum
(Karuva)-
LAURACEAE
Bark many medicinal uses
KAR-199
Thazhava

See the fruits

20.
Antiaris toxicaria
(Maravuri)-
MORACEAE
PPM-22
Kadakkamon

21.
Hopea ponga
(Thambakam)-
DIPTEROCARPACEAE
KAR-92
Thazhava

Plate XVI

22.
Syzygium caryophyllatum
(Karinjara)-
MYRISTICACEAE
Bark & root medicinal
KAR-92
Thazhava

23.
Ficus ts-jahela
(Kallal)
MORACEAE
KAR- 57
Panmana

24.
Gymnacrantha
farquhariana
(Undapine)
MYRISTICACEAE
-KLM-91
Kollam

Plate XVII

1.
Psilanthus travancorica
(Pushkaramoolam)
Medicinal
COMPOSITEAE
KTR-125, Ezhukon
Mangattukavu

2.
Glycosmis pentaphylla
(Panal)
Medicinal
RUTACEAE-
KAR-52

3.
Carissa spinarium
(Cherumully)
Medicinal
APOCYNACEAE
KLM-63

Plate XVIII

4.
Benkara malabaricum
in flowers.
(Cholakkara)

KLM-91

5.
Benkara malabaricum-fruits

6.
Justica gendarusa
(Vathamkolli)
Medicinal
ACANTHECEAE
KAR-134

Plate XIX

7.
Strebulus taxoides
(Kadala)
MORACEAE
KTR-90

8.
Meiogene ramarowoii
(Panthal maram)
Pathanapuram
ANNONACEA
PPM-22

9.
Breynia vitis-idaea
(Kattuneeruri)
Medicinal

EUPHORBIACEAE
KAR-92

Plate XX

10
.Memyceylone
umbulatum.
(Kayambu)
Medicinal-root & leaves

MELASTOMACEAE
KAR-92

11.
Chasalia ophixyloides
(Vellakurinji)
Medicinal-leaves & roo
RUBIACEAE

KAR-90

12.
Canthium aungistifolium
VeryRare
RUBIACEAE

KTR-25

13.Anitdesma acidium
(Asaripuli)
Plavannur
EUPHORBIACEAE

KAR-181

14.
Antidesma alexitaria
(Thathalamaram)

EUPHORBIACEAE

KAR-194.

15
-Ixora polyantha
(Kattuchethi)
RUBIACEAE

PPM -8

Plate XXII

16.
Syzygium zeylanicum
(Poochapazham)
MYRTACEAE

KAR-92

17.
Gomphia serrata
(Valarmani)
Medicinal
OCHNACEAE

KLM-91

18.
Grewia mocrocos
(Kottakka)
TILIACAE
Medicinal
KLM-75

Plate XXIII

1.
Ampelocissus indica

(Chemparavalli)

Vallikavu-KAR-134

VITACEAE

2.
Artabortys hexapetalus
Flower
(Manorenjini)

ANNONACEAE
KAR-90

3.
Artabortys hexapetalus
Fruits

4.
Uvaria zeylanicum

ANNONACEAE
KAR-181

5.
Chonemorpha grandiflora
(Perumkurumba)
APOCYNACEAE
Sooranad
KNTH-63

6.Dalbergia horrida
(Anamullu)
See the horrible spines

PAPILIONACEAE
Uliyakovil
KLM-75

Plate XXV

7.
Dalbergia horrida-

small pinnate leaves of the crown .

8.
Abrus precatorius
(Kunni)

FABACEAE

KTH-63

9.
Cissus tribolata
(Neela chunnambu valli)

VITACEAE
Thodiyoor
KAR-90

10.
Strophanthus wightianus
(Kambetti)
Rare
APOCYNACEAE
KLM-63

11.
Sarcostigma kleinii
(Vellodal)
Bark & seed-
rhematism,leprosy,piles.

ICACINACEAE
KLM-61

12.
Gymnea Silvestre
(Chakkarakolli)
ASCLEPIADACEAE
Medicinal
KAR -80

13
.Gloriosa superba
(Menthonni)
Medicinal
LILIAEAE
KAR-80

14.
Mallotus rependus
Female flowers
(Thavetty)
EUPHORBIACEAE.

KTR-121

15.
Mallotus rependus
Male flowers.

Plate XXVIII

16.
Ceasalpinia bonduc (Kazhanji)
Root for tumours, Leaves & seeds,also medicinal

CESALPINIACEAE

KTR-110

17.
Hugonia mistax (Mothirakanni)
-See the lower branches of inflorescence modified into tendril hooks-
LINIACEAE
KAR-92

18.
Huognia mistax spreading over the canopy.

Plate XXIX

19.
Kamettia caryophyllata
(Narumarathivu)
Petiole is purple
APOCYNACEAE

KAR-90

20.
Pothos scandens
(Paruvakodi)
Medicinal
ARACEAE

KLM-75

21.
Loeseneraella
arnotiana.
(Puramkodi)

HIPPOCRATACEAE

Plate XXX

2

22.
Anamirta cocculus
(Polla valli)
Fruit-many medicinal uses
MENISPERMACEAE

KLM-79

23.
Strychnos minor
(Cherukanjira valli)
LOGANIACEAE

PPM -5

24.
Combretum latifolium

COMBRETACEAE
PLR-35

25.
Maclura spinosa
(Vennikodi)
MORACEAE
PPM-8

26.
Tinosperma cordifolia
(Chittamrithu)
Medicinal
KLM-75

27.
Derris scandens
LEGUMINOCEAE
KNTH-100

Plate XXXII

28.
Zizyphus oenoplea
(Cheruthodali)
RHAMNACEAE
Pazhangalam
KLM-63

29.Uvaria narum- fruits
(Narumpanal)
ANNONACEAE
Root &leaves-medicinal
KLM-63

30.
Uvaria narum-Flowers.

Plate XXXIII

31.
Rourea minor
(Kuriel)
CONNARACEAE
KLM-91

32.
Morinda umbulata
(Neyvalli)
Medicinal
RUBIACEAE
KLM-63

33.
Ipomoea pes-tigridis
(Pulichuvadi)
Poison antidote
BORAGINACEAE
Kallelibhagom
KAR-92

Plate XXXIV

1.
Mollugo distica

MOLLUGINACEAE

2.
Euphorbia heterophylla
EUPHORBIACEAE

3
.Adiantum latifolium
POLYPODIACEAE

4.
Evolvulus asinoides
(Krishnakranthy)
CONVOLVULACEAE

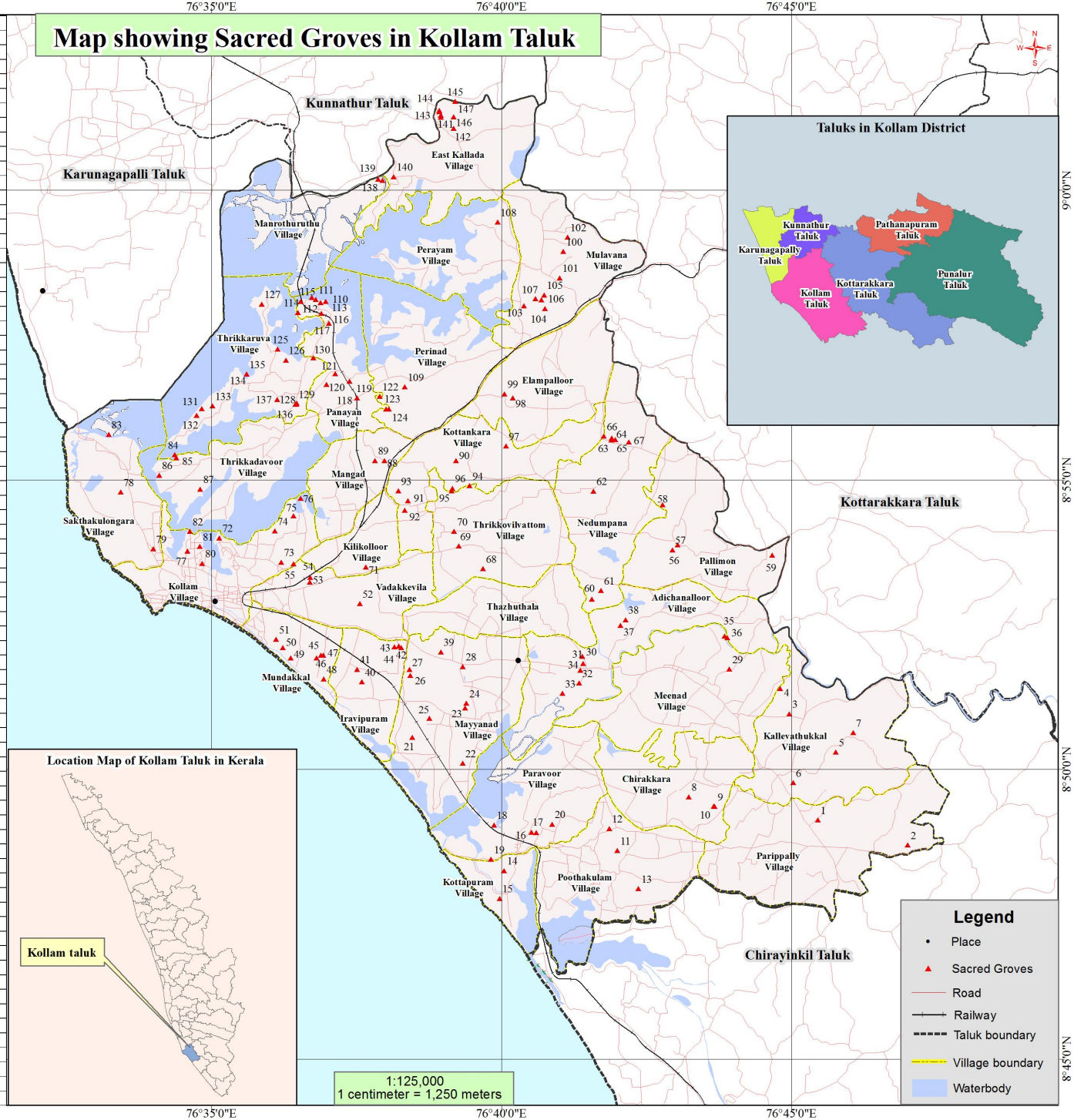
5.
Hypolytrm nemorun

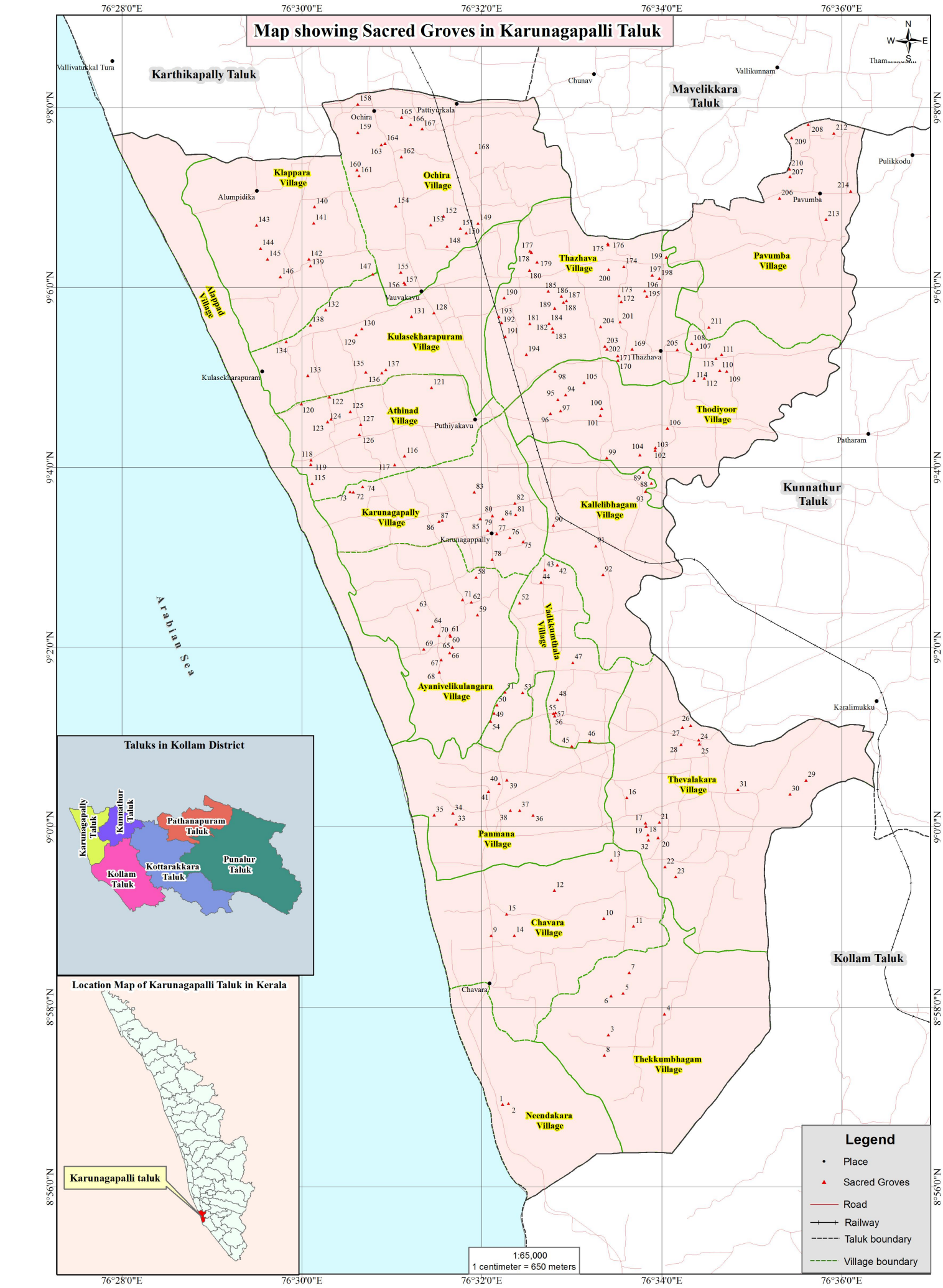
6.
Gisekia pharnaceoides

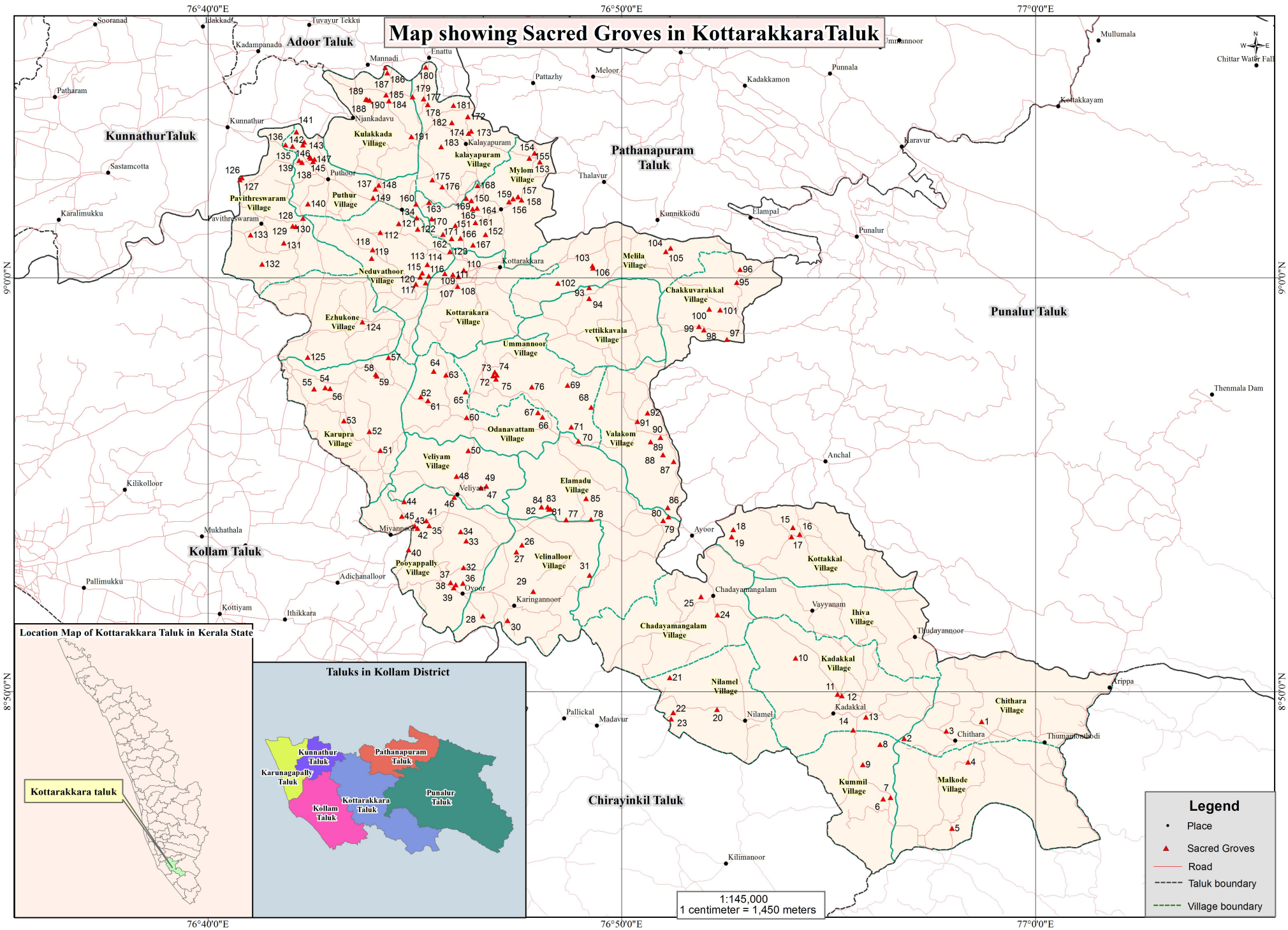
PART - II

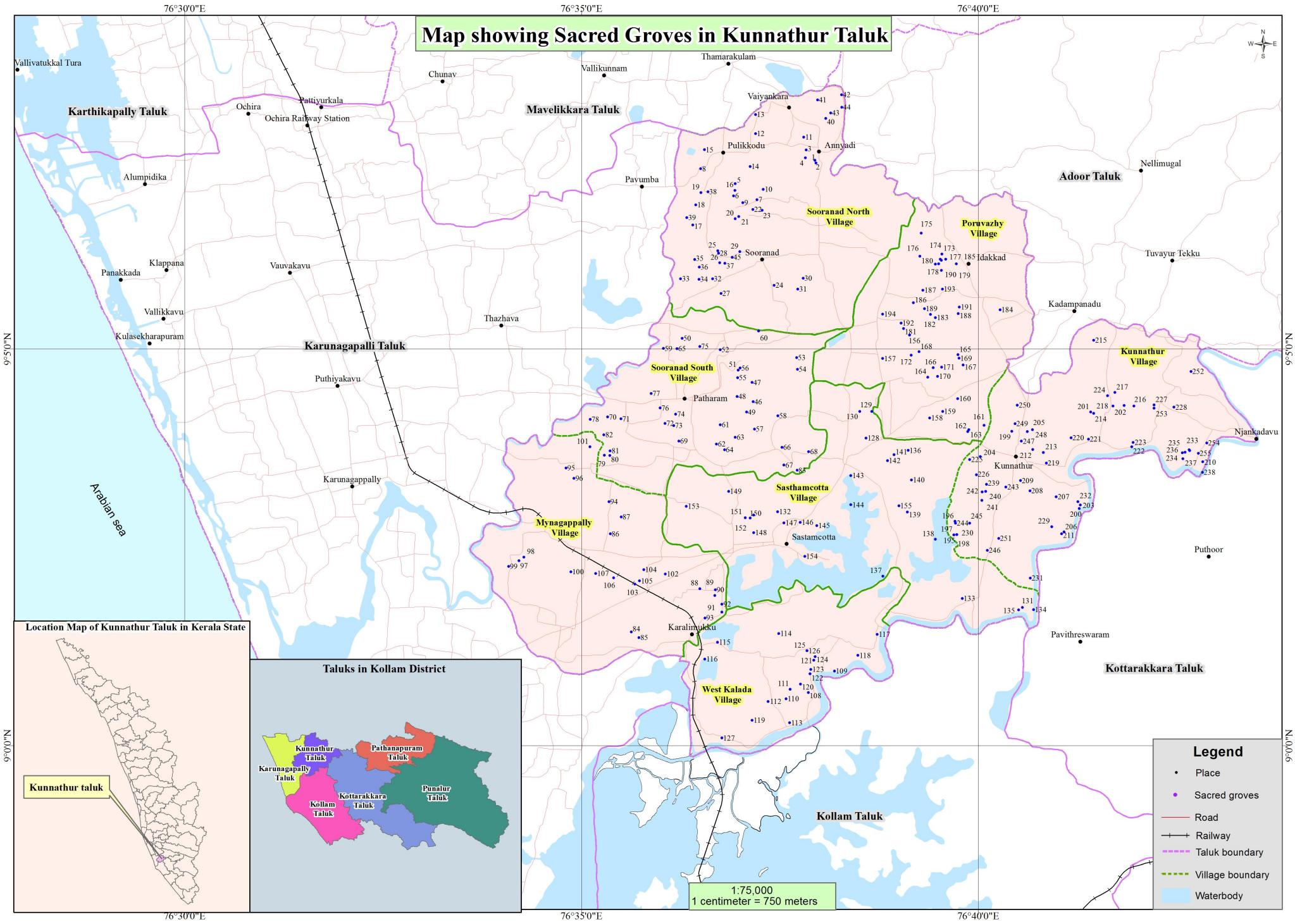
Map showing Sacred Groves in Kollam Taluk

No	Name	No	Name
1	Mullukattil Sree Nagarkavu	75	Uliyakoil Sree Durga Bhagavathy shektra kavu
2	Thottathil Sree Durga Devi Shektra Kavu	76	Kollathamma Maha shektra kavu
3	Sree Moorthy kavu	77	Kattil Nagarukavu
4	Vayalikada Chavaru Kavu	78	Poomugathu kavu
5	Kavummoola Sree Nagarukavu	79	Sree Mulamkadakam Devi shektra kavu
6	Thottathil Nararukavu	80	Nanamachan Veedu kavu
7	Chenthippil Sree Chavarukavu	81	Olayil Madan kavu
8	Gurunagappa Kavu	82	Vana Durga Devi shektra kavu
9	Chirakkara Sree Bhagavathi shektra kavu	83	Mahalakshmy kavu
10	Chirakkara Valiyakavu	84	Nelluvila kavu
11	Sree Kadiyathi Appuppan kavu	85	Ayyankoikal shektra kavu
12	Konathu kavu	86	Ayiravally kavu
13	Punnekulam Sree Madan kavu	87	Vanchipuzha Devi shektra kavu
14	Sree Durga Devi shektra kavu	88	Cheruvally Madan kavu
15	Puthiya kavu	89	Kurithi Kaman shektra Sarpakavu
16	Ollal Siva shektra kavu	90	Mampuzha Indalayappan shektra kavu
17	Clavara kavu	91	Peroor Karumnelloor Bhagavathy shektra kavu
18	Kuzhikkara Thazham Nagaru kavu	92	Kochu kavu
19	Ezhiyathu kavu	93	Sree Madan kavu
20	Ayiravally Mahadeva shektra kavu	94	Kochukodiyattu kavu
21	Kulangara Madan kavu	95	Meluthe kavu
22	Kallumoottil Appupan kavu	96	Manaikara Melukavu
23	Varayil kavu	97	Sree Udayan kavu
24	Thonnalil Moorthy shektra kavu	98	Pappady kavu
25	Mullukad Bhagavathi shektra kavu	99	Elanjikal Sree Bhadra Devi shektra kavu
26	Varisseri kavu	100	Puthiyaveettil kavu
27	Poothicheri kavu	101	Vilayil shektra kavu
28	Valiyaveettil kavu	102	Kadayatte kavu
29	Koshna kavu	103	Nalloor kavu
30	Thulavila Bhagavaty shektra kavu 1	104	Mamachan kavu
31	Thulavila Bhagavaty shektra kavu 2	105	Mamachan Sarpkavu
32	Kadiythithara Sree Valluvan shektra kavu	106	Thathodathu kavu
33	Madan kavu (Maramkunnu shektra kavu)	107	Pillavettil kavu
34	Thekke Mylakkad Nagaraja shektra kavu	108	Parappurathu kavu
35	Kalari Bhagavathy shektra kavu	109	Kuzhiyathu kavu
36	Thonikkadavu Sarpakavu	110	Meenathelkavu
37	Melakkal Nagarukavu	111	Koikamukkathu Bhagavathy shektra kavu 1
38	Sree Nagarukavu	112	Koikamukkathu Bhagavathy shektra kavu 2
39	Kaliyazhikathu shektra kavu	113	Mulangal kavu
40	Padinjatte Veetill Sarpakavu	114	Koolinthakkal kavu
41	Valathungal Valara kavu	115	Thennichazhikathu kavu
42	Muthodathu kavu	116	Njavar kavu
43	Meppathathil kavu	117	Bhuvaneswari shektra kavu
44	Perumadan Sarpakavu	118	Sree Madan kavu
45	Elanjikal kavu	119	Madathil kavu
46	Varazhikathu kavu	120	Thrippanayam Devi Shektra kavu
47	Kalari Moorthi kavu	121	Madathi kavu
48	Kannimel kavu	122	Kuzhivila Sree Bhagavathy shektra kavu
49	Anjayathu Kavu(Madan kavu)	123	Ayiravillan Mahadeva Moorthikavu
50	Kavadi kavu	124	Ayiravillan Mahadeva Sarpakavu
51	Puthukkalil kavu	125	Meleveettil Nagarukavu
52	Mallanthottatnu Devi shektra kavu	126	Karingottu kavu
53	Ardhanareeswara Bhadrakali Temple kavu	127	Puthu veedu Devi Shektra Sarpakavu
54	Pattoor Madan kavu	128	Cherumannoor Kavu 1
55	Kadappil kavu	129	Cherumannoor Kavu 2
56	Thengayathu Moorthikavu	130	Sree Bhadrakali Shektra kavu
57	Pillavettil kavu	131	Mukkathu kavu
58	Thettikunnu Bhagavathi shektra kavu	132	Valiyamadathil kavu
59	Vazhavila kavu	133	Panavilakam shektra kavu
60	Sree Valluvan Kalikavu	134	Mullankod Sree Durga Bhagavathy kavu
61	Parayinkuzhi kavu	135	Mullankod Sree Bhagavathy kavu
62	Pallikkal Veettu kavu(Kizhoottu kavu)	136	Sree Bhagavathi shektra kavu
63	Pazhangalathu Kavu 1	137	Elumala Indalayappan shektra kavu
64	Pazhangalathu Kavu 2	138	Marangattu kavu
65	Pazhangalathu Moorthy kavu	139	Arukuzhhy kavu
66	Pazhangalathu Aravila kavu	140	Thennur kavu
67	Pazhangalathu Pallivetta kavu	141	Puthuveettil kavu
68	Edaya Vettil kavu	142	Variyathu kavu
69	Perumbravil kavu	143	Elayadathu madan kavu
70	Thittavil kavu	144	Sree Narayanapuram shektra kavu
71	Sree Sankaranarayan Swami shektra kavu	145	Edavana shektra kavu
72	Ayyappa shektra kavu	146	Puthuman kavu
73	Kunnathu kavu	147	Paruvathuruthiyil kavu
74	Kelath kavu		

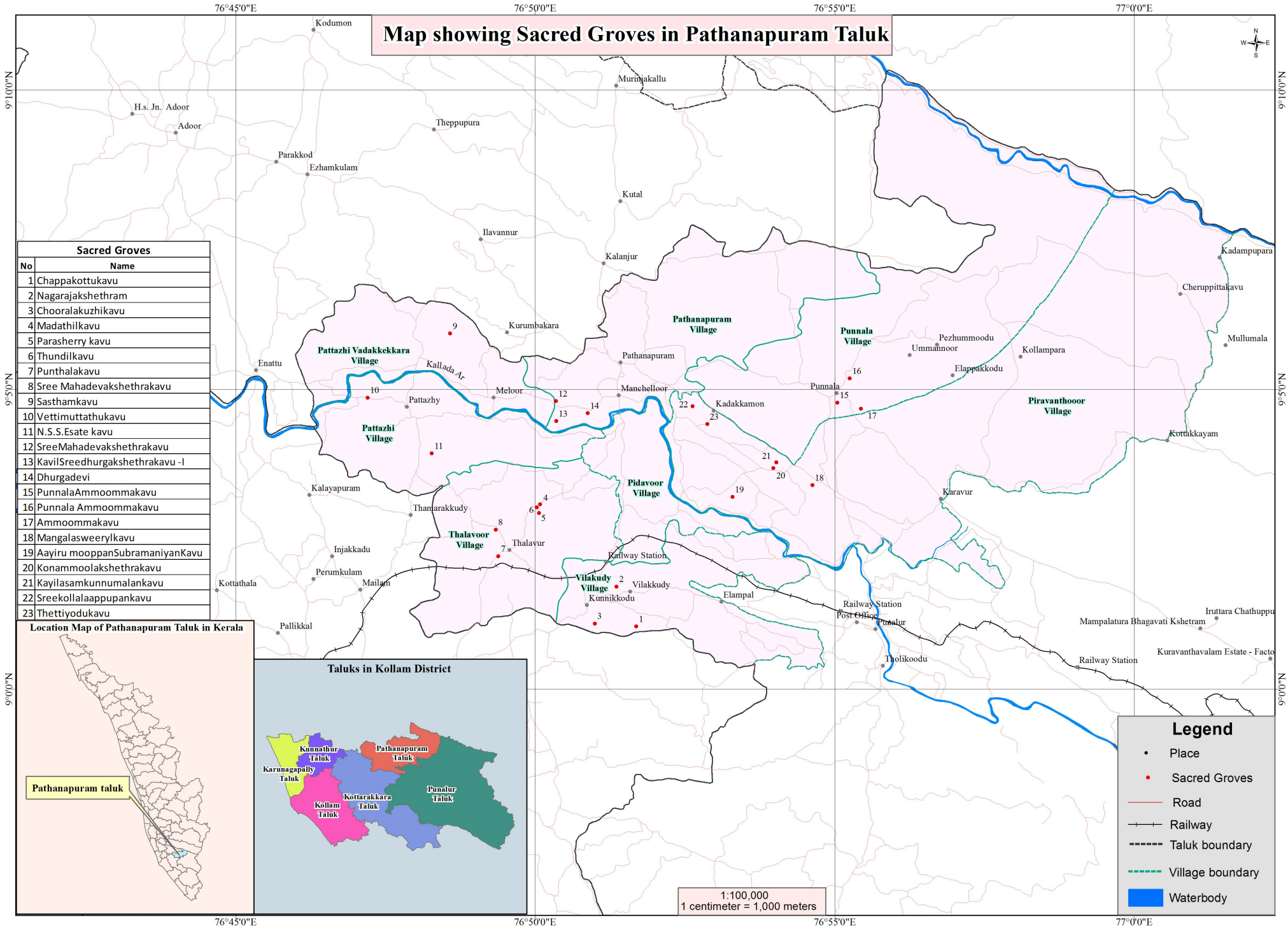



Map showing Sacred Groves in Karunagapalli Taluk
76°28'0"E
76°30'0"E
76°32'0"E
76°34'0"E
76°36'0"E
9°8'0"N
9°6'0"N
9°4'0"N
9°2'0"N
9°0'0"N
8°58'0"N
8°56'0"N
N
W
E
S
Karthikapally Taluk
Mavelikkara Taluk
Kunnathur Taluk
Kollam Taluk
Vallivattukkal Tura
Chunav
Vallikunnam
Pulikkodu
Pavumba
Patharam
Karalimukku
Alumpidika
Vauvakavu
Kulasekharapuram
Puthiyakavu
Thazhava
Karunagappally
Chavara
Arabian Sea
Klappara Village
Ochira Village
Anappad Village
Kulasekharapuram Village
Athinad Village
Karunagapally Village
Thazhava Village
Pavumba Village
Thodiyoor Village
Kallelibhagam Village
Vadakkumthala Village
Ayanivelikulangara Village
Panmana Village
Chavara Village
Neendakara Village
Thekkumbhagam Village
Thevalakara Village
Taluks in Kollam District
Karunagapally Taluk
Kunnathur Taluk
Pathanapuram Taluk
Punalur Taluk
Kottarakkara Taluk
Kollam Taluk
Location Map of Karunagapalli Taluk in Kerala
Karunagapalli taluk
1:65,000
1 centimeter = 650 meters
Legend
Place
Sacred Groves
Road
Railway
Taluk boundary
Village boundary


Map showing Sacred Groves in KottarakkaraTaluk
76°40'0"E
76°50'0"E
77°0'0"E
N.0°9'6"
N.0°5'8"
Adoor Taluk
KunnathurTaluk
Pathanapuram Taluk
Punalur Taluk
Kollam Taluk
Chirayinkil Taluk
Kulakkada Village
kalayapuram Village
Mylom Village
Puthur Village
Pavithreswaram Village
Neduvathoor Village
Ezhukone Village
Kottarakara Village
Ummannoor Village
vettikkavala Village
Melila Village
Chakkuvarakkal Village
Karupra Village
Odanavattam Village
Valakom Village
Veliyam Village
Elamadu Village
Velinalloor Village
Pooyappally Village
Kottakkal Village
Ihiva Village
Chadayamangalam Village
Nilamel Village
Kadakkal Village
Chithara Village
Kummil Village
Malkode Village
Kottarakkara taluk
Location Map of Kottarakkara Taluk in Kerala State
Taluks in Kollam District
Kunnathur Taluk
Pathanapuram Taluk
Karunagapally Taluk
Kottarakkara Taluk
Kollam Taluk
Punalur Taluk
Legend
Place
Sacred Groves
Road
Taluk boundary
Village boundary
1:145,000
1 centimeter = 1,450 meters


Map showing Sacred Groves in Kunnathur Taluk
76°30'0"E
76°35'0"E
76°40'0"E
9°5'0"N
9°0'0"N
Karthikapally Taluk
Mavelikkara Taluk
Adoor Taluk
Karunagapalli Taluk
Kottarakkara Taluk
Kollam Taluk
Arabian sea
Vallivatukkal Tura
Chunav
Vallikunnam
Thamarakulam
Ochira
Pattiyurkala
Ochira Railway Station
Alumpidika
Pavumba
Vaiyankara
Pulikkodu
Annyadi
Nellimugal
Tuvayur Tekku
Klappana
Panakkada
Vauvakavu
Vallikkavu
Kulasekharapuram
Thazhava
Kadampanadu
Puthiyakavu
Karunagappally
Sooranad
Idakkad
Patharam
Sastamcotta
Karalimukku
Kunnathur
Njankadavu
Puthoor
Pavithreswaram
Sooranad North Village
Poruvazhy Village
Sooranad South Village
Kunnathur Village
Sasthamcotta Village
Mynagappally Village
West Kalada Village
Location Map of Kunnathur Taluk in Kerala State
Kunnathur taluk
Taluks in Kollam District
Kunnathur Taluk
Pathanapuram Taluk
Karunagapally Taluk
Kollam Taluk
Kottarakkara Taluk
Punalur Taluk
1:75,000
1 centimeter = 750 meters
Legend
Place
Sacred groves
Road
Railway
Taluk boundary
Village boundary
Waterbody

Map showing Sacred Groves in Pathanapuram Taluk

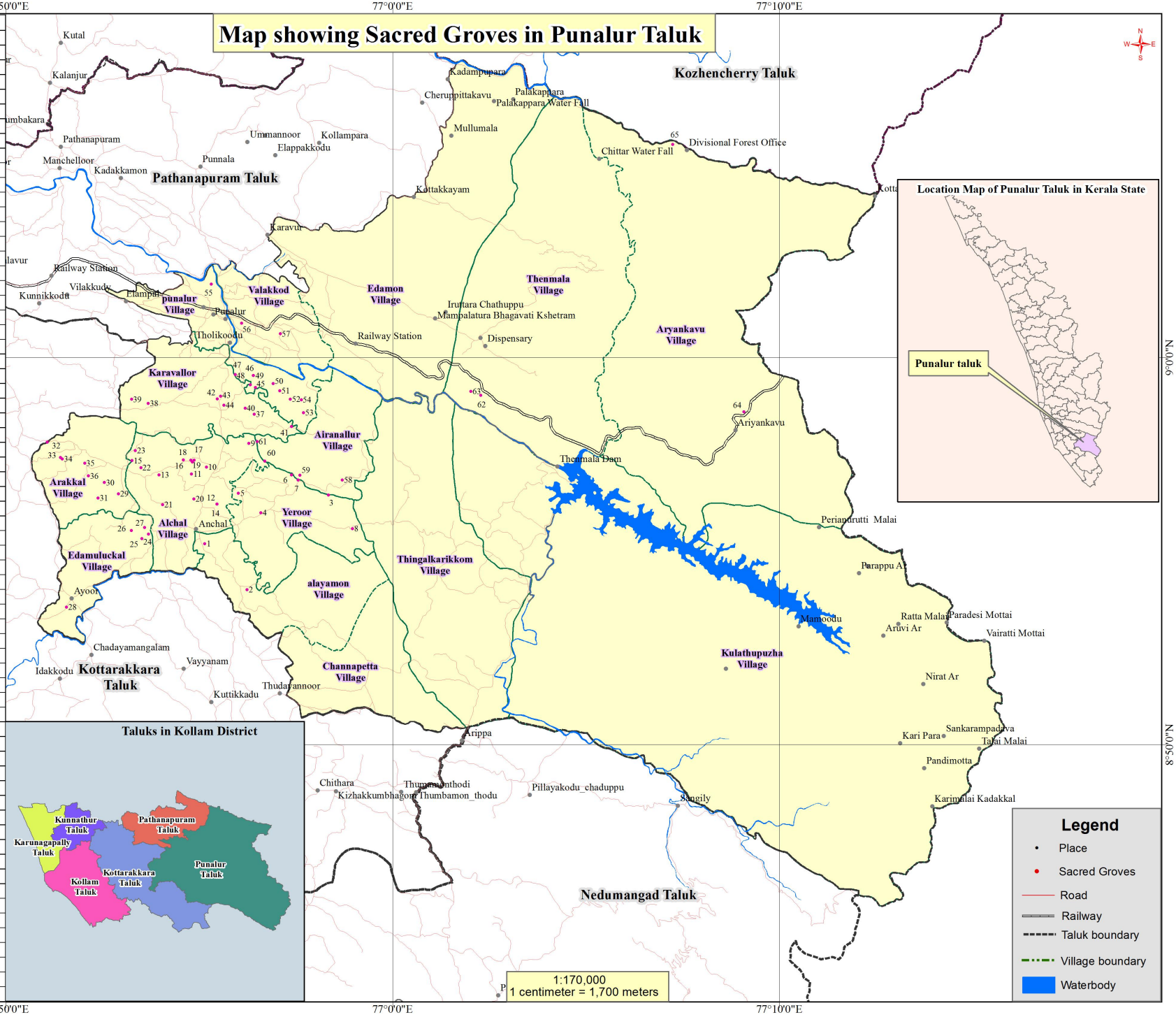


Sacred Groves	
No	Name
1	Chappakottukavu
2	Nagarajakshethram
3	Chooralakuzhikavu
4	Madathilkavu
5	Parasherry kavu
6	Thundilkavu
7	Punthalakavu
8	Sree Mahadevakshethrakavu
9	Sasthamkavu
10	Vettimuttathukavu
11	N.S.S.Esate kavu
12	SreeMahadevakshethrakavu
13	KavilSreedhurgakshethrakavu -I
14	Dhurgadevi
15	PunnalaAmmoommakavu
16	Punnala Ammoommakavu
17	Ammoommakavu
18	Mangalasweerylkavu
19	Aayiru mooppanSubramaniyanKavu
20	Konammoolakshethrakavu
21	Kayilasamkunnumalankavu
22	Sreekollalaappupankavu
23	Thettiyodukavu

1:100,000
1 centimeter = 1,000 meters

Legend

- Place
- Sacred Groves
- Road
- Railway
- Taluk boundary
- Village boundary
- Waterbody

Map showing Sacred Groves in Punalur Taluk

Sacred Groves	
No	Name
1	Nagarajakshetram Kavu
2	Pullanjimedu moorthikkavu
3	Kupai Chvarukavu
4	Ayiravallikshetramvaka pekkavu
5	Ayiravallikshetramvaka pekkavu
6	Kottarathil Durga bhagavathi kshetra kavu
7	Ayilara Aayiravalli Mahadevakshetrakavu
8	Muhoorthikkavu
9	Karyottu kavu
10	Kachanikavu
11	Valiyaveettilkavu
12	Kokkottu Moorthikkavu
13	Perinjelikkonam Bhagavathikshetrakavu
14	Kurumakkadu
15	Chavarukavu
16	Ealikkodu kavu
17	Sreekrishna swamy kshetrakkavu III
18	Sreekrishnaswami kshetrakavu II
19	Vadaman sreekrishnaswami kshetrakavu I
20	Sree chavarukavukshetram
21	Valiyapanikkankavu
22	Kolliyil sree durga devikshetrakavu
23	Eenjakkonathu moorthikkavu
24	Ananthankavu
25	Meerayikkottukavu
26	Sree Nagarajakavu
27	Chavaruneerali Appooppankavu
28	Sree maruthamangalathukavu
29	Sree Nagaraja sarppakavu
30	Meenkulathukavu
31	Thittakkaramoorthikkavu
32	Kavunkal Kavu
33	Perumannoordevikshetrakkavu
34	Polunnil kavu
35	Arakkal Devikshetramkavu
36	Cheruvaloor Ammoommakkavu
37	Earuchakkal kavu
38	Penakkadavu
39	Thoviyodu sarppakkavu
40	Alumoottilkavu
41	Urali Appooppan kavu
42	Kochuveettilkavu
43	Murukkolil kavu
44	Madan nadakavu
45	Mulavettikonam kavu
46	Thembakonam Appooppankavu
47	Puranayamkavu
48	Sree mahavishnu Sree bhagavathikshetram
49	Meppilaman kavu
50	Chavaruparakavu
51	Vallimanoor chathuppu
52	Chothirampara
53	Adavipparakkavu
54	Darppaman Chathuppuman Kavu
55	Ikkodttukavu
56	Thoombil nagayakshikavu
57	Karakkattu chavarukavu
58	Chavarukavu
59	Sree Mahadevakshetram
60	Chavarukavu
61	Panikkarukavu
62	Ottakkal Kavu
63	Sree Sivaparvathikshetram kavu
64	Dharmasasthakshetrakavu
65	Dharmashasthakshethrakavu