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Biodiversity Characterization at Landscape Level Using Remote Sensing and GIS in Kerala

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Acknowledgements

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Abstract

Biodiversity characterization at landscape level has been carried out using Indian Remote Sensing Satellite data of Kerala. The study, sponsored by the Department of Space, is part of a major initiative taken up by the Department of Biotechnology under its Network programme for Bioprospecting, commenced in 1997. The programme is a true implementation of “gene to ecosystem” concept in biodiversity conservation and prospecting. This project is a pioneering effort to create geospatial database on vegetation cover types, disturbance regimes and biological richness. The spatial data have also been linked with the species database and field sample data laid down in different strata of vegetation. The vegetation status of the forests of selected eight northern districts of Kerala, *viz.* Kannur, Wayanad, Kozhikode, Palakkad, Malappuram, Thrissur, Ernakulam and Idukki, has been covered in detail. The information system evolved in the present study through multicriteria analysis in GIS facilitates the rapid assessment of biodiversity and its monitoring (loss and/or gain), assessment of nature of habitats and disturbance regime therein; evolving species-habitat relationship, mapping biological richness and gap analysis; and prioritizing conservation and bioprospecting.

Abstract of project proposal

Code: KFRI 329/1999

Title: Biodiversity characterization at landscape level using remote sensing and GIS in Kerala

Objectives: 1.Gathering structural and compositional data of vegetation to prioritize biodiversity conservation in Kerala

2. Preparation of biome/ ecological maps using satellite remote sensing data

Date of commencement: May 1999

Date of completion: June 2004

Funding agency: National Remote Sensing Agency

Investigators: A.R.R.Menon
N.Sasidharan

INTRODUCTION

Sustainable management of natural resources has become a key issue for survival of life on planet Earth. In this effort, conservation of biodiversity has been put to the highest priority through Global Biodiversity Conservation (GBC). It is realised that the threats to the species/ecosystems are the greatest in recent times mainly due to unsustainable exploitation of biological resources. However, natural hazards also contribute to the loss of biodiversity. Thus there is an urgent need to conserve gene pool *'in situ'* before it is lost forever. The most appropriate method to do that would be to assess the ecological sustainability by way of understanding the ecosystems/landscape complexities and their uniqueness.

There could be several factors either acting singly or in combination, for the extinction of a species. For generating baseline data on plant species, habitats, ecosystems and for subsequent monitoring, reliable and well-documented information is a prerequisite. This would help in identification of 'hot spots'. It is interesting to note that majority of 'hot spots' are confined to most species rich tropical habitats. India with a geographical area of 2.4 percent of the world has about 8 percent of the world's total biodiversity. India is very rich in plant diversity with an estimated 50,000 species, of which about 15,000 are flowering plants. Of these, approximately 5000 species are endemic to India and distributed over 141 genera under more than 47 families. The endemism of Indian flora is very high, about 31.5 percent of which, nearly one third of the flowering plants, are represented as endemic species. In the light of the current problem of loss of biodiversity, it is necessary to identify priority areas for conservation of genetic resources. Successful action to conserve biodiversity must address full range of causes, of its current loss and focus its attention to embrace gene, species and ecosystem through integrated approach.

In this context the Department of Space (DOS), at the behest of Department of Biotechnology, Ministry of Science & Technology (DBT), Government of India, New Delhi has taken up a project on, "Characterising the biological richness at landscape level using satellite remote sensing data". Three test areas *viz*. North-eastern Himalayas, Western Ghats and Western Himalayas have been chosen, based on, existing knowledge about these biodiversity *'hot spots'*. Under this programme, a collaborative project was undertaken by Kerala Forest Research Institute (KFRI) with National Remote Sensing Agency (NRSA) for the *biodiversity characterisation study of Kerala part* of Western Ghats. The hierarchy of biological organization and the approaches to study the biodiversity at different levels of biological organizations are given in Figures 1 and 2.

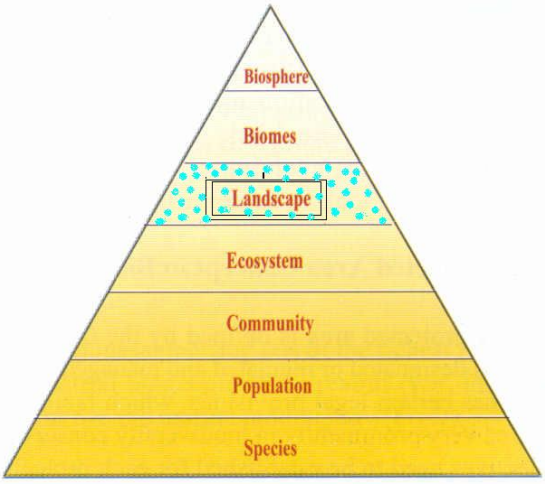


Fig.1. Hierarchy of Biological Organisation

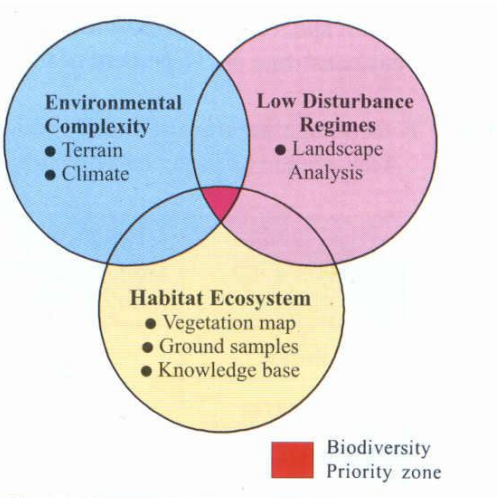
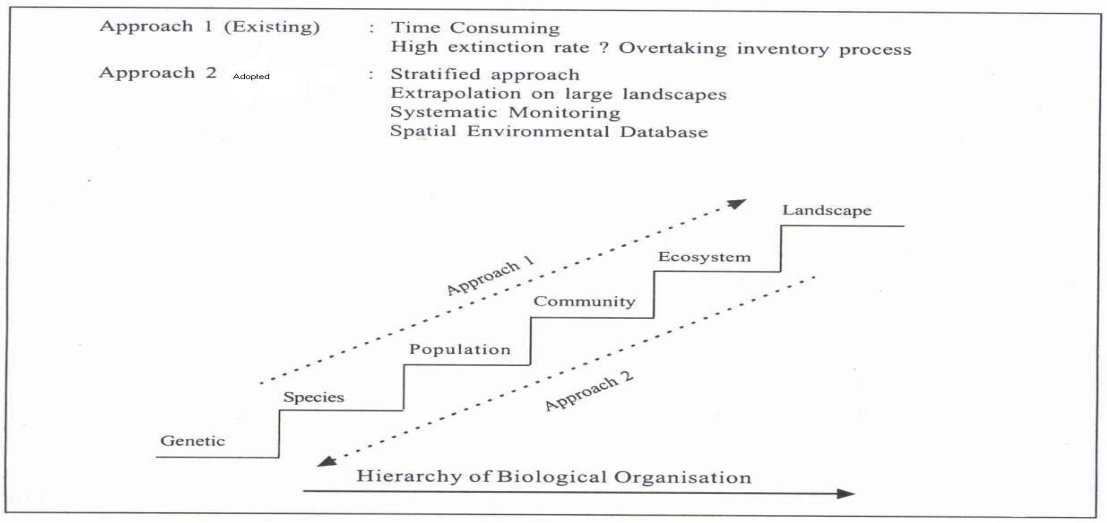


Fig.2. Approach for Biodiversity Characterisation

Bio prospecting

Biodiversity provides to the mankind enormous direct economic benefits in the form of food, medicine, industrial products etc. and has potential for providing many more yet unknown benefits. It is felt that bio prospecting of this enormous biological wealth will require reliable information on the status of bio resources, their distribution pattern, interactions and anthropogenic disturbances if any. A schematic approach for biodiversity characterization is given in Figure 3.

Fig. 3. Schematic approach for Biodiversity study at different levels of biological organisation



The spatial database has to be linked to the non spatial (ground inventory data) to assess their possible distribution pattern and quantity. It will also provide information on site conditions that can be utilized for multiplication, regeneration, afforestation and conservation. A national strategy for bio prospecting, hence, will require i) spatial knowledge of distribution of habitats,

their ecological significance, disturbance regimes and biological richness; ii) floristic inventory, habitat-species relationship, traditional knowledge, identification of genotypes and gene bank accessories; and iii) evolving biotechnological tools to conserve the species both *'in situ'* and *'ex situ'*.

Biodiversity of Western Ghats

Western Ghats consist of a series of mountains stretching from southern coast of Kerala to southern part of Gujarat encompassing six Peninsular Indian States. The forests of these regions are dense with luxuriant vegetation with high biodiversity, comprising tropical evergreen rainforests, mixed deciduous forests and subtropical or temperate forests in the peninsular mountains. Mangrove forests, grasslands and dwarf forests have their characteristic presence. The 'Sholas' of Anamalai and Nilgiri hills at an altitude of 2300 m. is a unique feature of the region. The tropical evergreen forests have a multilayered forest with tall trees comprising *Toona ciliata, Dipteropcarpus indicus, Hopea parviflora, Mesua ferrea, Dysoxylum malabaricum* etc. Other species *viz. Tectona grandis, Terminalaia tomentosa, Terminalia paniculata, Dalbergia latifolia* etc. are found in the mix-deciduous forests. There are several of endemics in Western Ghats. Among the largest genera in India, 77 species of Impatiens are found in this region. The important minor forest products are bamboo, charcoal, cane, medicinal herbs, gum, Dry fruits etc. Forest plantation and tea gardens are also contributed significantly to the regional economic growth.

Protected Area Concept

A protected area is defined as a '*geographically defined area, which is designated or regulated and managed to achieve specific conservation objectives*'. The land in the protected areas has certain legal provisions, which facilitates the management of protected areas. The protected areas have figured very prominently in biodiversity conservation efforts around the world. India's strategies for conservation and sustainable utilization of biodiversity in the past have comprised of providing special status and protection to biodiversity rich areas by declaring them as National Parks, Wildlife Sanctuaries, Biosphere reserves, ecologically fragile and sensitive areas etc. It has helped in reducing pressure from reserve forests by alternative measures of fuel wood and fodder, by afforestation of degraded areas and wastelands, creation of *'ex situ'* conservation facilities such as gene banks for eco-development.

Measuring biodiversity

An objective measure of biodiversity is a difficult preposition. However, relative measure is possible with respect to some particular purpose. For conservationists, the measure of biodiversity should quantify a *'value'* shared broadly among the people for whom they are acting. One such value is to ensure continued possibility for adaptation and use by people of changing world. Arguments for measuring biodiversity value as character *'richness'* do at least provide a reasonable starting point. The habitat surrogates including classification of vegetation, details of physical environment, factors determining the biodiversity loss in a spatial context may be of practical information value and could reduce sampling intensity. This information base could also guide detailed sampling on the ground. These large-scale habitat surrogates include entire functions system and are more likely to promote population viability in the ecosystem. The different steps in Geo-informatics for creating biodiversity information system is depicted in Figure 4.

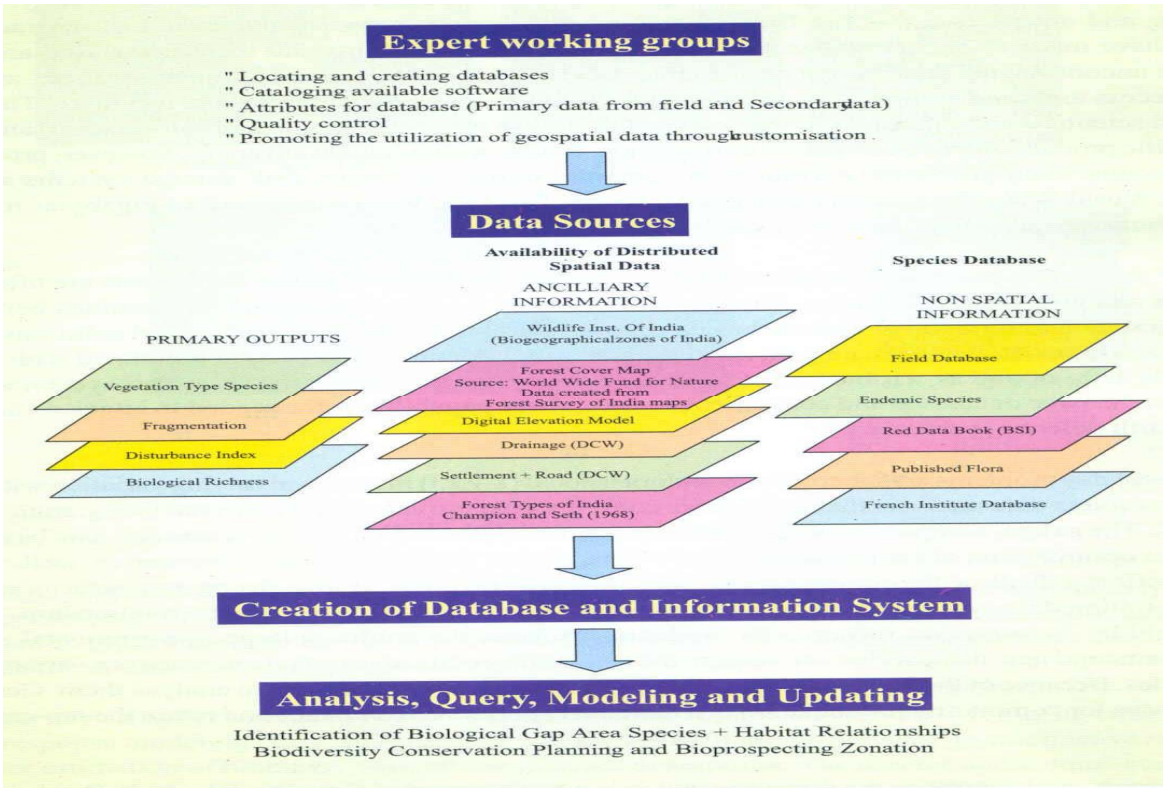


Fig.4. Steps in geo-informatics for creating Biodiversity information system

Habitat analysis

The characteristic of habitat is of prime importance in biodiversity management. The quality of habitat is generally reflected in the status of vegetation cover. The vegetation cover is governed by the complex phenomenon of interaction of physical environment. The vegetation community formation is mainly governed by factors like i) flora, ii) accessibility factor, iii)

ecological efficiency of species, iv) habitat and v) time. Of these habitat plays a key role in biodiversity. From biodiversity point of view, the site characteristics are largely controlled by presence of life forms, physical and climatological factors, also affecting the species (floral and faunal) diversity and their abundance.

Remote Sensing Technology for Biodiversity Studies

Remote sensing technology has become indispensable for natural resource management. To have a good knowledge of habitats and ecosystem implies information about their potential, extension, composition and evolution, including notably their rate of transformations. Remote sensing and Geographic Information System can help in establishing a monitoring system to update the data required for biodiversity conservation on continuous basis. In remote sensing, maps are created from numerical data collected by satellite that measure the amount of reflected energy from different land features. These data are translated into information based on ground data and theme. The data then can be analysed in GIS domain with combination with other data acquired physical parameters and other related inputs for creating information base for land use and habitat modifications. Aerial remote sensing data can also be integrated suitably with satellite techniques to obtain more detailed information of the identified *'hot spots'*. Thus remote sensing gives a perspective horizontal view and helps in delineating different landscape elements and their spatial characteristics.

Landscape Ecological Analysis

Landscape ecology has emerged as an important discipline to study the landscape structure, function, and changes. Ecology, over decades, has focused on *'vertical'* study ***i.e.*** relationship between plants, animals, air, water and soil, within a relatively homogeneous spatial unit. Landscape ecology, however focused on the *'horizontal'* study *i.*e. relationship between the various spatial units. Landscape analysis takes into account recognizable landscape elements at different spatial scales to study homogeneity / heterogeneity and causative mechanisms.

Each landscape is formed by several landscape elements, which appear as patches and vary markedly in size, shape, type, heterogeneity and boundary characteristics. Each of the above characteristics has its own significance in the ecosystem and its importance in evaluating landscape structure. The role of biodiversity assessment in landscape level is explained in Figure 5 and 6.

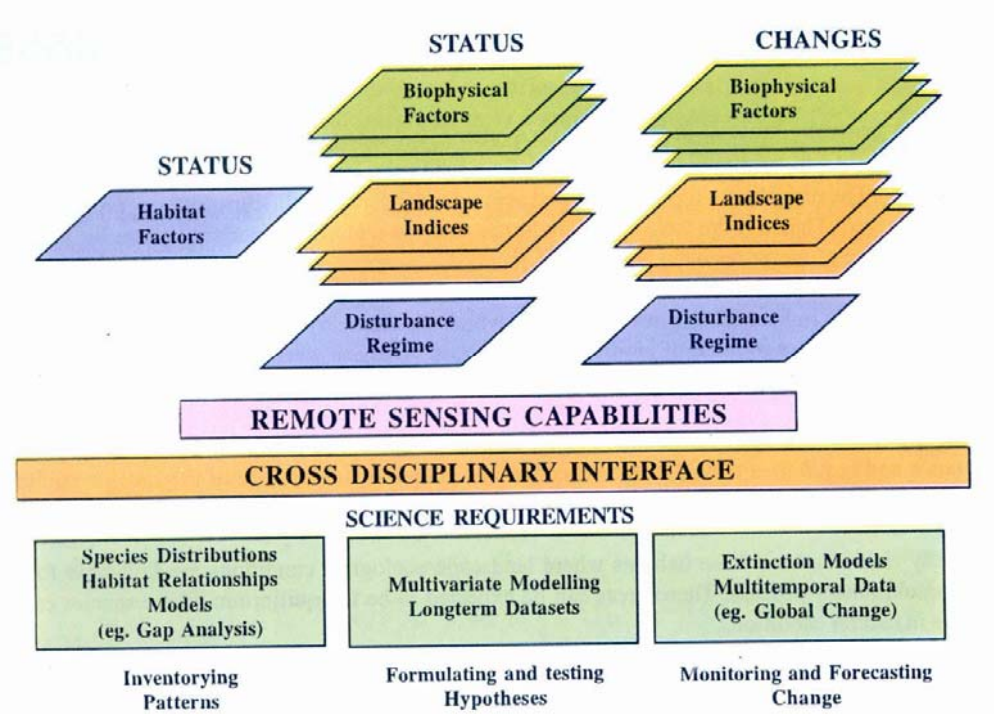


Fig.5. Role of Biodiversity assessment at landscape level

There are three basic characteristics of landscapes that affect their diversity, *viz., structure, function and dynamics*. Structure is the most well understood element of landscapes. It is also the most obvious - viewed in the form of different landforms, habitats or vegetation types. The *'patch'* is the basic unit of the landscape structure. The patch characteristics and their spatial relationships are the important component of any landscape (Lidicker, 1995).

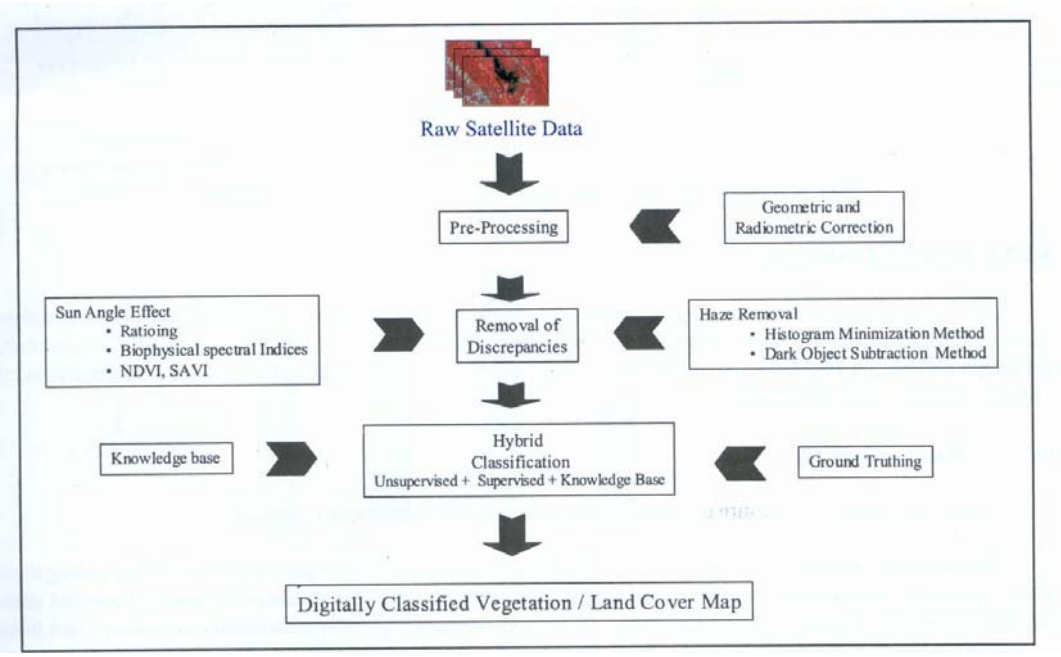


Fig.6. Approaches for Vegetation/ Landcover mapping

The distribution of energy, material and species among patches differing in size, shape, abundance and configuration are particularly important to patterns in diversity at the landscape scale. The other two elements, *viz*: *'Function'* is concerned with interactions among spatial elements of landscape and *'Landscape dynamics'*, includes characteristics of structure and function both in order to examine changes in pattern and process over time. The conservation and management of biodiversity require understanding of all three elements on the system. The present study is centered on these lines.

Landscape structure

The basic components of landscape structure are (i.) Composition and (ii.) Pattern. Composition refers to the patch that makeup the landscape and pattern refers to how these patches are arranged. In spite of the conceptual difference between these two components, in practice they are often closely related in space and time.

Measuring of Landscape Composition

Landscape composition can be measured in ways analogous to measurements of species composition (Romme, 1988) The landscape richness measurement approach (the number of different patch types in a landscape) is the widely used method. Yet another approach includes the relative abundance or dominance of different patch types along with richness. Measurements of landscape diversity are analogous to common measurement of species diversity (Whittaker, 1960, 1977). Different patch types provide different habitats and species composition. Thus the total member of species in a landscape would increase as landscape richness increases (Nicholas *et al*., 1988).

It is true that a patch is a relatively homogenous, non-linear area that differs from its surroundings. The definition and identification of individual patches and their boundaries are important steps in characterizing the structure of a landscape. Since vegetation commonly does not exist as discrete entities, boundary delimitation of patches may have some problem. In many cases, the boundary is not so clear, and patches are more difficult to delineate. Most method of patch identification combines qualitative and quantitative approaches. A subjective determination, of how different two areas must be for considering them as different patches is often needed. Once the patches in a landscape have been identified, there are many ways to describe and quantify these (Ritters *et al.,* 1995). The *patch size* and *shape* are the most understood characteristics with species diversity. The relationship between patch size and species richness goes well beyond the familiar species area curve (Peter and Goslee, 2001).

Landscape '*fragmentation'* is yet another feature to be considered in biodiversity study. It is an accepted fact that fragmentation of landscapes results, in geographical isolation and the probability of decolonization depends on the distance of fragments from the main core and on the quality of surrounding habitat. Similarly fragmentation study takes into account of connectivity (corridors), ecotones, population structure etc. The magnitude of fragmentation increases the vulnerability, with a threat on biodiversity of patches. The reduction of size and quality of mega patches due to fragmentation and subsequent loss of corridors in wildlife habitats is yet another important aspect to be considered. (Bierregaard *et al.,* 1992). The probability of biodiversity loss, due to fragmentation, is much higher in tropical region than the temperate zone (Turner and Corlett, 1996), probably due to higher species composition of sensitive species in tropics. Since the habitat requirements of 'sensitive' species are specific to the area, size and surrounding characters (Bancorff *et al.,* 1995), fragmentation is having direct impact on the survival and establishment of communities.

Ecosystem disturbance

It also leads to fragmentation and subsequent biodiversity loss. The magnitude, frequency, size and dispersion are the basic variables of disturbance. At landscape level disturbance is related to patch structure and spatial allocation. Severe disturbance has depressing effect on biodiversity but intermediate disturbance seems to enhance diversity in a system (Pickett and White, 1985). Hence disturbance index is another measure of diversity and adopted in the study.

MATERIALS AND METHODS

Study area

To study the biodiversity aspects of Western Ghats region of Kerala part; 11 districts were selected *viz*., Ernakulam, Idukki, Quilon, Kottayam, Thrissur, Palakkad, Malappuram, Kozhikodu, Wayanad, Pathanamthitta and Kannur; for detailed field study. Two hundred and ninety plots of 33 m x 33 m size were enumerated and studied in different vegetation types for structural data analysis. Evergreen, semi evergreen, shola, moist deciduous and dry deciduous vegetation types are the major forest types studied in the selected area.. The preliminary selection of plots were based on mosaiced IRS images (IRS 1C and 1D, LISS III) , considering canopy density of cover types and vegetation classes. The details of the number of plots covered in different districts and corresponding forest types are tabulated (Table10).

DATA USED

Satellite Data Products

Satellite data products on 1:250,000 scale for all the scenes (hardcopy) and digital data of IRS1C LISS III / IRS1D LISS III were used in the present study. The descriptions of the scenes used for the study are provided (Table 1).

Ancillary Data

The following ancillary data were used directly or indirectly for the study.

i. Survey of India topo-sheets on 1:250,000 and 1:50,000 scales.
ii. Forest type maps of India (Champian and Seth, 1968)
iii. Biogeographical map (Rodgers and Panwar, 1988)
iv. Management maps/Stock maps of State Forest Department
v. Forest Vegetation maps on 1:250,000 scale and 1:50,000 scale of Forest Survey of India used for forest density status and other relevant information as base details.

Table 1. Description of Satellite scenes used in the study

Sl. No.	Satellite	Path	Row	Date
1	IRS1C LISSIII	101	68	20.Apr.1998
2	IRS1C LISSIII	100	68	22 Mar. 1998
3	IRS1C LISSIII	100	66	22 Mar. 1998
4	IRS1C LISSIII	99	66	26 Feb. 1997
5	IRS1C LISSIII	99	65	26 Feb. 1997
6	IRS1C LISSIII	98	65	20 Feb. 1998
7	IRS1C LISSIII	98	64	20 Feb. 1998
8	IRS1C LISSIII	99	67	29 Dec. 1997

Vegetation Classification Scheme

Since the study was the part of a National Level project on *'Biodiversity assessment'* for North-eastern India, Western Himalayas and Western Ghats; covering three different climatic zones; a broad vegetation classification scheme was adopted for mutual uniformity. In the present study, Level II Vegetation classification is attempted. Following classification scheme was adopted for Stratification, using Remote Sensing Digital data.

Forest Vegetation

I. Forests

1. *Dominant phenological types*

1.1. Evergreen

1.2. Semi-evergreen

1.3. Moist deciduous

1.4. Dry deciduous

2. *Gregarious types (single species dominated*)

2.1. Bamboo

3. *Local specific classes*

3.1. Mangroves

3.2. Sholas

3.3. Riverian

3.4. Sacred groves

4. *Degradation types*

4.1. Degraded forest stages (eg. 10-40 per cent tree density, signs of erosion and of composition not confirming with any of the above types).

II. Scrubs

III. Grasslands

Non forest vegetation

IV. Major Wetlands

V. Orchards (Tea/Coffee/Coconut gardens etc.)

VI. Agriculture

VII. Fallow/Barren

VIII. Water body

IX. Settlements

Digital Classification of Satellite Data

Pre-processing

The raw digital data was enhanced using contrast stretching and/or ratio based techniques to facilitate better discrimination during ground data collection or locating sample points.

Reconnaissance Survey

The reconnaissance survey was undertaken for getting better acquaintance with the general nature of vegetation of the area. Major vegetation types and few prime localities of characteristic types were noted during reconnaissance survey. The variations and tonal patterns were also observed on existing images /maps. Traversing along major drainage, roads, paths etc for ground truthing, existing literature survey, and interaction with forest officials were also made during field survey.

Vegetation characterization using Satellite Data

Satellite data in digital form were used for analysis to characterize the vegetation using interactive digital analysis procedures. The preparation of vegetation map assumes a critical step in the biodiversity characterization procedure.

The entire Kerala falls in as many as eight satellite scenes (Table 1). All these scenes were geometrically corrected with reference to Survey of India 1: 250,000 scaled topo-sheets (Fig.7). The Vegetation classification was performed as per the scheme mentioned earlier . The different scenes were classified using *Maximum likelihood* algorithm. After completing the

classification, misclassified areas were checked and reclassified considering small *Area of Interest* AOI) or through Interactive Editing for improved accuracy. Finally all classified scenes were mosaiced and the edges were smoothened (Fig.11).The area statistics were taken for all the districts using SOI district mask. The approach for land cover mapping is as follows:

(Schematic approach for land cover mapping)

Raw Satellite Data

Pre-processing Geometric and Radiometric Correction

Sun angle effect Ratioing Haze removal

NDVI etc. (Removal of Discrepancies Dark object subtraction etc.) Histogram minimization

Knowledge base Hybrid classification Ground truthing

Digitally classified vegetation/cover map

Accuracy Evaluation

The classification performance was evaluated by redundant training areas and field sample points based on the *commission and omission error matrix* and hence overall classification accuracy was calculated. It should be noted that overall classification accuracy is more then 85 per cent.

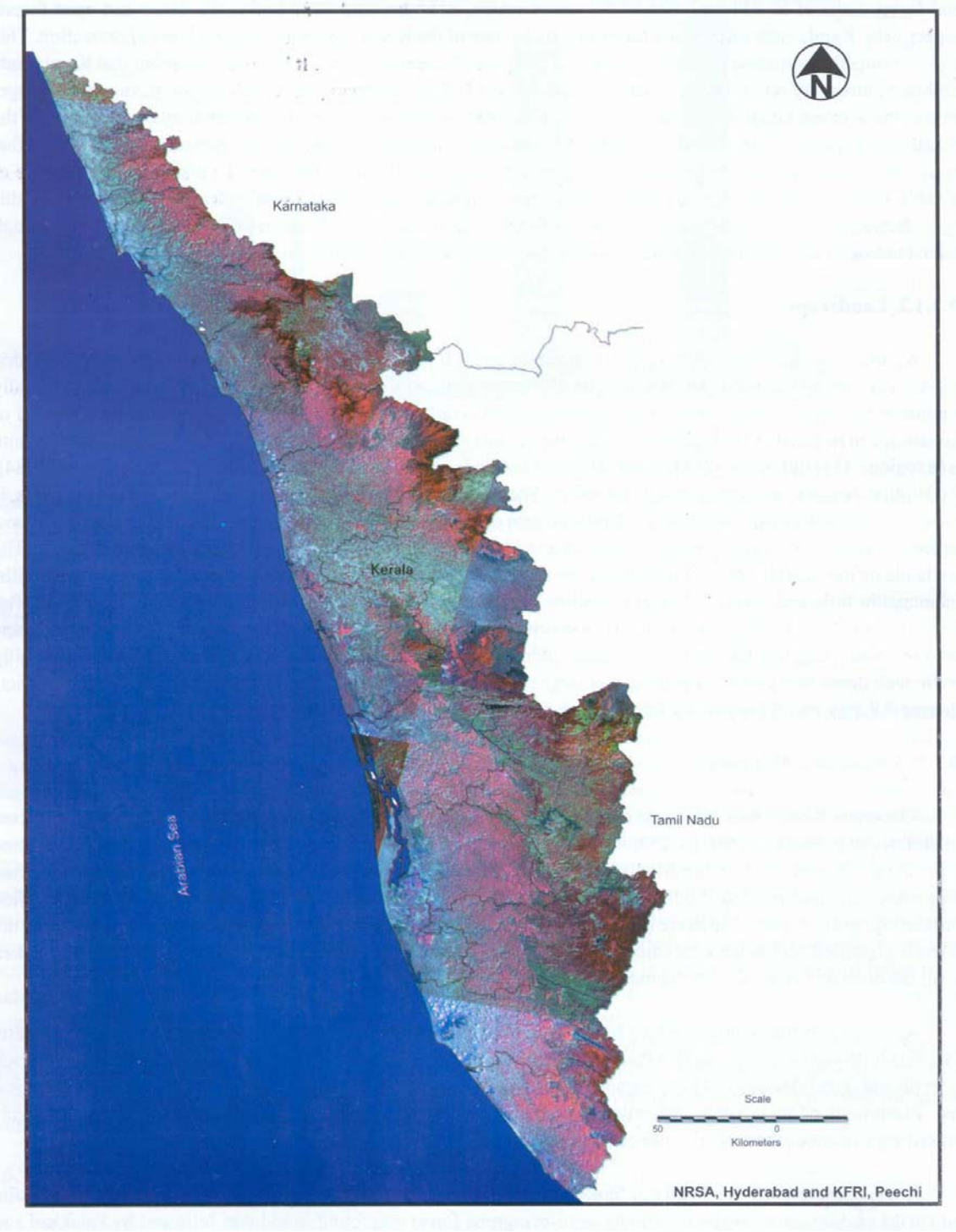


Fig.7. Satellite image of Kerala (False Colour Composite)

Phytosociological Data Collection

Phytosociological analysis provides the real meaning to any biodiversity analysis by *quantifying the structural parameters* of the communities. The sampling principle was based on inventorying the homogenous strata identified by remote sensing data analysis. According to the spectral signature variability in consonance with the vegetation type and orientation of terrain,

225 sample points were marked on 1: 50,000 scale SOI toposheets in all forested districts; *viz.* Idukki, Ernakulam, Thrissur, Palakkad, Malappuram, Kozhikodu, Wayanad and Kannur of Kerala. The plot size in the sample points was of 33 m x 33 m covering approximately an area of 0.1 ha. size.

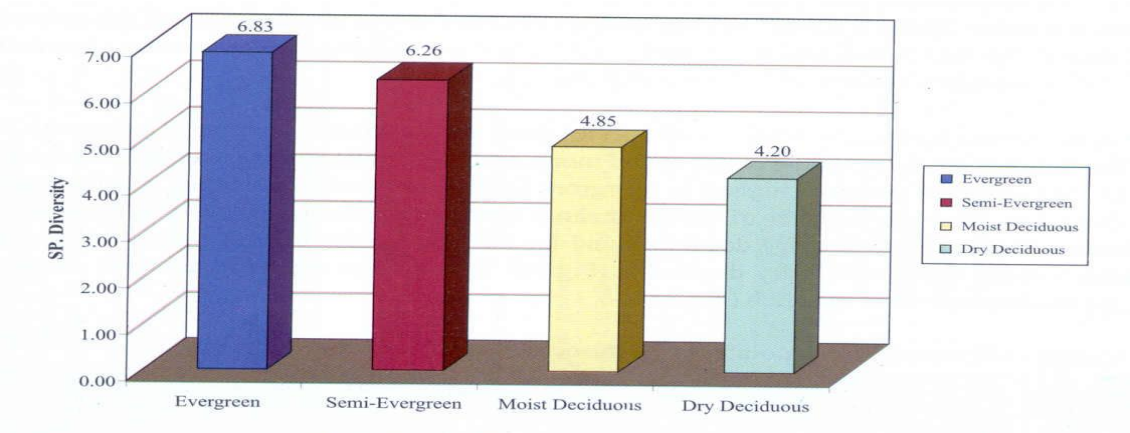


Fig. 8. Species diversity in Western Ghats, Kerala

The taxonomical census of each plot as well as menstruation of individual woody members qualifying as tree and shrub yielded the data essential for arriving at the diversity measure. One hundred and ninety one plots were finally sampled and analysed for the diversity measure. (Tables 11-143 and Fig.8).

Sampling Strategy

Stratified random sampling with probability proportion to the size (PPS) was adopted for analysing vegetation composition of all the types encountered. The percentage sampling procedure, to sample an area of nearly 0.01 percent of total area of each type was adopted. In view of the time, money and availability of other resources, optimum number of sample points has been taken up, covering all vegetation type, in different density/disturbance regimes.

For each vegetation type, the size of the quadrat was determined through *'Species-Area curve method'* (Muller – Dombois and Ellenberg, 1978) – Fig.9.

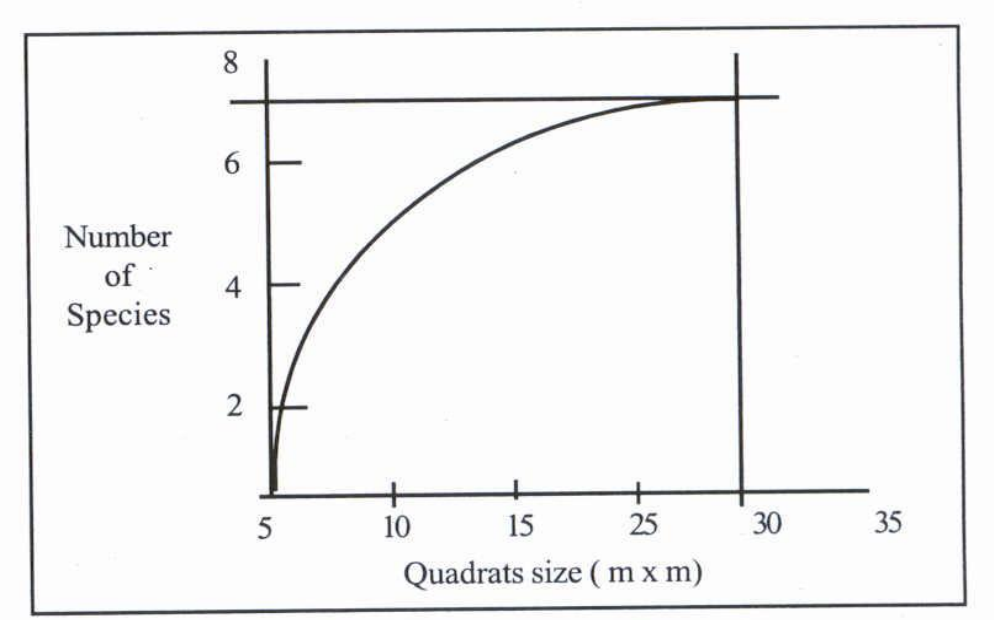


Fig.9. Species – area curve method.

The plot size was restricted to 0.1 ha. (32 m x 32 m). A minimum of 8-10 quadrats were analysed for each type. Each sample site was located on Survey of India Toposheets. Exact longitude and latitude and location height (msl) were noted down using Global Position System (Garmin III plus and Magellan Nav. Pro. 5000).

Creation of District boundaries and Masks

The precise district boundaries as obtained from Survey of India are used and the district bit maps are created to use them as district masks. It is ensured that the SOI district boundaries are properly registered on the geometrically corrected image and geo-referenced map.

Plot Method and Enumeration

At each sample plot, complete enumerations of species were done. The circumferences at breast height (cbh) or 1.3 m above ground level, of all tree species were recorded. The individuals with cbh >30 cm is considered as trees and with >17 cm and <30 cm cbh as saplings. The number of seedlings of different species are counted and the average girth of each species is recorded. For shrubs, plots of 10 m x 10 m were laid within the main plot.The individuals with cbh >30 cm is considered as tree and with >17 cm and <30 cm cbh as saplings. The number of seedlings of different species are counted and the average girth of species are recorded.For herbaceous layer or ground flora, the *nested quadrat method*s with 1 m x 1 m plot size were taken in two opposite corners and wherever required numbers of samples were increased upto five, ie. at four in corners and one in centre (Fig.10).

Species Identification

Each plant was identified in the field itself (either by botanical name or local name). The specimens of unidentified plants if any, were collected with proper field notes (plot number, locality, habit, flower colour etc.). The specimens were preserved as per the standard procedures and were taken to the herbarium of KFRI. Expertise of experienced taxonomists was available during the total field sampling programme.

Phytosociological Analysis

For each vegetation type the field data is analysed for various structural features and the computation of Importance Value Index (IVI) was done for each species (Table … to 148).

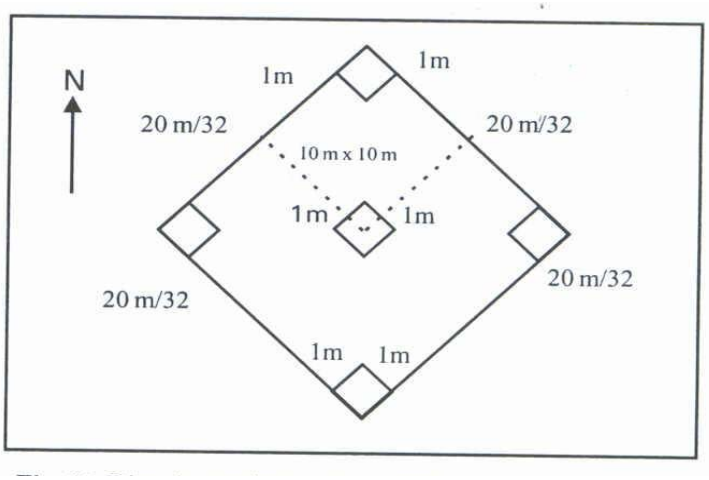


Fig. 10. Direction and position of samples in a nested quadrat.

The analysis was done as per Muller-Dombois and Ellenburg (1978). *Viz:*

Frequency = Total number of quadrats in which species occurred

_____ X 100

Total number of quadrats studied

Density = Total number of individuals of the species

(Per quadrats) _____ x 100

Total number of quadrats studied

Abundance = Total number of individuals of species occurring

_____ X 100

Total number of quadrats in which species occurred

Relative frequency = Frequency of a species

_____ X 100

Sum of frequency of all species

Relative Density = Density of a species

_____ X 100

Sum of density of all species

Relative dominance = Total stand basal cover of species

_____ X 100

Total stand basal cover of all the species

Basal cover = (cbh) 2

_____

4 Π

Sum of basal cover of individual plants of a species will yield *total stand basal cover* of that species.

Mean basal cover = Stand basal cover

_____

Density

Importance Value Index (IVI) = Relative Frequency + Relative Density + Relative Dominance

Species Importance Percent (SIP)

In order to analyse the importance of the tree species, *Species Importance Percent* (SIP) has been computed for selected species as:

SIP = 0.5 x Relative Density + 0.5 x Relative Basal Cover. Thus SIP is the percentage Importance Value directly for each of the species (Table 2).

Forest Type	TIV %
Evergreen	7.39
Semi evergreen	8.16
Moist deciduous	12.79
Dry deciduous	11.08
Complete State	9.38

Table 2. Total Importance Values of Vegetation Types of Kerala

Species Distribution

From the structural data generated for each vegetation type in each districts, the major dominant species and the order of distribution were worked out (Table 5). The details of analysis of ground sample points for phytosociological characters of Kerala and Total Importance Value (TIV) of vegetation are given in Table 2.

Landscape Mapping

The Vegetation map prepared (Fig. 11) as per the above mentioned procedure is the very basis of the landscape analysis. The detailed landscape characterization with respect to *vegetation patchiness, porosity* etc. has been carried out using the customarised package developed by NRSA as the part of the project – the *'Bio Cap'* using the parameters *viz*. *fragmentation, porosity, pachiness, interspersion* and *juxtaposition*, where *fragmentation* considers the remnants of forest patches in matrix of non forest background; *porosity* connotes the degradation in each of the natural vegetation stratified; *pachiness* corresponds to the quantum of patches of different vegetation type specifically; *interspersion* defines the degree of mixing of various strata of interest in a spatial sense and *juxtaposition* points to the importance of pairing of strata along the edge with respect to value of stability in the habitat. Apart from these, biotic and anthropogenic disturbance were modelled in GIS domain as *biotic zoning*. Integration of these inputs was modelled in *'Bio Cap'* for deriving *disturbance index*. Based on the above-mentioned factors fragmentation map (Fig.16), disturbance index map (Fig.12) and biological richness map (Fig.17) were generated for the State.

Table 3. Vegetation classes of Kerala as compared with Champion & Seth's (1968) Classification

Remote sensing strata	**Type as defined by Champion & Seth**	**Code (C&S)**
Evergreen Forest	Southern Hill top Tropical Evergreen Forest	IA/C3
	West Coast Tropical Evergreen Forest	IA/C4
	Myristica Swamp and Submontane Hill Valley Swamp Forest	4C/FSI & 2
	Cane Brakes	I/E1
	Nilgiri Subtropical Hill Forest	8A/C1
	Southern Montane Wet Temperate Forest	11A/C1
Semi-evergreen Forest	West-coast Semi-evergreen Forest	2A/C2

Table 3 continued.		
Remote sensing strata	**Type as defined by Champion & Seth**	**Code (C&S)**
Semi-evergreen Forest	Lateritic Semi-evergreen Forest	2/E4
	West Coast Secondary Evergreen Dipterocarp Forest	2A/2S1
	Riparian Fringing Forest	4E/RS1
	South Indian Tropical Hill Savannah Wood land	8A/C1/DS1
	Wet Bamboo Brakes	1/E2
Moist Deciduous Forest	South Moist Mixed Deciduous Forest	3B/C2
	Southern Secondary Moist Mixed Deciduous Forest	3B/2S1
	Moist Teak bearing Forest	3B/C1 (a/b/c)
	Moist Bamboo Brakes	2/E3 (2/2S1)
Dry Deciduous Forest	Southern Dry Mixed Deciduous Forest	5A/C3
	Secondary Dry Deciduous Forest	5/2S1
	Dry Savannah Forest	5/DS2
	Dry Bamboo Brakes	5/E9
Reeds	Reed Brakes (*Ochlandra*)	8A/C1/E1
Teak	Dry Teak Forest	5A/C1 (b)
Degraded Forest	Laterite Thorn Forest	5E7
Scrubs/Shrubs	Dry Deciduous Scrub	5/DS1
	Pioneer Euphorbiaceous Scrub	I/2S1
Grass lands	Southern Montane Wet Grassland	11A/C1/DS2
	Southern Montane Wet Scrub	11A/C1/DS1

Land cover statics are given in Table 8 and 9.

OBSERVATION HIGHLIGHTS

Geomorphologically Kerala has been divided into three regions. i) highlands, ii) midlands and iii) lowlands. The highlands rise to an average height of 900 m. The midlands, lying between the mountains and the lowlands, are made up of undulating hills and valleys. This is an area of intensive cultivation. The low lands or the coastal area is interspersed by river deltas and backwaters.

According to the remote sensing based stratification, moist deciduous forest, cover the maximum area (14.33%) followed by evergreen (5.94%) and semi-evergreen (3.77%) forests. Dry deciduous forests show least coverage under phenological classes (0.74%).Around 2%area was occupied by degraded forests and scrubs. Grassland showed significance presence of about 3 per cent (Fig.11).

With respect to distribution of dominant species in different forest types the district wise status is as follows:

The evergreen forests in most of the districts show similar complexity as that of semi-evergreen. The dominance of first five species in different districts are given below:

Idukki*:* *Hydnocarpus alpina* > *Vernonia arborea* > *Elaeocarpus tuberculatus* > *Cullenia exarillata* > *Ilex wightiana*.

Ernakulam: *Elaeocarpus tuberculatus* > *Lagerstroemia reginae* > *Vateria indica* > *Polyalthia coffeoides* > *Vernonia arborea*

Thrissur : *Ficus beddomei* > *Cullenia exarillata* > *Drypetes elata* > *Mesua ferrea* > *Litsea bourdillonii*

Malappuram : *Hopea parviflora* > *Drypetus elata* > *Knema attenuata* > *Bacaurea courtellensis* > *Pterygota alata*

Palakkad : *Palaquium eliipticum* > *Cullenia exarillata* > *Knema attenuata* > *Drypetes oblongifolia* > *Dysoxylum malabaricum*.

Kannur: *Drypetes elata* > *Knema attenuata* > *Aglaia barberi* > *Vatteria indica* > Holigarna *grahamii.*

The semi evergreen type shows a scenario of higher complexity. All the districts show a different pattern by different set of species. The dominance can be represented as follows:

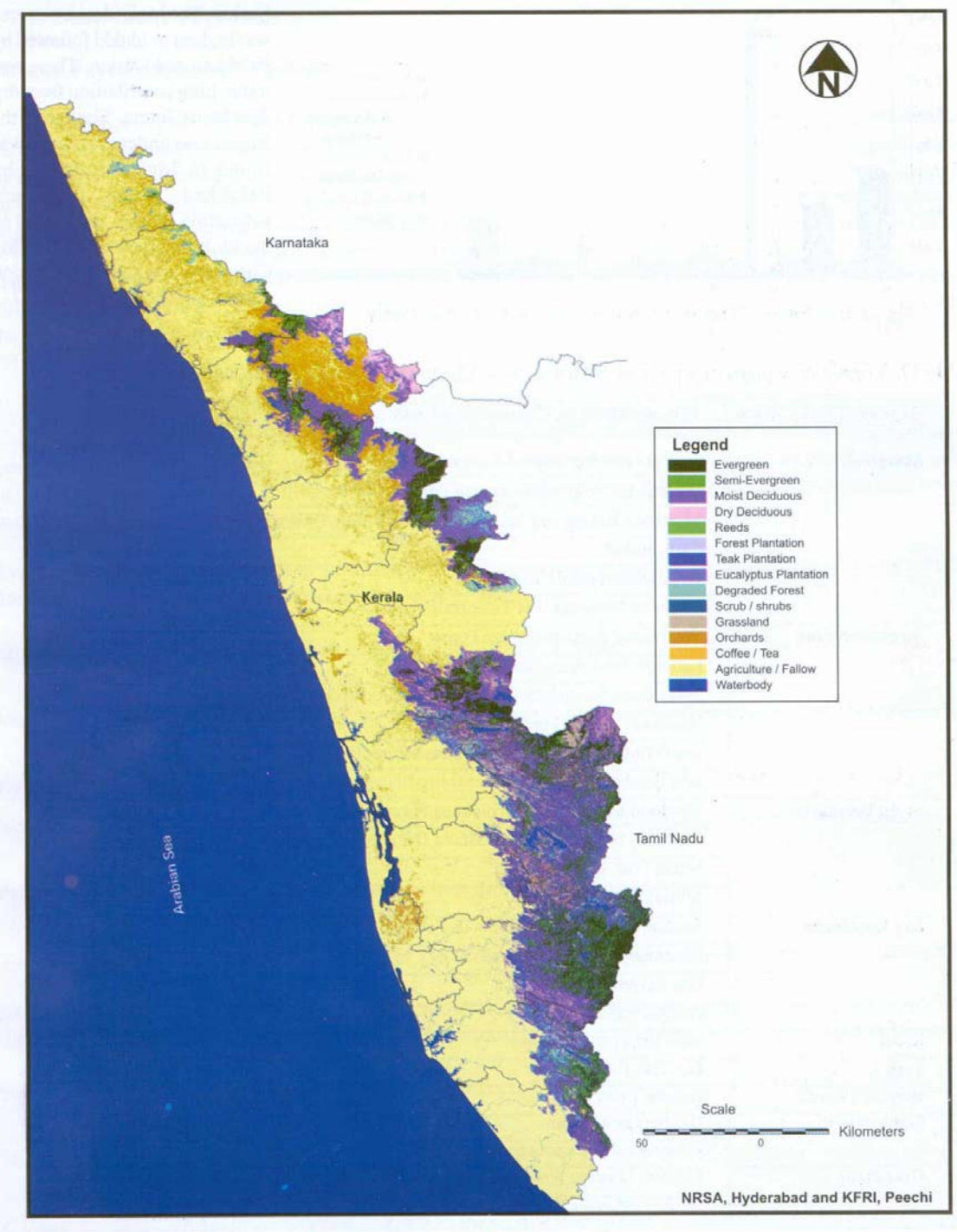


Fig. 11. Vegetation type map of Kerala based on Satellite imagery

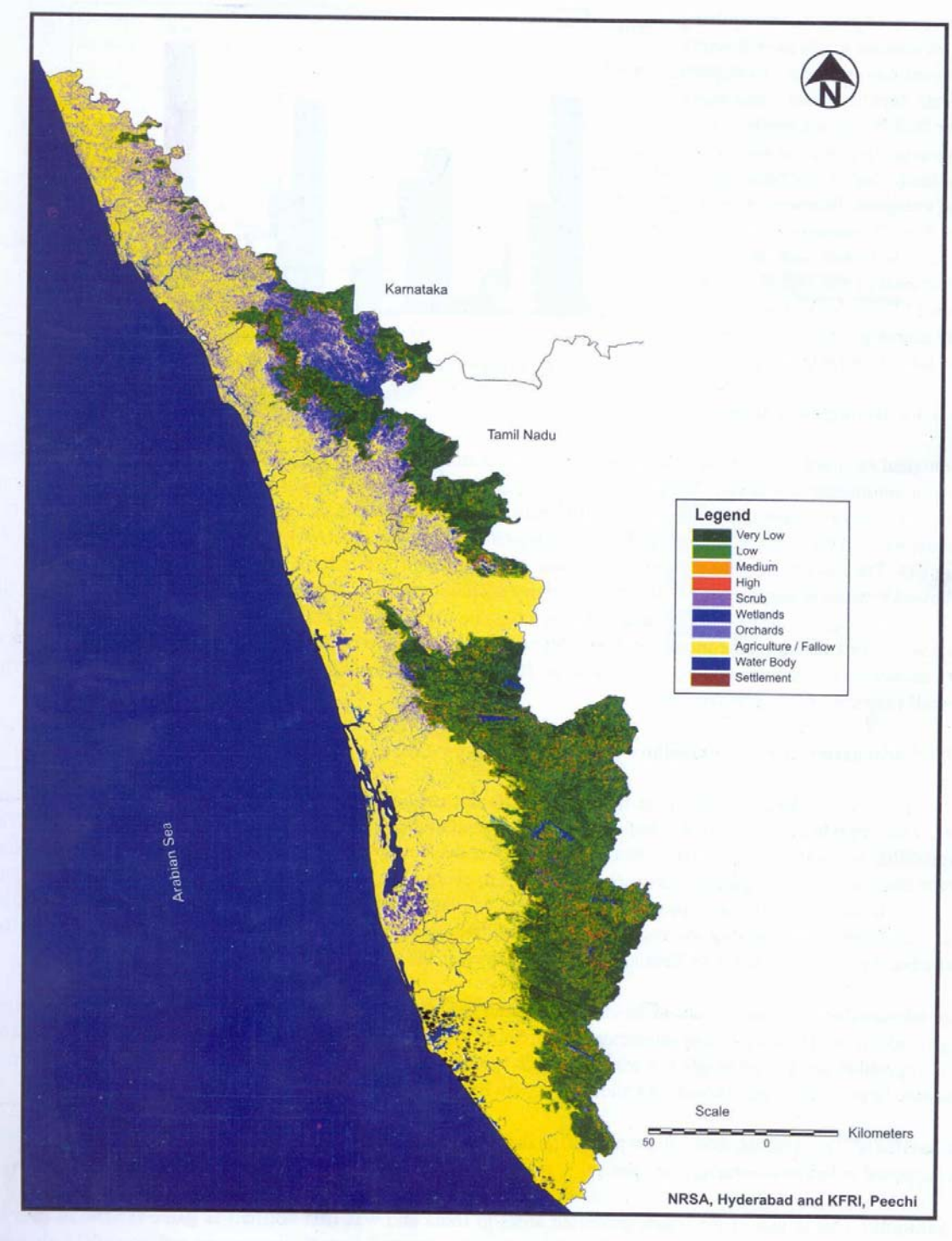


Fig.12.Disturbance index map of Kerala

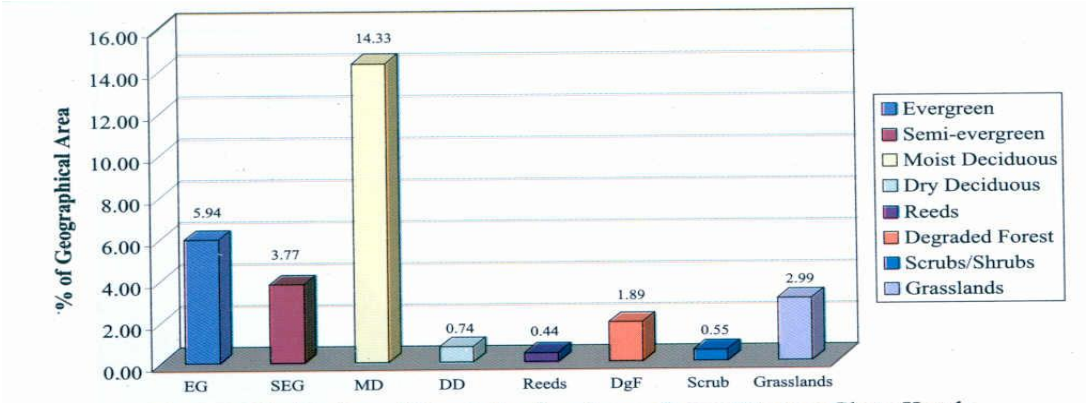


Fig. 13. Percentage distribution of vegetation/land cover type – Western Ghats, Kerala

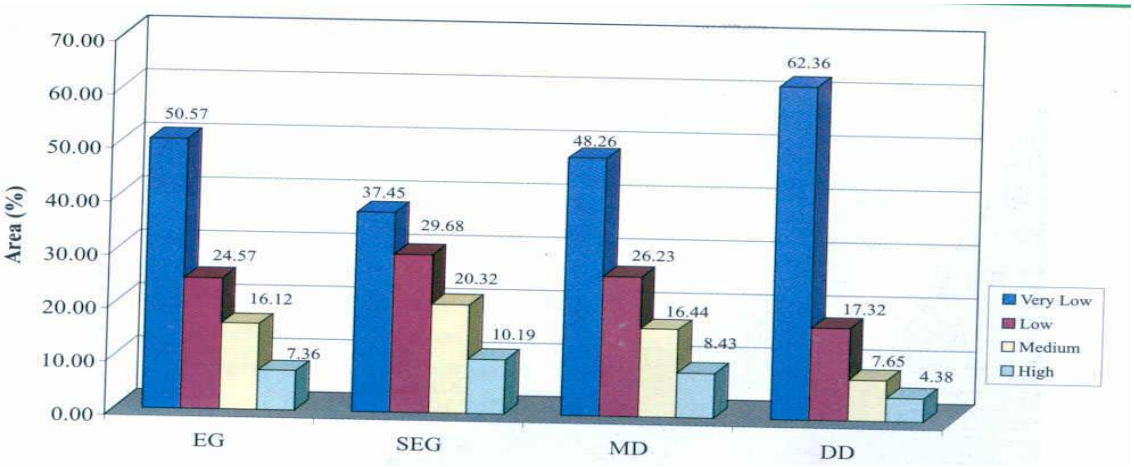


Fig. 14. Vegetation typewise disturbance status, Western Ghats, Kerala.

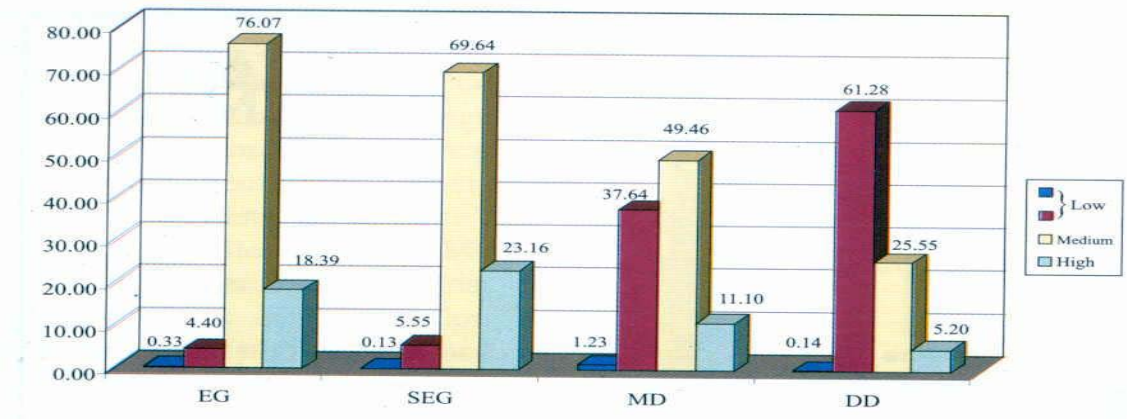


Fig.15. Biological richness in forest types of Western Ghats, Kerala

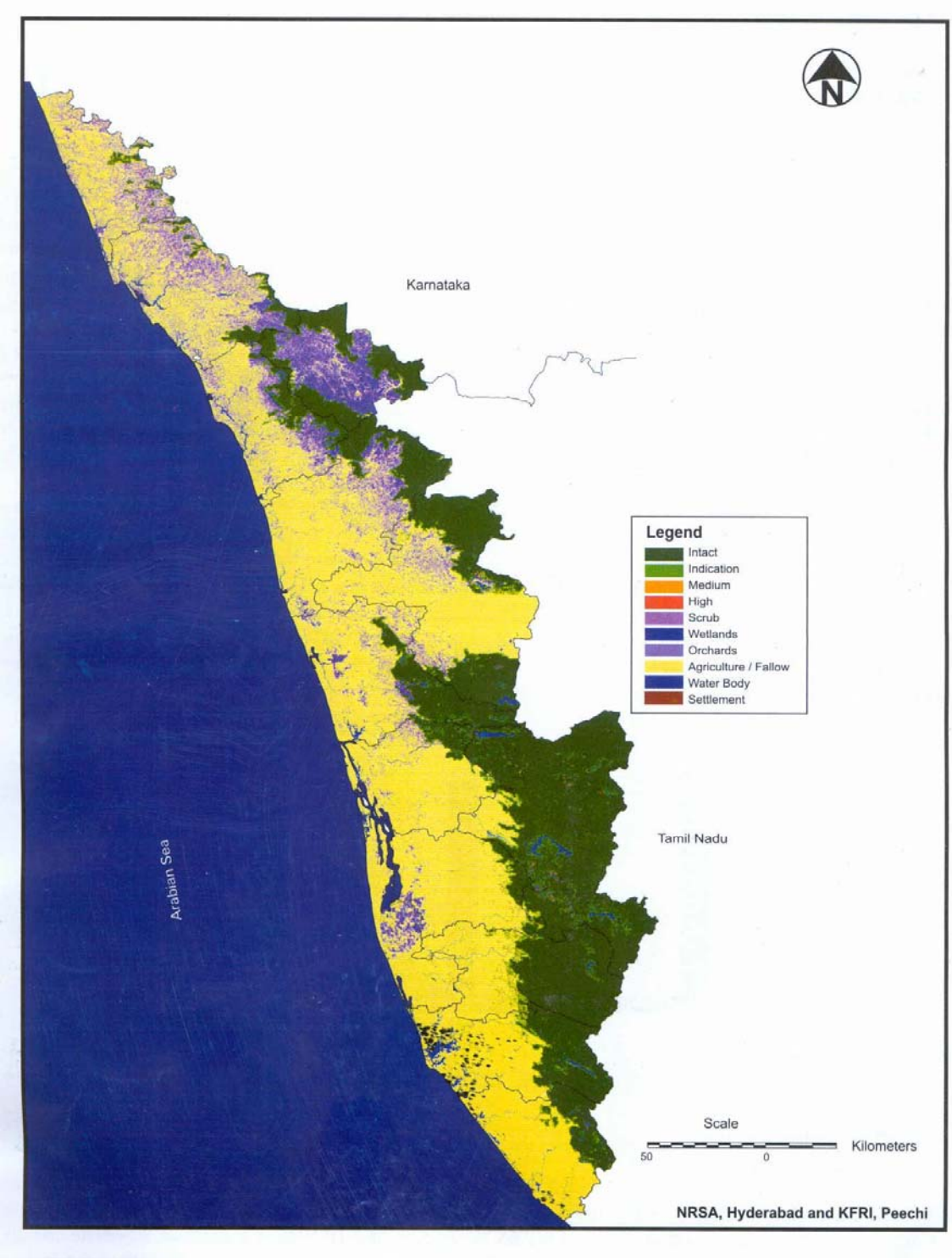


Fig.16. Fragmentation map of Kerala

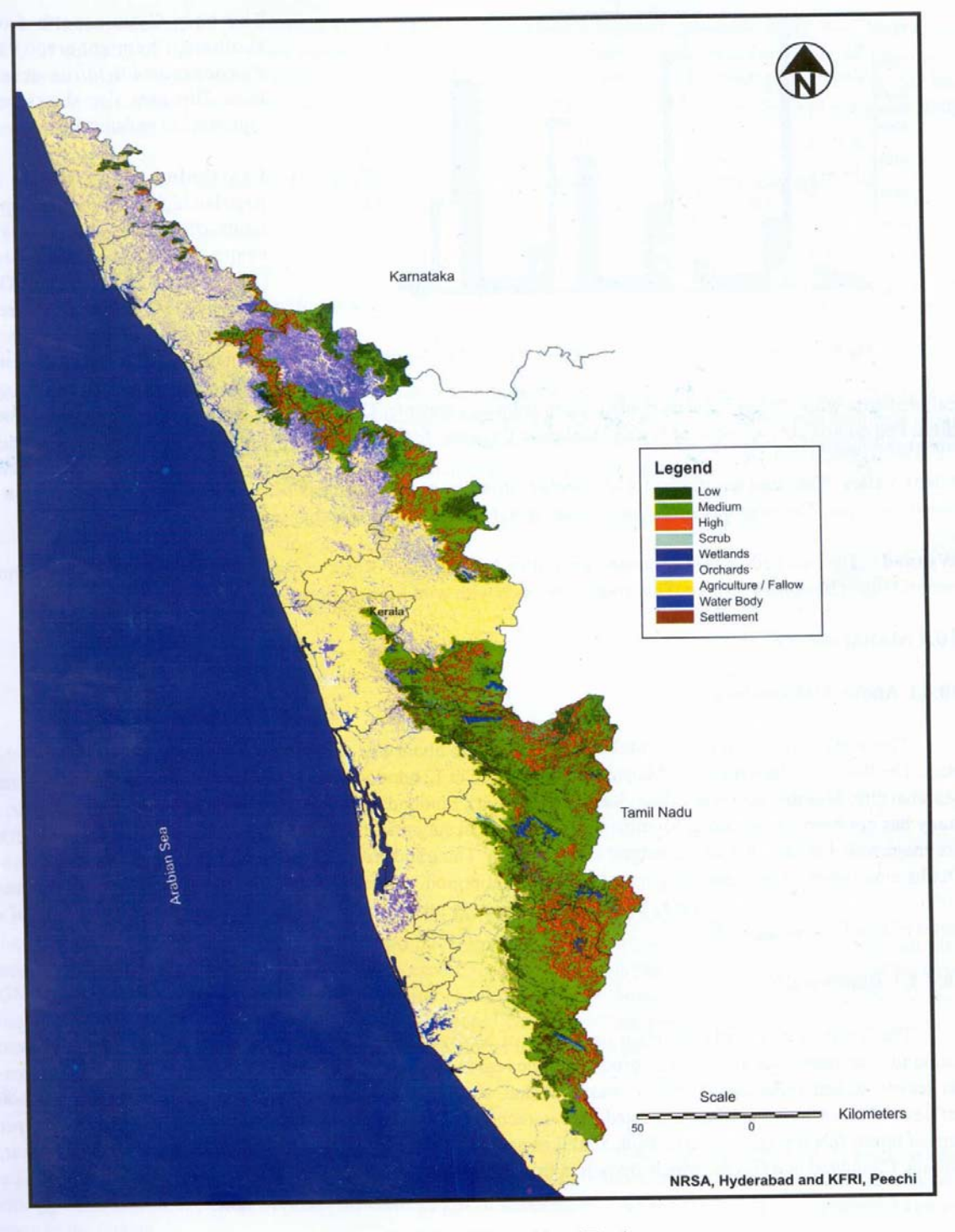


Fig.17 Biological richness map of Kerala

Ernakulam: *Macaranga peltata > Xylia xylocarpa > Holigarna grahamii > Mallotus philippensis > Ficus hispida.*

Idukki: *Lagerstroemia microcarpa > Macaranga peltata > Bischofia javanica > Hopea parviflora > Terminalia crenulata.*

Thrissur: *Knema attenuata > Hydnocarpus pentandra > Holigarna grahamii > Lepisanthes tetraphylla >Fahrenheita zeylanica.*

Malappuram: *Hopea parviflora > Polyalthia coffeoides >Pterytgota alata > Xylia xylocarpa > Hydnocarpus pentandra*.

Palakkad: *Terminalia bellerica > Lagerstroemia microcarpa > Adina cordifolia> Hydnocarpus pentandra > Terminalia paniculata*.

Kannur: *Dellenia pentagyna > Xylia xylocarpa > Holigarna grahamii > Aporusa lindleyana > Lagerstroemia reginae.*

Moist deciduous forests scenario is slightly different. *Xylia xylocarpa*, as one of the key colonizer, dominated the moist deciduous forests in four districts *viz.* Ernakulam, Thrissur, Malappuram and Palakkad, showing maximum Importance value. Idukki district, which has the maximum forest cover, at the some time having the largest contiguous forests, was found to be dominated by *Terminalia crenulata* with a very high dominance of 30.03. It was seen that except

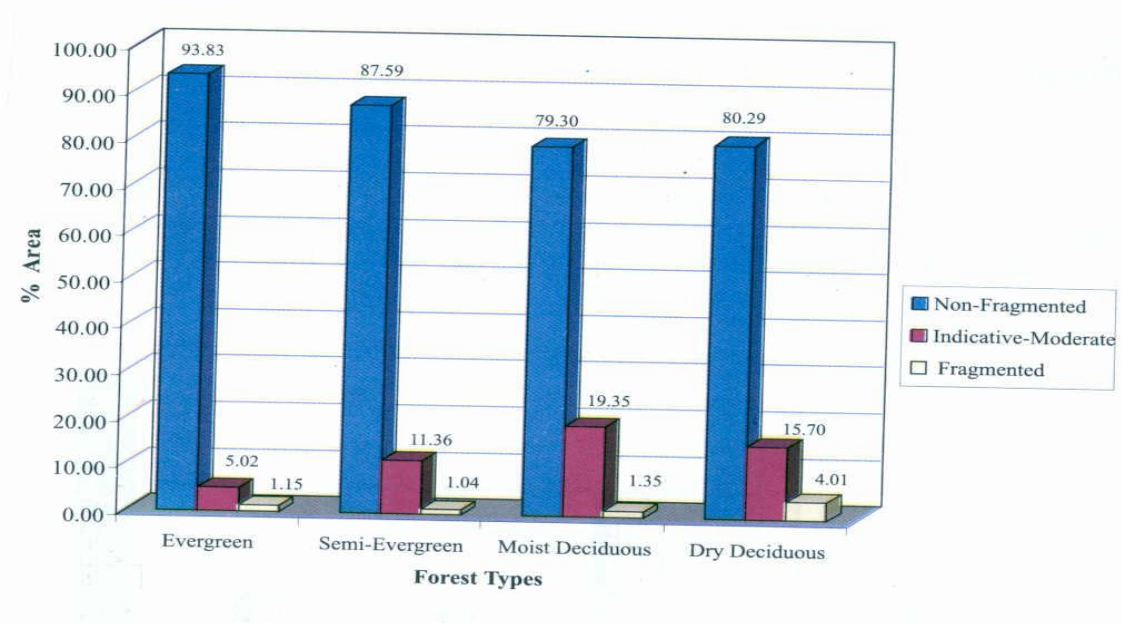


Fig.18. Forest typewise fragmentation status of Western Ghats

for Palakkad, none of the districts inventoried showed *Terminalia crenulata* amongst the first five dominants (Table 5.)The dominance status of species of dry deciduous forests in the study area are as follows:

In Idukki district, *Strychnos potatorum* occurred with maximum 16.71 per cent of the total importance followed by *Chloroxylon swietenia* (14.22%), *Acacia catechu* (12.66%) *Anogeissus latifolia* (11.24%) and *Hardwickia binata* (7.67%) respectively. Thus it was observed that, first five species have shared almost equitable importance. However in Palakkadu district, the first two dominant species *Albizia amara* and *Bauhinia racemosa* shared almost three fourth of the total ecosystem importance (71.84%).

There is an increasing trend of total number of species from Dry deciduous to those of evergreen. The highest numbers of families are from semi evergreen and moist deciduous followed by evergreen and dry deciduous. The total number of genera is highest in evergreen followed by moist deciduous, semi-evergreen and dry deciduous respectively (Table 4).

Table 4. Sample point analysis in Kerala

Forest type	*No.of sample points*	*No.of families*	*No. of genera*	*Number of species*				*Shannon Wienur Index**	*Averag Basal area* (M 2/Ha)
				Trees	*Shrubs*	*Herbs*	*Total*		
Evergreen	83	35	322	258	89	64	411	6.8265	42.65
Semi-evergreen	36	48	217	136	47	47	230	6.2647	33.73
Moist deciduous	64	47	259	102	52	107	261	4.8539	28.55
Dry deciduous	8	28	38	29	15	12	56	4.2002	16.45

- Only woody species (gbh > 30 cm).

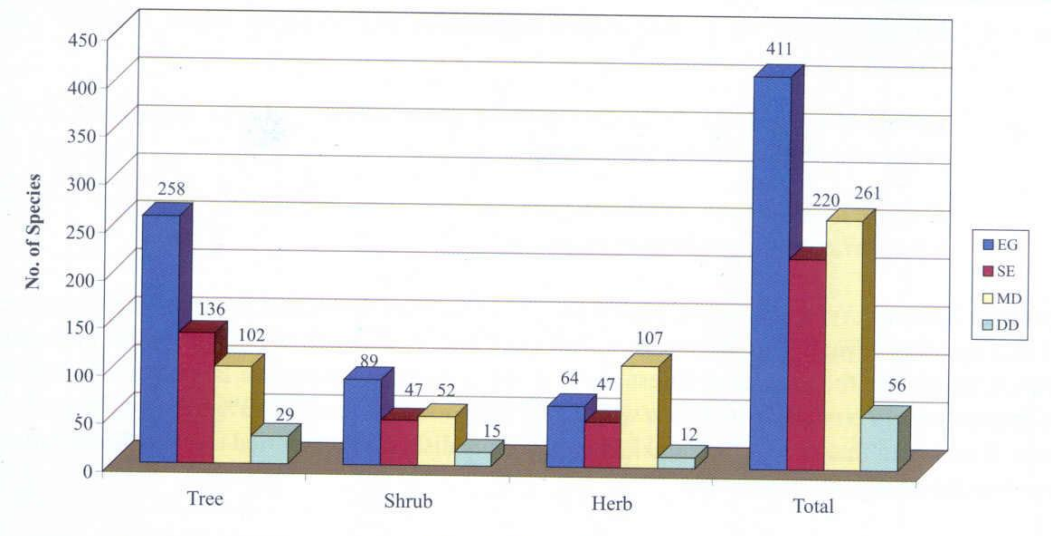


Fig. 18. Distribution of plant habits in different forest types of Western Ghats

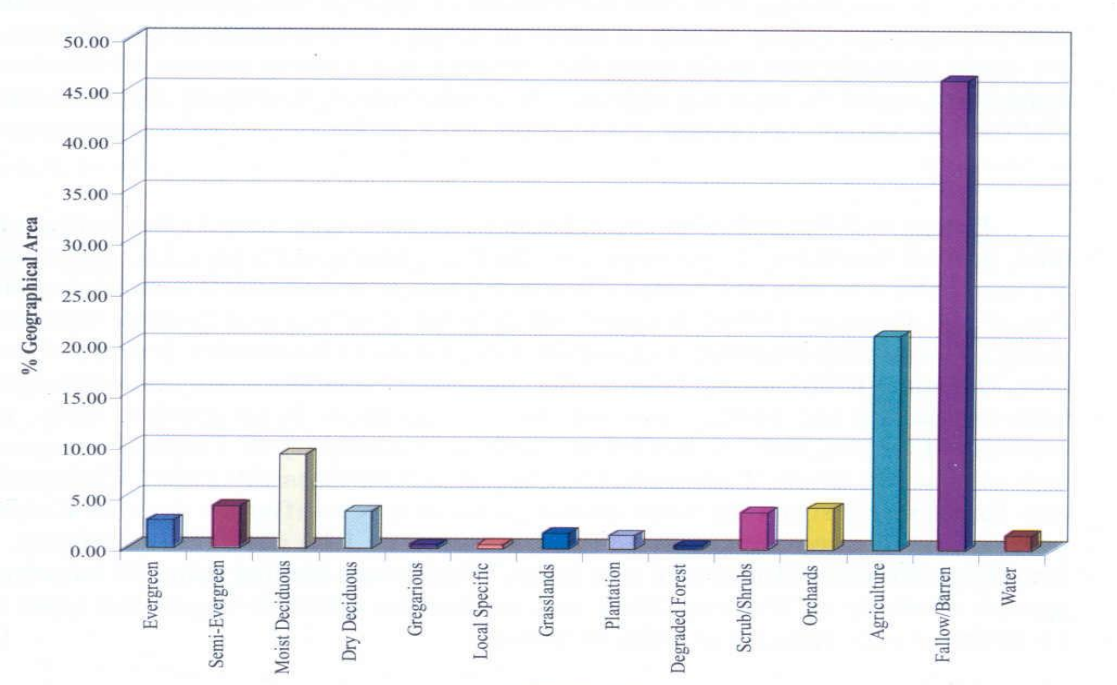


Fig.19. Vegetation/Landcover types of Western Ghats

Table 5. Five most important species (*Species Importance Percent*, SIP) of different forest types in Kerala

A. Evergreen Forests

Ernakulam	**Idukki**	**Thrissur**	**Malappu-ram**	**Palakkad**	**Wynad**	**Kannur**
Elaeocarpus tuberculatus ***30.59***	Hydnocarpus alpina ***5.81***	Ficus beddomei ***14.69***	Hopea parviflora ***14.69***	Palaquium ellipticum ***8.27***	Vateria indica ***12.96***	Dryptes elata ***5.81***
Lagerstroemia reginae ***20.74***	Vernonia arborea ***4.83***	Cullenia exarillata ***7.84***	Drypetes elata ***7.86***	Cullenia exarillata ***7.53***	Litsea floribunda ***5.32***	Knema attennuata ***7.60***
Vateria indica ***16.75***	Elaeocarpus tuberculatus***4. 66***	Drypetes elata ***7.48***	Knema attennuata ***7.60***	Knema attennuata ***5.89***	Elaeocarpus tuberculatus ***5.10***	Aglaia barberii ***4.66***
Polyalthia coffeoides ***6.68***	Cullenia exarillata ***4.11***	Mesua ferrea ***5.74***	Baccaurea courtallensis ***7.43***	Drypetes oblongifolia ***4.74***	Hopea parviflora ***4.45***	Vateria indica ***4.11***
Vernonia arborea ***4.77***	Ilex wightiana ***3.69***	Litsea bourdillonii ***4.88***	Peterggota alata ***5.89***	Dysoxylum malabaricum ***4.50***	Polyalthia coffeoides ***4.11***	Holigarna grahamii ***3.69***

B.**Semi-evergreen forests (SIP)**

Ernakulam	**Idukki**	**Thrissur**	**Malappuram**	**Palakkad**	**Kannur**
Macaranga peltata ***21.23***	Lagerstroemia microcarpa ***11.69***	Knema attenuata ***7.36***	Hopea parviflora ***34.26***	Terminalia bellerica ***8.06***	Dellinia pentagyna ***19.42***
Xylia xylocarpa ***10.19***	Macaranga peltata ***6.55***	Hydnocarpus pentandra ***6.17***	Polyalthia coffeoides ***15.44***	Lagerstroemia microcarpa ***7.31***	Xylia xylocarpa ***12.38***
Holigarna grahamii ***8.77***	Bischofia javanica ***4.73***	Holigarna grahamii ***6.11***	Pterygota alata ***11.10***	Adina cordifolia ***6.46***	Holigarna grahamii ***11.05***
Mallotus philippensis ***7.80***	Hopea parviflora ***4.70***	Lepisanthes titraphylla ***6.01***	Xylia xylocarpa ***9.92***	Hydnocarpus pentandra ***6.35***	Aporusa lindleyana ***9.31***
Ficus hispida ***6.47***	Terminalia crenulata ***4.34***	Fahrenheita zeylanica ***5.44***	Hydnocarpus pentandra ***4.95***	Terminalia paniculata ***6.27***	Lagerstroemia reginae ***8.40***

C. Moist Deciduous Forests (SIP)

Ernakulam	**Idukki**	**Malappuram**	**Palakkad**	**Thrissur**
Xylia xylocarpa ***27.98***	Terminalia crenulata ***30.03***	Xylia xylocarpa ***29.65***	Xylia xylocarpa ***8.64***	Xylia xylocarpa ***20.02***
Lagerstroemia microcarpa ***11.59***	Xylia xylocarpa ***11.99***	Terminalia paniculata 21.77	Terminala crenulata ***8.08***	Lagerstroemia microcarpa ***10.44***
Grewia tillifolia ***9.27***	Lagerstroemia mic rocarpa ***8.87***	Lagerstroemia mic rocarpa ***6.91***	Terminalia paniculata **7.98**	Terminalia paniculata ***10.38***
Terminalia paniculata ***8.28***	Grewia tillifolia ***4.85***	Dalbergia latifolia ***5.21***	Albizia odorattissma ***6.75***	Grewia tillifolia***7.12***
Naringi crenulata ***6.15***	Butea monosperma ***4.68***	Terminalia paniculata ***4.22***	Clestanthus collinus ***6.50***	Terminali bellerica ***6.16***

D. Deciduous forests (SIP)

Idukki	**Palakkad**
Strychnos potatorium ***16.71***	Albizia amara ***38.04***
Chloroxylon switetena ***14.22***	Bauhimia racemosa ***33.80***
Acacia catechu ***12.66***	Givotia moluceana
Anogeissus latifolia ***11.24***	Dalbergia paniculata ***5.17***
Hardwikia binata ***7.67***	Grewia sp***. 3.79***

TREE DIVERSITY ANALYSIS OF THE FORESTS OF KERALA

Kerala state, located in the Western Ghats is one of the very important biodiversity hotspot and harbors an excellent range of diversity rich flora. As per FSI report (1999) the forest cover of Kerala is of 10,323km^2(26.56%) out of the total geographic area of 38,863km^2. Of these, dense forest cover accounts for about 8429km^2 and open forest for 1894km^2. A consecutive estimate arrived by the researchers have shown that about 3000 species of flowering plants are found in Kerala, out of which 30per cent may be endemic. A thorough understanding of the resources and proper action for conservation and utilization is highly essential because of the very high degree of genetic variability prevalent in the biotic wealth. Since, high amount of phyto-diversity has been reported from tropical forests globally (Nicholson, 1965), phytosociological inventory and analysis to derive the spatial patterns of diversity is essential in landscape level biodiversity analysis.

The vegetation and land cover analysis of Kerala (Fig.11) using IRS satellite imagery revealed aerial gradient of forest cover types. District wise vegetation maps (that of selected Districts) depicts the variability of forest extent and types (Figs.20 to 27) The density slicing of the major cover types is also attempted. The area statistics were computed for the districts (Table 9), using Survey of India district boundary mask.

According to remote sensing based stratification moist deciduous forests covers the maximum area of forests (12.94%) followed by evergreen (6.13%) and semi-evergreen (4.13%). Dry deciduous forests show least coverage (0.72%). Degraded forests and scrubs occupy about 3 per cent of the total geographical area. Two percent area is plantations (Eucalyptus, Teak and miscellaneous species). Grasslands were spread over an area of 3 per cent. With respect to distribution status of evergreen forests, Idukki district has the highest area followed by Pathanamthitta and Palakkad (Table 8). Similarly largest area under semi evergreen forests was found in Idukki followed by Palakkad and Quilon. The largest area under grassland was found in Idukki followed by Palakkad. Only very few districts have significant dry deciduous forest cover.

Considering the forest cover alone, 54 per cent of the cover is occupied by evergreen forest type followed by semi-evergreen and moist deciduous. On analyzing the contribution of Kerala landscape to the Western Ghats scenario it was observed that the Kerala landscape contribution is very significant, consisting 32.5 per cent of evergreen forests and 23 per cent of moist deciduous forests of Western Ghats. Grasslands and Sholas reflecting the ecological uniqueness of the habitats accounted for 28.7 per cent. The trend depicts the significance of Kerala part of Western Ghats as the Key landscape in the overall context of Western Ghats.

The phytosociological analysis reveals that Kerala forest vegetation exhibits very high phytodiversity (Tables 5-7). The evergreen, semi evergreen, moist deciduous and dry deciduous forests have 411,230,261 and 56 total number of species, respectively, encountered in the sample plots. The forest stands are quite dense as shown by their density and basal area. The four major vegetation types viz., evergreen, semievergreen, moist deciduous and dry deciduous have diversity index (Shannon-Weiner index) of 6.8, 6.26, 4.85 and 4.2 respectively, for entire Kerala. These numbers are quite high when compared to that of any tropical forest ecosystem.

The tables 5 and 6 gives the detailed phytodiversity statistics for selected districts of Kerala. The highest tree density was observed in Palakkad evergreens (530/ha) followed by Malappuram evergreens (508/ha). Similarly, the highest diversity was observed for Palakkad evergreen forests (SW=6.01) followed by Thrissur evergreen (SW=5.37) that was close to that of Wayanad (SW=5.37).

Species performance

Species performance of various forest types was worked out. Evergreen forests across the districts depicted a characteristic trend of diverse performers. All district showed different species as the dominant individuals in the analysis. *Cullinea exarillata* and *Knema attenuata* ranked second or third in more than one district. *Elaeocarpus tuberculates* was also found in more than one district depicting the secondary status of the vegetation.

In the semi evergreen forests, both deciduous and leaf retaining components dominates more or less equally. While *Knema, Hopea* etc. indicate conditions near to evergreen, *Lagerstromea, Dillenia, Terminalia* etc. indicate strong presence of leaf shedding habits. The prevalence of secondary species like *Macaranga pellata* depicts severity of disturbance.

Xylia xylocarpa, one of the key colonizers of moist deciduous forests dominates in most of the northern districts of Kerala (Ernakulam, Malappuram, Palakkad, Thrissur etc.). Idukki district, which has the maximum forest cover, at the same time having the largest contiguous forests, was found to be dominated by *Terminalia crenulata* with a very high dominance of 30.03 per cent.

In the dry deciduous forests of Idukki district, *Strychnos potatorum* occurred with maximum of 16.7 per cent of the total importance followed by *Chloroxylon swietenia* (14.22%), *Acacia catechu* (12.66%), *Anogeissus latifolia* (11.24%) and *Hardwikia binata* (7.67%). Thus it was observed that the first five important species have shared almost equitable importance. However, in Palakkad district the first two dominant species, -*Albizia amara* and *Bauhinia racemosa* shared almost three forth of the total ecosystem importance (71.84%).

Endemic species

The study recorded 91 endemic species. Idukki district has largest number of rare species (Tables 11-29). The endemic species predominantly belong to Lauraceae, Euphorbiaceae and Annonaceae.

Economically important species

Analysis of prevalence of ten best-rated species in terms of Total Importance Value (TIV) has been done for Kerala forests. They are, *Baccaurea courtellensis, Cullenia exarillata, Drypetus elatus, Hopea parviflora, Knema attenuata, Macaranga peltata, Polyalthia coffeoids, Terminalia crenulata and Xylia xylocarpa*. Malappuram and Palakkad districts depict high population of these species followed by Thrissur and Idukki. Fairly large proportion of deciduous forests in these districts may account for prevalence of species of market importance, whereas Wayanad and Ernakulam comprising evergreen tracts would get low weightage due to lesser amount of commercially sought timber species.

Medicinal Plants

Twenty best rated medicinal plants based on TIV are *Ailanthus triphysa, Alangium salvifolium, Alstonia scholaris, Casearia esculenta, Elaeocrpus glandulosus, Emblica officinilis, Holarrhena antidysenterica, Hydnocarpus alpina, Hydnocarpus wightiana, Orophea uniflora, Oroxylum indicum, Pavetta indica, Semicarpus anacardium, Strychnos nux-vomica, Swietenia mahagony, Terminalia arjuna, Terminalia chebula, Wrightia tinctoria* and *Xanthoxylum rhesta.*

Girth class distribution

The distribution of girth class of the individual species is one of the most important ecological parameter, expressing many phytosociological attributes of the respective stand. It shows the overall health status of the stand with respect to homogeneity or heterogeneity of the vegetation. Again the dominant nature of a particular girth class or absence of a particular girth class can be attributed to the various ecological or anthropogenic factors affecting the vegetation. The girth class distribution will give an indication to the status of worked/extracted/poached habitat.

The tree vegetation was categorized into 6 girth classes *viz.* D1 - 30 to 59.9 cm, D2 – 60 to 89.9 cm, D3 – 90 cm to 119.9 cm, D4 - 120 to 149.9 cm, D5 -150 to 179.9 cm and D6 - more than 180 cm. It is clear that in case of dry deciduous forests, there is dominance of trees in the youngest class (>60%), indicating that this type is under consistent disturbance and stress and the maturity of the individuals are constrained. In case of moist deciduous type, the highest class is

D1, and there is good representation of D2, D3, D4 and D6 classes but D5 has relatively lesser number of individuals. In case of semi evergreen and evergreen types, the trends are very similar to that of moist deciduous. The district wise girth class distribution study shows that Idukki is having a large number of younger elements indicating recovery from disturbance. Similarly Thrissur and Eranakulam represent excessive lower and higher end skewing of distribution. In case of moist deciduous forest type, Ernakulam and Idukki show a healthy trend, whereas trend in Thrissur points to heavy regeneration as well as the presence of mature individuals. Malappuram also shows lower end skewed distribution probably indicating recovery from disturbance.

Table 5 Summary of phytodiversity in Kerala forests

Forest Type	No. of Sample Points	No.of families	No. of genera	Number of Species				Shannon-Weiner index	Mean basal area m^2/ha
				Trees	Shrubs	Herbs	Total		
EG	83	35	322	258	89	64	411	6.8265	42.65
SEG	36	48	217	136	47	47	230	6.2647	33.73
MD	64	47	259	102	107	107	261	4.8539	28.55
DD	8	28	38	29	12	12	56	4.2002	16.45

EG – Evergreen forests, SEG – Semi evergreen forests, MD – Moist deciduous forests, DD – Dry deciduous forests.

Table 6. Vegetation type wise phytodiversity for selected Districts of Kerala

Districts	Forest type	Stem/ha	SW index	BA m^2/ha
Kannur	EG	422	4.64	35.63
	SEG	480	4.16	35.41
Palakkad	EG	530	6.01	50.38
	SEG	283	4.86	31.95
	MD	274	4.11	6.90
Wayanad	EG	310	5.37	27.93
	DD	360	2.44	17.17
Malappuram	EG	508	4.51	39.46
	SEG	313	3.39	56.05
	MD	294	3.86	26.46

Table 6 continued				
Districts	Forest type	Stem/ha	SW index	BA $m^{2/}$ha
Thrissur	EG	410	5.13	45.14
	SEG	274	5.39	45.14
	MD	216	4.56	31.20
Ernakulam	EG	240	3.16	50.37
	SEG	335	4.03	23.82
	MD	218	3.58	28.53

EG – Evergreen forests, SEG – Semi evergreen forests, MD – Moist deciduous forests, DD – Dry deciduous forests.

Table 7 District-wise Rare/Endangered/Threatened Tree species in Kerala Forests

District	**Ecological Status**			**Vegetation proportions (area in sq. km)**					
	Rare	Endan-gered	Threatened	Evergreen forests	Deciduous forests	Grass-lands	Scrubs	Misc. planta-tions	Degraded forests
Kannur	40	-	20	62.64	140.22	-	-	138.77	55.48
Ernakul-am	10	-	-	19.23	120.27	56.64	21.84	119.49	51.24
Idukki	124	33	25	799.83	2211.07	612.35	182.2	2206.12	327.53
Malppu-ram	1	-	-	209.02	417.45	8.09	-	415.89	-
Palakkad	34	19	38	335.27	830.95	130.74	-	830.95	164.68
Wayanad	4	-	2	100.63	671.72	-	-	412.3	
Trivand-rum	32	13	30	56.99	341.39	22.17	0.4	341.39	33.41

Table 8 Extent of Forests in different Districts (in km^2)

District	Geographical area*	Forest area (Legal)*	Actual Forest area*	% of actual forest area to that of geographical area	% of degraded forests to actual**
Kannur	2966	230.09	163.17	5.50	68
Wayanad	2131	884.27	791.86	37.16	64
Kozhikode	2344	294.50	147.30	6.28	69
Malappuram	3550	760.31	756.99	21.32	59
Palakkad	4480	1604.06	1190.40	26.57	56
Thrissur	3032	1013.07	888.80	29.31	63
Ernakulam	2407	310.97	232.50	9.66	59
Idukki	5019	2991.11	2679.00	53.38	56

- Kerala State Land Use Board 1995 (Land resources of Kerala)

** Kerala Forest Research Institute.

Table 9 Land cover statistics of Kerala using IRS satellite data
(in sq. km)

District	EG	SEG	MD	DD	GR	DEG	GRSP	PLN (NF)	SC	AGR	FAL/BAR	REEDS	WAT
Trivandrum	57.0	67	274.4		22.2	33.4	16.1		0.4	1492.1	155.4	3.1	30.5
Quilon	110.4	115.1	399.5	1.8	92.6	112	18.9	0.0	25.9	1311.5	169.1	15	101.2
Pathanamthitta	386.8	270.5	617.2	7.8	78.4	50.8	36.8	1.0	21.3	1029.8	74.5	29.8	21.5
Kottayam	22.9	13.3	145.4	3.1	24.7	15.8	25.6	61.9	8.8	1577.6	253.3	5	46.2
Aleppy			4.6					142.4		740.1	419.6	114.3	113.6
Idukki	799.8	564.3	1641.9	5	612.4	328	167	0.3	182.2	319.6	19	11.8	113.1
Ernakulam	19.2	4.2	115.3	0.8	56.6	51.2	17.1	122.2	21.8	1443.2	437.5	3.4	93
Thrissur	176.3	43.8	346.6		101.6	16.9	77.8	219.2	9.6	1333	635.2		56.8
Malappuram	209	95.4	320.5	1.6	8.1		95.4	421.9		1691.7	690.6		29
Palakkad	335.3	160.6	670.3		130.7	165	98.2	210.2		1332.4	1285.8		44.2
Wayanad	100.6	93.8	318.5	259			177.5	769.8		127.3	276.2		5.1
kozhikode	90.3	82.5	114.2	0.2	0		87.4	491.4		985.8	436.4		44.7
kannur	62.6	77	61.8	1.5		55.5	33.3	707.5		989.2	912.1		46.4
Kasaragod	10.4	16.5	0			62.1	5.6	409.3		568.3	870.4		19.7
Percent of total geographic area	6.13	4.13	12.94	0.72	2.9	2.29	2.2	9.15	0.7	38.45	17.07	0.47	1.97

EG - Evergreen forest, SEG - Semievergreen forest, MD - Moist deciduous forest, DD - Dry deciduous forest
GR - Grassland, DEG - Degraded forest, FAL/BAR - Fallow Barren, WAT - Water, AGRL - Agricultural, GRSP - Gregorious species, PLN (NF) - Plantation Non forest, SC - Scrubs

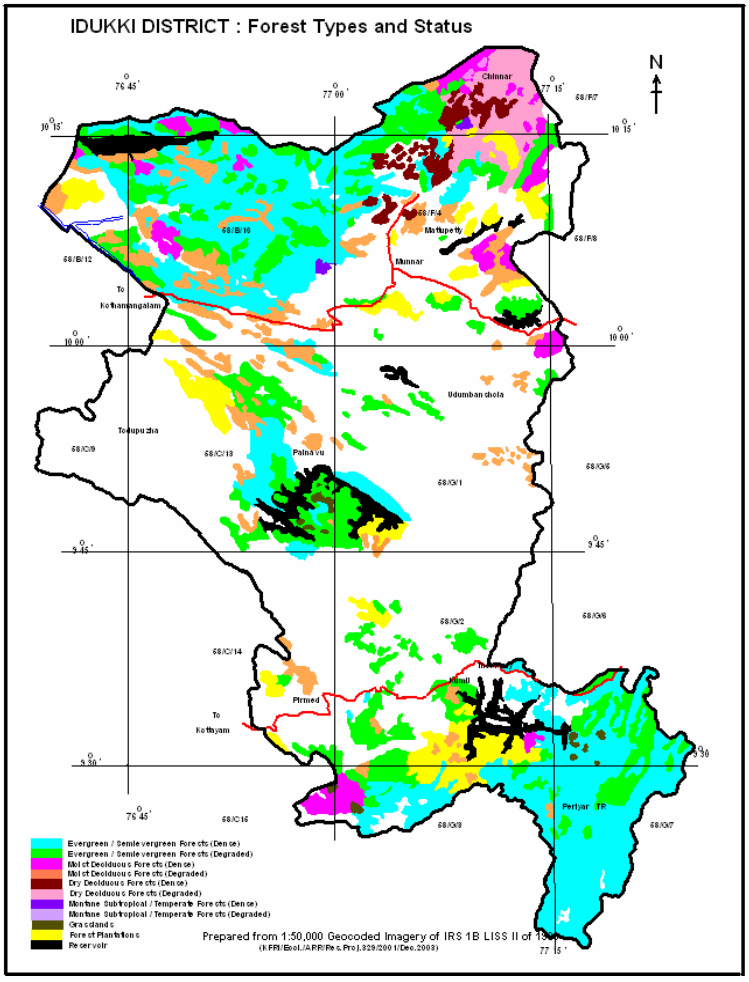
Table 10 District wise details of plots in different Forest types

NO	DISTRICT	Evergreen	Semi-evergreen	Moist deciduous	Dry decid-uous	TOTAL
1	Ernakulam	1	2	4	0	7
2	Idukki	38	17	25	5	85
3	Kannur	12	5	0	0	17
4	Kottayam	0	1	3	0	4
5	Kozhikode	12	3	4	0	19
6	Malapuram	6	3	17	0	26
7	Palakkad	19	4	9	3	35
8	Pathanamthitta	13	6	12	0	31
9	Quilon	2	2	2	0	6
10	Thrissur	12	11	19	0	42
11	Wayanad	10	0	12	0	22
	Total	125	54	107	8	294

FOREST STATUS

FORESTS OF IDUKKI DISTRICT

Idukki district consists of two natural physiographic zones namely the high land (75 m – 750 m above MSL) and high ranges (>750 m MSL). About 96% of total geographic area of the District is in high range region. The total geographic area of the district is 5019 km^2 and the actual forest area in the district is about 2679 km^2 forming 53.38% of the total area.The major vegetation types met with in the district are West Coast Tropical Evergreen, West coast Semi Evergreen, South India Moist deciduous Forests, Southern Tropical dry deciduous forests, Southern mountain wet temperate forests and grass lands.



VEGETATION DATA ANALYSIS OF IDUKKI EVERGREEN FOREST

Table 11 Structural status of Tree species

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Vernonia arborea	2.49	4.84	51.35	1289.00	6.05	3.65	0.51	10.21	92
2	Elaeocarpus tuberculatus	1.11	2.41	45.95	8321.80	2.70	3.26	3.34	9.30	41
3	Gomphandra coriacea	2.51	7.75	32.43	446.27	6.12	2.30	0.17	8.60	93
4	Hydnocarpus alpina	2.19	9.00	24.32	501.20	5.33	1.73	0.20	7.25	81
5	Macaranga peltata	0.70	1.73	40.54	5464.64	1.71	2.88	2.19	6.78	26
6	Myristica dactyloides	1.24	3.83	32.43	3414.83	3.03	2.30	1.37	6.70	46
7	Hopea parviflora	0.16	1.20	13.51	13187.07	0.39	0.96	5.30	6.65	6
8	Persea macrantha	0.89	2.54	35.14	4857.72	2.17	2.50	1.95	6.61	33
9	Hydnocarpus pentandra	1.22	3.75	32.43	2044.70	2.96	2.30	0.82	6.08	45
10	Mesua ferrea	0.65	2.67	24.32	6348.00	1.58	1.73	2.55	5.85	24
11	Palaquium ellipticum	0.73	2.70	27.03	4949.03	1.78	1.92	1.98	5.68	27
12	Dimocarpus longan	0.70	2.36	29.73	4334.12	1.71	2.11	1.74	5.56	26
13	Terminalia travancorensis	0.03	1.00	2.70	11552.00	0.07	0.19	4.64	4.90	1
14	Syzygium caryophyllatum	0.03	1.00	2.70	11250.00	0.07	0.19	4.52	4.78	1
15	Cinnamomum sp.	0.68	2.50	27.03	2925.20	1.64	1.92	1.17	4.74	25
16	Ilex wightiana	1.38	8.50	16.22	453.52	3.36	1.15	0.18	4.68	51
17	Dipterocarpus indicus	0.05	1.00	5.41	10241.44	0.13	0.38	4.11	4.63	2
18	Syzygium laetum	0.27	2.00	13.51	6311.90	0.66	0.96	2.53	4.15	10
19	Baccaurea courtallensis	0.73	2.45	29.73	651.84	1.78	2.11	0.26	4.14	27
20	Vateria indica	0.59	2.75	21.62	2900.91	1.45	1.54	1.16	4.14	22
21	Xanthophyllum arnottianum	0.68	2.27	29.73	885.26	1.64	2.11	0.35	4.11	25
22	Syzygium gardneri	0.16	1.20	13.51	6431.07	0.39	0.96	2.58	3.94	6
23	Knema attenuata	0.70	3.71	18.92	2160.28	1.71	1.34	0.86	3.92	26
24	Lagerstroemia reginae	0.03	1.00	2.70	8978.00	0.07	0.19	3.60	3.86	1
25	Polyalthia coffeoides	0.62	2.88	21.62	2037.05	1.51	1.54	0.81	3.86	23
26	Prunus ceylanica	0.89	4.71	18.92	649.75	2.17	1.34	0.26	3.77	33
27	Actinodaphne bourdillonii	0.57	2.33	24.32	1512.81	1.38	1.73	0.60	3.71	21
28	Mastixia arborea	0.68	2.78	24.32	833.78	1.64	1.73	0.33	3.70	25

29	Strombosia ceylanica	0.16	1.00	16.22	5342.52	0.39	1.15	2.14	3.69	6
30	Holigarna grahamii	0.24	1.50	16.22	4443.10	0.59	1.15	1.78	3.53	9
31	Cullenia exarillata	0.59	4.40	13.51	2393.71	1.45	0.96	0.96	3.36	22
32	Drypetes elata	0.27	1.43	18.92	3111.71	0.66	1.34	1.25	3.25	10
33	Holoptelea integrifolia	0.05	1.00	5.41	6724.00	0.13	0.38	2.70	3.21	2
34	Calophyllum polyanthum	0.27	2.50	10.81	3978.45	0.66	0.77	1.59	3.02	10
35	Spondias indica	0.27	1.67	16.22	2868.49	0.66	1.15	1.15	2.96	10
36	Drypetes oblongifolia	0.27	1.67	16.22	2695.84	0.66	1.15	1.08	2.89	10
37	Saprosma foetens	0.54	2.86	18.92	443.10	1.32	1.34	0.17	2.83	20
38	Chionanthus mala-elengi	0.81	7.50	10.81	161.46	1.97	0.77	0.06	2.80	30
39	Turpinia malabarica	0.51	3.17	16.22	752.21	1.25	1.15	0.30	2.70	19
40	Bischofia javanica	0.41	3.00	13.51	1839.26	0.99	0.96	0.73	2.68	15
41	Glochidion ellipticum	0.76	7.00	10.81	89.18	1.84	0.77	0.03	2.64	28
42	Isonandra lanceolata	0.62	5.75	10.81	281.65	1.51	0.77	0.11	2.39	23
43	Alstonia scholaris	0.05	1.00	5.41	4408.96	0.13	0.38	1.77	2.28	2
44	Beilschmiedia wightii	0.27	2.50	10.81	2148.00	0.66	0.77	0.86	2.28	10
45	Aglaia barberi	0.32	2.40	13.51	1303.42	0.79	0.96	0.52	2.27	12
46	Mallotus philippensis	0.19	1.40	13.51	2108.23	0.46	0.96	0.84	2.26	7
47	Syzygium mundagam	0.03	1.00	2.70	5000.00	0.07	0.19	2.01	2.26	1
48	Flacourtia montana	0.41	3.00	13.51	553.56	0.99	0.96	0.22	2.16	15
49	Poeciloneuron indicum	0.22	2.00	10.81	2112.32	0.53	0.77	0.84	2.14	8
50	Tetrameles nudiflora	0.03	1.00	2.70	4685.12	0.07	0.19	1.88	2.14	1
51	Nothopegia racemosa	0.08	1.00	8.11	3155.62	0.20	0.58	1.26	2.04	3
52	Litsea insignis	0.03	1.00	2.70	4418.00	0.07	0.19	1.77	2.03	1
53	Antidesma menasu	0.35	2.60	13.51	517.28	0.86	0.96	0.20	2.02	13
54	Bhesa indica	0.49	4.50	10.81	188.14	1.18	0.77	0.07	2.02	18
55	Croton malabaricus	0.32	2.40	13.51	588.73	0.79	0.96	0.23	1.98	12
56	Otonephelium stipulaceum	0.22	2.00	10.81	1572.12	0.53	0.77	0.63	1.92	8
57	Myristica malabarica	0.16	1.50	10.81	1600.83	0.39	0.77	0.64	1.80	6
58	Aglaia apiocarpa	0.05	1.00	5.41	3003.04	0.13	0.38	1.20	1.72	2
59	Ficus tsjahela	0.03	1.00	2.70	3264.32	0.07	0.19	1.31	1.57	1

60	Microtropis ramiflora	0.49	9.00	5.41	25.26	1.18	0.38	0.01	1.57	18
61	Pterospermum diversifolium	0.05	1.00	5.41	2460.16	0.13	0.38	0.98	1.50	2
62	Aporusa lindleyana	0.22	2.00	10.81	508.50	0.53	0.77	0.20	1.49	8
63	Turpiniacochin-chinensis	0.30	3.67	8.11	425.92	0.72	0.58	0.17	1.47	11
64	Lepisanthes tetraphylla	0.08	1.00	8.11	1706.90	0.20	0.58	0.68	1.45	3
65	Dysoxylum malabaricum	0.19	2.33	8.11	959.81	0.46	0.58	0.38	1.42	7
66	Terminalia arjuna	0.03	1.00	2.70	2888.00	0.07	0.19	1.16	1.41	1
67	Neolitsea zeylanica	0.22	2.00	10.81	249.64	0.53	0.77	0.10	1.39	8
68	Meliosma simplicifolia	0.11	1.33	8.11	1137.64	0.26	0.58	0.45	1.29	4
69	Oreocnide integrifolia	0.35	6.50	5.41	69.94	0.86	0.38	0.02	1.26	13
70	Litsea ligustrina	0.22	2.67	8.11	388.09	0.53	0.58	0.15	1.25	8
71	Symplocos sp.	0.19	2.33	8.11	546.12	0.46	0.58	0.21	1.25	7
72	Casearia coriacea	0.22	2.67	8.11	316.84	0.53	0.58	0.12	1.22	8
73	Artocarpus hirsutus	0.16	2.00	8.11	470.40	0.39	0.58	0.18	1.15	6
74	Schefflera capitata	0.05	1.00	5.41	1552.36	0.13	0.38	0.62	1.13	2
75	Syzygium caryophyllatum	0.22	4.00	5.41	544.05	0.53	0.38	0.21	1.12	8
76	Syzygium cumini	0.11	2.00	5.41	1136.02	0.26	0.38	0.45	1.10	4
77	Haldina cordifolia	0.05	1.00	5.41	1413.76	0.13	0.38	0.56	1.08	2
78	Cinnamomum wightii	0.24	4.50	5.41	122.42	0.59	0.38	0.04	1.02	9
79	Mahonia leschenaultii	0.16	2.00	8.11	114.08	0.39	0.58	0.04	1.01	6
80	Chionanthus ramiflorus	0.05	2.00	2.70	1705.69	0.13	0.19	0.68	1.00	2
81	Archidendron monadelphum	0.03	1.00	2.70	1752.32	0.07	0.19	0.70	0.96	1
82	Canarium strictum	0.05	1.00	5.41	1128.96	0.13	0.38	0.45	0.96	2
83	Drypetes malabarica	0.03	1.00	2.70	1682.00	0.07	0.19	0.67	0.93	1
84	Murraya paniculata	0.22	4.00	5.41	66.79	0.53	0.38	0.02	0.93	8
85	Phoebe lanceolata	0.22	4.00	5.41	61.35	0.53	0.38	0.02	0.93	8
86	Acronychia pedunculata	0.19	3.50	5.41	197.62	0.46	0.38	0.07	0.92	7
87	Rhododendron nilagiricum	0.19	3.50	5.41	212.40	0.46	0.38	0.08	0.92	7
88	Pterygota alata	0.16	3.00	5.41	337.08	0.39	0.38	0.13	0.91	6
89	Casearia zeylanica	0.11	2.00	5.41	648.00	0.26	0.38	0.26	0.90	4
90	Ficus nervosa	0.05	1.00	5.41	948.64	0.13	0.38	0.38	0.89	2

91	Isonandra condolleana	0.03	1.00	2.70	1523.52	0.07	0.19	0.61	0.87	1
92	Euodia lunu-ankenda	0.05	1.00	5.41	876.16	0.13	0.38	0.35	0.86	2
93	Casearia esculenta	0.03	1.00	2.70	1393.92	0.07	0.19	0.56	0.81	1
94	Dipterocarpus bourdillonii	0.05	2.00	2.70	1142.44	0.13	0.19	0.45	0.78	2
95	Chionanthus sp	0.19	7.00	2.70	302.56	0.46	0.19	0.12	0.77	7
96	Stereospermum colais	0.22	8.00	2.70	129.39	0.53	0.19	0.05	0.77	8
97	Schefflera racemosa	0.08	1.50	5.41	447.20	0.20	0.38	0.17	0.76	3
98	Symplocos cochinchinensis	0.14	2.50	5.41	104.97	0.33	0.38	0.04	0.75	5
99	Dysoxylum binectariferum	0.14	5.00	2.70	557.11	0.33	0.19	0.22	0.74	5
100	Rapanea thwaitesii	0.14	2.50	5.41	68.64	0.33	0.38	0.02	0.74	5
101	Scolopia crenata	0.03	1.00	2.70	1210.32	0.07	0.19	0.48	0.74	1
102	Eurya japonica	0.03	1.00	2.70	1190.72	0.07	0.19	0.47	0.73	1
103	Elaeocarpus recurvatus	0.22	8.00	2.70	14.82	0.53	0.19	0.00	0.72	8
104	Harpullia arborea	0.22	8.00	2.70	17.64	0.53	0.19	0.00	0.72	8
105	Agrostistachys borneensis	0.11	2.00	5.41	165.62	0.26	0.38	0.06	0.71	4
106	Symplocos anamallayana	0.11	2.00	5.41	146.78	0.26	0.38	0.05	0.70	4
107	Elaeocarpus munroii	0.05	2.00	2.70	784.00	0.13	0.19	0.31	0.63	2
108	Excoecaria crenulata	0.05	1.00	5.41	213.16	0.13	0.38	0.08	0.60	2
109	Antiaris toxicaria	0.08	3.00	2.70	522.66	0.20	0.19	0.21	0.59	3
110	Tabernaemontana heyneana	0.16	6.00	2.70	16.33	0.39	0.19	0.00	0.59	6
111	Gmelina arborea	0.05	2.00	2.70	645.16	0.13	0.19	0.25	0.58	2
112	Nothapodytes nimmoniana	0.05	1.00	5.41	144.00	0.13	0.38	0.05	0.57	2
113	Archidendron clypearia	0.14	5.00	2.70	77.06	0.33	0.19	0.03	0.55	5
114	Diospyros montana	0.03	1.00	2.70	648.00	0.07	0.19	0.26	0.51	1
115	Epiprinus mallotiformis	0.11	4.00	2.70	131.22	0.26	0.19	0.05	0.50	4
116	Syzygium benthamianum	0.05	2.00	2.70	457.96	0.13	0.19	0.18	0.50	2
117	Isonandra stocksii	0.11	4.00	2.70	100.11	0.26	0.19	0.04	0.49	4
118	Litsea coriacea	0.03	1.00	2.70	578.00	0.07	0.19	0.23	0.49	1
119	Elaeocarpus serratus	0.03	1.00	2.70	551.12	0.07	0.19	0.22	0.47	1
120	Litsea floribunda	0.05	2.00	2.70	364.81	0.13	0.19	0.14	0.47	2

121	Atuna travancorica	0.03	1.00	2.70	512.00	0.07	0.19	0.20	0.46	1
122	Cyathocalyx zeylanica	0.05	2.00	2.70	353.44	0.13	0.19	0.14	0.46	2
123	Diospyros pruriens	0.03	1.00	2.70	512.00	0.07	0.19	0.20	0.46	1
124	Gordonia obtusa	0.03	1.00	2.70	512.00	0.07	0.19	0.20	0.46	1
125	Ligustrum perrottetii	0.11	4.00	2.70	32.80	0.26	0.19	0.01	0.46	4
126	Memecylon sp.	0.08	3.00	2.70	182.24	0.20	0.19	0.07	0.46	3
127	Xantolis tomentosa	0.08	3.00	2.70	177.86	0.20	0.19	0.07	0.46	3
128	Diospyros buxifolia	0.05	2.00	2.70	334.89	0.13	0.19	0.13	0.45	2
129	Neolitsea fischeri	0.05	2.00	2.70	295.84	0.13	0.19	0.11	0.44	2
130	Ardisia rhomboidea	0.05	2.00	2.70	243.36	0.13	0.19	0.09	0.42	2
131	Cocculus laurifolius	0.05	2.00	2.70	249.64	0.13	0.19	0.10	0.42	2
132	Diospyros ovalifolia	0.05	2.00	2.70	259.21	0.13	0.19	0.10	0.42	2
133	Litsea bourdillonii	0.05	2.00	2.70	240.25	0.13	0.19	0.09	0.42	2
134	Casearia ovate	0.03	1.00	2.70	380.88	0.07	0.19	0.15	0.41	1
135	Litsea sp1	0.05	2.00	2.70	228.01	0.13	0.19	0.09	0.41	2
136	Drypetes venusta	0.08	3.00	2.70	46.30	0.20	0.19	0.01	0.40	3
137	Erythroxylum moonii	0.03	1.00	2.70	369.92	0.07	0.19	0.14	0.40	1
138	Canthium dicoccum	0.05	2.00	2.70	182.25	0.13	0.19	0.07	0.39	2
139	Canthium neilgherrense	0.03	1.00	2.70	327.68	0.07	0.19	0.13	0.38	1
140	Elaeocarpus glandulosus	0.05	2.00	2.70	156.25	0.13	0.19	0.06	0.38	2
141	Acrocarpus fraxinifolius	0.03	1.00	2.70	269.12	0.07	0.19	0.10	0.36	1
142	Ficus hispida	0.03	1.00	2.70	259.92	0.07	0.19	0.10	0.36	1
143	Garcinia sp.	0.05	2.00	2.70	95.45	0.13	0.19	0.03	0.36	2
144	Dysoxylum beddomei	0.03	1.00	2.70	208.08	0.07	0.19	0.08	0.34	1
145	Litsea beddomei	0.05	2.00	2.70	46.24	0.13	0.19	0.01	0.34	2
146	Helicia nilagirica	0.05	2.00	2.70	36.00	0.13	0.19	0.01	0.33	2
147	Viburnum cylindricum	0.05	2.00	2.70	39.69	0.13	0.19	0.01	0.33	2
148	Symplocos monantha	0.03	1.00	2.70	141.12	0.07	0.19	0.05	0.31	1
149	Vepris bilocularis	0.03	1.00	2.70	147.92	0.07	0.19	0.05	0.31	1
150	Scleropyrum pentandrum	0.03	1.00	2.70	128.00	0.07	0.19	0.05	0.30	1
151	Toona ciliata	0.03	1.00	2.70	115.52	0.07	0.19	0.04	0.30	1
152	Dysoxylum sp.	0.03	1.00	2.70	98.00	0.07	0.19	0.03	0.29	1

153	Litsea sp2	0.03	1.00	2.70	92.48	0.07	0.19	0.03	0.29	1
154	Aporusa acuminata	0.03	1.00	2.70	72.00	0.07	0.19	0.02	0.28	1
155	Cinnamomum malabatrum	0.03	1.00	2.70	76.88	0.07	0.19	0.03	0.28	1
156	Litsea wightiana	0.03	1.00	2.70	72.00	0.07	0.19	0.02	0.28	1
157	Memecylon edule	0.03	1.00	2.70	72.00	0.07	0.19	0.02	0.28	1
158	Nothapodytes nimmoniana	0.03	1.00	2.70	72.00	0.07	0.19	0.02	0.28	1
159	Rapanea wightiana	0.03	1.00	2.70	72.00	0.07	0.19	0.02	0.28	1
	Total						99.81	99.15	299.14	1520

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 12 Structural status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Strobilanthes sp.	10.17	16.64	61.11	0.00	23.89	13.75	0.00	37.64	366
2	Chassalia curviflora	5.28	10.00	52.78	0.00	12.40	11.88	0.00	24.28	190
3	Ochlandra travancorica	6.25	28.13	22.22	0.00	14.69	5.00	0.00	19.69	225
4	Lasianthus acuminatus	3.47	13.89	25.00	0.00	8.16	5.63	0.00	13.78	125
5	Ventilago bombaiensis	1.42	5.10	27.78	0.00	3.33	6.25	0.00	9.58	51
6	Chassalia sp.	2.03	10.43	19.44	0.00	4.77	4.38	0.00	9.14	73
7	Sarcandra chloranthoides	1.25	7.50	16.67	0.00	2.94	3.75	0.00	6.69	45
8	Girardinia diversifolia	1.33	9.60	13.89	0.00	3.13	3.13	0.00	6.26	48
9	Boehmeria glomerulifera	0.89	5.33	16.67	0.00	2.09	3.75	0.00	5.84	32
10	Pandanus thwaitesii	0.83	5.00	16.67	0.00	1.96	3.75	0.00	5.71	30
11	Chassalia ophioxyloides	0.64	3.83	16.67	0.00	1.50	3.75	0.00	5.25	23
12	Leea sp.	0.61	3.67	16.67	0.00	1.44	3.75	0.00	5.19	22
13	Lasianthus dichotomus	1.25	15.00	8.33	0.00	2.94	1.88	0.00	4.81	45
14	Ixora nigricans	0.86	7.75	11.11	0.00	2.02	2.50	0.00	4.52	31
15	Tabernaemontana gamblei	0.61	7.33	8.33	0.00	1.44	1.88	0.00	3.31	22
16	Thottea siliquosa	0.58	7.00	8.33	0.00	1.37	1.88	0.00	3.25	21
17	Saprosma fragrans	0.56	6.67	8.33	0.00	1.31	1.88	0.00	3.18	20
18	Lasianthus rostratus	0.53	6.33	8.33	0.00	1.24	1.88	0.00	3.12	19
19	Lepianthes umbellata	0.42	5.00	8.33	0.00	0.98	1.88	0.00	2.85	15
20	Polygonum chinense	0.31	3.67	8.33	0.00	0.72	1.88	0.00	2.59	11
21	Phaeanthus malabaricus	0.22	2.67	8.33	0.00	0.52	1.88	0.00	2.40	8

Table 12 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
22	Clerodendron viscosum	0.42	7.50	5.56	0.00	0.98	1.25	0.00	2.23	15
23	Dichapetalum gelonoides	0.31	5.50	5.56	0.00	0.72	1.25	0.00	1.97	11
24	Hedyotis sp.	0.28	5.00	5.56	0.00	0.65	1.25	0.00	1.90	10
25	Solanum giganteum	0.11	2.00	5.56	0.00	0.26	1.25	0.00	1.51	4
26	Miliusa indica	0.28	10.00	2.78	0.00	0.65	0.63	0.00	1.28	10
27	Sauropus androgynus	0.28	10.00	2.78	0.00	0.65	0.63	0.00	1.28	10
28	Strobilanthes luridus	0.28	10.00	2.78	0.00	0.65	0.63	0.00	1.28	10
29	Pilea trinervia	0.22	8.00	2.78	0.00	0.52	0.63	0.00	1.15	8
30	Gomphandra tetrandra	0.14	5.00	2.78	0.00	0.33	0.63	0.00	0.95	5
31	Ixora lawsonii	0.14	5.00	2.78	0.00	0.33	0.63	0.00	0.95	5
32	Maesa indica	0.14	5.00	2.78	0.00	0.33	0.63	0.00	0.95	5
33	Ochlandra sp.	0.08	3.00	2.78	0.00	0.20	0.63	0.00	0.82	3
34	Polygala arillata	0.08	3.00	2.78	0.00	0.20	0.63	0.00	0.82	3
35	Thottea dinghoui	0.08	3.00	2.78	0.00	0.20	0.63	0.00	0.82	3
36	Allophylus cancanicus	0.06	2.00	2.78	0.00	0.13	0.63	0.00	0.76	2
37	Dendrocnide sinuata	0.06	2.00	2.78	0.00	0.13	0.63	0.00	0.76	2
38	Memecylon gracile	0.06	2.00	2.78	0.00	0.13	0.63	0.00	0.76	2
39	Sarcococea coriacea	0.06	2.00	2.78	0.00	0.13	0.63	0.00	0.76	2
	Total					100.03	100.13	0.00	200.0	1532

Table 13 Structural status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Elatostema lineolatum	1.08	1.34	80.56	0.00	29.32	25.89	0.00	55.22	39
2	Pellionia heyneana	0.44	1.45	30.56	0.00	12.03	9.82	0.00	21.85	16
3	Dracaena terniflora	0.28	1.11	25.00	0.00	7.52	8.04	0.00	15.55	10
4	Ophiopogon intermedius	0.17	1.00	16.67	0.00	4.51	5.36	0.00	9.87	6
5	Pilea melastomoides	0.17	1.00	16.67	0.00	4.51	5.36	0.00	9.87	6
6	Elatostema serratum	0.17	1.50	11.11	0.00	4.51	3.57	0.00	8.08	6
7	Calanthe sylvatica	0.11	1.00	11.11	0.00	3.01	3.57	0.00	6.58	4
8	Commelina sp.	0.08	1.00	8.33	0.00	2.26	2.68	0.00	4.93	3
9	Curculigo sp.	0.08	1.00	8.33	0.00	2.26	2.68	0.00	4.93	3
10	Laportea terminalis	0.08	1.50	5.56	0.00	2.26	1.79	0.00	4.04	3
11	Pteris sp.	0.08	1.50	5.56	0.00	2.26	1.79	0.00	4.04	3
12	Aneilema ovalifolium	0.06	1.00	5.56	0.00	1.50	1.79	0.00	3.29	2
13	Carex spp.	0.06	1.00	5.56	0.00	1.50	1.79	0.00	3.29	2
14	Coleus malabaricus	0.06	1.00	5.56	0.00	1.50	1.79	0.00	3.29	2
15	Impatiens phoenicea	0.06	1.00	5.56	0.00	1.50	1.79	0.00	3.29	2
16	Impatiens sp.	0.06	1.00	5.56	0.00	1.50	1.79	0.00	3.29	2
17	Oplismenus compositus	0.06	1.00	5.56	0.00	1.50	1.79	0.00	3.29	2
18	Selaginella sp.	0.06	1.00	5.56	0.00	1.50	1.79	0.00	3.29	2
19	Costus speciosus	0.06	2.00	2.78	0.00	1.50	0.89	0.00	2.40	2
20	Acranthera anamallica	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
21	Andrographis elongata	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
22	Anilema sp.	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
23	Anoechtochilus elatior	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
24	Asplenium unilaterale	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
25	Begonia malabarica	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
26	Chlorophytum nimmonii	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
27	Chrysoglossum maculatum	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
28	Curculigo orchioides	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
29	Daracaena terniflora	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
30	Dipazium esculentum	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1

Table 13 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
31	Dorstenia indica	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
32	Hedyotis membranacea	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
33	Hydrocotyle javanica	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
34	Ophiorrhiza mungos	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
35	Siegesbeckia orientalis	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
36	Sonerilla elegans	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
37	Tragia hispida	0.03	1.00	2.78	0.00	0.75	0.89	0.00	1.64	1
	Total					99.95	99.99	0.0	199.91	133

Table 14 Structural status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Cinnamomum sp.	2.69	4.41	61.11	0.00	3.46	4.14	0.00	7.60	97
2	Ardisia rhomboidea	4.53	20.38	22.22	0.00	5.82	1.51	0.00	7.32	163
3	Vernonia arborea	2.25	4.26	52.78	0.00	2.89	3.58	0.00	6.47	81
4	Gomphandra coriacea	3.19	9.58	33.33	0.00	4.10	2.26	0.00	6.36	115
5	Xanthophyllum arnottianum	2.94	8.15	36.11	0.00	3.78	2.45	0.00	6.23	106
6	Persea macrantha	2.22	5.00	44.44	0.00	2.85	3.01	0.00	5.87	80
7	Baccaurea courtallensis	2.25	6.75	33.33	0.00	2.89	2.26	0.00	5.15	81
8	Hydnocarpus alpina	2.39	8.60	27.78	0.00	3.07	1.88	0.00	4.95	86
9	Actinodaphne bourdillonii	1.75	5.25	33.33	0.00	2.25	2.26	0.00	4.51	63
10	Dimocarpus longan	1.31	3.13	41.67	0.00	1.68	2.82	0.00	4.50	47
11	Hydnocarpus pentandra	1.72	6.89	25.00	0.00	2.21	1.69	0.00	3.91	62
12	Polyalthia coffeoides	1.44	5.20	27.78	0.00	1.86	1.88	0.00	3.74	52
13	Elaeocarpus tuberculatus	0.83	2.14	38.89	0.00	1.07	2.64	0.00	3.71	30
14	Myristica dactyloides	1.42	5.67	25.00	0.00	1.82	1.69	0.00	3.51	51
15	Saprosma foetens	1.81	10.83	16.67	0.00	2.32	1.13	0.00	3.45	65
16	Knema attenuata	1.36	6.13	22.22	0.00	1.75	1.51	0.00	3.25	49
17	Turpinia malabarica	1.53	9.17	16.67	0.00	1.96	1.13	0.00	3.09	55
18	Mesua ferrea	1.33	6.86	19.44	0.00	1.71	1.32	0.00	3.03	48
19	Mastixia arborea	1.28	6.57	19.44	0.00	1.64	1.32	0.00	2.96	46

Table 14 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
20	Cullenia exarillata	1.44	10.40	13.89	0.00	1.86	0.94	0.00	2.80	52
21	Vateria indica	1.06	5.43	19.44	0.00	1.36	1.32	0.00	2.67	38
22	Drypetes elata	0.81	3.63	22.22	0.00	1.03	1.51	0.00	2.54	29
23	Hopea parviflora	1.22	8.80	13.89	0.00	1.57	0.94	0.00	2.51	44
24	Otonephelium stipulaceum	0.89	4.57	19.44	0.00	1.14	1.32	0.00	2.46	32
25	Ilex wightiana	1.03	6.17	16.67	0.00	1.32	1.13	0.00	2.45	37
26	Aglaia barberi	0.83	6.00	13.89	0.00	1.07	0.94	0.00	2.01	30
27	Flacourtia montana	0.67	4.00	16.67	0.00	0.86	1.13	0.00	1.99	24
28	Chionanthus mala-elengi	0.78	5.60	13.89	0.00	1.00	0.94	0.00	1.94	28
29	Bhesa indica	0.92	8.25	11.11	0.00	1.18	0.75	0.00	1.93	33
30	Diospyros buxifolia	0.61	3.67	16.67	0.00	0.78	1.13	0.00	1.91	22
31	Agrostistachys indica	0.83	7.50	11.11	0.00	1.07	0.75	0.00	1.82	30
32	Phoebe lanceolata	0.81	7.25	11.11	0.00	1.03	0.75	0.00	1.79	29
33	Neolitsea zeylanica	0.50	3.00	16.67	0.00	0.64	1.13	0.00	1.77	18
34	Strombosia ceylanica	0.64	4.60	13.89	0.00	0.82	0.94	0.00	1.76	23
35	Isonandra lanceolata	0.75	6.75	11.11	0.00	0.96	0.75	0.00	1.72	27
36	Myristica malabarica	0.75	6.75	11.11	0.00	0.96	0.75	0.00	1.72	27
37	Olea dioica	0.44	2.67	16.67	0.00	0.57	1.13	0.00	1.70	16
38	Murraya paniculata	0.58	4.20	13.89	0.00	0.75	0.94	0.00	1.69	21
39	Mallotus philippensis	0.50	3.60	13.89	0.00	0.64	0.94	0.00	1.58	18
40	Prunus ceylanica	0.64	5.75	11.11	0.00	0.82	0.75	0.00	1.57	23
41	Symplocos cochinchinensis	0.78	9.33	8.33	0.00	1.00	0.56	0.00	1.56	28
42	Palaquium ellipticum	0.47	3.40	13.89	0.00	0.61	0.94	0.00	1.55	17
43	Bischofia javanica	0.31	1.83	16.67	0.00	0.39	1.13	0.00	1.52	11
44	Drypetes oblongifolia	0.36	2.60	13.89	0.00	0.46	0.94	0.00	1.41	13
45	Nothapodytes nimmoniana	0.47	4.25	11.11	0.00	0.61	0.75	0.00	1.36	17
46	Syzygium laetum	0.47	4.25	11.11	0.00	0.61	0.75	0.00	1.36	17
47	Excoecaria crenulata	0.56	6.67	8.33	0.00	0.71	0.56	0.00	1.28	20
48	Cinnamomum wightii	0.64	11.50	5.56	0.00	0.82	0.38	0.00	1.20	23
49	Allophylus cobbe	0.61	11.00	5.56	0.00	0.78	0.38	0.00	1.16	22

Table 14 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
50	Glochidion ellipticum	0.31	2.75	11.11	0.00	0.39	0.75	0.00	1.15	11
51	Holigarna grahamii	0.28	2.50	11.11	0.00	0.36	0.75	0.00	1.11	10
52	Agrostistachys borneensis	0.42	5.00	8.33	0.00	0.54	0.56	0.00	1.10	15
53	Syzygium caryophyllatum	0.42	5.00	8.33	0.00	0.54	0.56	0.00	1.10	15
54	Beilschmiedia wightii	0.39	4.67	8.33	0.00	0.50	0.56	0.00	1.06	14
55	Litsea ligustrina	0.39	4.67	8.33	0.00	0.50	0.56	0.00	1.06	14
56	Calophyllum polyanthum	0.36	4.33	8.33	0.00	0.46	0.56	0.00	1.03	13
57	Syzygium gardneri	0.36	4.33	8.33	0.00	0.46	0.56	0.00	1.03	13
58	Microtropis ramiflora	0.50	9.00	5.56	0.00	0.64	0.38	0.00	1.02	18
59	Spondias indica	0.19	1.75	11.11	0.00	0.25	0.75	0.00	1.00	7
60	Symplocos sp.	0.33	4.00	8.33	0.00	0.43	0.56	0.00	0.99	12
61	Syzygium cumini	0.33	4.00	8.33	0.00	0.43	0.56	0.00	0.99	12
62	Artocarpus hirsutus	0.17	1.50	11.11	0.00	0.21	0.75	0.00	0.97	6
63	Acronychia pedunculata	0.42	7.50	5.56	0.00	0.54	0.38	0.00	0.91	15
64	Litsea sp.	0.42	7.50	5.56	0.00	0.54	0.38	0.00	0.91	15
65	Schefflera racemosa	0.25	3.00	8.33	0.00	0.32	0.56	0.00	0.89	9
66	Turpinia cochin-chinensis	0.25	3.00	8.33	0.00	0.32	0.56	0.00	0.89	9
67	Aglaia apiocarpa	0.39	7.00	5.56	0.00	0.50	0.38	0.00	0.88	14
68	Litsea wightiana	0.39	7.00	5.56	0.00	0.50	0.38	0.00	0.88	14
69	Meiogyne ramarowii	0.39	7.00	5.56	0.00	0.50	0.38	0.00	0.88	14
70	Mahonia leschenaultii	0.33	6.00	5.56	0.00	0.43	0.38	0.00	0.80	12
71	Memecylon sp.	0.33	6.00	5.56	0.00	0.43	0.38	0.00	0.80	12
72	Casearia coriacea	0.31	5.50	5.56	0.00	0.39	0.38	0.00	0.77	11
73	Casearia zeylanica	0.31	5.50	5.56	0.00	0.39	0.38	0.00	0.77	11
74	Dysoxylum malabaricum	0.28	5.00	5.56	0.00	0.36	0.38	0.00	0.73	10
75	Croton malabaricus	0.11	1.33	8.33	0.00	0.14	0.56	0.00	0.71	4
76	Isonandra condolleana	0.25	4.50	5.56	0.00	0.32	0.38	0.00	0.70	9
77	Oreocnide integrifolia	0.25	4.50	5.56	0.00	0.32	0.38	0.00	0.70	9
78	Poeciloneuron indicum	0.25	4.50	5.56	0.00	0.32	0.38	0.00	0.70	9
79	Aporusa lindleyana	0.22	4.00	5.56	0.00	0.29	0.38	0.00	0.66	8

Ttable 14 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
80	Dipterocarpus indicus	0.22	4.00	5.56	0.00	0.29	0.38	0.00	0.66	8
81	Pterygota alata	0.19	3.50	5.56	0.00	0.25	0.38	0.00	0.63	7
82	Symplocos anamallayana	0.19	3.50	5.56	0.00	0.25	0.38	0.00	0.63	7
83	Aporusa acuminata	0.17	3.00	5.56	0.00	0.21	0.38	0.00	0.59	6
84	Meliosma simplicifolia	0.17	3.00	5.56	0.00	0.21	0.38	0.00	0.59	6
85	Syzygium benthamianum	0.17	3.00	5.56	0.00	0.21	0.38	0.00	0.59	6
86	Syzygium mundagam	0.17	3.00	5.56	0.00	0.21	0.38	0.00	0.59	6
87	Antidesma menasu	0.14	2.50	5.56	0.00	0.18	0.38	0.00	0.56	5
88	Cocculus laurifolius	0.14	2.50	5.56	0.00	0.18	0.38	0.00	0.56	5
89	Lepisanthes tetraphylla	0.14	2.50	5.56	0.00	0.18	0.38	0.00	0.56	5
90	Clausena indica	0.28	10.00	2.78	0.00	0.36	0.19	0.00	0.55	10
91	Elaeocarpus recurvatus	0.28	10.00	2.78	0.00	0.36	0.19	0.00	0.55	10
92	Leea indica	0.11	2.00	5.56	0.00	0.14	0.38	0.00	0.52	4
93	Memecylon edule	0.11	2.00	5.56	0.00	0.14	0.38	0.00	0.52	4
94	Macaranga peltata	0.08	1.50	5.56	0.00	0.11	0.38	0.00	0.48	3
95	Pterospermum diversifolium	0.08	1.50	5.56	0.00	0.11	0.38	0.00	0.48	3
96	Apollonias arnottii	0.22	8.00	2.78	0.00	0.29	0.19	0.00	0.47	8
97	Chionanthus ramiflorus	0.22	8.00	2.78	0.00	0.29	0.19	0.00	0.47	8
98	Drypetes venusta	0.22	8.00	2.78	0.00	0.29	0.19	0.00	0.47	8
99	Goniothalamus wightii	0.22	8.00	2.78	0.00	0.29	0.19	0.00	0.47	8
100	Litsea bourdillonii	0.22	8.00	2.78	0.00	0.29	0.19	0.00	0.47	8
101	Actinodaphne malabarica	0.17	6.00	2.78	0.00	0.21	0.19	0.00	0.40	6
102	Casearia zeylanica	0.17	6.00	2.78	0.00	0.21	0.19	0.00	0.40	6
103	Neolitsea fischeri	0.17	6.00	2.78	0.00	0.21	0.19	0.00	0.40	6
104	Canthium dicoccum var.umbellatum	0.14	5.00	2.78	0.00	0.18	0.19	0.00	0.37	5
105	Chionanthus sp	0.14	5.00	2.78	0.00	0.18	0.19	0.00	0.37	5
106	Cinnamomum malabatrum	0.14	5.00	2.78	0.00	0.18	0.19	0.00	0.37	5
107	Harpullia arborea	0.14	5.00	2.78	0.00	0.18	0.19	0.00	0.37	5
108	Isonandra stocksii	0.14	5.00	2.78	0.00	0.18	0.19	0.00	0.37	5
109	Michelia nilagirica	0.14	5.00	2.78	0.00	0.18	0.19	0.00	0.37	5

Table 14 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
110	Rapanea thwaitesii	0.14	5.00	2.78	0.00	0.18	0.19	0.00	0.37	5
111	Syzygium sp.	0.14	5.00	2.78	0.00	0.18	0.19	0.00	0.37	5
112	Antiaris toxicaria	0.11	4.00	2.78	0.00	0.14	0.19	0.00	0.33	4
113	Cyathocalyx zeylanica	0.11	4.00	2.78	0.00	0.14	0.19	0.00	0.33	4
114	Dysoxylum binectariferum	0.11	4.00	2.78	0.00	0.14	0.19	0.00	0.33	4
115	Epiprinus mallotiformis	0.11	4.00	2.78	0.00	0.14	0.19	0.00	0.33	4
116	Erythroxylum moonii	0.11	4.00	2.78	0.00	0.14	0.19	0.00	0.33	4
117	Scleropyrum pentandrum	0.11	4.00	2.78	0.00	0.14	0.19	0.00	0.33	4
118	Aglaia lawii	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
119	Aporusa bourdillonii	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
120	Canthium neilgherrense	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
121	Casearia esculenta	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
122	Celtis timorensis	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
123	Dysoxylum beddomei	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
124	Dysoxylum sp.	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
125	Euodia lunu-ankenda	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
126	Eurya japonica	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
127	Holoptelea integrifolia	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
128	Ligustrum perrottetii	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
129	Litsea beddomei	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
130	Litsea floribunda	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
131	Neolitsea scrobiculata	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
132	Nothopegia racemosa	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
133	Pittosporum tetraspermum	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
134	Symplocos macrocarpa	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
135	Syzygium lanceolatum	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
136	Vepris bilocularis	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
137	Xantolis tomentosa	0.08	3.00	2.78	0.00	0.11	0.19	0.00	0.30	3
138	Archidendron monadelphum	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
139	Casearia coriacea	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2

Table 14 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
140	Casearia ovata	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
141	Diospyros pruriens	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
142	Donella roxburghii	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
143	Elaeocarpus serratus	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
144	Euonymus crenulatus	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
145	Ficus hispida	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
146	Garcinia sp.	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
147	Litsea coriacea	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
148	Rapanea sp.	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
149	Rapanea wightiana	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
150	Rhododendron nilagiricum	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
151	Symplocos monantha	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
152	Viburnum acuminatum	0.06	2.00	2.78	0.00	0.07	0.19	0.00	0.26	2
153	Canarium strictum	0.03	1.00	2.78	0.00	0.04	0.19	0.00	0.22	1
154	Celtis philippensis	0.03	1.00	2.78	0.00	0.04	0.19	0.00	0.22	1
155	Litsea insignis	0.03	1.00	2.78	0.00	0.04	0.19	0.00	0.22	1
156	Trichilia connaroides	0.03	1.00	2.78	0.00	0.04	0.19	0.00	0.22	1
157	Vitex altissima	0.03	1.00	2.78	0.00	0.04	0.19	0.00	0.22	1
	Total					100.07	100.09	0.0	200.08	2803

Table 15 Structural status of Saplings

NO	SPECIES NAME	D	AB	%F	BA	RD	RF	RBA	IVI	IND
1	Xanthophyllum arnottianum	0.65	2.18	29.73	187.65	6.54	6.01	4.16	16.71	24
2	Gomphandra coriacea	0.78	3.63	21.62	97.08	7.90	4.37	2.15	14.42	29
3	Vernonia arborea	0.43	1.78	24.32	204.62	4.36	4.92	4.54	13.81	16
4	Saprosma foetens	0.41	2.14	18.92	139.67	4.09	3.83	3.09	11.01	15
5	Ardisia rhomboidea	0.70	6.50	10.81	19.04	7.08	2.19	0.42	9.69	26
6	Actinodaphne bourdillonii	0.24	1.50	16.22	150.22	2.45	3.28	3.33	9.06	9
7	Ilex wightiana	0.30	2.20	13.51	95.63	3.00	2.73	2.12	7.85	11

Ttable 15 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
8	Nothapodytes nimmoniana	0.11	1.00	10.81	188.18	1.09	2.19	4.17	7.45	4
9	Dimocarpus longan	0.14	1.25	10.81	156.81	1.36	2.19	3.47	7.02	5
10	Hydnocarpus alpina	0.27	2.50	10.81	86.36	2.72	2.19	1.91	6.82	10
11	Chionanthus mala-elengi	0.16	1.50	10.81	119.07	1.63	2.19	2.64	6.46	6
12	Mastixia arborea	0.27	2.50	10.81	69.44	2.72	2.19	1.54	6.45	10
13	Turpinia malabarica	0.24	2.25	10.81	70.40	2.45	2.19	1.56	6.20	9
14	Polyalthia coffeoides	0.16	1.50	10.81	104.83	1.63	2.19	2.32	6.14	6
15	Baccaurea courtallensis	0.22	2.00	10.81	67.24	2.18	2.19	1.49	5.85	8
16	Cinnamomum sp.	0.22	2.00	10.81	60.45	2.18	2.19	1.34	5.70	8
17	Aporusa lindleyana	0.32	4.00	8.11	29.07	3.27	1.64	0.64	5.55	12
18	Bhesa indica	0.08	1.00	8.11	134.42	0.82	1.64	2.98	5.43	3
19	Myristica dactyloides	0.24	3.00	8.11	40.29	2.45	1.64	0.89	4.98	9
20	Cullenia exarillata	0.16	2.00	8.11	54.61	1.63	1.64	1.21	4.48	6
21	Excoecaria crenulata	0.16	2.00	8.11	50.97	1.63	1.64	1.13	4.40	6
22	Knema attenuata	0.05	1.00	5.41	116.64	0.54	1.09	2.58	4.22	2
23	Microtropis ramiflora	0.24	4.50	5.41	17.76	2.45	1.09	0.39	3.93	9
24	Litsea ligustrina	0.05	1.00	5.41	96.04	0.54	1.09	2.13	3.76	2
25	Mahonia leschenaultii	0.05	1.00	5.41	84.64	0.54	1.09	1.87	3.51	2
26	Symplocos anamallayana	0.08	1.50	5.41	62.72	0.82	1.09	1.39	3.30	3
27	Cinnamomum wightii	0.14	2.50	5.41	36.35	1.36	1.09	0.80	3.26	5
28	Canarium strictum	0.05	1.00	5.41	70.56	0.54	1.09	1.56	3.20	2
29	Glochidion ellipticum	0.11	2.00	5.41	46.08	1.09	1.09	1.02	3.20	4
30	Elaeocarpus tuberculatus	0.14	2.50	5.41	33.12	1.36	1.09	0.73	3.19	5
31	Hydnocarpus pentandra	0.14	2.50	5.41	30.62	1.36	1.09	0.67	3.13	5
32	Prunus ceylanica	0.05	1.00	5.41	64.00	0.54	1.09	1.42	3.05	2
33	Symplocos cochinchinensis	0.11	2.00	5.41	34.44	1.09	1.09	0.76	2.94	4
34	Persea macrantha	0.08	1.50	5.41	45.92	0.82	1.09	1.01	2.92	3

Table 15 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
35	Artocarpus hirsutus	0.05	1.00	5.41	57.76	0.54	1.09	1.28	2.91	2
36	Otonephelium stipulaceum	0.08	1.50	5.41	44.82	0.82	1.09	0.99	2.90	3
37	Pterygota alata	0.05	1.00	5.41	51.84	0.54	1.09	1.15	2.78	2
38	Acrocarpus fraxinifolius	0.03	1.00	2.70	62.72	0.27	0.55	1.39	2.21	1
39	Symplocos oligandra	0.03	1.00	2.70	62.72	0.27	0.55	1.39	2.21	1
40	Clausena indica	0.03	1.00	2.70	54.08	0.27	0.55	1.20	2.01	1
41	Neolitsea scrobiculata	0.03	1.00	2.70	54.08	0.27	0.55	1.20	2.01	1
42	Turpinia cochinchinensis	0.03	1.00	2.70	54.08	0.27	0.55	1.20	2.01	1
43	Antiaris toxicaria	0.03	1.00	2.70	50.00	0.27	0.55	1.10	1.92	1
44	Archidendron clypearia	0.03	1.00	2.70	50.00	0.27	0.55	1.10	1.92	1
45	Aglaia barberi	0.11	4.00	2.70	9.90	1.09	0.55	0.21	1.85	4
46	Antidesma menasu	0.03	1.00	2.70	46.08	0.27	0.55	1.02	1.84	1
47	Drypetes venusta	0.03	1.00	2.70	46.08	0.27	0.55	1.02	1.84	1
48	Croton malabaricus	0.03	1.00	2.70	42.32	0.27	0.55	0.93	1.75	1
49	Drypetes elata	0.03	1.00	2.70	42.32	0.27	0.55	0.93	1.75	1
50	Neolitsea zeylanica	0.08	3.00	2.70	16.66	0.82	0.55	0.36	1.73	3
51	Rapanea thwaitesii	0.05	2.00	2.70	29.16	0.54	0.55	0.64	1.73	2
52	Ixora brachiata	0.08	3.00	2.70	14.94	0.82	0.55	0.33	1.69	3
53	Goniothalamus wightii	0.08	3.00	2.70	14.10	0.82	0.55	0.31	1.67	3
54	Myristica malabarica	0.03	1.00	2.70	38.72	0.27	0.55	0.85	1.67	1
55	Aglaia lawii	0.08	3.00	2.70	13.29	0.82	0.55	0.29	1.65	3
56	Erythroxylum moonii	0.08	3.00	2.70	12.90	0.82	0.55	0.28	1.65	3
57	Acronychia pedunculata	0.05	2.00	2.70	25.00	0.54	0.55	0.55	1.64	2
58	Litsea wightiana	0.08	3.00	2.70	12.52	0.82	0.55	0.27	1.64	3
59	Syzygium caryophyllatum	0.05	2.00	2.70	24.01	0.54	0.55	0.53	1.62	2
60	Aporusa acuminata	0.03	1.00	2.70	35.28	0.27	0.55	0.78	1.60	1
61	Isonandra lanceolata	0.03	1.00	2.70	35.28	0.27	0.55	0.78	1.60	1
62	Cinnamomum malabatrum	0.05	2.00	2.70	22.09	0.54	0.55	0.49	1.58	2

Table 15 contd.										
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**	**IND**
63	Elaeocarpus recurvatus	0.08	3.00	2.70	9.96	0.82	0.55	0.22	1.58	3
64	Isonandra stocksii	0.05	2.00	2.70	22.09	0.54	0.55	0.49	1.58	2
65	Agrostistachys indica	0.08	3.00	2.70	8.95	0.82	0.55	0.19	1.56	3
66	Agrostistachys borneensis	0.05	2.00	2.70	19.36	0.54	0.55	0.42	1.52	2
67	Aporusa bourdillonii	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
68	Bombax ceiba	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
69	Drypetes oblongifolia	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
70	Helicia nilagirica	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
71	Lepisanthes tetraphylla	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
72	Memecylon edule	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
73	Murraya paniculata	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
74	Nothopegia racemosa	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
75	Oreocnide integrifolia	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
76	Phoebe lanceolata	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
77	Syzygium gardneri	0.03	1.00	2.70	32.00	0.27	0.55	0.71	1.52	1
78	Ligustrum perrottetii	0.05	2.00	2.70	17.64	0.54	0.55	0.39	1.48	2
79	Meliosma simplicifolia	0.05	2.00	2.70	17.64	0.54	0.55	0.39	1.48	2
80	Beilschmiedia wightii	0.05	2.00	2.70	14.44	0.54	0.55	0.32	1.41	2
81	Pittosporum tetraspermum	0.05	2.00	2.70	14.44	0.54	0.55	0.32	1.41	2
82	Litsea sp.	0.03	1.00	2.70	25.92	0.27	0.55	0.57	1.39	1
83	Litsea sp.	0.03	1.00	2.70	25.92	0.27	0.55	0.57	1.39	1
84	Memecylon sp.	0.03	1.00	2.70	25.92	0.27	0.55	0.57	1.39	1
85	Rapanea sp.	0.03	1.00	2.70	25.92	0.27	0.55	0.57	1.39	1
86	Scleropyrum pentandrum	0.03	1.00	2.70	25.92	0.27	0.55	0.57	1.39	1
87	Flacourtia montana	0.05	2.00	2.70	12.25	0.54	0.55	0.27	1.36	2
	Total					99.82	100.18	99.67	299.52	367

Table 16 Structural status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Peperomia tetraphylla	3.25	16.71	19.44	0.00	11.93	3.29	0.00	15.21	117
2	Piper mullesua	3.11	16.00	19.44	0.00	11.42	3.29	0.00	14.70	112
3	Bulbophyllum sp.	2.81	16.83	16.67	0.00	10.30	2.82	0.00	13.11	101
4	Piper sp.	2.03	6.08	33.33	0.00	7.44	5.63	0.00	13.08	73
5	Oberonia sp.	2.11	15.20	13.89	0.00	7.75	2.35	0.00	10.09	76
6	Piper argyrophyllum	1.28	4.60	27.78	0.00	4.69	4.69	0.00	9.38	46
7	Ancistrocladus heyneanus	0.89	2.91	30.56	0.00	3.26	5.16	0.00	8.43	32
8	Strychnos colubrina	0.44	1.45	30.56	0.00	1.63	5.16	0.00	6.80	16
9	Kunstleria keralensis	0.69	2.78	25.00	0.00	2.55	4.23	0.00	6.77	25
10	Coelogyne mossiae	1.53	27.50	5.56	0.00	5.61	0.94	0.00	6.55	55
11	Smilax zeylanica	0.47	1.70	27.78	0.00	1.73	4.69	0.00	6.43	17
12	Toddalia asiatica	0.42	2.14	19.44	0.00	1.53	3.29	0.00	4.82	15
13	Medinilla beddomei	0.47	2.83	16.67	0.00	1.73	2.82	0.00	4.55	17
14	Pothos scandens	0.31	1.57	19.44	0.00	1.12	3.29	0.00	4.41	11
15	Calamus sp.	0.36	2.17	16.67	0.00	1.33	2.82	0.00	4.14	13
16	Myxopyrum smilacifolium	0.31	1.83	16.67	0.00	1.12	2.82	0.00	3.94	11
17	Leptochilus decurens	0.47	4.25	11.11	0.00	1.73	1.88	0.00	3.61	17
18	Desmos lawii	0.33	2.40	13.89	0.00	1.22	2.35	0.00	3.57	12
19	Leptochilus sp.	0.33	2.40	13.89	0.00	1.22	2.35	0.00	3.57	12
20	Aeschynanthus perrottetii	0.39	3.50	11.11	0.00	1.43	1.88	0.00	3.31	14
21	Calamus thwaitesii	0.31	2.75	11.11	0.00	1.12	1.88	0.00	3.00	11
22	Eria pauciflora	0.50	9.00	5.56	0.00	1.83	0.94	0.00	2.77	18
23	Sarcanthus peninsularis	0.14	1.25	11.11	0.00	0.51	1.88	0.00	2.39	5
24	Ellertonia rheedei	0.17	2.00	8.33	0.00	0.61	1.41	0.00	2.02	6
25	Aerides ringens	0.42	15.00	2.78	0.00	1.53	0.47	0.00	2.00	15
26	Usnea sp.	0.42	15.00	2.78	0.00	1.53	0.47	0.00	2.00	15
27	Erythropalum scandens	0.14	1.67	8.33	0.00	0.51	1.41	0.00	1.92	5
28	Raphidophora pertusa	0.11	1.33	8.33	0.00	0.41	1.41	0.00	1.82	4
29	Jasminum sp.	0.08	1.00	8.33	0.00	0.31	1.41	0.00	1.71	3
30	Tetrastigma leucostaphylum	0.08	1.00	8.33	0.00	0.31	1.41	0.00	1.71	3

Ttable 16 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
31	Asplenium unilaterale	0.28	10.00	2.78	0.00	1.02	0.47	0.00	1.49	10
32	Piper wightii	0.28	10.00	2.78	0.00	1.02	0.47	0.00	1.49	10
33	Calamus gamblei	0.14	2.50	5.56	0.00	0.51	0.94	0.00	1.45	5
34	Rubus moluccanus	0.11	2.00	5.56	0.00	0.41	0.94	0.00	1.35	4
35	Derris brevipes	0.08	1.50	5.56	0.00	0.31	0.94	0.00	1.24	3
36	Jasminum azoricum	0.08	1.50	5.56	0.00	0.31	0.94	0.00	1.24	3
37	Clematis munroiana	0.06	1.00	5.56	0.00	0.20	0.94	0.00	1.14	2
38	Derris sp.	0.06	1.00	5.56	0.00	0.20	0.94	0.00	1.14	2
39	Elaeagnus conferta	0.06	1.00	5.56	0.00	0.20	0.94	0.00	1.14	2
40	Fagraea ceylanica	0.06	1.00	5.56	0.00	0.20	0.94	0.00	1.14	2
41	Neuropeltis malabarica	0.06	1.00	5.56	0.00	0.20	0.94	0.00	1.14	2
42	Flickingeria nodosa	0.17	6.00	2.78	0.00	0.61	0.47	0.00	1.08	6
43	Oberonia santapaui	0.17	6.00	2.78	0.00	0.61	0.47	0.00	1.08	6
44	Calamus hookerianus	0.14	5.00	2.78	0.00	0.51	0.47	0.00	0.98	5
45	Mikania micrantha	0.14	5.00	2.78	0.00	0.51	0.47	0.00	0.98	5
46	Bulbophyllum neilgherrense	0.11	4.00	2.78	0.00	0.41	0.47	0.00	0.88	4
47	Tylophora sp.	0.11	4.00	2.78	0.00	0.41	0.47	0.00	0.88	4
48	Pothos thomsonianus	0.08	3.00	2.78	0.00	0.31	0.47	0.00	0.78	3
49	Rubia cordifolia	0.08	3.00	2.78	0.00	0.31	0.47	0.00	0.78	3
50	Sirhookera lanceolata	0.08	3.00	2.78	0.00	0.31	0.47	0.00	0.78	3
51	Caesalpinia cucullata	0.06	2.00	2.78	0.00	0.20	0.47	0.00	0.67	2
52	Drynaria quercifolia	0.06	2.00	2.78	0.00	0.20	0.47	0.00	0.67	2
53	Senecio scandens	0.06	2.00	2.78	0.00	0.20	0.47	0.00	0.67	2
54	Acampe ochracea	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
55	Adenia hondala	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
56	Asparagus racemosus	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
57	Cissus sp.	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
58	Clematis sp.	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
59	Cyratia pedata	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
60	Cyratia tenuifolia	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1

Ttable 16 contd.										
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**	**IND**
61	Entada rheedei	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
62	Gnetum ula	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
63	Miquelia dentata	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
64	Pomatocalpa mannii	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
65	Schefflera capitata	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
66	Tetracera akara	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
67	Thunbergia mysorensis	0.03	1.00	2.78	0.00	0.10	0.47	0.00	0.57	1
	Total					99.98	100.06	0.0	199.98	981

VEGETATION DATA ANALYSIS OF IDUKKI SEMI EVERGREEN FOREST

Table 17. Structural status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Lagerstroemia microcarpa	2.53	3.31	76.47	7562.45	8.11	5.88	5.87	19.87	43
2	Terminalia paniculata	0.59	1.67	35.29	9491.72	1.89	2.71	7.37	11.97	10
3	Macaranga peltata	2.00	3.78	52.94	1408.13	6.42	4.07	1.09	11.58	34
4	Elaeocarpus tuberculatus	0.59	1.67	35.29	5527.81	1.89	2.71	4.29	8.89	10
5	Syzygium sp.	0.12	1.00	11.76	9761.44	0.38	0.90	7.58	8.86	2
6	Tetrameles nudiflora	0.18	1.50	11.76	8847.36	0.57	0.90	6.87	8.34	3
7	Hydnocarpus pentandra	1.35	3.83	35.29	850.29	4.34	2.71	0.66	7.71	23
8	Toona ciliata	0.29	1.25	23.53	6370.57	0.94	1.81	4.94	7.70	5
9	Turpinia malabarica	1.59	6.75	23.53	387.93	5.09	1.81	0.30	7.20	27
10	Bombax insigne	0.41	1.40	29.41	3851.20	1.32	2.26	2.99	6.57	7
11	Cinnamomum sp.	0.65	1.57	41.18	1700.16	2.08	3.17	1.32	6.56	11
12	Dillenia pentagyna	0.59	2.50	23.53	3227.12	1.89	1.81	2.50	6.20	10
13	Bischofia javanica	1.41	8.00	17.65	396.26	4.53	1.36	0.30	6.19	24
14	Euodia lunu-ankenda	1.00	3.40	29.41	890.71	3.21	2.26	0.69	6.16	17
15	Terminalia crenulata	0.41	2.33	17.65	4238.64	1.32	1.36	3.29	5.97	7
16	Xanthophyllum arnottianum	1.06	3.60	29.41	214.13	3.40	2.26	0.16	5.82	18
17	Persea macrantha	0.88	3.00	29.41	707.07	2.83	2.26	0.54	5.64	15
18	Polyalthia coffeoides	0.47	1.60	29.41	1914.06	1.51	2.26	1.48	5.25	8
19	Antiaris toxicaria	0.12	1.00	11.76	4844.16	0.38	0.90	3.76	5.04	2
20	Aporusa lindleyana	0.82	3.50	23.53	302.94	2.64	1.81	0.23	4.68	14
21	Ficus hispida	0.47	1.60	29.41	1122.25	1.51	2.26	0.87	4.64	8
22	Gmelina arborea	0.41	1.75	23.53	1833.14	1.32	1.81	1.42	4.55	7
23	Vernonia arborea	0.94	5.33	17.65	181.14	3.02	1.36	0.14	4.51	16
24	Artocarpus hirsutus	0.29	1.67	17.65	2764.50	0.94	1.36	2.14	4.44	5
25	Vitex altissima	0.53	3.00	17.65	1548.64	1.70	1.36	1.20	4.25	9
26	Chionanthus mala-elengi	0.65	2.75	23.53	436.36	2.08	1.81	0.33	4.22	11
27	Sterculia guttata	0.18	1.00	17.65	2799.36	0.57	1.36	2.17	4.09	3

Ttable 17 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
28	Stereospermum colais	0.35	1.50	23.53	1260.75	1.13	1.81	0.97	3.92	6
29	Litsea quinqueflora	0.71	4.00	17.65	267.25	2.26	1.36	0.20	3.82	12
30	Mallotus philippensis	0.41	1.75	23.53	580.26	1.32	1.81	0.45	3.58	7
31	Diospyros montana	0.18	1.50	11.76	2713.62	0.57	0.90	2.10	3.57	3
32	Prunus ceylanica	0.35	2.00	17.65	1398.21	1.13	1.36	1.08	3.57	6
34	Dimocarpus longan	0.24	1.00	23.53	950.48	0.75	1.81	0.73	3.30	4
35	Flacourtia montana	0.29	1.67	17.65	1215.90	0.94	1.36	0.94	3.24	5
36	Artocarpus heterophyllus	0.59	5.00	11.76	331.49	1.89	0.90	0.25	3.04	10
37	Alstonia scholaris	0.24	1.33	17.65	1123.38	0.75	1.36	0.87	2.98	4
38	Diospyros ovalifolia	0.41	2.33	17.65	355.34	1.32	1.36	0.27	2.95	7
39	Terminalia arjuna	0.18	3.00	5.88	2426.79	0.57	0.45	1.88	2.90	3
40	Acrocarpus fraxinifolius	0.06	1.00	5.88	2888.00	0.19	0.45	2.24	2.88	1
41	Olea dioica	0.41	2.33	17.65	267.53	1.32	1.36	0.20	2.88	7
42	Holigarna grahamii	0.18	1.00	17.65	972.82	0.57	1.36	0.75	2.67	3
43	Grewia tiliifolia	0.18	1.50	11.76	1460.16	0.57	0.90	1.13	2.60	3
44	Bombax ceiba	0.29	2.50	11.76	921.60	0.94	0.90	0.71	2.56	5
45	Dalbergia latifolia	0.35	3.00	11.76	535.46	1.13	0.90	0.41	2.45	6
46	Hopea parviflora	0.29	5.00	5.88	1310.56	0.94	0.45	1.01	2.41	5
47	Baccaurea courtallensis	0.24	1.33	17.65	315.00	0.75	1.36	0.24	2.35	4
48	Hydnocarpus alpina	0.12	1.00	11.76	1369.00	0.38	0.90	1.06	2.34	2
49	Myristica dactyloides	0.29	2.50	11.76	599.07	0.94	0.90	0.46	2.31	5
50	Schleichera oleosa	0.24	2.00	11.76	392.00	0.75	0.90	0.30	1.96	4
51	Syzygium laetum	0.06	1.00	5.88	1568.00	0.19	0.45	1.21	1.85	1
52	Dysoxylum malabaricum	0.12	1.00	11.76	696.96	0.38	0.90	0.54	1.82	2
53	Xylia xylocarpa	0.06	1.00	5.88	1523.52	0.19	0.45	1.18	1.82	1
54	Diospyros nilagirica	0.24	2.00	11.76	174.20	0.75	0.90	0.13	1.79	4
55	Aglaia barberi	0.06	1.00	5.88	1458.00	0.19	0.45	1.13	1.77	1
56	Meliosma simplicifolia	0.29	5.00	5.88	427.19	0.94	0.45	0.33	1.72	5
57	Knema attenuata	0.35	6.00	5.88	135.55	1.13	0.45	0.10	1.68	6

Ttable 17 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
58	Cassia fistula	0.06	1.00	5.88	1310.72	0.19	0.45	1.01	1.65	1
59	Terminalia bellirica	0.12	2.00	5.88	954.81	0.38	0.45	0.74	1.57	2
60	Julostylis angustifolia	0.06	1.00	5.88	1152.00	0.19	0.45	0.89	1.53	1
61	Trewia nudiflora	0.06	1.00	5.88	1152.00	0.19	0.45	0.89	1.53	1
62	Glochidion ellipticum	0.12	1.00	11.76	309.76	0.38	0.90	0.24	1.52	2
63	Dysoxylum binectariferum	0.24	4.00	5.88	353.78	0.75	0.45	0.27	1.48	4
64	Actinodaphne malabarica	0.12	2.00	5.88	806.56	0.38	0.45	0.62	1.45	2
65	Barringtonia acutangula	0.06	1.00	5.88	1003.52	0.19	0.45	0.77	1.42	1
66	Ochreinauclea missionis	0.06	1.00	5.88	1003.52	0.19	0.45	0.77	1.42	1
67	Pterocarpus marsupium	0.12	2.00	5.88	734.41	0.38	0.45	0.57	1.40	2
68	Spondias indica	0.06	1.00	5.88	968.00	0.19	0.45	0.75	1.39	1
69	Acronychia pedunculata	0.06	1.00	5.88	915.92	0.19	0.45	0.71	1.35	1
70	Strombosia ceylanica	0.24	4.00	5.88	189.15	0.75	0.45	0.14	1.35	4
71	Mesua ferrea	0.06	1.00	5.88	848.72	0.19	0.45	0.65	1.30	1
72	Ixora brachiata	0.24	4.00	5.88	83.20	0.75	0.45	0.06	1.27	4
73	Diospyros sp.	0.12	2.00	5.88	566.44	0.38	0.45	0.44	1.26	2
74	Actinodaphne bourdillonii	0.06	1.00	5.88	648.00	0.19	0.45	0.50	1.14	1
75	Clausena dentata	0.06	1.00	5.88	551.12	0.19	0.45	0.42	1.06	1
76	Oreocnide integrifolia	0.18	3.00	5.88	30.82	0.57	0.45	0.02	1.04	3
77	Archidendron monadelphum	0.06	1.00	5.88	512.00	0.19	0.45	0.39	1.03	1
78	Otonephelium stipulaceum	0.06	1.00	5.88	486.72	0.19	0.45	0.37	1.01	1
79	Mangifera indica	0.12	2.00	5.88	132.25	0.38	0.45	0.10	0.93	2
80	Elaeocarpus glandulosus	0.12	2.00	5.88	110.25	0.38	0.45	0.08	0.91	2
81	Butea monosperma	0.06	1.00	5.88	242.00	0.19	0.45	0.18	0.82	1
82	Croton malabaricus	0.06	1.00	5.88	242.00	0.19	0.45	0.18	0.82	1
83	Wrightia tinctoria	0.06	1.00	5.88	147.92	0.19	0.45	0.11	0.75	1
84	Drypetes elata	0.06	1.00	5.88	109.52	0.19	0.45	0.08	0.72	1

Ttable 17 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
85	Lepisanthes tetraphylla	0.06	1.00	5.88	98.00	0.19	0.45	0.07	0.71	1
86	Litsea coriacea	0.06	1.00	5.88	81.92	0.19	0.45	0.06	0.70	1
87	Callicarpa tomentosa	0.06	1.00	5.88	72.00	0.19	0.45	0.05	0.69	1
88	Canarium strictum	0.06	1.00	5.88	72.00	0.19	0.45	0.05	0.69	1
	Total					100.04	99.84	99.55	299.54	530

Table 18. Structural status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Xanthophyllum arnottianum	0.65	2.20	29.41	91.55	12.64	9.26	5.69	27.59	11
2	Chionanthus mala-elengi	0.29	1.25	23.53	133.95	5.75	7.41	8.33	21.48	5
3	Cinnamomum sp.	0.47	2.00	23.53	71.69	9.20	7.41	4.46	21.06	8
4	Turpinia malabarica	0.53	3.00	17.65	38.05	10.34	5.56	2.36	18.26	9
5	Elaeocarpus tuberculatus	0.18	1.00	17.65	116.16	3.45	5.56	7.22	16.23	3
6	Artocarpus heterophyllus	0.12	1.00	11.76	112.36	2.30	3.70	6.99	12.99	2
7	Schleichera oleosa	0.12	1.00	11.76	96.04	2.30	3.70	5.97	11.97	2
8	Hydnocarpus pentandra	0.24	2.00	11.76	55.48	4.60	3.70	3.45	11.75	4
9	Dimocarpus longan	0.12	1.00	11.76	92.16	2.30	3.70	5.73	11.73	2
10	Litsea quinqueflora	0.29	2.50	11.76	32.87	5.75	3.70	2.04	11.49	5
11	Vernonia arborea	0.18	1.50	11.76	55.20	3.45	3.70	3.43	10.58	3
12	Polyalthia coffeoides	0.24	2.00	11.76	30.42	4.60	3.70	1.89	10.19	4
13	Olea dioica	0.12	1.00	11.76	64.00	2.30	3.70	3.98	9.98	2
14	Clausena dentata	0.29	5.00	5.88	8.46	5.75	1.85	0.52	8.12	5
15	Canarium strictum	0.06	1.00	5.88	58.32	1.15	1.85	3.62	6.62	1
16	Hopea parviflora	0.06	1.00	5.88	50.00	1.15	1.85	3.11	6.11	1
17	Xylia xylocarpa	0.06	1.00	5.88	50.00	1.15	1.85	3.11	6.11	1
18	Diospyros nilagirica	0.18	3.00	5.88	12.52	3.45	1.85	0.77	6.07	3
19	Baccaurea courtallensis	0.06	1.00	5.88	42.32	1.15	1.85	2.63	5.63	1
20	Diospyros ovalifolia	0.12	2.00	5.88	23.04	2.30	1.85	1.43	5.58	2
21	Canthium parviflorum	0.12	2.00	5.88	22.09	2.30	1.85	1.37	5.52	2
22	Acronychia pedunculata	0.06	1.00	5.88	38.72	1.15	1.85	2.40	5.41	1
23	Bombax ceiba	0.06	1.00	5.88	38.72	1.15	1.85	2.40	5.41	1
24	Aporusa lindleyana	0.06	1.00	5.88	35.28	1.15	1.85	2.19	5.19	1
25	Persea macrantha	0.06	1.00	5.88	35.28	1.15	1.85	2.19	5.19	1
26	Allophylus cobbe	0.06	1.00	5.88	32.00	1.15	1.85	1.99	4.99	1
27	Gmelina arborea	0.06	1.00	5.88	32.00	1.15	1.85	1.99	4.99	1
28	Julostylis angustifolia	0.06	1.00	5.88	32.00	1.15	1.85	1.99	4.99	1
29	Otonephelium stipulaceum	0.06	1.00	5.88	28.88	1.15	1.85	1.79	4.79	1
30	Aglaia barberi	0.06	1.00	5.88	25.92	1.15	1.85	1.61	4.61	1
31	Dysoxylum binectariferum	0.06	1.00	5.88	25.92	1.15	1.85	1.61	4.61	1
32	Macaranga peltata	0.06	1.00	5.88	25.92	1.15	1.85	1.61	4.61	1
	Total					100.03	99.95	99.87	299.85	87

Table 19. Structural status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Cinnamomum sp.	3.35	4.07	82.35	0.00	6.84	6.57	0.00	13.42	57
2	Turpinia malabarica	2.76	7.83	35.29	0.00	5.64	2.82	0.00	8.46	47
3	Mallotus philippensis	2.35	5.71	41.18	0.00	4.80	3.29	0.00	8.09	40
4	Lagerstroemia microcarpa	1.82	3.44	52.94	0.00	3.72	4.23	0.00	7.95	31
5	Chionanthus mala-elengi	1.94	4.71	41.18	0.00	3.96	3.29	0.00	7.25	33
6	Macaranga peltata	1.35	2.56	52.94	0.00	2.76	4.23	0.00	6.99	23
7	Xanthophyllum arnottianum	2.12	7.20	29.41	0.00	4.32	2.35	0.00	6.67	36
8	Hydnocarpus pentandra	1.71	5.80	29.41	0.00	3.48	2.35	0.00	5.83	29
9	Polyalthia coffeoides	1.41	4.00	35.29	0.00	2.88	2.82	0.00	5.70	24
10	Hopea parviflora	1.82	7.75	23.53	0.00	3.72	1.88	0.00	5.60	31
11	Dimocarpus longan	1.35	4.60	29.41	0.00	2.76	2.35	0.00	5.11	23
12	Litsea quinqueflora	1.71	9.67	17.65	0.00	3.48	1.41	0.00	4.89	29
13	Olea dioica	1.29	5.50	23.53	0.00	2.64	1.88	0.00	4.52	22
14	Euodia lunu-ankenda	1.06	3.60	29.41	0.00	2.16	2.35	0.00	4.51	18
15	Persea macrantha	0.94	3.20	29.41	0.00	1.92	2.35	0.00	4.27	16
16	Sterculia guttata	1.00	4.25	23.53	0.00	2.04	1.88	0.00	3.92	17
17	Vernonia arborea	0.94	4.00	23.53	0.00	1.92	1.88	0.00	3.80	16
18	Aporusa lindleyana	0.82	3.50	23.53	0.00	1.68	1.88	0.00	3.56	14
19	Bischofia javanica	0.76	3.25	23.53	0.00	1.56	1.88	0.00	3.44	13
20	Elaeocarpus tuberculatus	0.65	2.75	23.53	0.00	1.32	1.88	0.00	3.20	11
21	Vitex altissima	0.65	2.75	23.53	0.00	1.32	1.88	0.00	3.20	11
22	Baccaurea courtallensis	0.76	4.33	17.65	0.00	1.56	1.41	0.00	2.97	13
23	Dillenia pentagyna	0.53	2.25	23.53	0.00	1.08	1.88	0.00	2.96	9
24	Actinodaphne malabarica	0.71	4.00	17.65	0.00	1.44	1.41	0.00	2.85	12
25	Syzygium sp.	0.65	3.67	17.65	0.00	1.32	1.41	0.00	2.73	11
26	Clausena dentata	0.94	16.00	5.88	0.00	1.92	0.47	0.00	2.39	16
27	Diospyros ovalifolia	0.47	2.67	17.65	0.00	0.96	1.41	0.00	2.37	8
28	Prunus ceylanica	0.47	2.67	17.65	0.00	0.96	1.41	0.00	2.37	8

Table 19 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
29	Archidendron monadelphum	0.24	1.00	23.53	0.00	0.48	1.88	0.00	2.36	4
30	Meiogyne ramarowii	0.88	15.0	5.88	0.00	1.80	0.47	0.00	2.27	15
31	Myristica dactyloides	0.65	5.50	11.76	0.00	1.32	0.94	0.00	2.26	11
32	Stereospermum colais	0.35	2.00	17.65	0.00	0.72	1.41	0.00	2.13	6
33	Otonephelium stipulaceum	0.53	4.50	11.76	0.00	1.08	0.94	0.00	2.02	9
34	Diospyros buxifolia	0.47	4.00	11.76	0.00	0.96	0.94	0.00	1.90	8
35	Diospyros nilagirica	0.47	4.00	11.76	0.00	0.96	0.94	0.00	1.90	8
36	Terminalia paniculata	0.47	4.00	11.76	0.00	0.96	0.94	0.00	1.90	8
37	Croton malabaricus	0.24	1.33	17.65	0.00	0.48	1.41	0.00	1.89	4
38	Artocarpus hirsutus	0.41	3.50	11.76	0.00	0.84	0.94	0.00	1.78	7
39	Terminalia crenulata	0.35	3.00	11.76	0.00	0.72	0.94	0.00	1.66	6
40	Diospyros montana	0.29	2.50	11.76	0.00	0.60	0.94	0.00	1.54	5
41	Glochidion ellipticum	0.29	2.50	11.76	0.00	0.60	0.94	0.00	1.54	5
42	Schleichera oleosa	0.29	2.50	11.76	0.00	0.60	0.94	0.00	1.54	5
43	Aglaia barberi	0.47	8.00	5.88	0.00	0.96	0.47	0.00	1.43	8
44	Ixora brachiata	0.47	8.00	5.88	0.00	0.96	0.47	0.00	1.43	8
45	Alstonia scholaris	0.24	2.00	11.76	0.00	0.48	0.94	0.00	1.42	4
46	Artocarpus heterophyllus	0.18	1.50	11.76	0.00	0.36	0.94	0.00	1.30	3
47	Dysoxylum binectariferum	0.35	6.00	5.88	0.00	0.72	0.47	0.00	1.19	6
48	Madhuca neriifolia	0.35	6.00	5.88	0.00	0.72	0.47	0.00	1.19	6
49	Allophylus cobbe	0.12	1.00	11.76	0.00	0.24	0.94	0.00	1.18	2
50	Toona ciliata	0.12	1.00	11.76	0.00	0.24	0.94	0.00	1.18	2
51	Knema attenuata	0.29	5.00	5.88	0.00	0.60	0.47	0.00	1.07	5
52	Strombosia ceylanica	0.29	5.00	5.88	0.00	0.60	0.47	0.00	1.07	5
53	Actinodaphne bourdillonii	0.24	4.00	5.88	0.00	0.48	0.47	0.00	0.95	4
54	Flacourtia montana	0.24	4.00	5.88	0.00	0.48	0.47	0.00	0.95	4
55	Meliosma simplicifolia	0.24	4.00	5.88	0.00	0.48	0.47	0.00	0.95	4
56	Wrightia tinctoria	0.24	4.00	5.88	0.00	0.48	0.47	0.00	0.95	4
57	Acronychia pedunculata	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3

Table 19 condt.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
58	Apollonias arnottii	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3
59	Callicarpa tomentosa	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3
60	Julostylis angustifolia	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3
61	Ochreinauclea missionis	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3
62	Oreocnide integrifolia	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3
63	Pterocarpus marsupium	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3
64	Spondias indica	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3
65	Terminalia arjuna	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3
66	Xylia xylocarpa	0.18	3.00	5.88	0.00	0.36	0.47	0.00	0.83	3
67	Holigarna beddomei	0.12	2.00	5.88	0.00	0.24	0.47	0.00	0.71	2
68	Pterygota alata	0.12	2.00	5.88	0.00	0.24	0.47	0.00	0.71	2
69	Zizyphus rugosa	0.12	2.00	5.88	0.00	0.24	0.47	0.00	0.71	2
70	Barringtonia acutangula	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
71	Bombax ceiba	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
72	Butea monosperma	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
73	Canthium parviflorum	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
74	Cassia fistula	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
75	Cycas circinalis	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
76	Dysoxylum malabaricum	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
77	Ficus hispida	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
78	Holigarna grahamii	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
79	Hydnocarpus alpina	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
80	Memecylon sp.	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
81	Trewia nudiflora	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
82	Vateria indica	0.06	1.00	5.88	0.00	0.12	0.47	0.00	0.59	1
	Total					99.96	100.1	0.0	200.07	833

Table 20. Structural status of Shrubss

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Ochlandra travancorica	11.47	39.00	29.41	0.00	28.97	7.94	0.00	36.91	195
2	Strobilanthes sp.	4.88	13.83	35.29	0.00	12.33	9.52	0.00	21.86	83
3	Helicteres isora	3.12	10.60	29.41	0.00	7.88	7.94	0.00	15.81	53
4	Lepianthes umbellata	2.47	7.00	35.29	0.00	6.24	9.52	0.00	15.76	42
5	Ziziphus oenoplia	1.35	3.83	35.29	0.00	3.42	9.52	0.00	12.94	23
6	Strobilanthes ciliatus	2.53	10.75	23.53	0.00	6.39	6.35	0.00	12.74	43
7	Clerodendron viscosum	1.76	7.50	23.53	0.00	4.46	6.35	0.00	10.81	30
8	Glycosmis pentaphylla	1.76	10.00	17.65	0.00	4.46	4.76	0.00	9.22	30
9	Chassalia curviflora	1.76	15.00	11.76	0.00	4.46	3.17	0.00	7.63	30
10	Sarcandra chloranthoides	1.65	14.00	11.76	0.00	4.16	3.17	0.00	7.34	28
11	Ventilago bombaiensis	0.76	4.33	17.65	0.00	1.93	4.76	0.00	6.69	13
12	Chromolaena odorata	1.35	11.50	11.76	0.00	3.42	3.17	0.00	6.59	23
13	Leea sp.	0.71	4.00	17.65	0.00	1.78	4.76	0.00	6.54	12
14	Thottea siliquosa	0.76	6.50	11.76	0.00	1.93	3.17	0.00	5.11	13
15	Pavetta hispidula	0.59	5.00	11.76	0.00	1.49	3.17	0.00	4.66	10
16	Lantana camara	0.29	2.50	11.76	0.00	0.74	3.17	0.00	3.92	5
17	Ixora nigricans	0.88	15.00	5.88	0.00	2.23	1.59	0.00	3.82	15
18	Chassalia ophioxyloides	0.53	9.00	5.88	0.00	1.34	1.59	0.00	2.92	9
19	Gomphandra tetrandra	0.35	6.00	5.88	0.00	0.89	1.59	0.00	2.48	6
20	Canthium angustifolium	0.24	4.00	5.88	0.00	0.59	1.59	0.00	2.18	4
21	Rauvolfia serpentina	0.24	4.00	5.88	0.00	0.59	1.59	0.00	2.18	4
22	Boehmeria glomerulifera	0.12	2.00	5.88	0.00	0.30	1.59	0.00	1.88	2
	Total					100	99.98	0.0	199.99	673

Table 21. Structural status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Oplismenus compositus	0.71	1.09	64.71	0.00	24.00	23.40	0.00	47.40	12
2	Aneilema sp.	0.24	1.00	23.53	0.00	8.00	8.51	0.00	16.51	4
3	Curcuma ecalcarata	0.24	1.00	23.53	0.00	8.00	8.51	0.00	16.51	4
4	Elatostema lineolatum	0.24	1.33	17.65	0.00	8.00	6.38	0.00	14.38	4
5	Costus speciosus	0.18	1.00	17.65	0.00	6.00	6.38	0.00	12.38	3
6	Cyathula prostrata	0.18	1.00	17.65	0.00	6.00	6.38	0.00	12.38	3
7	Dracaena terniflora	0.18	1.00	17.65	0.00	6.00	6.38	0.00	12.38	3
8	Rungia pectinata	0.18	1.00	17.65	0.00	6.00	6.38	0.00	12.38	3
9	Bolbitis sp.	0.12	1.00	11.76	0.00	4.00	4.26	0.00	8.26	2
10	Pellionia heyneana	0.12	1.00	11.76	0.00	4.00	4.26	0.00	8.26	2
11	Andrographis macrobotrys	0.12	2.00	5.88	0.00	4.00	2.13	0.00	6.13	2
12	Barleria sp.	0.06	1.00	5.88	0.00	2.00	2.13	0.00	4.13	1
13	Chlorophytum nimmonii	0.06	1.00	5.88	0.00	2.00	2.13	0.00	4.13	1
14	Curculigo orchioides	0.06	1.00	5.88	0.00	2.00	2.13	0.00	4.13	1
15	Elatostema serratum	0.06	1.00	5.88	0.00	2.00	2.13	0.00	4.13	1
16	Hydrocotyle javanica	0.06	1.00	5.88	0.00	2.00	2.13	0.00	4.13	1
17	Impatiens flaccida	0.06	1.00	5.88	0.00	2.00	2.13	0.00	4.13	1
18	Justicia procumbens	0.06	1.00	5.88	0.00	2.00	2.13	0.00	4.13	1
19	Knoxia sumatrensis	0.06	1.00	5.88	0.00	2.00	2.13	0.00	4.13	1
	Total					100	100.01	0.0	200.01	50

Table 22. Structural status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Piper argyrophyllum	2.65	9.00	29.41	0.00	16.48	5.00	0.00	21.48	45
2	Smilax zeylanica	1.24	1.91	64.71	0.00	7.69	11.00	0.00	18.69	21
3	Piper sp.	1.12	2.71	41.18	0.00	6.96	7.00	0.00	13.96	19
4	Jasminum sp.	0.82	2.00	41.18	0.00	5.13	7.00	0.00	12.13	14
5	Pothos scandens	0.76	2.17	35.29	0.00	4.76	6.00	0.00	10.76	13
6	Piper longum	1.18	6.67	17.65	0.00	7.33	3.00	0.00	10.33	20
7	Ancistrocladus heyneanus	0.76	2.60	29.41	0.00	4.76	5.00	0.00	9.76	13
8	Pholidota pallida	0.94	8.00	11.76	0.00	5.86	2.00	0.00	7.86	16
9	Toddalia asiatica	0.41	1.40	29.41	0.00	2.56	5.00	0.00	7.56	7
10	Calamus sp.	0.47	2.67	17.65	0.00	2.93	3.00	0.00	5.93	8
11	Medinilla beddomei	0.47	4.00	11.76	0.00	2.93	2.00	0.00	4.93	8
12	Usnea sp.	0.47	4.00	11.76	0.00	2.93	2.00	0.00	4.93	8
13	Huperzia phlegmaria	0.59	10.00	5.88	0.00	3.66	1.00	0.00	4.66	10
14	Acacia caesia	0.24	1.33	17.65	0.00	1.47	3.00	0.00	4.47	4
15	Caesalpinia cucullata	0.24	1.33	17.65	0.00	1.47	3.00	0.00	4.47	4
16	Calamus thwaitesii	0.35	3.00	11.76	0.00	2.20	2.00	0.00	4.20	6
17	Calycopteris floribunda	0.29	2.50	11.76	0.00	1.83	2.00	0.00	3.83	5
18	Sarcanthus peninsularis	0.29	2.50	11.76	0.00	1.83	2.00	0.00	3.83	5
19	Drynaria quercifolia	0.24	2.00	11.76	0.00	1.47	2.00	0.00	3.47	4
20	Vigna pilosa	0.35	6.00	5.88	0.00	2.20	1.00	0.00	3.20	6
21	Myxopyrum smilacifolium	0.18	1.50	11.76	0.00	1.10	2.00	0.00	3.10	3
22	Strychnos colubrina	0.18	1.50	11.76	0.00	1.10	2.00	0.00	3.10	3
23	Asparagus racemosus	0.12	1.00	11.76	0.00	0.73	2.00	0.00	2.73	2
24	Cissus discolor	0.12	1.00	11.76	0.00	0.73	2.00	0.00	2.73	2
25	Dioscorea sp.	0.12	1.00	11.76	0.00	0.73	2.00	0.00	2.73	2
26	Tetrastigma leucostaphyllum	0.12	1.00	11.76	0.00	0.73	2.00	0.00	2.73	2
27	Bulbophyllum sp.	0.24	4.00	5.88	0.00	1.47	1.00	0.00	2.47	4

Table 22 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
28	Acampe ochracea	0.18	3.00	5.88	0.00	1.10	1.00	0.00	2.10	3
29	Ellertonia rheedei	0.18	3.00	5.88	0.00	1.10	1.00	0.00	2.10	3
30	Lygodium flexuosum	0.12	2.00	5.88	0.00	0.73	1.00	0.00	1.73	2
31	Sirhookera lanceolata	0.12	2.00	5.88	0.00	0.73	1.00	0.00	1.73	2
32	Abrus precatorius	0.06	1.00	5.88	0.00	0.37	1.00	0.00	1.37	1
33	Cymbidium aloifolium	0.06	1.00	5.88	0.00	0.37	1.00	0.00	1.37	1
34	Diploclisia glaucescens	0.06	1.00	5.88	0.00	0.37	1.00	0.00	1.37	1
35	Entada rheedei	0.06	1.00	5.88	0.00	0.37	1.00	0.00	1.37	1
36	Leptochilus decurrens	0.06	1.00	5.88	0.00	0.37	1.00	0.00	1.37	1
37	Merremia vitifolia	0.06	1.00	5.88	0.00	0.37	1.00	0.00	1.37	1
38	Millettia rubiginosa	0.06	1.00	5.88	0.00	0.37	1.00	0.00	1.37	1
39	Naravelia zeylanica	0.06	1.00	5.88	0.00	0.37	1.00	0.00	1.37	1
40	Zizyphus rugosa	0.06	1.00	5.88	0.00	0.37	1.00	0.00	1.37	1
						100.03	100	0.0	200.03	273

Table 23. Structural status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Acronychia pedunculata	0.08	2.00	4.17	234.09	0.24	0.42	0.27	0.93	2
2	Actinodaphne bourdillonii	0.08	2.00	4.17	77.44	0.24	0.42	0.09	0.75	2
3	Actinodaphne malabarica	0.08	2.00	4.17	176.89	0.24	0.42	0.20	0.86	2
4	Alangium salvifolium	0.04	1.00	4.17	98.00	0.12	0.42	0.11	0.65	1
5	Allophylus cobbe	0.04	1.00	4.17	109.52	0.12	0.42	0.12	0.66	1
6	Alstonia scholaris	0.13	1.00	12.50	932.50	0.36	1.27	1.09	2.71	3
7	Anogeissus latifolia	0.58	14.00	4.17	33.25	1.66	0.42	0.03	2.11	14
8	Aporusa lindleyana	0.25	1.20	20.83	3002.00	0.71	2.11	3.53	6.35	6
9	Artocarpus heterophyllus	0.13	3.00	4.17	119.70	0.36	0.42	0.14	0.91	3
10	Artocarpus hirsutus	0.04	1.00	4.17	259.92	0.12	0.42	0.30	0.84	1
11	Bauhinia racemosa	0.13	1.00	12.50	2090.66	0.36	1.27	2.46	4.08	3
12	Bischofia javanica	0.04	1.00	4.17	2178.00	0.12	0.42	2.56	3.10	1

Table 23 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
13	Bombax ceiba	0.21	1.25	16.67	490.00	0.59	1.69	0.57	2.85	5
14	Bombax insigne	0.25	3.00	8.33	307.24	0.71	0.84	0.36	1.91	6
15	Bridelia airy-shawii	0.13	1.50	8.33	464.64	0.36	0.84	0.54	1.74	3
16	Butea monosperma	2.33	11.20	20.83	234.87	6.64	2.11	0.27	9.02	56
17	Callicarpa tomentosa	0.04	1.00	4.17	72.00	0.12	0.42	0.08	0.62	1
18	Careya arborea	0.83	2.00	41.67	2262.01	2.37	4.22	2.66	9.25	20
19	Chionanthus mala-elengi	0.25	3.00	8.33	296.01	0.71	0.84	0.34	1.90	6
20	Commiphora sp.	0.17	4.00	4.17	88.44	0.47	0.42	0.10	0.99	4
21	Dalbergia lanceolaria	0.21	5.00	4.17	85.73	0.59	0.42	0.10	1.11	5
22	Dalbergia latifolia	1.17	3.50	33.33	1535.90	3.32	3.38	1.80	8.50	28
23	Dalbergia paniculata	0.13	3.00	4.17	105.84	0.36	0.42	0.12	0.90	3
24	Dillenia pentagyna	2.21	3.53	62.50	3075.59	6.28	6.33	3.62	16.22	53
25	Diospyros montana	0.04	1.00	4.17	224.72	0.12	0.42	0.26	0.80	1
26	Diospyros nilagirica	0.63	15.00	4.17	18.73	1.78	0.42	0.02	2.22	15
27	Elaeocarpus glandulosus	0.04	1.00	4.17	327.68	0.12	0.42	0.38	0.92	1
28	Erythrina stricta	0.38	1.80	20.83	1082.67	1.07	2.11	1.27	4.45	9
29	Ficus hispida	0.08	1.00	8.33	841.00	0.24	0.84	0.98	2.07	2
30	Ficus sp.	0.08	1.00	8.33	2025.00	0.24	0.84	2.38	3.46	2
31	Glochidion tomentosum	0.63	3.00	20.83	309.50	1.78	2.11	0.36	4.25	15
32	Glochidion velutinum	0.04	1.00	4.17	176.72	0.12	0.42	0.20	0.74	1
33	Gmelina arborea	0.21	1.25	16.67	3118.75	0.59	1.69	3.67	5.95	5
34	Grewia tiliifolia	1.75	3.50	50.00	1942.00	4.98	5.06	2.28	12.32	42
35	Haldina cordifolia	0.13	3.00	4.17	140.82	0.36	0.42	0.16	0.94	3
36	Holarrhena pubescens	0.33	2.00	16.67	352.20	0.95	1.69	0.41	3.05	8
37	Holoptelea integrifolia	0.08	1.00	8.33	5329.00	0.24	0.84	6.27	7.35	2
38	Hopea parviflora	0.13	3.00	4.17	864.00	0.36	0.42	1.01	1.79	3
39	Hydnocarpus pentandra	0.08	2.00	4.17	179.56	0.24	0.42	0.21	0.87	2
40	Lagerstroemia microcarpa	2.29	3.67	62.50	2686.76	6.52	6.33	3.16	16.00	55

Table 23 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
41	Macaranga peltata	0.25	1.00	25.00	2821.33	0.71	2.53	3.32	6.56	6
42	Mallotus philippensis	0.25	2.00	12.50	510.90	0.71	1.27	0.60	2.57	6
43	Memecylon sp.	0.04	1.00	4.17	242.00	0.12	0.42	0.28	0.82	1
44	Olea dioica	0.33	1.60	20.83	720.00	0.95	2.11	0.84	3.90	8
45	Oroxylum indicum	0.71	3.40	20.83	370.92	2.01	2.11	0.43	4.56	17
46	Pavetta sp.	0.04	1.00	4.17	98.00	0.12	0.42	0.11	0.65	1
47	Persea macrantha	0.13	3.00	4.17	198.74	0.36	0.42	0.23	1.01	3
48	Phyllanthus emblica	1.42	2.13	66.67	1875.59	4.03	6.75	2.20	12.98	34
49	Polyalthia coffeoides	0.04	1.00	4.17	1113.92	0.12	0.42	1.31	1.85	1
50	Pterocarpus marsupium	0.33	1.33	25.00	4820.94	0.95	2.53	5.67	9.15	8
51	Santalam album	0.38	9.00	4.17	15.18	1.07	0.42	0.01	1.50	9
52	Sapindus laurifolius	0.13	3.00	4.17	250.90	0.36	0.42	0.29	1.07	3
53	Sterculia guttata	0.08	2.00	4.17	334.89	0.24	0.42	0.39	1.05	2
54	Stereospermum colais	0.79	3.17	25.00	864.49	2.25	2.53	1.01	5.80	19
55	Strychnos nux-vomica	0.21	1.67	12.50	1322.50	0.59	1.27	1.55	3.41	5
56	Tectona grandis	0.88	3.50	25.00	1312.46	2.49	2.53	1.54	6.56	21
57	Terminalia bellirica	0.17	1.00	16.67	15103.22	0.47	1.69	17.77	19.93	4
58	Terminalia chebula	0.08	2.00	4.17	519.84	0.24	0.42	0.61	1.27	2
59	Terminalia crenulata	0.33	2.00	16.67	4634.20	0.95	1.69	5.45	8.09	8
60	Terminalia paniculata	9.58	10.00	95.83	1774.81	27.25	9.70	2.08	39.04	230
61	Tetrameles nudiflora	0.04	1.00	4.17	6050.00	0.12	0.42	7.12	7.66	1
62	Vitex altissima	0.29	2.33	12.50	863.02	0.83	1.27	1.01	3.11	7
63	Wrightia tinctoria	0.08	2.00	4.17	42.25	0.24	0.42	0.04	0.70	2
64	Xanthophyllum arnottianum	0.04	1.00	4.17	338.00	0.12	0.42	0.39	0.93	1
65	Xylia xylocarpa	2.08	8.33	25.00	809.26	5.92	2.53	0.95	9.40	50
	Total					100.1	99.94	99.68	299.71	844

VEGETATION DATA ANALYSIS OF IDUKKI DRY DECEDUOUS FOREST

Table 24. Structural status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Hardwickia binata	1.50	3.00	50.00	1326.67	4.17	6.52	17.70	28.39	9
2	Anogeissus latifolia	5.33	8.00	66.67	125.86	14.81	8.70	1.68	25.19	32
3	Strychnos potatorum	5.00	7.50	66.67	117.37	13.89	8.70	1.56	24.15	30
4	Schleichera oleosa	0.50	1.50	33.33	1126.14	1.39	4.35	15.03	20.76	3
5	Chloroxylon swietenia	4.50	9.00	50.00	128.07	12.50	6.52	1.70	20.73	27
6	Acacia catechu	3.00	6.00	50.00	267.19	8.33	6.52	3.56	18.42	18
7	Tectona grandis	0.17	1.00	16.67	1132.88	0.46	2.17	15.12	17.75	1
8	Gyrocarpus asiaticus	0.33	2.00	16.67	1036.84	0.93	2.17	13.84	16.94	2
9	Pleiospermium alatum	2.50	5.00	50.00	80.63	6.94	6.52	1.07	14.54	15
10	Commiphora caudata	3.17	9.50	33.33	52.05	8.80	4.35	0.69	13.83	19
11	Canthium coromandelicum	0.33	1.00	33.33	501.76	0.93	4.35	6.69	11.97	2
12	Diospyros cordifolia	0.33	2.00	16.67	462.25	0.93	2.17	6.17	9.27	2
13	Dalbergia lanceolaria	0.83	2.50	33.33	184.90	2.31	4.35	2.46	9.13	5
14	Cordia monoica	1.33	4.00	33.33	58.98	3.70	4.35	0.78	8.83	8
15	Albizia amara	1.50	9.00	16.67	10.82	4.17	2.17	0.14	6.48	9
16	Ficus dalhousiae	0.83	5.00	16.67	63.10	2.31	2.17	0.84	5.33	5
17	Premna tomentosa	0.83	5.00	16.67	57.98	2.31	2.17	0.77	5.26	5
18	Commiphora pubescens	0.83	5.00	16.67	44.60	2.31	2.17	0.59	5.08	5
19	Ehretia ovalifolia	0.17	1.00	16.67	176.72	0.46	2.17	2.35	4.99	1
20	Drypetes sepiaria	0.83	5.00	16.67	27.42	2.31	2.17	0.36	4.85	5
21	Diospyros ebenum	0.50	3.00	16.67	79.70	1.39	2.17	1.06	4.62	3
22	Givotia moluccana	0.33	2.00	16.67	104.04	0.93	2.17	1.38	4.48	2
23	Ixora arborea	0.50	3.00	16.67	27.87	1.39	2.17	0.37	3.93	3
24	Celtis tetrandra	0.33	2.00	16.67	56.25	0.93	2.17	0.75	3.85	2
25	Grewia sp.	0.17	1.00	16.67	87.12	0.46	2.17	1.16	3.79	1
26	Sapindus emarginatus	0.17	1.00	16.67	81.92	0.46	2.17	1.09	3.73	1
27	Wrightia tinctoria	0.17	1.00	16.67	72.00	0.46	2.17	0.96	3.59	1
	Total					99.98	99.95	99.87	299.88	216

Table 25. Structural status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Pleiospermium alatum	1.33	2.67	50.00	57.91	21.62	13.64	8.17	43.43	8
2	Strychnos potatorum	0.50	1.00	50.00	126.96	8.11	13.64	17.93	39.67	3
3	Chloroxylon swietenia	1.00	2.00	50.00	59.85	16.22	13.64	8.45	38.30	6
4	Anogeissus latifolia	1.00	3.00	33.33	36.40	16.22	9.09	5.14	30.44	6
5	Cordia monoica	0.50	1.50	33.33	82.14	8.11	9.09	11.60	28.80	3
6	Commiphora caudata	0.33	1.00	33.33	70.56	5.41	9.09	9.96	24.46	2
7	Diospyros cordifolia	0.17	1.00	16.67	62.72	2.70	4.55	8.85	16.10	1
8	Canthium coromandelicum	0.17	1.00	16.67	58.32	2.70	4.55	8.23	15.48	1
9	Gyrocarpus asiaticus	0.17	1.00	16.67	50.00	2.70	4.55	7.06	14.30	1
10	Albizia amara	0.33	2.00	16.67	25.00	5.41	4.55	3.53	13.48	2
11	Ixora arborea	0.33	2.00	16.67	20.25	5.41	4.55	2.86	12.81	2
12	Celtis tetrandra	0.17	1.00	16.67	32.00	2.70	4.55	4.51	11.76	1
13	Wrightia tinctoria	0.17	1.00	16.67	25.92	2.70	4.55	3.66	10.90	1
	Total					100.01	100.04	99.95	299.93	37

Table 26. Structural status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Anogeissus latifolia	3.33	5.00	66.67	0.00	17.24	12.50	0.00	29.74	20
2	Chloroxylon swietenia	2.17	4.33	50.00	0.00	11.21	9.38	0.00	20.58	13
3	Strychnos potatorum	1.50	2.25	66.67	0.00	7.76	12.50	0.00	20.26	9
4	Pleiospermium alatum	1.83	3.67	50.00	0.00	9.48	9.38	0.00	18.86	11
5	Commiphora caudata	1.67	5.00	33.33	0.00	8.62	6.25	0.00	14.87	10
6	Cordia monoica	1.67	5.00	33.33	0.00	8.62	6.25	0.00	14.87	10
7	Albizia amara	2.00	12.00	16.67	0.00	10.34	3.13	0.00	13.47	12
8	Acacia catechu	0.67	2.00	33.33	0.00	3.45	6.25	0.00	9.70	4
9	Dalbergia lanceolaria	0.50	1.50	33.33	0.00	2.59	6.25	0.00	8.84	3
10	Hardwickia binata	0.83	5.00	16.67	0.00	4.31	3.13	0.00	7.44	5
11	Drypetes sepiaria	0.50	3.00	16.67	0.00	2.59	3.13	0.00	5.71	3
12	Givotia moluccana	0.50	3.00	16.67	0.00	2.59	3.13	0.00	5.71	3
13	Premna tomentosa	0.50	3.00	16.67	0.00	2.59	3.13	0.00	5.71	3
14	Wrightia tinctoria	0.50	3.00	16.67	0.00	2.59	3.13	0.00	5.71	3
15	Celtis tetrandra	0.33	2.00	16.67	0.00	1.72	3.13	0.00	4.85	2
16	Commiphora pubescens	0.33	2.00	16.67	0.00	1.72	3.13	0.00	4.85	2
17	Firmiana colorata	0.33	2.00	16.67	0.00	1.72	3.13	0.00	4.85	2
18	Ixora arborea	0.17	1.00	16.67	0.00	0.86	3.13	0.00	3.99	1
	Total					100	100.06	0.0	200.01	116

Table 27. Structural status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Grewia villosa	15.00	15.00	100.00	0.00	31.58	25.00	0.00	56.58	90
2	Lantana camara	15.00	15.00	100.00	0.00	31.58	25.00	0.00	56.58	90
3	Opuntia vulgaris	4.17	12.50	33.33	0.00	8.77	8.33	0.00	17.11	25
4	Opuntia stricta	3.33	10.00	33.33	0.00	7.02	8.33	0.00	15.35	20
5	Urena lobata	3.33	10.00	33.33	0.00	7.02	8.33	0.00	15.35	20
6	Tarenna asiatica	2.50	7.50	33.33	0.00	5.26	8.33	0.00	13.60	15
7	Acalypha fruticosa	1.67	5.00	33.33	0.00	3.51	8.33	0.00	11.84	10
8	Ziziphus oenoplia	1.67	10.00	16.67	0.00	3.51	4.17	0.00	7.68	10
9	Chromolaena odorata	0.83	5.00	16.67	0.00	1.75	4.17	0.00	5.92	5
	Total					100	99.99	0.0	200.01	285

Table 28. Structural status of Herbs

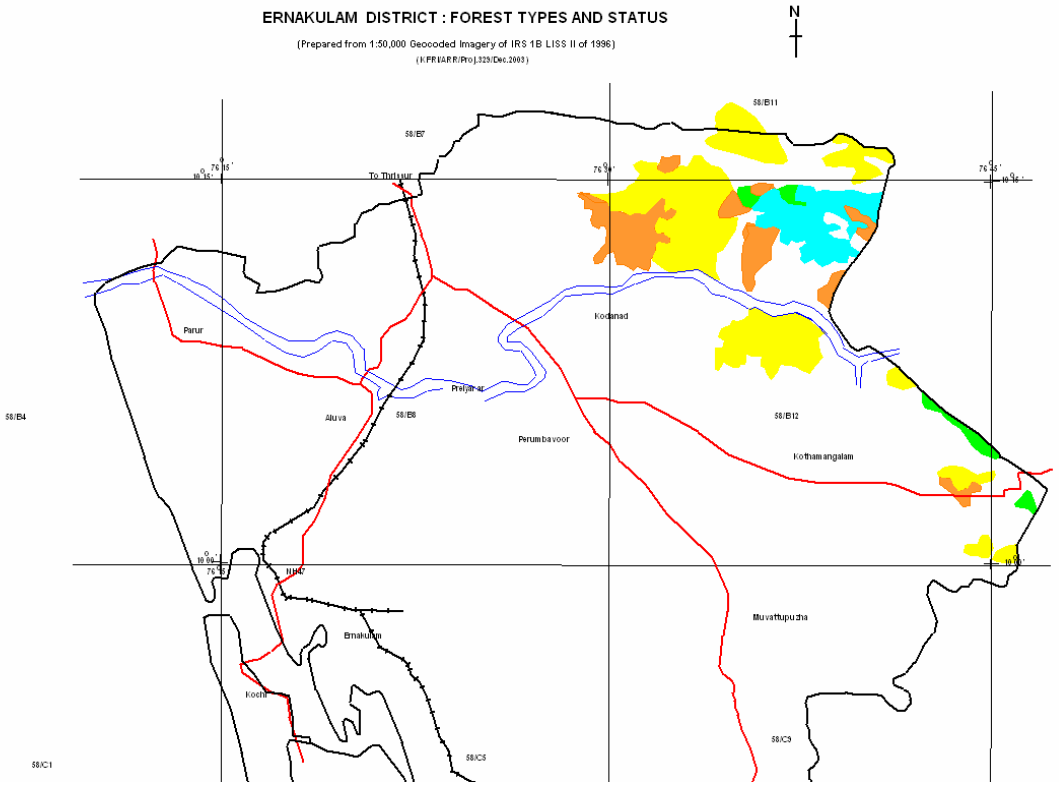
NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Boerhavia diffusa	0.83	1.25	66.67	0.00	13.89	11.43	0.00	25.32	5
2	Achyranthes aspera	0.67	1.00	66.67	0.00	11.11	11.43	0.00	22.54	4
3	Aerva lanata	0.67	1.00	66.67	0.00	11.11	11.43	0.00	22.54	4
4	Sida acuta	0.50	1.00	50.00	0.00	8.33	8.57	0.00	16.90	3
5	Euphorbia hirta	0.33	1.00	33.33	0.00	5.56	5.71	0.00	11.27	2
6	Leucas sp.	0.33	1.00	33.33	0.00	5.56	5.71	0.00	11.27	2
7	Orthosiphon thymiflorum	0.33	1.00	33.33	0.00	5.56	5.71	0.00	11.27	2
8	Barleria acuminata	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
9	Blepharis madraspatensis	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
10	Coleus barbatus	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
11	Eragrostiella bifaria	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
12	Evolvulus alsinoides	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
13	Hedyotis wightii	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
14	Hemionitis arifolia	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
15	Hibiscus lobatus	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
16	Orthosiphon diffusus	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
17	Pavonia odorata	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
18	Plumbago zeylanica	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
19	Polycarpea corymbosa	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
20	Sida rhombifolia	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
21	Vernonia cineria	0.17	1.00	16.67	0.00	2.78	2.86	0.00	5.63	1
	Total					100.04	100.03	0.0	199.93	36

Table 29. Structural status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI	IND
1	Asparagus racemosus	1.33	2.67	50.00	0.00	36.36	23.08	0.00	59.44	8
2	Acacia caesia	0.83	1.25	66.67	0.00	22.73	30.77	0.00	53.50	5
3	Cansjera rheedii	0.67	2.00	33.33	0.00	18.18	15.38	0.00	33.57	4
4	Ipomoea sp.	0.33	2.00	16.67	0.00	9.09	7.69	0.00	16.78	2
5	Cissus quadrangularis	0.17	1.00	16.67	0.00	4.55	7.69	0.00	12.24	1
6	Sarcostemma brevistigma	0.17	1.00	16.67	0.00	4.55	7.69	0.00	12.24	1
7	Viscum orientale	0.17	1.00	16.67	0.00	4.55	7.69	0.00	12.24	1
	Total					100.01	99.99	0.0	200.01	22

FORESTS OF ERNAKULAM DISTRICT

Ernakulam district consists of three agro-ecological zones namely low land (up to 7.5 m MSL), midland (7.5 to 75 mm) and high lands (75 to 750 m MSL). The low land covers about 0.6 per cent of the total geographic area of the district, mid and highlands cover 74.8 per cent and 24.6 per cent respectively. The total geographic area of the district is 2407 km^2 and the actual forest area is about 232.50 km^2 and this forms about 9.66 per cent of the total forest area. Only two types of forests are found in the district *viz* West Coast Tropical Evergreen and West Coast Tropical Semi-evergreen .



VEGETATION STATUS OF ERNAKULAM DISTRICT

EVERGREEN FORESTS

Table 30. Structural status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Lagerstroemia reginae	2.00	2.00	100.00	3003.04	8.33	8.33	29.74	46.41
2	Elaeocarpus tuberculatus	8.00	8.00	100.00	198.47	33.33	8.33	1.96	43.63
3	Vateria indica	2.00	2.00	100.00	2550.25	8.33	8.33	25.26	41.93
4	Hydnocarpus pentandra	1.00	1.00	100.00	1458.00	4.17	8.33	14.44	26.94
5	Polyalthia coffeoides	2.00	2.00	100.00	640.09	8.33	8.33	6.34	23.00
6	Actinodaphne bourdillonii	1.00	1.00	100.00	800.00	4.17	8.33	7.92	20.42
7	Vernonia arborea	2.00	2.00	100.00	151.29	8.33	8.33	1.49	18.16
8	Glochidion ellipticum	2.00	2.00	100.00	104.04	8.33	8.33	1.03	17.69
9	Holigarna grahamii	1.00	1.00	100.00	403.28	4.17	8.33	3.99	16.49
10	Spondias indica	1.00	1.00	100.00	369.92	4.17	8.33	3.66	16.16
11	Croton malabaricus	1.00	1.00	100.00	288.00	4.17	8.33	2.85	15.35
12	Antidesma menasu	1.00	1.00	100.00	128.00	4.17	8.33	1.26	13.76

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 31. Structural status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Hydnocarpus pentandra	5.00	5.00	100.00	0.00	11.90	7.69	0.00	19.60
2	Vateria indica	4.00	4.00	100.00	0.00	9.52	7.69	0.00	17.22
3	Lagerstroemia reginae	4.00	4.00	100.00	0.00	9.52	7.69	0.00	17.22
4	Croton malabaricus	4.00	4.00	100.00	0.00	9.52	7.69	0.00	17.22
5	Baccaurea courtallensis	4.00	4.00	100.00	0.00	9.52	7.69	0.00	17.22
6	Actinodaphne bourdillonii	4.00	4.00	100.00	0.00	9.52	7.69	0.00	17.22
7	Vernonia arborea	3.00	3.00	100.00	0.00	7.14	7.69	0.00	14.84
8	Elaeocarpus tuberculatus	3.00	3.00	100.00	0.00	7.14	7.69	0.00	14.84
9	Dimocarpus longan	3.00	3.00	100.00	0.00	7.14	7.69	0.00	14.84
10	Antidesma menasu	3.00	3.00	100.00	0.00	7.14	7.69	0.00	14.84
11	Polyalthia coffeoides	2.00	2.00	100.00	0.00	4.76	7.69	0.00	12.45
12	Glochidion ellipticum	2.00	2.00	100.00	0.00	4.76	7.69	0.00	12.45
13	Holigarna grahamii	1.00	1.00	100.00	0.00	2.38	7.69	0.00	10.07

Table 32. Structural status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Ochlandra travancorica	60.00	60.00	100.00	0.00	75.95	20.00	0.00	95.95
2	Boehmeria glomerulifera	6.00	6.00	100.00	0.00	7.59	20.00	0.00	27.59
3	Clerodendron viscosum	6.00	6.00	100.00	0.00	7.59	20.00	0.00	27.59
4	Leea sp.	4.00	4.00	100.00	0.00	5.06	20.00	0.00	25.06
5	Ventilago bombaiensis	3.00	3.00	100.00	0.00	3.80	20.00	0.00	23.80

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Table 33. Structural status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Lagerstroemia microcarpa	1.00	1.00	100.00	2227.84	2.99	7.41	24.55	34.94
2	Macaranga peltata	6.50	6.50	100.00	324.77	19.40	7.41	3.57	30.39
3	Actinodaphne bourdillonii	1.50	1.50	100.00	942.50	4.48	7.41	10.38	22.27
4	Mallotus philippensis	3.00	3.00	100.00	301.32	8.96	7.41	3.32	19.68
5	Ficus hispida	2.50	2.50	100.00	290.17	7.46	7.41	3.19	18.06
6	Holigarna grahamii	1.50	3.00	50.00	610.68	4.48	3.70	6.73	14.91
7	Terminalia arjuna	0.50	1.00	50.00	848.72	1.49	3.70	9.35	14.55
8	Xylia xylocarpa	3.00	6.00	50.00	146.07	8.96	3.70	1.61	14.26
9	Alstonia scholaris	1.00	2.00	50.00	595.36	2.99	3.70	6.56	13.25
10	Grewia tiliifolia	0.50	1.00	50.00	578.00	1.49	3.70	6.37	11.56
11	Glochidion ellipticum	1.00	2.00	50.00	428.49	2.99	3.70	4.72	11.41
12	Sterculia guttata	1.50	3.00	50.00	242.34	4.48	3.70	2.67	10.85
13	Vernonia arborea	2.00	4.00	50.00	80.01	5.97	3.70	0.88	10.55
14	Callicarpa tomentosa	2.00	4.00	50.00	68.44	5.97	3.70	0.75	10.42
15	Spondias indica	0.50	1.00	50.00	380.88	1.49	3.70	4.19	9.39
16	Aporusa lindleyana	1.50	3.00	50.00	98.15	4.48	3.70	1.08	9.26
17	Chionanthus malaelengi	0.50	1.00	50.00	338.00	1.49	3.70	3.72	8.92
18	Dimocarpus longan	1.00	2.00	50.00	156.25	2.99	3.70	1.72	8.41
19	Lagerstroemia reginae	1.00	2.00	50.00	106.09	2.99	3.70	1.16	7.85
20	Xanthophyllum arnottianum	0.50	1.00	50.00	128.00	1.49	3.70	1.41	6.60
21	Flaucortia montana	0.50	1.00	50.00	98.00	1.49	3.70	1.08	6.27
22	Wrightia tinctoria	0.50	1.00	50.00	81.92	1.49	3.70	0.90	6.09

Table 34. Structural status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Sterculia guttata	0.50	1.00	50.00	42.32	25.00	33.33	49.27	107.61
2	Macaranga peltata	1.00	2.00	50.00	17.64	50.00	33.33	20.54	103.87
3	Olea dioica	0.50	1.00	50.00	25.92	25.00	33.33	30.18	88.51

Table 35. Structural status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Polyalthia coffeoides	5.00	5.00	100.00	0.00	11.49	7.69	0.00	19.19
2	Cinnamomum sp.	4.00	4.00	100.00	0.00	9.20	7.69	0.00	16.89
3	Sterculia guttata	3.00	3.00	100.00	0.00	6.90	7.69	0.00	14.59
4	Mallotus philippensis	2.50	2.50	100.00	0.00	5.75	7.69	0.00	13.44
5	Ficus hispida	3.00	6.00	50.00	0.00	6.90	3.85	0.00	10.74
6	Aporusa lindleyana	2.50	5.00	50.00	0.00	5.75	3.85	0.00	9.59
7	Callicarpa tomentosa	2.50	5.00	50.00	0.00	5.75	3.85	0.00	9.59
8	Actinodaphne bourdillonii	2.00	4.00	50.00	0.00	4.60	3.85	0.00	8.44
9	Chionanthus malaelengi	2.00	4.00	50.00	0.00	4.60	3.85	0.00	8.44
10	Hopea parviflora	2.00	4.00	50.00	0.00	4.60	3.85	0.00	8.44
11	Olea dioica	2.00	4.00	50.00	0.00	4.60	3.85	0.00	8.44
12	Vernonia arborea	2.00	4.00	50.00	0.00	4.60	3.85	0.00	8.44
13	Bauhinia racemosa	1.50	3.00	50.00	0.00	3.45	3.85	0.00	7.29
14	Dimocarpus longan	1.50	3.00	50.00	0.00	3.45	3.85	0.00	7.29
15	Glochidion ellipticum	1.50	3.00	50.00	0.00	3.45	3.85	0.00	7.29
16	Lagerstroemia reginae	1.50	3.00	50.00	0.00	3.45	3.85	0.00	7.29
17	Macaranga peltata	1.50	3.00	50.00	0.00	3.45	3.85	0.00	7.29
18	Otonephelium stipulaecum	1.00	2.00	50.00	0.00	2.30	3.85	0.00	6.15
19	Xanthophyllum arnottianum	1.00	2.00	50.00	0.00	2.30	3.85	0.00	6.15
20	Aglaia barberi	0.50	1.00	50.00	0.00	1.15	3.85	0.00	5.00
21	Pterospermum diversifolium	0.50	1.00	50.00	0.00	1.15	3.85	0.00	5.00
22	Sterculia villosa	0.50	1.00	50.00	0.00	1.15	3.85	0.00	5.00

Table 36. Structural status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Ochlandra travancorica	20.00	40.00	50.00	0.00	42.11	8.33	0.00	50.44
2	Ventilago bombaiensis	9.50	9.50	100.00	0.00	20.00	16.67	0.00	36.67
3	Helicteres isora	4.50	4.50	100.00	0.00	9.47	16.67	0.00	26.14
4	Clerodendron viscosum	5.00	10.00	50.00	0.00	10.53	8.33	0.00	18.86
5	Thottea siliquosa	2.50	5.00	50.00	0.00	5.26	8.33	0.00	13.60
6	Chassalia curviflora	2.00	4.00	50.00	0.00	4.21	8.33	0.00	12.54
7	Ziziphus oenoplia	1.50	3.00	50.00	0.00	3.16	8.33	0.00	11.49
8	Chassalia opioxyloides	1.00	2.00	50.00	0.00	2.11	8.33	0.00	10.44
9	Leea sp.	1.00	2.00	50.00	0.00	2.11	8.33	0.00	10.44
10	Boehmeria glomerulifera	0.50	1.00	50.00	0.00	1.05	8.33	0.00	9.39

Table 37. Structural status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Flemingia semialata	0.50	1.00	50.00	0.00	25.00	25.00	0.00	50.00
2	Oplismenus compositus	0.50	1.00	50.00	0.00	25.00	25.00	0.00	50.00
3	Pteris sp.	0.50	1.00	50.00	0.00	25.00	25.00	0.00	50.00
4	Stachyphrynium spicatum	0.50	1.00	50.00	0.00	25.00	25.00	0.00	50.00

Table 38. Structural status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Jasminum sp.	2.50	2.50	100.00	0.00	35.71	25.00	0.00	60.71
2	Acacia caesia	1.00	1.00	100.00	0.00	14.29	25.00	0.00	39.29
3	Calamus sp.	1.50	3.00	50.00	0.00	21.43	12.50	0.00	33.93
4	Pothos scandens	1.00	2.00	50.00	0.00	14.29	12.50	0.00	26.79
5	Myxopyrum smilacifolium	0.50	1.00	50.00	0.00	7.14	12.50	0.00	19.64
6	Calycopteris floribunda	0.50	1.00	50.00	0.00	7.14	12.50	0.00	19.64

MOIST DECIDUOUS FORESTS

Table 39. Structural status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xylia xylocarpa	6.25	6.25	100.00	775.42	28.74	10.81	1.71	41.26
2	Lagerstroemia microcarpa	2.75	2.75	100.00	1574.77	12.64	10.81	3.48	26.94
3	Grewia tiliifolia	2.00	2.67	75.00	1399.35	9.20	8.11	3.09	20.40
4	Strychnos nux-vomica	0.25	1.00	25.00	7200.00	1.15	2.70	15.94	19.79
5	Terminalia paniculata	2.00	2.67	75.00	936.36	9.20	8.11	2.07	19.37
6	Ficus callosa	0.25	1.00	25.00	5491.52	1.15	2.70	12.16	16.01
7	Albizia odoratissima	0.50	1.00	50.00	3203.56	2.30	5.41	7.09	14.79
8	Tectona grandis	0.25	1.00	25.00	4608.00	1.15	2.70	10.20	14.05
9	Macaranga peltata	0.75	1.00	75.00	1024.42	3.45	8.11	2.26	13.82
10	Dillenia pentagyna	1.00	2.00	50.00	1494.18	4.60	5.41	3.30	13.31
11	Tetrameles nudiflora	0.25	1.00	25.00	4232.00	1.15	2.70	9.37	13.22
12	Pterocarpus marsupium	0.25	1.00	25.00	3528.00	1.15	2.70	7.81	11.66
13	Bombax insigne	0.75	1.50	50.00	1164.82	3.45	5.41	2.57	11.43
14	Naringi crenulata	1.75	7.00	25.00	87.36	8.05	2.70	0.19	10.94
15	Garuga pinnata	0.25	1.00	25.00	2178.00	1.15	2.70	4.82	8.67
16	Terminalia bellirica	0.25	1.00	25.00	1682.00	1.15	2.70	3.72	7.57
17	Artocarpus hetrophyllus	0.25	1.00	25.00	1568.00	1.15	2.70	3.47	7.32
18	Mallotus philippensis	0.25	1.00	25.00	1436.48	1.15	2.70	3.18	7.03
19	Hydnocarpus pentandra	0.25	1.00	25.00	1250.00	1.15	2.70	2.76	6.62
20	Terminalia crenulata	0.75	3.00	25.00	154.02	3.45	2.70	0.34	6.49
21	Callicarpa tomentosa	0.50	2.00	25.00	86.49	2.30	2.70	0.19	5.19
22	Alangium salvifolium	0.25	1.00	25.00	81.92	1.15	2.70	0.18	4.03

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 40. Structural status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Alangium salvifolium	0.75	1.50	50.00	47.04	21.43	20.00	15.27	56.70
2	Chionanthus mala-elengi	0.50	1.00	50.00	64.00	14.29	20.00	20.78	55.07
3	Naringi crenulata	0.75	3.00	25.00	16.22	21.43	10.00	5.27	36.69
4	Wrightia tinctoria	0.25	1.00	25.00	58.32	7.14	10.00	18.94	36.08
5	Macaranga peltata	0.50	2.00	25.00	22.09	14.29	10.00	7.17	31.45
6	Alstonia scholaris	0.25	1.00	25.00	42.32	7.14	10.00	13.74	30.88
7	Bombax insigne	0.25	1.00	25.00	32.00	7.14	10.00	10.39	27.53
8	Sterculia guttata	0.25	1.00	25.00	25.92	7.14	10.00	8.41	25.56

Table 41. Structural status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xylia xylocarpa	11.50	11.50	100.00	0.00	25.99	10.53	0.00	36.52
2	Macaranga peltata	4.75	4.75	100.00	0.00	10.73	10.53	0.00	21.26
3	Terminalia paniculata	3.50	4.67	75.00	0.00	7.91	7.89	0.00	15.80
4	Grewia tillifolia	3.25	4.33	75.00	0.00	7.34	7.89	0.00	15.24
5	Alangium salvifolium	3.25	4.33	75.00	0.00	7.34	7.89	0.00	15.24
6	Sterculia guttata	3.00	4.00	75.00	0.00	6.78	7.89	0.00	14.67
7	Polyalthia coffeoides	2.25	4.50	50.00	0.00	5.08	5.26	0.00	10.35
8	Mallotus philippensis	1.50	3.00	50.00	0.00	3.39	5.26	0.00	8.65
9	Terminalia crenulata	2.50	10.00	25.00	0.00	5.65	2.63	0.00	8.28
10	Strychnos nux-vomica	1.25	2.50	50.00	0.00	2.82	5.26	0.00	8.09
11	Lagerstroemia microcarpa	1.25	2.50	50.00	0.00	2.82	5.26	0.00	8.09
12	Naringi crenulata	1.50	6.00	25.00	0.00	3.39	2.63	0.00	6.02
13	Bombax insigne	1.00	4.00	25.00	0.00	2.26	2.63	0.00	4.89
14	Dillenia pentagyna	0.75	3.00	25.00	0.00	1.69	2.63	0.00	4.33
15	Chionanthus mala-elengi	0.75	3.00	25.00	0.00	1.69	2.63	0.00	4.33
16	Callicarpa tomentosa	0.75	3.00	25.00	0.00	1.69	2.63	0.00	4.33
17	Tectona grandis	0.50	2.00	25.00	0.00	1.13	2.63	0.00	3.76
18	Cassia fistula	0.50	2.00	25.00	0.00	1.13	2.63	0.00	3.76
19	Tetrameles nudiflora	0.25	1.00	25.00	0.00	0.56	2.63	0.00	3.20
20	Pterospermum diversifolium	0.25	1.00	25.00	0.00	0.56	2.63	0.00	3.20

Table 42. Structural status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Helicteres isora	14.00	14.00	100.00	0.00	26.92	20.00	0.00	46.92
2	Chromolaena odorata	13.50	13.50	100.00	0.00	25.96	20.00	0.00	45.96
3	Clerodendron viscosum	7.00	9.33	75.00	0.00	13.46	15.00	0.00	28.46
4	Glycosmis pentaphylla	6.25	12.50	50.00	0.00	12.02	10.00	0.00	22.02
5	Chassalia ophioxyloides	2.25	4.50	50.00	0.00	4.33	10.00	0.00	14.33
6	Ziziphus oenoplia	2.00	4.00	50.00	0.00	3.85	10.00	0.00	13.85
7	Bambusa bambos	3.75	15.00	25.00	0.00	7.21	5.00	0.00	12.21
8	Rauvolfia serpentina	2.00	8.00	25.00	0.00	3.85	5.00	0.00	8.85
9	Lantana camara	1.25	5.00	25.00	0.00	2.40	5.00	0.00	7.40

Table 43. Structural status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Andrographis macrobotrys	2.25	3.00	75.00	0.00	36.00	25.00	0.00	61.00
2	Oplismenus compositus	2.25	3.00	75.00	0.00	36.00	25.00	0.00	61.00
3	Elephantopus scaber	0.75	1.50	50.00	0.00	12.00	16.67	0.00	28.67
4	Costus speciosus	0.25	1.00	25.00	0.00	4.00	8.33	0.00	12.33
5	Pteris sp.	0.25	1.00	25.00	0.00	4.00	8.33	0.00	12.33
6	Stachyphrynium spicatum	0.25	1.00	25.00	0.00	4.00	8.33	0.00	12.33
7	Vernonia cineria	0.25	1.00	25.00	0.00	4.00	8.33	0.00	12.33

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 44. Structural status of Climbers

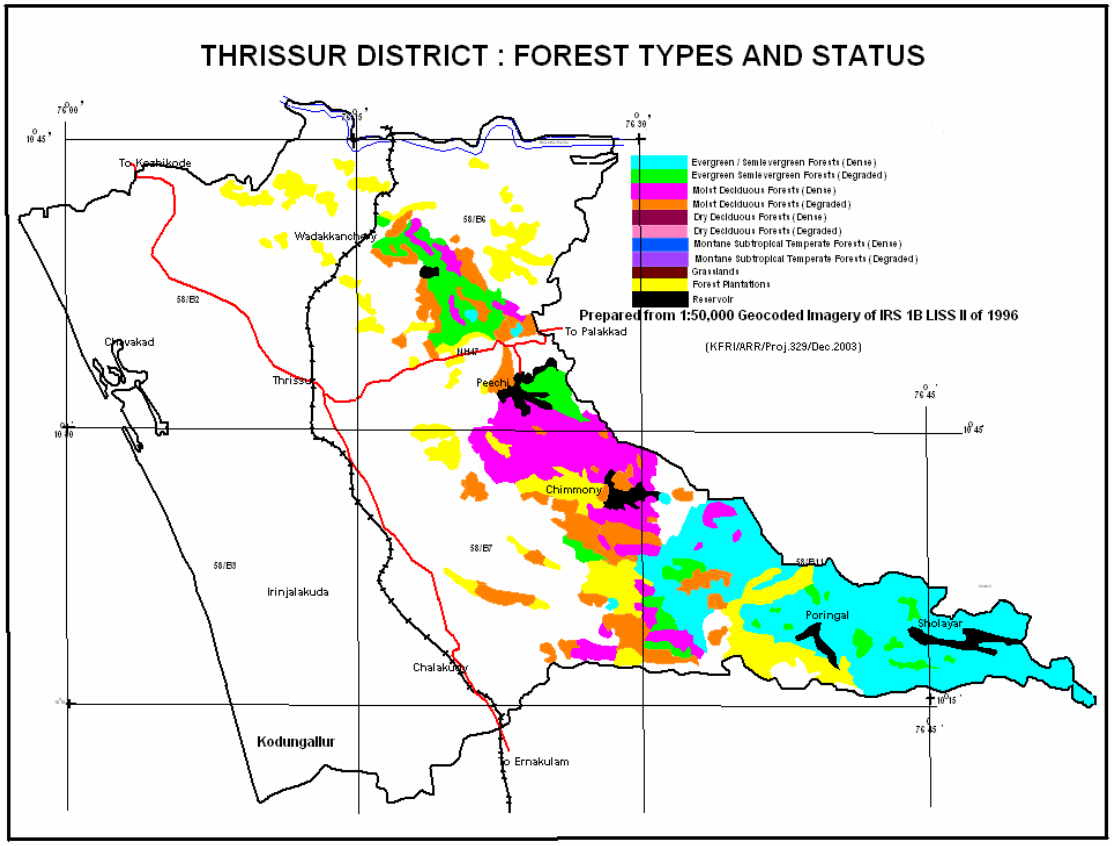
NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Piper longum	4.50	9.00	50.00	0.00	27.69	6.67	0.00	34.36
2	Calycopteris floribunda	1.75	2.33	75.00	0.00	10.77	10.00	0.00	20.77
3	Naravelia zeylanica	1.50	2.00	75.00	0.00	9.23	10.00	0.00	19.23
4	Acacia caesia	0.75	1.00	75.00	0.00	4.62	10.00	0.00	14.62
5	Cyclea peltata	1.25	2.50	50.00	0.00	7.69	6.67	0.00	14.36
6	Asparagus racemosus	0.50	1.00	50.00	0.00	3.08	6.67	0.00	9.74
7	Dioscorea sp.	0.50	1.00	50.00	0.00	3.08	6.67	0.00	9.74
8	Lygodium flexuosum	0.50	1.00	50.00	0.00	3.08	6.67	0.00	9.74
9	Merremia vitifolia	0.50	1.00	50.00	0.00	3.08	6.67	0.00	9.74
10	Spatholobus parviflorus	0.50	1.00	50.00	0.00	3.08	6.67	0.00	9.74
11	Drynaria quercifolia	1.00	4.00	25.00	0.00	6.15	3.33	0.00	9.49
12	Hemidesmus indicus	0.75	3.00	25.00	0.00	4.62	3.33	0.00	7.95
13	Ichnocarpus frutescens	0.75	3.00	25.00	0.00	4.62	3.33	0.00	7.95
14	Jasminum sp.	0.75	3.00	25.00	0.00	4.62	3.33	0.00	7.95
15	Bauhinia sp.	0.25	1.00	25.00	0.00	1.54	3.33	0.00	4.87
16	Elaeagnus conferta	0.25	1.00	25.00	0.00	1.54	3.33	0.00	4.87
17	Ipomoea hederifolia	0.25	1.00	25.00	0.00	1.54	3.33	0.00	4.87

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

FORESTS OF THRISSUR DISTRICT

Of the total geographic area of about 3032 km^2, the district has on actual forest area of 888.88 km^2. This forms about 29.38 per cent of the total district area.

The major vegetation types met within the district are West Coast Tropical Evergreen forest, West Coast Tropical Semi evergreen forests and South Indian Moist Deciduous forest .



VEGETATION STATUS OF THRISSUR DISTRICT

EVERGREEN FORESTS

Table 45. Structural status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Ficus beddomei	0.08	1.00	8.33	-	0.21	0.68	60.43	61.31
2	Drypetes elata	5.08	6.78	75.00	624.42	12.6	6.08	0.32	19.01
3	Agrostistachys borneensis	3.67	11.00	33.33	88.20	9.09	2.70	0.04	11.83
4	Knema attenuata	1.83	2.75	66.67	1959.96	4.55	5.41	1.02	10.97
5	Cullenia exarillata	1.58	3.17	50.00	4693.88	3.93	4.05	2.46	10.44
6	Litsea bourdillonii	3.08	9.25	33.33	103.86	7.64	2.70	0.05	10.40
7	Mesua ferrea	0.75	2.25	33.33	10878.12	1.86	2.70	5.70	10.26
8	Fahrenheitia zeylanica	0.83	1.43	58.33	3453.19	2.07	4.73	1.81	8.60
9	Macaranga indica	0.92	1.83	50.00	3630.94	2.27	4.05	1.90	8.23
10	Lepisanthes tetraphylla	2.00	6.00	33.33	491.00	4.96	2.70	0.25	7.91
11	Holigarna grahamii	1.08	2.60	41.67	3151.01	2.69	3.38	1.65	7.71
12	Vitex altissima	0.17	1.00	16.67	10567.84	0.41	1.35	5.54	7.30
13	Baccaurea courtallensis	1.67	5.00	33.33	111.74	4.13	2.70	0.05	6.89
14	Hydnocarpus pentandra	0.92	2.20	41.67	1731.95	2.27	3.38	0.90	6.55
15	Mastixia arborea	1.33	4.00	33.33	845.83	3.31	2.70	0.44	6.45
16	Vateria indica	1.08	2.60	41.67	645.68	2.69	3.38	0.33	6.40
17	Diospyros ovalifolia	1.08	3.25	33.33	1328.21	2.69	2.70	0.69	6.08
18	Aglaia lawii	0.75	1.80	41.67	1136.05	1.86	3.38	0.59	5.83
19	Artocarpus hirsutus	0.08	1.00	8.33	8450.00	0.21	0.68	4.43	5.31
20	Dysoxylum malabaricum	1.00	4.00	25.00	875.07	2.48	2.03	0.45	4.96
21	Carallia brachiata	0.92	3.67	25.00	488.80	2.27	2.03	0.25	4.55
22	Aglaia elaeagnoidea	1.00	6.00	16.67	194.09	2.48	1.35	0.10	3.93
23	Mellia dubia	0.08	1.00	8.33	4762.88	0.21	0.68	2.49	3.38
24	Calophyllum austroindicum	0.50	2.00	25.00	168.60	1.24	2.03	0.08	3.35
25	Schleichera oleosa	0.67	4.00	16.67	296.76	1.65	1.35	0.15	3.15
26	Polyalthia coffeoides	0.67	4.00	16.67	229.00	1.65	1.35	0.12	3.12

Table 45 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
27	Neolitsea scrobiculata	0.33	1.33	25.00	486.72	0.83	2.03	0.25	3.10
28	Mitrephora grandiflora	0.42	2.50	16.67	542.69	1.03	1.35	0.28	2.66
29	Palaquium ellipticum	0.75	9.00	8.33	145.88	1.86	0.68	0.07	2.61
30	Aglaia malabarica	0.33	2.00	16.67	612.50	0.83	1.35	0.32	2.49
31	Oreocnide integrifolia	0.42	2.50	16.67	218.08	1.03	1.35	0.11	2.49
32	Terminalia arjuna	0.17	1.00	16.67	1156.00	0.41	1.35	0.60	2.37
33	Xanthophyllum arnottianum	0.17	1.00	16.67	900.00	0.41	1.35	0.47	2.23
34	Dysoxylum beddomei	0.58	7.00	8.33	77.65	1.45	0.68	0.04	2.16
35	Dipterocarpus indicus	0.50	6.00	8.33	377.79	1.24	0.68	0.19	2.11
36	Memecylon malabaricum	0.25	1.50	16.67	140.16	0.62	1.35	0.07	2.04
37	Diospyros buxifolia	0.17	1.00	16.67	361.00	0.41	1.35	0.18	1.95
38	Garcinia gummi-gutta	0.08	1.00	8.33	1568.00	0.21	0.68	0.82	1.70
39	Dalbergia sissoides	0.25	3.00	8.33	488.37	0.62	0.68	0.25	1.55
40	Mallotus aureo-punctatus	0.33	4.00	8.33	21.12	0.83	0.68	0.01	1.51
41	Dimocarpus longan	0.17	2.00	8.33	676.00	0.41	0.68	0.35	1.44
42	Bombax ceiba	0.08	1.00	8.33	968.00	0.21	0.68	0.50	1.39
43	Elaeocarpus tuberculatus	0.08	1.00	8.33	968.00	0.21	0.68	0.50	1.39
44	Ixora brachiata	0.25	3.00	8.33	163.61	0.62	0.68	0.08	1.38
45	Syzygium laetum	0.17	2.00	8.33	484.00	0.41	0.68	0.25	1.34
46	Reinwardtiodendron anamalaiense	0.25	3.00	8.33	71.19	0.62	0.68	0.03	1.33
47	Spondias indica	0.08	1.00	8.33	800.00	0.21	0.68	0.41	1.30
48	Hunteria zeylanica	0.17	2.00	8.33	342.25	0.41	0.68	0.17	1.26
49	Atalantia racemosa	0.17	2.00	8.33	289.00	0.41	0.68	0.15	1.24
50	Macaranga peltata	0.17	2.00	8.33	289.00	0.41	0.68	0.15	1.24
51	Miliusa tomentosa	0.08	1.00	8.33	619.52	0.21	0.68	0.32	1.20
52	Gomphandra coriacea	0.17	2.00	8.33	121.00	0.41	0.68	0.06	1.15
53	Dimorphocalyx lawianus	0.17	2.00	8.33	72.25	0.41	0.68	0.03	1.12
54	Holigarna beddomei	0.17	2.00	8.33	72.25	0.41	0.68	0.03	1.12
55	Zanthoxylum rhesta	0.08	1.00	8.33	450.00	0.21	0.68	0.23	1.11

Table 45 contd.									
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
56	Pavetta indica	0.08	1.00	8.33	380.88	0.21	0.68	0.19	1.08
57	Wrightia tinctoria	0.08	1.00	8.33	200.00	0.21	0.68	0.10	0.98
58	Ardisia pauciflora	0.08	1.00	8.33	134.48	0.21	0.68	0.07	0.95
59	Phoebe lanceolata	0.08	1.00	8.33	128.00	0.21	0.68	0.06	0.94
60	Clausena dentata	0.08	1.00	8.33	98.00	0.21	0.68	0.05	0.93
61	Turpinia malabarica	0.08	1.00	8.33	87.12	0.21	0.68	0.04	0.92

Table 46. Structural status of Saplings

NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
1	Drypetes elata	0.83	1.67	50.00	146.88	8.20	10.00	10.02	28.22
2	Baccaurea courtallensis	1.58	4.75	33.33	35.59	15.57	6.67	2.43	24.67
3	Knema attenuata	0.67	2.00	33.33	64.93	6.56	6.67	4.43	17.65
4	Lepisanthes tetraphylla	1.08	4.33	25.00	28.42	10.66	5.00	1.94	17.59
5	Mastixia arborea	0.42	1.67	25.00	99.85	4.10	5.00	6.81	15.91
6	Xanthophyllum arnottianum	0.25	1.00	25.00	119.70	2.46	5.00	8.17	15.63
7	Litsea bourdillonii	0.67	2.67	25.00	47.84	6.56	5.00	3.26	14.82
8	Oreocnide integrifolia	0.42	1.67	25.00	81.79	4.10	5.00	5.58	14.68
9	Cullenia exarillata	0.42	1.67	25.00	80.65	4.10	5.00	5.50	14.60
10	Agrostistachys borneensis	0.42	1.67	25.00	67.60	4.10	5.00	4.61	13.71
11	Aglaia lawii	0.42	1.67	25.00	64.51	4.10	5.00	4.40	13.50
12	Polyalthia coffeoides	0.25	1.50	16.67	66.66	2.46	3.33	4.55	10.34
13	Fahrenheitia zeylanica	0.25	1.50	16.67	64.02	2.46	3.33	4.37	10.16
14	Diospyros ovalifolia	0.08	1.00	8.33	67.28	0.82	1.67	4.59	7.07
15	Mitrephora grandiflora	0.08	1.00	8.33	50.00	0.82	1.67	3.41	5.89
16	Aporusa acuminata	0.17	2.00	8.33	27.04	1.64	1.67	1.84	5.15
17	Mallotus aureo-punctatus	0.08	1.00	8.33	38.72	0.82	1.67	2.64	5.12
18	Grewia tiliifolia	0.17	2.00	8.33	26.01	1.64	1.67	1.77	5.08
19	Schleichera oleosa	0.17	2.00	8.33	25.00	1.64	1.67	1.70	5.01
20	Macaranga indica	0.25	3.00	8.33	12.13	2.46	1.67	0.82	4.95
21	Palaquium ellipticum	0.17	2.00	8.33	23.04	1.64	1.67	1.57	4.87

Table 46 contd.									
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
22	Reinwardtiodendron anamalaiense	0.17	2.00	8.33	20.25	1.64	1.67	1.38	4.68
23	Aglaia elaeagnoidea	0.08	1.00	8.33	32.00	0.82	1.67	2.18	4.67
24	Clausena dentata	0.08	1.00	8.33	32.00	0.82	1.67	2.18	4.67
25	Dimorphocalyx lawianus	0.08	1.00	8.33	32.00	0.82	1.67	2.18	4.67
26	Hunteria zeylanica	0.17	2.00	8.33	18.49	1.64	1.67	1.26	4.56
27	Pavetta calophylla	0.17	2.00	8.33	17.64	1.64	1.67	1.20	4.51
28	Meiogyne pannosa	0.17	2.00	8.33	16.81	1.64	1.67	1.14	4.45
29	Orophea erythrocarpa	0.17	2.00	8.33	16.81	1.64	1.67	1.14	4.45
30	Cinnamomum microcarpum	0.17	2.00	8.33	15.21	1.64	1.67	1.03	4.34
31	Dysoxylum beddomei	0.08	1.00	8.33	25.92	0.82	1.67	1.76	4.25

Table 47. Structural status of Seedlings

NO	**SPECIES NAME**	**D**	**AB**	**F**	**RD**	**RF**	**IVI**
1	Drypetes elata	3.42	5.13	66.67	14.59	9.76	24.35
2	Diospyros buxifolia	1.50	3.00	50.00	6.41	7.32	13.73
3	Cullenia exarillata	1.50	3.60	41.67	6.41	6.10	12.51
4	Baccaurea courtallensis	1.67	6.67	25.00	7.12	3.66	10.78
5	Litsea bourdillonii	1.25	5.00	25.00	5.34	3.66	9.00
6	Agrostistachys borneensis	1.17	4.67	25.00	4.98	3.66	8.64
7	Lepisanthes tetraphylla	0.92	3.67	25.00	3.91	3.66	7.57
8	Polyalthia coffeoides	0.75	4.50	16.67	3.20	2.44	5.64
9	Knema attenuata	0.67	4.00	16.67	2.85	2.44	5.29
10	Cinnamomum microcarpum	0.58	3.50	16.67	2.49	2.44	4.93
11	Meiogyne pannosa	0.42	2.50	16.67	1.78	2.44	4.22
12	Mesua ferrea	0.42	2.50	16.67	1.78	2.44	4.22
13	Aglaia elaeagnoidea	0.67	8.00	8.33	2.85	1.22	4.07
14	Dipterocarpus indicus	0.67	8.00	8.33	2.85	1.22	4.07
15	Sterculia villosa	0.33	2.00	16.67	1.42	2.44	3.86
16	Litsea sp.	0.17	1.00	16.67	0.71	2.44	3.15

Table 47 contd.

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
17	Syzygium laetum	0.17	1.00	16.67	0.71	2.44	3.15
18	Atalantia racemosa	0.33	4.00	8.33	1.42	1.22	2.64
19	Hydnocarpus pentandra	0.33	4.00	8.33	1.42	1.22	2.64
20	Oreocnide integrifolia	0.33	4.00	8.33	1.42	1.22	2.64
21	Schleichera oleosa	0.33	4.00	8.33	1.42	1.22	2.64
22	Vateria indica	0.33	4.00	8.33	1.42	1.22	2.64
23	Aglaia lawii	0.25	3.00	8.33	1.07	1.22	2.29
24	Dimocarpus longan	0.25	3.00	8.33	1.07	1.22	2.29
25	Grewia tiliifolia	0.25	3.00	8.33	1.07	1.22	2.29
26	Mallotus philippensis	0.25	3.00	8.33	1.07	1.22	2.29
27	Mastixia arborea	0.25	3.00	8.33	1.07	1.22	2.29
28	Orophea erythrocarpa	0.25	3.00	8.33	1.07	1.22	2.29
29	Phoebe lanceolata	0.25	3.00	8.33	1.07	1.22	2.29
30	Poeciloneuron indicum	0.25	3.00	8.33	1.07	1.22	2.29
31	Reinwardtiodendron anamalaiense	0.25	3.00	8.33	1.07	1.22	2.29
32	Syzygium mundagam	0.25	3.00	8.33	1.07	1.22	2.29
33	Diospyros ovalifolia	0.42	5.00	8.33	1.78	1.22	2.00
34	Archidendron clypearia	0.17	2.00	8.33	0.71	1.22	1.93
35	Croton zeylanicus	0.17	2.00	8.33	0.71	1.22	1.93
36	Dimorphocalyx lawianus	0.17	2.00	8.33	0.71	1.22	1.93
37	Dysoxylum beddomei	0.17	2.00	8.33	0.71	1.22	1.93
38	Euodia lunu-ankenda	0.17	2.00	8.33	0.71	1.22	1.93
39	Garcinia gummi-gutta	0.17	2.00	8.33	0.71	1.22	1.93
40	Heritiera papilio	0.17	2.00	8.33	0.71	1.22	1.93
41	Kingiodendron pinnatum	0.17	2.00	8.33	0.71	1.22	1.93
42	Macaranga indica	0.17	2.00	8.33	0.71	1.22	1.93
43	Memecylon malabaricum	0.17	2.00	8.33	0.71	1.22	1.93
44	Mitrephora grandiflora	0.17	2.00	8.33	0.71	1.22	1.93
45	Olea dioica	0.17	2.00	8.33	0.71	1.22	1.93
46	Pavetta calophylla	0.17	2.00	8.33	0.71	1.22	1.93
47	Pterospermum divorsifolium	0.17	2.00	8.33	0.71	1.22	1.93
48	Albizia odoratissima	0.08	1.00	8.33	0.36	1.22	1.58
49	Memecylon talbotianum	0.08	1.00	8.33	0.36	1.22	1.58
50	Reinwardtiodendron anamalaiens	0.08	1.00	8.33	0.36	1.22	1.58

Table 47 a. Structural status of Shrubs

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Actephila excelsa	0.25	3.00	8.33	1.08	2.00	3.08
2	Boehmeria glomerulifera	0.08	1.00	8.33	0.36	2.00	2.36
3	Chassalia curviflora	0.67	8.00	8.33	2.87	2.00	4.87
4	Chassalia ophioxyloides	0.17	2.00	8.33	0.72	2.00	2.72
5	Dendrocnide sinuata	3.33	13.33	25.00	14.34	6.00	20.34
6	Glycosmis macrocarpa	0.08	1.00	8.33	0.36	2.00	2.36
7	Glycosmis pentaphylla	0.17	2.00	8.33	0.72	2.00	2.72
8	Gomphandra tetrandra	0.67	4.00	16.67	2.87	4.00	6.87
9	Lasianthus rostratus	2.75	8.25	33.33	11.83	8.00	19.83
10	Leea robusta	1.67	6.67	25.00	7.17	6.00	13.17
11	Leptonychia caudata	0.08	1.00	8.33	0.36	2.00	2.36
12	Mallotus aureo-punctatus	0.33	4.00	8.33	1.43	2.00	3.43
13	Memecylon lawsonii	0.33	4.00	8.33	1.43	2.00	3.43
14	Ochlandra travancorica	4.08	9.80	41.67	17.56	10.00	27.56
15	Pandanus thwaitesii	2.33	4.67	50.00	10.04	12.00	22.04
16	Peristrophe montana	0.33	4.00	8.33	1.43	2.00	3.43
17	Rauvolfia serpentina	0.42	5.00	8.33	1.79	2.00	3.79
18	Saprosma fragrans	1.33	16.00	8.33	5.73	2.00	7.73
19	Sarcandra chloranthoides	0.17	2.00	8.33	0.72	2.00	2.72
20	Strobilanthes sp.	1.25	15.00	8.33	5.38	2.00	7.38
21	Strobilanthes wightianus	0.17	2.00	8.33	0.72	2.00	2.72
22	Tabernaemontana gamblei	0.33	4.00	8.33	1.43	2.00	3.43
23	Thottea siliquosa	0.17	2.00	8.33	0.72	2.00	2.72
24	Ventilago bombaiensis	2.08	2.50	83.33	8.96	20.00	28.96

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 48. Structural status of Climbers

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Adenia hondala	0.08	1.00	8.33	0.53	1.08	1.60
2	Aeschynanthus perrottetii	0.08	1.00	8.33	0.53	1.08	1.60
3	Aganosma cymosa	0.08	1.00	8.33	0.53	1.08	1.60
4	Ancistrocladus heyneanus	1.25	1.88	66.67	7.89	8.60	16.50
5	Asplenium phyllitidis	0.08	1.00	8.33	0.53	1.08	1.60
6	Asplenium sp.	0.08	1.00	8.33	0.53	1.08	1.60
7	Belosynapsis vivipara	0.08	1.00	8.33	0.53	1.08	1.60
8	Caesalpinia cucullata	0.25	1.00	25.00	1.58	3.23	4.80
9	Calamus thwaitesii	1.92	2.56	75.00	12.1	9.68	21.78
10	Carissa inermis	0.17	2.00	8.33	1.05	1.08	2.13
11	Cayratia tenuifolia	0.17	2.00	8.33	1.05	1.08	2.13
12	Cerasiocarpum bennettii	0.08	1.00	8.33	0.53	1.08	1.60
13	Cissus discolor	0.17	1.00	16.67	1.05	2.15	3.20
14	Coscinium fenestratum	0.33	4.00	8.33	2.11	1.08	3.18
15	Dendrobium macrostachyum	0.08	1.00	8.33	0.53	1.08	1.60
16	Derris brevipes	0.08	1.00	8.33	0.53	1.08	1.60
17	Diploclisia glaucescens	0.17	2.00	8.33	1.05	1.08	2.13
18	Elaeagnus conferta	0.08	1.00	8.33	0.53	1.08	1.60
19	Erythropalam scandens	0.17	2.00	8.33	1.05	1.08	2.13
20	Erythropalum scandens	0.33	2.00	16.67	2.11	2.15	4.26
21	Ficus sp.	0.08	1.00	8.33	0.53	1.08	1.60
22	Gnetum ula	0.08	1.00	8.33	0.53	1.08	1.60
23	Kunstleria keralensis	1.25	3.00	41.67	7.89	5.38	13.27
24	Loeseneriella bourdillonii	0.08	1.00	8.33	0.53	1.08	1.60
25	Miquelia dentata	0.25	1.00	25.00	1.58	3.23	4.80
26	Myxopyrum smilacifolium	0.17	1.00	16.67	1.05	2.15	3.20
27	Piper argyrophyllum	0.17	2.00	8.33	1.05	1.08	2.13
28	Piper barberi	0.25	3.00	8.33	1.58	1.08	2.65

Table contd.							
NO	**SPECIES NAME**	**D**	**AB**	**F**	**RD**	**RF**	**IVI**
29	Piper longum	0.33	4.00	8.33	2.11	1.08	3.18
30	Piper nigrum	2.92	3.89	75.00	18.4	9.68	28.10
31	Pothos scandens	1.83	2.75	66.67	11.6	8.60	20.18
32	Pothos thomsonianus	0.67	2.00	33.33	4.21	4.30	8.51
33	Raphidophora pertusa	0.25	1.00	25.00	1.58	3.23	4.80
34	Sabia limoniacea	0.08	1.00	8.33	0.53	1.08	1.60
35	Salacia fruticosa	0.42	2.50	16.67	2.63	2.15	4.78
36	Sarcostigma kleinii	0.08	1.00	8.33	0.53	1.08	1.60
37	Sirhookera latifolia	0.08	1.00	8.33	0.53	1.08	1.60
38	Smilax zeylanica	0.17	2.00	8.33	1.05	1.08	2.13
39	Strychnos colubrina	0.33	1.33	25.00	2.11	3.23	5.33
40	Tetracera akara	0.17	2.00	8.33	1.05	1.08	2.13
41	Tetrastigma leucostaphylum	0.25	1.50	16.67	1.58	2.15	3.73
42	Thunbergia fragrans	0.17	1.00	16.67	1.05	2.15	3.20

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 49. Structural status of Herbs

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Elatostema serratum	0.67	1.00	66.67	13.56	13.56	27.12
2	Dracaena terniflora	0.58	1.00	58.33	11.86	11.86	23.73
3	Pellionia heyneana	0.50	1.00	50.00	10.17	10.17	20.34
4	Bolbitis sp.	0.33	1.00	33.33	6.78	6.78	13.56
5	Calanthe sylvatica	0.33	1.00	33.33	6.78	6.78	13.56
6	Oplismenus compositus	0.33	1.00	33.33	6.78	6.78	13.56
7	Selaginella sp.	0.25	1.00	25.00	5.08	5.08	10.17
8	Stachyphrynium spicatum	0.25	1.00	25.00	5.08	5.08	10.17
9	Pteris sp.	0.17	1.00	16.67	3.39	3.39	6.78
10	Adiantum sp.	0.08	1.00	8.33	1.69	1.69	3.39
11	Alpinia malaccensis	0.08	1.00	8.33	1.69	1.69	3.39
12	Alpinia sp.	0.08	1.00	8.33	1.69	1.69	3.39
13	Aneilema scaberrimum	0.08	1.00	8.33	1.69	1.69	3.39
14	Aneilema sp.	0.08	1.00	8.33	1.69	1.69	3.39
15	Anoectochilus elatus	0.08	1.00	8.33	1.69	1.69	3.39
16	Begnonia malabarica	0.08	1.00	8.33	1.69	1.69	3.39
17	Curculigo orchioides	0.08	1.00	8.33	1.69	1.69	3.39
18	Curculigo trichocarpa	0.08	1.00	8.33	1.69	1.69	3.39
19	Curcuma ecalcarata	0.08	1.00	8.33	1.69	1.69	3.39
20	Gomphostemma heyneanum	0.08	1.00	8.33	1.69	1.69	3.39
21	Hydrocotyle javanica	0.08	1.00	8.33	1.69	1.69	3.39
22	Justicia japonica	0.08	1.00	8.33	1.69	1.69	3.39
23	Ophiopogon intermedius	0.08	1.00	8.33	1.69	1.69	3.39
24	Panicum notatum	0.08	1.00	8.33	1.69	1.69	3.39
25	Peperomia portulacoides	0.08	1.00	8.33	1.69	1.69	3.39
26	Pogostemon paniculatus	0.08	1.00	8.33	1.69	1.69	3.39
27	Strobilanthes sp.	0.08	1.00	8.33	1.69	1.69	3.39

SEMIEVERGREEN FORESTS

Table 50. Structural status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1.	Hydnocarpus pentandra	3.36	2.31	145.45	8728.39	5.75	6.15	5.21	17.11
2.	Lagerstroemia microcarpa	1.73	1.46	118.18	14960.94	2.95	5.00	8.93	16.88
3.	Holigarna grahamii	1.64	1.80	90.91	16934.68	2.80	3.85	10.11	16.75
4.	Terminalia bellirica	0.27	1.00	27.27	18150.00	0.47	1.15	10.83	12.45
5.	Knema attenuata	4.64	5.67	81.82	1208.29	7.93	3.46	0.72	12.11
6.	Lepisanthes tetraphylla	4.27	4.70	90.91	1459.53	7.31	3.85	0.87	12.02
7.	Polyalthia coffeoides	2.82	2.82	100.00	2316.05	4.82	4.23	1.38	10.43
8.	Persea macrantha	0.18	1.00	18.18	13456.00	0.31	0.77	8.03	9.11
9.	Xylia xylocarpa	0.27	1.00	27.27	10584.00	0.47	1.15	6.31	7.94
10.	Diospyros montana	2.55	4.00	63.64	1069.91	4.35	2.69	0.63	7.68
11.	Vitex altissima	0.73	1.00	72.73	5184.00	1.24	3.08	3.09	7.41
12.	Nothopegia colebrookeana	2.82	6.20	45.45	647.02	4.82	1.92	0.38	7.13
13.	Baccaurea courtallensis	2.55	4.67	54.55	260.82	4.35	2.31	0.15	6.81
14.	Macaranga indica	1.18	1.86	63.64	1964.46	2.02	2.69	1.17	5.88
15.	Artocarpus hirsutus	1.45	3.20	45.45	2102.76	2.49	1.92	1.25	5.66
16.	Chionanthus courtallensis	0.18	1.00	18.18	7396.00	0.31	0.77	4.41	5.49
17.	Stereospermum chelonoides	1.00	2.20	45.45	2321.63	1.71	1.92	1.38	5.02
18.	Diospyros paniculata	0.73	1.60	45.45	2997.56	1.24	1.92	1.78	4.95
19.	Dysoxylum malabaricum	0.18	1.00	18.18	6400.00	0.31	0.77	3.82	4.90
20.	Erythrina stricta	1.45	4.00	36.36	1296.11	2.49	1.54	0.77	4.80
21.	Gmelina arborea	0.91	2.00	45.45	1602.05	1.56	1.92	0.95	4.43
22.	Drypetes elata	1.45	4.00	36.36	636.03	2.49	1.54	0.37	4.40
23.	Fahrenheitia zeylanica	2.00	11.00	18.18	317.05	3.42	0.77	0.18	4.38
24.	Olea dioica	1.27	3.50	36.36	526.70	2.18	1.54	0.31	4.03
25.	Calophyllum inophyllum	0.18	1.00	18.18	4900.00	0.31	0.77	2.92	4.00
26.	Grewia tiliifolia	0.36	1.00	36.36	2888.00	0.62	1.54	1.72	3.88

Table 50 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
27.	Symplocos macrophylla	1.64	9.00	18.18	278.26	2.80	0.77	0.16	3.73
28.	Alstonia scholaris	0.45	1.00	45.45	1537.60	0.78	1.92	0.91	3.61
29.	Aglaia barberi	0.73	2.00	36.36	1067.06	1.24	1.54	0.63	3.41
30.	Evodia lunu-ankenda	1.45	8.00	18.18	217.90	2.49	0.77	0.13	3.38
31.	Dipterocarpus indicus	0.18	1.00	18.18	3844.00	0.31	0.77	2.29	3.37
32.	Kingiodendron pinnatum	0.45	1.00	45.45	921.60	0.78	1.92	0.55	3.25
33.	Strombosia ceylanica	0.18	1.00	18.18	3600.00	0.31	0.77	2.14	3.22
34.	Syzygium cumini	0.55	1.50	36.36	1224.12	0.93	1.54	0.73	3.20
35.	Mesua ferrea	0.73	2.00	36.36	544.47	1.24	1.54	0.32	3.10
36.	Diospyros ovalifolia	0.73	2.00	36.36	272.25	1.24	1.54	0.16	2.94
37.	Syzygium gardneri	0.36	2.00	18.18	2380.50	0.62	0.77	1.42	2.81
38.	Hopea parviflora	0.18	1.00	18.18	2704.00	0.31	0.77	1.61	2.69
39.	Aporusa lindleyana	1.09	6.00	18.18	44.45	1.87	0.77	0.02	2.66
40.	Schleichera oleosa	1.09	6.00	18.18	48.16	1.87	0.77	0.02	2.66
41.	Terminalia crenulata	0.55	3.00	18.18	1481.54	0.93	0.77	0.88	2.58
42.	Clausena dentata	0.91	5.00	18.18	288.80	1.56	0.77	0.17	2.49
43.	Dalbergia latifolia	0.36	1.00	36.36	512.00	0.62	1.54	0.30	2.46
44.	Terminalia paniculata	0.36	1.00	36.36	512.00	0.62	1.54	0.30	2.46
45.	Radermachera xylocarpa	0.27	1.00	27.27	1350.00	0.47	1.15	0.80	2.42
46.	Hunteria zeylanica	0.55	2.00	27.27	468.75	0.93	1.15	0.27	2.36
47.	Sterculia guttata	0.36	2.00	18.18	1152.00	0.62	0.77	0.68	2.07
48.	Buchanania axillaris	0.55	3.00	18.18	584.30	0.93	0.77	0.34	2.05
49.	Drypetes oblongifolia	0.18	1.00	18.18	1600.00	0.31	0.77	0.95	2.03
50.	Vateria indica	0.18	1.00	18.18	1600.00	0.31	0.77	0.95	2.03
51.	Garcinia spicata	0.18	1.00	18.18	1444.00	0.31	0.77	0.86	1.94
52.	Sterculia balanghas	0.36	2.00	18.18	848.72	0.62	0.77	0.50	1.89
53.	Dimocarpus longan	0.55	3.00	18.18	167.25	0.93	0.77	0.09	1.80
54.	Myristica dactyloides	0.18	1.00	18.18	1156.00	0.31	0.77	0.69	1.77

Ttable 50 contd.									
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
55.	Spondias pinnata	0.36	2.00	18.18	420.50	0.62	0.77	0.25	1.64
56.	Albizia odoratissima	0.18	1.00	18.18	900.00	0.31	0.77	0.53	1.61
57.	Mallotus tetracoccus	0.18	1.00	18.18	635.04	0.31	0.77	0.37	1.45
58.	Xanthophyllum arnottianum	0.18	1.00	18.18	576.00	0.31	0.77	0.34	1.42
59.	Reinwardtiodendron anamalaiense	0.18	1.00	18.18	449.44	0.31	0.77	0.26	1.34
60.	Cinnamomum microcarpum	0.18	1.00	18.18	400.00	0.31	0.77	0.23	1.31
61.	Diospyros condolleana	0.18	1.00	18.18	384.16	0.31	0.77	0.22	1.30
62.	Ixora brachiata	0.18	1.00	18.18	256.00	0.31	0.77	0.15	1.23
63.	Pajanelia longifolia	0.18	1.00	18.18	256.00	0.31	0.77	0.15	1.23
64.	Pterygota alata	0.18	1.00	18.18	256.00	0.31	0.77	0.15	1.23
65.	Bombax ceiba	0.18	1.00	18.18	196.00	0.31	0.77	0.11	1.19
66.	Olax wightiana	0.18	1.00	18.18	153.76	0.31	0.77	0.09	1.17
67.	Dillenia pentagyna	0.18	1.00	18.18	144.00	0.31	0.77	0.08	1.16
68.	Mallotus philippensis	0.18	1.00	18.18	144.00	0.31	0.77	0.08	1.16
69.	Pterospermum divorsifolium	0.18	1.00	18.18	144.00	0.31	0.77	0.08	1.16
70.	Hydnocarpus pentandra	3.36	2.31	145.45	8728.39	5.75	6.15	5.21	17.11
71.	Lagerstroemia microcarpa	1.73	1.46	118.18	14960.94	2.95	5.00	8.93	16.88
72.	Holigarna grahamii	1.64	1.80	90.91	16934.68	2.80	3.85	10.11	16.75
73.	Terminalia bellirica	0.27	1.00	27.27	18150.00	0.47	1.15	10.83	12.45
74.	Knema attenuata	4.64	5.67	81.82	1208.29	7.93	3.46	0.72	12.11
75.	Lepisanthes tetraphylla	4.27	4.70	90.91	1459.53	7.31	3.85	0.87	12.02
76.	Polyalthia coffeoides	2.82	2.82	100.00	2316.05	4.82	4.23	1.38	10.43
77.	Persea macrantha	0.18	1.00	18.18	13456.00	0.31	0.77	8.03	9.11
78.	Xylia xylocarpa	0.27	1.00	27.27	10584.00	0.47	1.15	6.31	7.94
79.	Diospyros montana	2.55	4.00	63.64	1069.91	4.35	2.69	0.63	7.68
80.	Vitex altissima	0.73	1.00	72.73	5184.00	1.24	3.08	3.09	7.41
81.	Nothopegia colebrookeana	2.82	6.20	45.45	647.02	4.82	1.92	0.38	7.13

Table 50 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
82.	Baccaurea courtallensis	2.55	4.67	54.55	260.82	4.35	2.31	0.15	6.81
83.	Macaranga indica	1.18	1.86	63.64	1964.46	2.02	2.69	1.17	5.88
84.	Artocarpus hirsutus	1.45	3.20	45.45	2102.76	2.49	1.92	1.25	5.66
85.	Chionanthus courtallensis	0.18	1.00	18.18	7396.00	0.31	0.77	4.41	5.49
86.	Stereospermum chelonoides	1.00	2.20	45.45	2321.63	1.71	1.92	1.38	5.02
87.	Diospyros paniculata	0.73	1.60	45.45	2997.56	1.24	1.92	1.78	4.95
88.	Dysoxylum malabaricum	0.18	1.00	18.18	6400.00	0.31	0.77	3.82	4.90
89.	Erythrina stricta	1.45	4.00	36.36	1296.11	2.49	1.54	0.77	4.80
90.	Gmelina arborea	0.91	2.00	45.45	1602.05	1.56	1.92	0.95	4.43
91.	Drypetes elata	1.45	4.00	36.36	636.03	2.49	1.54	0.37	4.40
92.	Fahrenheitia zeylanica	2.00	11.00	18.18	317.05	3.42	0.77	0.18	4.38
93.	Olea dioica	1.27	3.50	36.36	526.70	2.18	1.54	0.31	4.03
94.	Calophyllum inophyllum	0.18	1.00	18.18	4900.00	0.31	0.77	2.92	4.00
95.	Grewia tiliifolia	0.36	1.00	36.36	2888.00	0.62	1.54	1.72	3.88
96.	Symplocos macrophylla	1.64	9.00	18.18	278.26	2.80	0.77	0.16	3.73
97.	Alstonia scholaris	0.45	1.00	45.45	1537.60	0.78	1.92	0.91	3.61
98.	Aglaia barberi	0.73	2.00	36.36	1067.06	1.24	1.54	0.63	3.41
99.	Evodia lunu-ankenda	1.45	8.00	18.18	217.90	2.49	0.77	0.13	3.38
100.	Dipterocarpus indicus	0.18	1.00	18.18	3844.00	0.31	0.77	2.29	3.37
101.	Kingiodendron pinnatum	0.45	1.00	45.45	921.60	0.78	1.92	0.55	3.25
102.	Strombosia ceylanica	0.18	1.00	18.18	3600.00	0.31	0.77	2.14	3.22
103.	Syzygium cumini	0.55	1.50	36.36	1224.12	0.93	1.54	0.73	3.20
104.	Mesua ferrea	0.73	2.00	36.36	544.47	1.24	1.54	0.32	3.10
105.	Diospyros ovalifolia	0.73	2.00	36.36	272.25	1.24	1.54	0.16	2.94
106.	Syzygium gardneri	0.36	2.00	18.18	2380.50	0.62	0.77	1.42	2.81
107.	Hopea parviflora	0.18	1.00	18.18	2704.00	0.31	0.77	1.61	2.69
108.	Aporusa lindleyana	1.09	6.00	18.18	44.45	1.87	0.77	0.02	2.66
109.	Schleichera oleosa	1.09	6.00	18.18	48.16	1.87	0.77	0.02	2.66

Table 50 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
110.	Terminalia crenulata	0.55	3.00	18.18	1481.54	0.93	0.77	0.88	2.58
111.	Clausena dentata	0.91	5.00	18.18	288.80	1.56	0.77	0.17	2.49
112.	Dalbergia latifolia	0.36	1.00	36.36	512.00	0.62	1.54	0.30	2.46
113.	Terminalia paniculata	0.36	1.00	36.36	512.00	0.62	1.54	0.30	2.46
114.	Radermachera xylocarpa	0.27	1.00	27.27	1350.00	0.47	1.15	0.80	2.42
115.	Hunteria zeylanica	0.55	2.00	27.27	468.75	0.93	1.15	0.27	2.36
116.	Sterculia guttata	0.36	2.00	18.18	1152.00	0.62	0.77	0.68	2.07
117.	Buchanania axillaris	0.55	3.00	18.18	584.30	0.93	0.77	0.34	2.05
118.	Drypetes oblongifolia	0.18	1.00	18.18	1600.00	0.31	0.77	0.95	2.03
119.	Vateria indica	0.18	1.00	18.18	1600.00	0.31	0.77	0.95	2.03
120.	Garcinia spicata	0.18	1.00	18.18	1444.00	0.31	0.77	0.86	1.94
121.	Sterculia balanghas	0.36	2.00	18.18	848.72	0.62	0.77	0.50	1.89
122.	Dimocarpus longan	0.55	3.00	18.18	167.25	0.93	0.77	0.09	1.80
123.	Myristica dactyloides	0.18	1.00	18.18	1156.00	0.31	0.77	0.69	1.77
124.	Spondias pinnata	0.36	2.00	18.18	420.50	0.62	0.77	0.25	1.64
125.	Albizia odoratissima	0.18	1.00	18.18	900.00	0.31	0.77	0.53	1.61
126.	Mallotus tetracoccus	0.18	1.00	18.18	635.04	0.31	0.77	0.37	1.45
127.	Xanthophyllum arnottianum	0.18	1.00	18.18	576.00	0.31	0.77	0.34	1.42
128.	Reinwardtiodendron anamalaiense	0.18	1.00	18.18	449.44	0.31	o.77	0.26	1.34
129.	Cinnamomum microcarpum	0.18	1.00	18.18	400.00	0.31	0.77	0.23	1.31
130.	Diospyros condolleana	0.18	1.00	18.18	384.16	0.31	0.77	0.22	1.30
131.	Ixora brachiata	0.18	1.00	18.18	256.00	0.31	0.77	0.15	1.23
132.	Pajanelia longifolia	0.18	1.00	18.18	256.00	0.31	0.77	0.15	1.23
133.	Pterygota alata	0.18	1.00	18.18	256.00	0.31	0.77	0.15	1.23
134.	Bombax ceiba	0.18	1.00	18.18	196.00	0.31	0.77	0.11	1.19
135.	Olax wightiana	0.18	1.00	18.18	153.76	0.31	0.77	0.09	1.17
136.	Dillenia pentagyna	0.18	1.00	18.18	144.00	0.31	0.77	0.08	1.16
137.	Mallotus philippensis	0.18	1.00	18.18	144.00	0.31	0.77	0.08	1.16
138.	Pterospermum divorsifolium	0.18	1.00	18.18	144.00	0.31	0.77	0.08	1.16

Table 51. Structural status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Olea dioica	0.64	2.33	27.27	57.33	9.09	6.38	4.17	19.65
2	Diospyros montana	0.36	1.33	27.27	100.82	5.19	6.38	7.34	18.92
3	Aglaia barberi	0.36	1.33	27.27	85.80	5.19	6.38	6.25	17.82
4	Lagerstroemia microcarpa	0.45	1.67	27.27	67.60	6.49	6.38	4.92	17.80
5	Aporusa lindleyana	0.55	3.00	18.18	29.70	7.79	4.26	2.16	14.21
6	Clausena dentata	0.18	1.00	18.18	81.00	2.60	4.26	5.90	12.75
7	Polyalthia coffeoides	0.36	2.00	18.18	44.18	5.19	4.26	3.21	12.66
8	Lepisanthes tetraphylla	0.27	1.50	18.18	45.92	3.90	4.26	3.34	11.49
9	Baccaurea courtallensis	0.45	5.00	9.09	7.05	6.49	2.13	0.51	9.13
10	Gmelina arborea	0.45	5.00	9.09	6.78	6.49	2.13	0.49	9.11
11	Dimocarpus longan	0.09	1.00	9.09	67.28	1.30	2.13	4.90	8.32
12	Xylia xylocarpa	0.36	4.00	9.09	11.28	5.19	2.13	0.82	8.14
13	Fagraea ceylanica	0.09	1.00	9.09	54.08	1.30	2.13	3.93	7.36
14	Kingiodendron pinnatum	0.09	1.00	9.09	50.00	1.30	2.13	3.64	7.06
15	Nothopegia colebrookeana	0.09	1.00	9.09	50.00	1.30	2.13	3.64	7.06
16	Xanthophyllum arnottianum	0.27	3.00	9.09	11.39	3.90	2.13	0.83	6.85
17	Radermachera xylocarpa	0.09	1.00	9.09	46.08	1.30	2.13	3.35	6.78
18	Bauhinia racemosa	0.09	1.00	9.09	42.32	1.30	2.13	3.08	6.50
19	Bauhinia scandens	0.09	1.00	9.09	42.32	1.30	2.13	3.08	6.50
20	Spondias pinnata	0.09	1.00	9.09	42.32	1.30	2.13	3.08	6.50
21	Stereospermum chelonoides	0.09	1.00	9.09	38.72	1.30	2.13	2.82	6.24
22	Artocarpus hirsutus	0.18	2.00	9.09	16.00	2.60	2.13	1.16	5.89
23	Drypetes elata	0.18	2.00	9.09	14.44	2.60	2.13	1.05	5.77
24	Alangium salvifolium	0.09	1.00	9.09	32.00	1.30	2.13	2.33	5.75
25	Allophylus cobbe	0.09	1.00	9.09	32.00	1.30	2.13	2.33	5.75
26	Atalantia racemosa	0.09	1.00	9.09	32.00	1.30	2.13	2.33	5.75
27	Cinnamomum microcarpum	0.09	1.00	9.09	32.00	1.30	2.13	2.33	5.75

Table 51 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
28	Garcinia spicata	0.09	1.00	9.09	32.00	1.30	2.13	2.33	5.75
29	Macaranga peltata	0.09	1.00	9.09	32.00	1.30	2.13	2.33	5.75
30	Olax wightiana	0.09	1.00	9.09	32.00	1.30	2.13	2.33	5.75
31	Sterculia guttata	0.09	1.00	9.09	32.00	1.30	2.13	2.33	5.75
32	Wrightia tinctoria	0.09	1.00	9.09	32.00	1.30	2.13	2.33	5.75
33	Holigarna grahamii	0.09	1.00	9.09	25.92	1.30	2.13	1.88	5.31
34	Diospyros ovalifolia	0.09	1.00	9.09	23.12	1.30	2.13	1.68	5.11
35	Polyalthia fragrans	0.09	1.00	9.09	23.12	1.30	2.13	1.68	5.11

Table 52. Structural status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Mallotus philippensis	1.64	3.00	54.55	0.00	5.56	5.77	0.00	11.32
2	Polyalthia coffeoides	1.82	5.00	36.36	0.00	6.17	3.85	0.00	10.02
3	Pterospermum divorsifolium	1.36	3.00	45.45	0.00	4.63	4.81	0.00	9.44
4	Olea dioica	1.09	3.00	36.36	0.00	3.70	3.85	0.00	7.55
5	Knema attenuata	1.45	8.00	18.18	0.00	4.94	1.92	0.00	6.86
6	Lepisanthes tetraphylla	0.82	3.00	27.27	0.00	2.78	2.88	0.00	5.66
7	Aporusa lindleyana	1.09	6.00	18.18	0.00	3.70	1.92	0.00	5.63
8	Kingiodendron pinnatum	1.00	5.50	18.18	0.00	3.40	1.92	0.00	5.32
9	Aglaia barberi	0.64	2.33	27.27	0.00	2.16	2.88	0.00	5.05
10	Meiogyne ramarowii	0.64	2.33	27.27	0.00	2.16	2.88	0.00	5.05
11	Pterospermum rubiginosum	0.55	2.00	27.27	0.00	1.85	2.88	0.00	4.74
12	Xylia xylocarpa	0.82	4.50	18.18	0.00	2.78	1.92	0.00	4.70
13	Cinnamomum microcarpum	0.73	4.00	18.18	0.00	2.47	1.92	0.00	4.39
14	Lagerstroemia microcarpa	0.73	4.00	18.18	0.00	2.47	1.92	0.00	4.39
15	Drypetes elata	1.00	11.00	9.09	0.00	3.40	0.96	0.00	4.36
16	Nothopegia colebrookeana	1.00	11.00	9.09	0.00	3.40	0.96	0.00	4.36
17	Stereospermum chelonoides	0.55	3.00	18.18	0.00	1.85	1.92	0.00	3.77

Table 52 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
18	Atalantia racemosa	0.45	2.50	18.18	0.00	1.54	1.92	0.00	3.47
19	Macaranga indica	0.45	2.50	18.18	0.00	1.54	1.92	0.00	3.47
20	Pterygota alata	0.45	2.50	18.18	0.00	1.54	1.92	0.00	3.47
21	Allophylus cobbe	0.36	2.00	18.18	0.00	1.23	1.92	0.00	3.16
22	Cassia fistula	0.36	2.00	18.18	0.00	1.23	1.92	0.00	3.16
23	Diospyros buxifolia	0.36	2.00	18.18	0.00	1.23	1.92	0.00	3.16
24	Diospyros montana	0.36	2.00	18.18	0.00	1.23	1.92	0.00	3.16
25	Clausena dentata	0.64	7.00	9.09	0.00	2.16	0.96	0.00	3.12
26	Mallotus tetracoccus	0.55	6.00	9.09	0.00	1.85	0.96	0.00	2.81
27	Mesua ferrea	0.55	6.00	9.09	0.00	1.85	0.96	0.00	2.81
28	Syzygium gardneri	0.45	5.00	9.09	0.00	1.54	0.96	0.00	2.50
29	Artocarpus hirsutus	0.36	4.00	9.09	0.00	1.23	0.96	0.00	2.20
30	Baccaurea courtallensis	0.36	4.00	9.09	0.00	1.23	0.96	0.00	2.20
31	Dimocarpus longan	0.36	4.00	9.09	0.00	1.23	0.96	0.00	2.20
32	Holigarna grahamii	0.36	4.00	9.09	0.00	1.23	0.96	0.00	2.20
33	Aidia gardneri	0.27	3.00	9.09	0.00	0.93	0.96	0.00	1.89
34	Dillenia pentagyna	0.27	3.00	9.09	0.00	0.93	0.96	0.00	1.89
35	Gomphandra coriacea	0.27	3.00	9.09	0.00	0.93	0.96	0.00	1.89
36	Mallotus muricatus	0.27	3.00	9.09	0.00	0.93	0.96	0.00	1.89
37	Memecylon talbotianum	0.27	3.00	9.09	0.00	0.93	0.96	0.00	1.89
38	Sterculia villosa	0.27	3.00	9.09	0.00	0.93	0.96	0.00	1.89
39	Xanthophyllum arnottianum	0.27	3.00	9.09	0.00	0.93	0.96	0.00	1.89
40	Acronychia pedunculata	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
41	Actinodaphne malabarica	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
42	Antidesma acidum	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
43	Aporusa acuminata	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
44	Dichapetalum gelonoides	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
45	Euodia lunu-ankenda	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
46	Gmelina arborea	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58

Table 52 contd.									
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
47	Grewia tiliifolia	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
48	Hydnocarpus pentandra	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
49	Mitragyna parviflora	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
50	Mitrephora grandiflora	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
51	Phoebe lanceolata	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
52	Pterospermum reticulatum	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
53	Sageraea laurifolia	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
54	Sterculia guttata	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
55	Strombosia ceylanica	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
56	Vepris bilocularis	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
57	Wrightia tinctoria	0.18	2.00	9.09	0.00	0.62	0.96	0.00	1.58
58	Bombax ceiba	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27
59	Carallia brachiata	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27
60	Cinnamomum malabatrum	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27
61	Ficus nervosa	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27
62	Litsea oleoides	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27
63	Olax imbricata	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27
64	Persea macrantha	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27
65	Spondias pinnata	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27
66	Strychnos nux-vomica	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27
67	Syzygium cumini	0.09	1.00	9.09	0.00	0.31	0.96	0.00	1.27

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 53. Structural status of Shrubs

SPECIES NAME	**IVI**
Helicteres isora	54.32
Glycosmis pentaphylla	21.35
Leea asiatica	15.48
Leptonychia caudata	15.48
Dichapetalum gelanoides	13.61
Mussaenda belilla	11.74
Ventilago bombaiensis	11.74
Leea robusta	8.67
Memecylon lawsonii	8.67
Strobilanthes sp.	8.67
Ochalandra travancorica	7.74
Rauvolfia serpentina	6.80
Capparis rheedii	5.87
Boehmeria glomerulifera	4.93
Ziziphus oenoplia	4.93

Table 54. Structural status of Herbs

NO	SPECIES NAME	IVI
1.	Bolbitis sp.	24.19
2.	Dracaena terniflora	19.53
3.	Costus speciosus	14.89
4.	Oplismenus compositus	12.08
5.	Stachyphrynium spicatum	11.16
6.	Boesenbergia pulcherrima	9.30
7.	Cyathula prostrata	9.30
8.	Elatostema serratum	9.30
9.	Globba ophioglossa	9.30
10.	Flemingia semialata	7.44
11.	Pteris sp.	5.58
12.	Selaginella sp.	5.58
13.	Alocasia fornicatum	3.72
14.	Andrographis macrobotrys	3.72
15.	Aneilema ovalifolium	3.72
16.	Corchorus acutangulus	3.72
17.	Curculigo orchioides	3.72
18.	Curcuma ecalcarata	3.72
19.	Dryneria alercifolia	3.72
20.	Globba marantina	3.72
21.	Gomphostemma heyneanum	3.72
22.	Hemigraphis latebrosa	3.72
23.	Ophiopogon intermedius	3.72
24.	Ophiorrhiza mungos	3.72
25.	Rungia wightiana	3.72
26.	Zingiber neesanum	3.72
27.	Pancratium triflorum	2.78
28.	Desmodium sp.	1.86
29.	Justicia betonica	1.86
30.	Justicia japonica	1.86
31.	Zingiber zerumbet	1.86

Table 54 contd.		
NO	**SPECIES NAME**	**IVI**
32.	Bolbitis sp.	24.19
33.	Dracaena terniflora	19.53
34.	Costus speciosus	14.89
35.	Oplismenus compositus	12.08
36.	Stachyphrynium spicatum	11.16
37.	Boesenbergia pulcherrima	9.30
38.	Cyathula prostrata	9.30
39.	Elatostema serratum	9.30
40.	Globba ophioglossa	9.30
41.	Flemingia semialata	7.44
42.	Pteris sp.	5.58
43.	Selaginella sp.	5.58
44.	Alocasia fornicatum	3.72
45.	Andrographis macrobotrys	3.72
46.	Aneilema ovalifolium	3.72
47.	Corchorus acutangulus	3.72
48.	Curculigo orchioides	3.72
49.	Curcuma ecalcarata	3.72
50.	Dryneria alercifolia	3.72
51.	Globba marantina	3.72
52.	Gomphostemma heyneanum	3.72
53.	Hemigraphis latebrosa	3.72
54.	Ophiopogon intermedius	3.72
55.	Ophiorrhiza mungos	3.72
56.	Rungia wightiana	3.72
57.	Zingiber neesanum	3.72
58.	Pancratium triflorum	2.78
59.	Desmodium sp.	1.86
60.	Justicia betonica	1.86
61.	Justicia japonica	1.86
62.	Zingiber zerumbet	1.86
	Total	199.95

Table 55. Structural Status of Climbers

NO	SPECIES NAME	IVI
1	Abrus precatorius	1.91
2	Acacia caesia	4.69
3	Aganope thyrsiflora	1.91
4	Ancistrocladus heyneanus	8.07
5	Asparagus racemosus	2.34
6	Caesalpinia cucullata	2.34
7	Calamus thwaitesii	47.89
8	Calycopteris floribunda	2.34
9	Cissus discolor	3.81
10	Cyclea peltata	6.16
11	Desmos lawii	7.03
12	Diploclisia glaucescens	1.91
13	Gnetum ula	1.91
14	Ichnocarpus frutescens	2.78
15	Jasminum azoricum	3.81
16	Liparis viridiflora	1.91
17	Loeseneriella arnottiana	2.34
18	Myxopyrum smilacifolium	1.91
19	Naravelia zeylanica	3.81
20	Piper longum	32.68
21	Piper nigrum	17.83
22	Pothos scandens	15.97
23	Rhynchosia acutissima	1.91
24	Salacia oblonga	1.91
25	Sarcostigma kleinii	3.81
26	Smilax zeylanica	11.28
27	Symphorema involucratum	1.91
28	Thunbergia mysorensis	1.91
29	Vigna pilosa	1.91
	Total	199.99

MOIST DECIDUOUS FORESTS

Table 56. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1.	Terminalia bellirica	0.74	1.27	57.89	28800.14	3.41	6.11	21.35	30.86
2.	Xylia xylocarpa	4.16	5.64	73.68	4978.47	19.22	7.78	3.69	30.68
3.	Lagerstroemia microcarpa	1.47	2.00	73.68	14082.41	6.81	7.78	10.43	25.03
4.	Terminalia paniculata	1.84	2.50	73.68	8747.85	8.52	7.78	6.48	22.77
5.	Grewia tiliifolia	1.74	2.20	78.95	5956.50	8.03	8.33	4.41	20.77
6.	Dillenia pentagyna	1.26	2.00	63.16	8473.91	5.84	6.67	6.28	18.78
7.	Terminalia crenulata	0.47	1.29	36.84	14089.60	2.19	3.89	10.44	16.52
8.	Bombax ceiba	0.95	2.25	42.11	2465.51	4.38	4.44	1.82	10.65
9.	Wrightia tinctoria	1.26	3.00	42.11	503.44	5.84	4.44	0.37	10.65
10.	Tectona grandis	0.68	3.25	21.05	3502.64	3.16	2.22	2.59	7.98
11.	Persea macrantha	0.05	1.00	5.26	7688.00	0.24	0.56	5.69	6.49
12.	Macaranga peltata	0.74	3.50	21.05	887.46	3.41	2.22	0.65	6.28
13.	Spondias indica	0.37	1.40	26.32	1094.74	1.70	2.78	0.81	5.29
14.	Aporusa lindleyana	0.53	2.50	21.05	692.28	2.43	2.22	0.51	5.16
15.	Cleistanthus collinus	0.47	3.00	15.79	621.86	2.19	1.67	0.46	4.31
16.	Flaucortia montana	0.11	1.00	10.53	3600.00	0.49	1.11	2.66	4.26
17.	Dalbergia latifolia	0.16	1.00	15.79	2016.66	0.73	1.67	1.49	3.89
18.	Strychnos nux-vomica	0.37	2.33	15.79	277.23	1.70	1.67	0.20	3.57
19.	Macaranga indica	0.16	1.50	10.53	2242.66	0.73	1.11	1.66	3.50
20.	Albizia odoratissima	0.16	1.50	10.53	2090.66	0.73	1.11	1.54	3.39
21.	Haldina cordifolia	0.32	3.00	10.53	1037.88	1.46	1.11	0.76	3.34
22.	Holarrhena pubescens	0.32	2.00	15.79	162.30	1.46	1.67	0.12	3.24
23.	Sterculia guttata	0.26	2.50	10.53	1166.40	1.22	1.11	0.86	3.19
24.	Tetrameles nudiflora	0.05	1.00	5.26	3200.00	0.24	0.56	2.37	3.17
25.	Litsea coriacea	0.21	2.00	10.53	1168.08	0.97	1.11	0.86	2.95
26.	Cassia fistula	0.21	1.33	15.79	178.60	0.97	1.67	0.13	2.77
27.	Bridelia airy-shawii	0.05	1.00	5.26	2592.00	0.24	0.56	1.92	2.72
28.	Phyllanthus emblica	0.26	2.50	10.53	425.10	1.22	1.11	0.31	2.64
29.	Ficus exasperata	0.21	2.00	10.53	578.00	0.97	1.11	0.42	2.51

Table 56 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
30.	Vitex altissima	0.05	1.00	5.26	2312.00	0.24	0.56	1.71	2.51
31.	Alstonia scholaris	0.11	1.00	10.53	1183.36	0.49	1.11	0.87	2.47
32.	Ehretia canarensis	0.21	2.00	10.53	242.00	0.97	1.11	0.17	2.26
33.	Bombax insigne	0.05	1.00	5.26	1800.00	0.24	0.56	1.33	2.13
34.	Mallotus philippensis	0.11	1.00	10.53	400.00	0.49	1.11	0.29	1.89
35.	Stereospermum colais	0.16	3.00	5.26	654.54	0.73	0.56	0.48	1.77
36.	Mitragyna parviflora	0.11	1.00	10.53	225.00	0.49	1.11	0.16	1.76
37.	Ixora brachiata	0.21	4.00	5.26	78.12	0.97	0.56	0.05	1.58
38.	Olea dioica	0.21	4.00	5.26	22.78	0.97	0.56	0.01	1.54
39.	Naringi crenulata	0.05	1.00	5.26	865.28	0.24	0.56	0.64	1.44
40.	Lepisanthes tetraphylla	0.05	1.00	5.26	800.00	0.24	0.56	0.59	1.39
41.	Gmelina arborea	0.11	2.00	5.26	462.25	0.49	0.56	0.34	1.38
42.	Walsura trifolia	0.05	1.00	5.26	578.00	0.24	0.56	0.42	1.22
43.	Bauhinia racemosa	0.05	1.00	5.26	512.00	0.24	0.56	0.37	1.17
44.	Sapindus laurifolia	0.05	1.00	5.26	512.00	0.24	0.56	0.37	1.17
45.	Lagerstroemia reginae	0.11	2.00	5.26	121.00	0.49	0.56	0.08	1.13
46.	Trema orientalis	0.11	2.00	5.26	72.25	0.49	0.56	0.05	1.09
47.	Bauhinia malabarica	0.05	1.00	5.26	200.00	0.24	0.56	0.14	0.94
48.	Stereospermum chelonoides	0.05	1.00	5.26	200.00	0.24	0.56	0.14	0.94
49.	Limonia acidissima	0.05	1.00	5.26	162.00	0.24	0.56	0.12	0.91
50.	Bridelia crenulata	0.05	1.00	5.26	98.00	0.24	0.56	0.07	0.87
51.	Polyalthia coffeoides	0.05	1.00	5.26	72.00	0.24	0.56	0.05	0.85

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 57. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Wrightia tinctoria	1.68	2.67	63.16	187.49	23.19	17.65	11.90	52.74
2	Xylia xylocarpa	1.05	2.22	47.37	168.70	14.49	13.24	10.71	38.44
3	Grewia tiliifolia	0.68	2.17	31.58	108.29	9.42	8.82	6.87	25.12
4	Terminalia paniculata	0.26	1.25	21.05	145.92	3.62	5.88	9.26	18.77
5	Olea dioica	0.68	4.33	15.79	21.29	9.42	4.41	1.35	15.18
6	Terminalia crenulata	0.26	1.67	15.79	76.17	3.62	4.41	4.83	12.87
7	Holarrhena pubescens	0.11	1.00	10.53	92.16	1.45	2.94	5.85	10.24
8	Strychnos nux-vomica	0.32	3.00	10.53	23.52	4.35	2.94	1.49	8.78
9	Lagerstroemia microcarpa	0.16	1.50	10.53	54.00	2.17	2.94	3.42	8.54
10	Ziziphus jujuba	0.26	2.50	10.53	26.24	3.62	2.94	1.66	8.23
11	Macaranga peltata	0.16	1.50	10.53	39.52	2.17	2.94	2.51	7.62
12	Stereospermum chelonoides	0.05	1.00	5.26	67.28	0.72	1.47	4.27	6.46
13	Buchanania axillaris	0.26	5.00	5.26	6.27	3.62	1.47	0.39	5.49
14	Tectona grandis	0.05	1.00	5.26	50.00	0.72	1.47	3.17	5.37
15	Sapindus laurifolia	0.05	1.00	5.26	38.72	0.72	1.47	2.45	4.65
16	Dalbergia latifolia	0.05	1.00	5.26	35.28	0.72	1.47	2.24	4.43
17	Diospyros paniculata	0.05	1.00	5.26	35.28	0.72	1.47	2.24	4.43
18	Miliusa tomentosa	0.05	1.00	5.26	35.28	0.72	1.47	2.24	4.43
19	Spondias indica	0.05	1.00	5.26	35.28	0.72	1.47	2.24	4.43
20	Limonia acidissima	0.11	2.00	5.26	22.09	1.45	1.47	1.40	4.32
21	Cleistanthus collinus	0.11	2.00	5.26	21.16	1.45	1.47	1.34	4.26
22	Bridelia airy-shawii	0.05	1.00	5.26	32.00	0.72	1.47	2.03	4.22
23	Dillenia pentagyna	0.05	1.00	5.26	32.00	0.72	1.47	2.03	4.22
24	Terminalia bellirica	0.05	1.00	5.26	32.00	0.72	1.47	2.03	4.22
25	Xanthophyllum arnottianum	0.05	1.00	5.26	32.00	0.72	1.47	2.03	4.22
26	Polyalthia coffeoides	0.11	2.00	5.26	20.25	1.45	1.47	1.28	4.20
27	Pterospermum divorsifolium	0.11	2.00	5.26	20.25	1.45	1.47	1.28	4.20
28	Ixora brachiata	0.11	2.00	5.26	18.49	1.45	1.47	1.17	4.09
29	Bauhinia racemosa	0.05	1.00	5.26	28.88	0.72	1.47	1.83	4.02
30	Aporusa lindleyana	0.11	2.00	5.26	16.81	1.45	1.47	1.06	3.98
31	Tabernaemontana heyneana	0.05	1.00	5.26	25.92	0.72	1.47	1.64	3.84
32	Zanthoxylum rhesta	0.05	1.00	5.26	25.92	0.72	1.47	1.64	3.84

Table 58. Structural Status of Seedlings

NO	SPECIES NAME	IVI
1	Xylia xylocarpa	23.67
2	Wrightia tinctoria	14.43
3	Grewia tiliifolia	12.02
4	Naringi crenulata	10.34
5	Sterculia guttata	7.99
6	Cassia fistula	7.89
7	Terminalia paniculata	6.37
8	Strychnos nux-vomica	6.33
9	Lagerstroemia microcarpa	5.15
10	Aporusa lindleyana	4.81
11	Mallotus philippensis	4.61
12	Bombax ceiba	4.21
13	Dillenia pentagyna	4.11
14	Macaranga indica	4.07
15	Macaranga peltata	3.92
16	Stereospermum chelonoides	3.92
17	Pterospermum diversifolium	3.75
18	Schleichera oleosa	3.75
19	Dalbergia latifolia	3.37
20	Bauhinia racemosa	3.23
21	Allophylus cobbe	3.18
22	Limonia acidissima	3.14
23	Olea dioica	3.00
24	Cinnamomum microcarpum	2.85
25	Stereospermum colais	2.85
26	Tectona grandis	2.85
27	Miliusa tomentosa	2.51
28	Antidesma acidum	2.13
29	Terminalia bellirica	2.13

Ttable 58 contd.		
NO	**SPECIES NAME**	**IVI**
30	Elaeocarpus glandulosus	1.96
31	Cleistanthus collinus	1.86
32	Phyllanthus emblica	1.78
33	Bridelia airy-shawii	1.61
34	Pterospermum reticulatum	1.61
35	Spondias indica	1.61
36	Cycas circinalis	1.44
37	Pterospermum rubiginosum	1.44
38	Zanthoxylum rhesta	1.44
39	Bombax insigne	1.41
40	Buchanania axillaris	1.41
41	Diospyros paniculata	1.41
42	Ziziphus xylopyrus	1.25
43	Albizia odoratissima	1.16
44	Aglaia barberi	0.89
45	Flacortia montana	0.89
46	Harpullia imbricata	0.89
47	Ixora brachiata	0.89
48	Tabernaemontana heyneana	0.89
49	Terminalia crenulata	0.89
50	Acronychia pedunculata	0.72
51	Albizia lebbeck	0.72
52	Blepharistemma serratum	0.72
53	Cordia wallichii	0.72
54	Diospyros montana	0.72
55	Ficus hispida	0.72
56	Ficus racemosa	0.72
57	Ficus tjahela	0.72
58	Filicium decipiens	0.72
59	Gmelina arborea	0.72
60	Litsea coriacea	0.72
61	Polyalthia coffeoides	0.72
62	Vitex altissima	0.72
63	Catunaragam torulosa	0.72
64	Sterculia villosa	0.44

Table 59. Structural Status of Shrubs

NO	SPECIES NAME	IVI
1	Helicteres isora	62.43
2	Chromolaena odorata	49.59
3	Lantana camara	10.05
4	Glycosmis pentaphylla	8.55
5	Thespesia lampas	7.63
6	Sauropus quadrangularis	6.80
7	Bambusa bambos	6.35
8	Ziziphus oenoplia	5.29
9	Thespesia populnea	5.11
10	Hibiscus hispidissimus	4.49
11	Leea robusta	4.23
12	Rauvolfia serpentina	3.93
13	Triumfetta rhomboidea	3.64
14	Clerodendrum viscosum	3.61
15	Leea indica	3.16
16	Embelia tsjerium-cottam	2.72
17	Desmodium triangulare	2.42
18	Girardinia diversifolia	2.42
19	Securinega virosa	2.42
20	Capparis rheedii	1.36
21	Pavetta indica	1.36
22	Canthium sps	1.21
23	Clausena dentata	1.21

Table 60. Structural Status of Climbers

NO	SPECIES	IVI
1	Abrus precatorius	1.62
2	Acacia caesia	8.90
3	Acacia torta	2.97
4	Aganope thyrsiflora	2.12
5	Ancistrocladus heyneanus	1.06
6	Aristolochia indica	2.12
7	Asparagus racemosus	5.93
8	Bauhinia scandens var anguina	1.06
9	Caesalpinia cucullata	1.06
10	Calamus thwaitesii	1.06
11	Calycopteris floribunda	20.43
12	Cansjera rheedii	1.06
13	Ceropegia candelabrum	2.12
14	Chonemorpha fragrans	1.06
15	Cissampelos pareira	5.31
16	Cissus discolor	3.19
17	Cissus latifolia	2.12
18	Cryptolepis buchananii	1.06
19	Cyclea peltata	1.62
20	Dalbergia volubilis	1.62
21	Dendrobium macrostachyum	1.06
22	Derris brevipes	1.06
23	Dioscorea bulbifera	2.12
24	Dioscorea hamiltonii	2.12
25	Dioscorea pentaphylla	5.31
26	Dioscorea tomentosa	2.12
27	Dioscorea wallichii	3.19
28	Drynaria quercifolia	1.06
29	Entada rheedei	1.06

Table 60 contd.		
NO	**SPECIES**	**IVI**
30	Gloriosa superba	1.06
31	Grewia umbellata	1.06
32	Hemidesmus indicus	15.74
33	Ichnocarpus frutescens	9.46
34	Jasminum rottlerianum	1.06
35	Jasminum sp.	2.12
36	Loranthus spp.	2.12
37	Lygodium flexuosum	3.81
38	Merremia vitifolia	2.12
39	Myxopyrum smilacifolium	2.12
40	Naravelia zeylanica	2.41
41	Piper longum	44.51
42	Piper nigrum	5.15
43	Pothos scandens	1.34
44	Rhynchosia acutissima	1.06
45	Rhynchostylis retusa	1.06
46	Smilax zeylanica	6.15
47	Spatholobus parviflorus	3.19
48	Tragia involucrata	1.90
49	Vigna pilosa	2.12
50	Viscum orientale	1.06

Table 61. Structural Status of Herbs

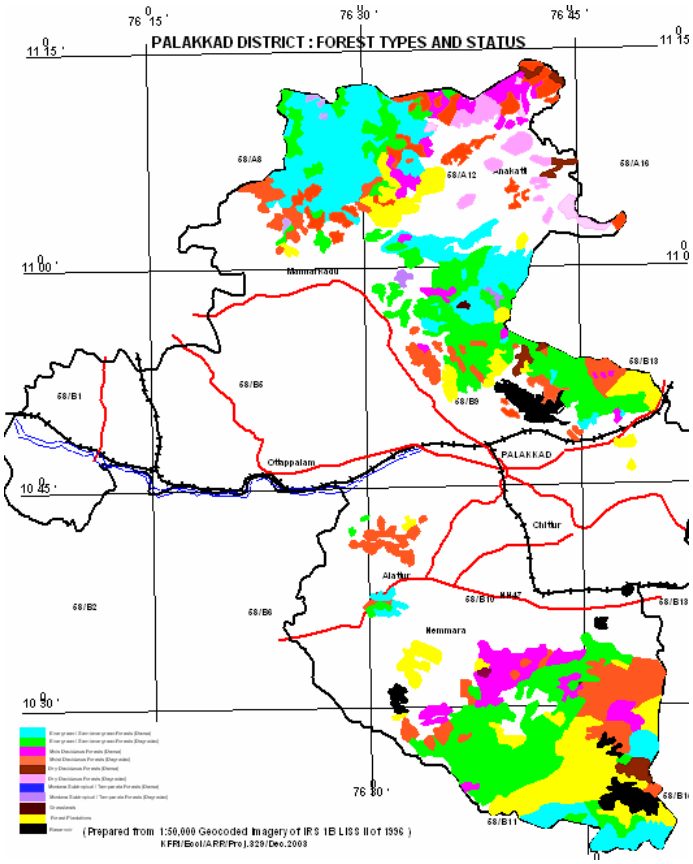
NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Achyranthes aspera	0.05	1.00	5.26	0.66	0.66	1.32
2	Achyranthes bidentata	0.16	1.00	15.79	1.99	1.99	3.97
3	Adiantum sp.	0.16	1.00	15.79	1.99	1.99	3.97
4	Aerva lanata	0.05	1.00	5.26	0.66	0.66	1.32
5	Andrographis macrobotrys	0.05	1.00	5.26	0.66	0.66	1.32
6	Aneilema scaberrimum	0.05	1.00	5.26	0.66	0.66	1.32
7	Asplenium sp.	0.05	1.00	5.26	0.66	0.66	1.32
8	Baliospermum solanifolium	0.21	1.00	21.05	2.65	2.65	5.30
9	Barleria prattensis	0.11	1.00	10.53	1.32	1.32	2.65
10	Barleria prionitis	0.05	1.00	5.26	0.66	0.66	1.32
11	Barleria sp.	0.05	1.00	5.26	0.66	0.66	1.32
12	Biophytum sensitivum	0.37	1.00	36.84	4.64	4.64	9.27
13	Bolbitis sp.	0.05	1.00	5.26	0.66	0.66	1.32
14	Chlorophytum heynei	0.21	1.00	21.05	2.65	2.65	5.30
15	Costus speciosus	0.42	1.00	42.11	5.30	5.30	10.60
16	Crotalaria heyneana	0.11	1.00	10.53	1.32	1.32	2.65
17	Curculigo orchioides	0.32	1.00	31.58	3.97	3.97	7.95
18	Curcuma ecalcarata	0.47	1.00	47.37	5.96	5.96	11.92
19	Cyathula prostrata	0.16	1.00	15.79	1.99	1.99	3.97
20	Cynodon dactylon	0.05	1.00	5.26	0.66	0.66	1.32
21	Cyperus rotundus	0.05	1.00	5.26	0.66	0.66	1.32
22	Desmodium motorium	0.05	1.00	5.26	0.66	0.66	1.32
23	Desmodium pulchellum	0.11	1.00	10.53	1.32	1.32	2.65
24	Desmodium triflorum	0.32	1.00	31.58	3.97	3.97	7.95
25	Desmodium triquetrum	0.11	1.00	10.53	1.32	1.32	2.65
26	Desmodium velutinum	0.26	1.00	26.32	3.31	3.31	6.62
27	Digitaria ciliaris	0.05	1.00	5.26	0.66	0.66	1.32
28	Elephantopus scaber	0.11	1.00	10.53	1.32	1.32	2.65
29	Eleusine indica	0.05	1.00	5.26	0.66	0.66	1.32

Table 61 contd.							
NO	**SPECIES NAME**	**D**	**AB**	**F**	**RD**	**RF**	**IVI**
30	Geophila repens	0.05	1.00	5.26	0.66	0.66	1.32
31	Globba marantina	0.16	1.00	15.79	1.99	1.99	3.97
32	Globba ophioglossa	0.11	1.00	10.53	1.32	1.32	2.65
33	Gomphostemma heyneanaum	0.05	1.00	5.26	0.66	0.66	1.32
34	Hemigraphis crossandra	0.16	1.00	15.79	1.99	1.99	3.97
35	Impatiens flaccida	0.11	1.00	10.53	1.32	1.32	2.65
36	Justicia japonica	0.11	1.00	10.53	1.32	1.32	2.65
37	Justicia procumbens	0.05	1.00	5.26	0.66	0.66	1.32
38	Justicia sp.	0.05	1.00	5.26	0.66	0.66	1.32
39	Justicia trinervia	0.16	1.00	15.79	1.99	1.99	3.97
40	Knoxia sumatrensis	0.05	1.00	5.26	0.66	0.66	1.32
41	Naregamia alata	0.16	1.00	15.79	1.99	1.99	3.97
42	Oplismenus compositus	0.47	1.00	47.37	5.96	5.96	11.92
43	Pancratium triflorum	0.11	1.00	10.53	1.32	1.32	2.65
44	Panicum brevifolium	0.05	1.00	5.26	0.66	0.66	1.32
45	Panicum notatum	0.05	1.00	5.26	0.66	0.66	1.32
46	Peristylus plantagineus	0.05	1.00	5.26	0.66	0.66	1.32
47	Phaulopsis imbricata	0.05	1.00	5.26	0.66	0.66	1.32
48	Pouzolzia zeylanica	0.16	1.00	15.79	1.99	1.99	3.97
49	Pseudarthria viscida	0.05	1.00	5.26	0.66	0.66	1.32
50	Pteris biaurita	0.11	1.00	10.53	1.32	1.32	2.65
51	Pteris pellucida	0.11	1.00	10.53	1.32	1.32	2.65
52	Rhinacanthus nasutus	0.21	1.00	21.05	2.65	2.65	5.30
53	Selaginella sp.	0.32	1.00	31.58	3.97	3.97	7.95
54	Setaria sp.	0.05	1.00	5.26	0.66	0.66	1.32
55	Sida acuta	0.05	1.00	5.26	0.66	0.66	1.32
56	Sida cordifolia	0.05	1.00	5.26	0.66	0.66	1.32
57	Sida rhombifolia	0.37	1.00	36.84	4.64	4.64	9.27
58	Sida rhomboidea	0.05	1.00	5.26	0.66	0.66	1.32
59	Stachyphrynium spicatum	0.05	1.00	5.26	0.66	0.66	1.32
60	Synedrella nodiflora	0.11	1.00	10.53	1.32	1.32	2.65

FORESTS OF PALAKKAD DISTRICT

Palakkad District consists of four agro-ecological zones namely mid land (7.5 to 75 m above MSL) with high rainfall (about 2500 mm) zone, mid land low rainfall (<1500 mm) zone, high land (75 to 750 m above MSL) high rainfall zone, and high land medium rainfall (1500 m to 2500 mm) zone with 19.5 per cent, 8.9 per cent, 18.9 per cent and 41.8 per cent of the total area of the district (4480 km^{2}) respectively. The actual forest area in the district is 1190.43 km^{2}, which forms 26.57 per cent of total geographic area.

The major vegetation types met within the district are West Coast Tropical Evergreen forests, West Coast Tropical Semi Evergreen forests, South Indian Moist Deciduous forests, Southern Tropical Dry Deciduous forests, Southern Montane Wet Temperate forests and Grass lands.



VEGETATION STATUS OF PALAKKAD DISTRICT

EVERGREEN FORESTS

Table 62. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Cullenia exarillata	4.37	7.55	57.89	1810.24	8.26	3.26	0.98	12.51
2	Bischofia javanica	0.53	1.43	36.84	16404.99	1.00	2.08	8.96	12.03
3	Palaquium ellipticum	2.89	4.58	63.16	3777.82	5.47	3.56	2.06	11.09
4	Knema attenuata	2.84	4.50	63.16	3062.79	5.37	3.56	1.67	10.60
5	Drypetes oblongifolia	3.63	6.90	52.63	526.74	6.87	2.97	0.28	10.12
6	Holigarna grahamii	0.74	1.75	42.11	9636.05	1.39	2.37	5.26	9.02
7	Terminalia belirica	0.21	1.33	15.79	13961.20	0.40	0.89	7.62	8.91
8	Reinwardtiodendron anamalaiense	2.47	5.88	42.11	278.53	4.68	2.37	0.15	7.20
9	Dysoxylum malabaricum	2.00	4.75	42.11	1506.55	3.78	2.37	0.82	6.97
10	Mesua ferrea	0.84	2.00	42.11	5167.17	1.59	2.37	2.82	6.78
11	Diospyros ovalifolia	1.05	2.50	42.11	4146.59	1.99	2.37	2.26	6.62
12	Drypetes elata	1.95	5.29	36.84	1343.05	3.68	2.08	0.73	6.49
13	Artocarpus hetrophyllus	0.21	1.00	21.05	8398.08	0.40	1.19	4.58	6.17
14	Polyalthia coffeoides	0.95	2.25	42.11	3404.10	1.79	2.37	1.85	6.02
15	Myristica dactyloides	1.37	3.25	42.11	1474.32	2.59	2.37	0.80	5.76
16	Baccaurea courtallensis	1.42	3.00	47.37	567.90	2.69	2.67	0.31	5.66
17	Persea macrantha	0.53	1.67	31.58	4811.20	1.00	1.78	2.62	5.40
18	Heritiera papilio	0.05	1.00	5.26	8192.00	0.10	0.30	4.47	4.87
19	Elaeocarpus tuberculatus	0.79	3.00	26.32	3292.06	1.49	1.48	1.79	4.77
20	Syzygium cumini	0.32	1.50	21.05	4730.96	0.60	1.19	2.58	4.36
21	Syzygium laetum	0.21	1.33	15.79	5502.00	0.40	0.89	3.00	4.29
22	Aglaia barberi	0.74	2.33	31.58	1723.35	1.39	1.78	0.94	4.11
23	Macaranga indica	1.21	4.60	26.32	515.32	2.29	1.48	0.28	4.05
24	Mangifera indica	0.05	1.00	5.26	6635.52	0.10	0.30	3.62	4.02
25	Boswellia serrata	0.05	1.00	5.26	6589.52	0.10	0.30	3.59	3.99
26	Vateria indica	0.68	2.60	26.32	1859.30	1.29	1.48	1.01	3.79
27	Hopea parviflora	0.63	3.00	21.05	2564.07	1.19	1.19	1.40	3.78
28	Agrostistachys borneensis	0.84	2.67	1.58	558.34	1.59	1.78	0.30	3.67

Table 62 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
29	Cinnamomum malabatrum	0.32	1.50	21.05	3097.65	0.60	1.19	1.69	3.47
30	Hydnocarpus pentandra	0.53	1.67	31.58	1071.64	1.00	1.78	0.58	3.36
31	Calophyllum austroindicum	0.42	2.00	21.05	2467.60	0.80	1.19	1.34	3.33
32	Gomphandra coriacea	1.11	5.25	21.05	100.53	2.09	1.19	0.05	3.33
33	Fahrenheitia zeylanica	0.47	2.25	21.05	2042.28	0.90	1.19	1.11	3.19
34	Acronychia pedunculata	0.79	3.75	21.05	266.76	1.49	1.19	0.14	2.82
35	Cleidion javanicum	0.32	1.50	21.05	1680.33	0.60	1.19	0.91	2.70
36	Garcinia gummi-gutta	0.26	1.25	21.05	1849.60	0.50	1.19	1.01	2.69
37	Canarium strictum	0.16	1.00	15.79	2662.82	0.30	0.89	1.45	2.64
38	Drypetes wightii	0.37	1.40	26.32	860.07	0.70	1.48	0.46	2.64
39	Mallotus philippensis	0.63	3.00	21.05	251.76	1.19	1.19	0.13	2.51
40	Schleichera oleosa	0.11	1.00	10.53	3091.36	0.20	0.59	1.68	2.48
41	Dipterocarpus indicus	0.05	1.00	5.26	3698.00	0.10	0.30	2.01	2.41
42	Bridelia crenulata	0.05	1.00	5.26	3528.00	0.10	0.30	1.92	2.32
43	Garcinia spicata	0.47	2.25	21.05	427.95	0.90	1.19	0.23	2.31
44	Calophyllum polyanthum	0.21	1.33	15.79	1728.72	0.40	0.89	0.94	2.23

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 62 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
45	Diospyros buxifolia	0.42	2.67	15.79	798.96	0.80	0.89	0.43	2.12
46	Cassine glauca	0.21	2.00	10.53	1872.72	0.40	0.59	1.02	2.01
47	Cinnamomum spp.	0.05	1.00	5.26	2649.92	0.10	0.30	1.44	1.84
48	Dimocarpus longan	0.32	2.00	15.79	596.43	0.60	0.89	0.32	1.81
49	Aporusa lindleyana	0.26	1.67	15.79	562.50	0.50	0.89	0.30	1.69
50	Ficus beddomei	0.47	4.50	10.53	364.75	0.90	0.59	0.19	1.68
51	Tabernaemontana heyneana	0.26	1.67	15.79	498.43	0.50	0.89	0.27	1.65
52	Calophyllum calaba	0.26	1.67	15.79	470.59	0.50	0.89	0.25	1.64
53	Ixora brachiata	0.26	1.67	15.79	396.04	0.50	0.89	0.21	1.60
54	Macaranga peltata	0.68	13.00	5.26	19.72	1.29	0.30	0.01	1.60
55	Memecylon heyneanum	0.16	1.50	10.53	1226.94	0.30	0.59	0.67	1.56
56	unidentified	0.42	4.00	10.53	277.42	0.80	0.59	0.15	1.54
57	Mastixia arborea	0.05	1.00	5.26	2048.00	0.10	0.30	1.11	1.51
58	Vitex altissima	0.05	1.00	5.26	1997.12	0.10	0.30	1.09	1.48
59	Actinodaphne malabarica	0.32	3.00	10.53	435.60	0.60	0.59	0.23	1.42
60	Otonephelium stipulaceum	0.21	2.00	10.53	741.12	0.40	0.59	0.40	1.39
61	Diospyros paniculata	0.16	1.50	10.53	854.42	0.30	0.59	0.46	1.35
62	Turpinia malabarica	0.53	10.00	5.26	34.00	1.00	0.30	0.01	1.31
63	Aglaia lawii	0.53	10.00	5.26	27.19	1.00	0.30	0.01	1.30
64	Miliusa tomentosa	0.21	2.00	10.53	492.98	0.40	0.59	0.26	1.26
65	Meiogyne ramarowii	0.11	1.00	10.53	841.00	0.20	0.59	0.45	1.25
66	Aglaia malabarica	0.21	2.00	0.53	470.20	0.40	0.59	0.25	1.24
67	Oreocnide integrifolia	0.32	3.00	10.53	90.75	0.60	0.59	0.04	1.24
68	Artocarpus hirsutus	0.05	1.00	5.26	1523.52	0.10	0.30	0.83	1.22
69	Cinnamomum microcarpum	0.16	1.50	10.53	511.52	0.30	0.59	0.27	1.17
70	Glochidion ellipticum	0.16	1.50	10.53	518.94	0.30	0.59	0.28	1.17
71	Xanthophyllum arnottianum	0.11	1.00	10.53	645.16	0.20	0.59	0.35	1.14
72	Antidesma menasu	0.11	1.00	10.53	625.00	0.20	0.59	0.34	1.13
73	Chionanthus mala-elengi	0.42	8.00	5.26	34.81	0.80	0.30	0.01	1.11

Table 62 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
74	Eurya japonica	0.42	8.00	5.26	15.80	0.80	0.30	0.00	1.10
75	Flaucortia montana	0.11	2.00	5.26	1062.76	0.20	0.30	0.58	1.07
76	Pterospermum reticulatum	0.11	2.00	5.26	961.00	0.20	0.30	0.52	1.02
77	unidentified-3	0.11	2.00	5.26	864.36	0.20	0.30	0.47	0.96
78	Aglaia tomentosa	0.32	6.00	5.26	97.85	0.60	0.30	0.05	0.94
79	Meiogyne pannosa	0.11	1.00	10.53	196.00	0.20	0.59	0.10	0.89
80	Poeciloneuron indicum	0.26	5.00	5.26	144.40	0.50	0.30	0.07	0.87
81	Pterospermum divorsifolium	0.26	5.00	5.26	67.18	0.50	0.30	0.03	0.83
82	Olea dioica	0.26	5.00	5.26	17.42	0.50	0.30	0.00	0.80
83	unidentified-2	0.21	4.00	5.26	164.71	0.40	0.30	0.08	0.78
84	Orophea uniflora	0.05	1.00	5.26	691.92	0.10	0.30	0.37	0.77
85	Garcinia morella	0.11	2.00	5.26	501.76	0.20	0.30	0.27	0.76
86	unidentified-4	0.16	3.00	5.26	314.91	0.30	0.30	0.17	0.76
87	Nothopegia colebrookeana	0.21	4.00	5.26	89.11	0.40	0.30	0.04	0.74
88	Blachia umbellata	0.16	3.00	5.26	216.00	0.30	0.30	0.11	0.71
89	Syzygium tamilnadensis	0.11	2.00	5.26	372.49	0.20	0.30	0.20	0.69
90	Erytrina stricta	0.05	1.00	5.26	512.00	0.10	0.30	0.27	0.67
91	Litsea bourdillonii	0.16	3.00	5.26	143.39	0.30	0.30	0.07	0.67
92	Myristica lanceolata	0.05	1.00	5.26	512.00	0.10	0.30	0.27	0.67
93	Beilschmiedia wightii	0.16	3.00	5.26	112.66	0.30	0.30	0.06	0.65
94	Pongamia pinnata	0.16	3.00	5.26	97.05	0.30	0.30	0.05	0.64
95	Syzigium tamilnadensis	0.11	2.00	5.26	265.69	0.20	0.30	0.14	0.64
96	Aporusa acuminata	0.16	3.00	5.26	35.85	0.30	0.30	0.01	0.61
97	Epiprinus mallotiformis	0.16	3.00	5.26	44.82	0.30	0.30	0.02	0.61
98	Syzygium munronii	0.16	3.00	5.26	36.50	0.30	0.30	0.01	0.61
99	unindentified-1	0.16	3.00	5.26	43.37	0.30	0.30	0.02	0.61
100	Clerodendron viscosum	0.16	3.00	5.26	25.62	0.30	0.30	0.01	0.60
101	Diospyros montana	0.11	2.00	5.26	174.24	0.20	0.30	0.09	0.59
102	Litsea sp.	0.11	2.00	5.26	187.69	0.20	0.30	0.10	0.59

Table 62 contd.									
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
103	Aglaia indica	0.05	1.00	5.26	288.00	0.10	0.30	0.15	0.55
104	Lagerstroemia microcarpa	0.05	1.00	5.26	297.68	0.10	0.30	0.16	0.55
105	Mallotus repandus	0.11	2.00	5.26	59.29	0.20	0.30	0.03	0.52
106	Sapindus laurifolia	0.11	2.00	5.26	56.25	0.20	0.30	0.03	0.52
107	Litsea oleoides	0.05	1.00	5.26	200.00	0.10	0.30	0.10	0.50
108	Meliosma pinnata	0.05	1.00	5.26	200.00	0.10	0.30	0.10	0.50
109	Hydnocarpus alpina	0.05	1.00	5.26	184.32	0.10	0.30	0.10	0.49
110	Commiphora caudata	0.05	1.00	5.26	169.28	0.10	0.30	0.09	0.48
111	Mallotus resinosus	0.05	1.00	5.26	162.00	0.10	0.30	0.08	0.48
112	Gomphandra tetrandra	0.05	1.00	5.26	141.12	0.10	0.30	0.07	0.47
113	Atalantia racemosa	0.05	1.00	5.26	81.92	0.10	0.30	0.04	0.44
114	Spondias indica	0.05	1.00	5.26	98.00	0.10	0.30	0.05	0.44
115	Cassine paniculata	0.05	1.00	5.26	72.00	0.10	0.30	0.03	0.43
116	Dimorphocalyx lawianus	0.05	1.00	5.26	72.00	0.10	0.30	0.03	0.43
117	Euodia lunu-ankenda	0.05	1.00	5.26	72.00	0.10	0.30	0.03	0.43
118	Glycosmis macrocarpa	0.05	1.00	5.26	76.88	0.10	0.30	0.04	0.43

Table 63. Structural Status of Saplings

NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
1	Cullenia exarillata	2.11	4.00	52.63	99.64	14.81	7.30	2.73	24.85
2	Knema attenuata	0.79	1.88	42.11	166.33	5.56	5.84	4.56	15.96
3	Drypetes oblongifolia	0.89	2.43	36.84	112.92	6.30	5.11	3.10	14.50
4	Baccaurea courtallensis	0.79	2.14	36.84	138.76	5.56	5.11	3.81	14.47
5	Myristica dactyloides	0.58	2.20	26.32	105.60	4.07	3.65	2.89	10.62
6	Palaquium ellipticum	0.21	1.00	21.05	208.08	1.48	2.92	5.71	10.11
7	Drypetes elata	0.53	2.00	26.32	89.04	3.70	3.65	2.44	9.79

Table 63 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
8	Acronychia pedunculata	0.26	1.25	21.05	152.10	1.85	2.92	4.17	8.94
9	Reinwardtiodendron anamalaiense	0.42	2.00	21.05	84.32	2.96	2.92	2.31	8.19
10	Agrostistachys borneensis	0.37	1.75	21.05	90.87	2.59	2.92	2.49	8.00
11	Garcinia gummi-gutta	0.26	1.25	21.05	114.24	1.85	2.92	3.13	7.90
12	Mesua ferrea	0.42	2.00	21.05	61.77	2.96	2.92	1.69	7.57
13	Mallotus philippensis	0.21	1.33	15.79	100.82	1.48	2.19	2.76	6.43
14	Polyalthia coffeoides	0.21	1.33	15.79	98.00	1.48	2.19	2.69	6.36
15	Tabernaemontana heyneana	0.26	1.67	15.79	80.65	1.85	2.19	2.21	6.25
16	Hydnocarpus pentandra	0.32	2.00	15.79	55.17	2.22	2.19	1.51	5.92
17	Diospyros buxifolia	0.32	2.00	15.79	52.92	2.22	2.19	1.45	5.86
18	Gomphandra coriacea	0.53	5.00	10.53	16.02	3.70	1.46	0.43	5.60
19	Bischofia javanica	0.11	1.00	10.53	121.00	0.74	1.46	3.32	5.52
20	Dysoxylum malabaricum	0.16	1.50	10.53	66.66	1.11	1.46	1.83	4.40
21	Xanthophyllum arnottianum	0.11	1.00	10.53	73.96	0.74	1.46	2.03	4.23
22	Memecylon heyneanum	0.16	.50	10.53	58.90	1.11	1.46	1.61	4.18
23	Meiogyne ramarowii	0.21	2.00	10.53	42.32	1.48	1.46	1.16	4.10
24	Ixora brachiata	0.26	2.50	10.53	26.67	1.85	1.46	0.73	4.04
25	Calophyllum calaba	0.21	2.00	10.53	36.12	1.48	1.46	0.99	3.93
26	Clerodendron viscosum	0.37	7.00	5.26	6.65	2.59	0.73	0.18	3.50
27	Aglaia barberi	0.05	1.00	5.26	67.28	0.37	0.73	1.84	2.94
28	Glycosmis microcarpa	0.05	1.00	5.26	67.28	0.37	0.73	1.84	2.94
29	Glycosmis pentaphylla	0.05	1.00	5.26	67.28	0.37	0.73	1.84	2.94
30	Aporusa acuminata	0.05	1.00	5.26	62.72	0.37	0.73	1.72	2.82
31	Myristica lanceolata	0.05	1.00	5.26	62.72	0.37	0.73	1.72	2.82
32	Macaranga peltata	0.05	1.00	5.26	58.32	0.37	0.73	1.60	2.70
33	Dimocarpus longan	0.05	1.00	5.26	54.08	0.37	0.73	1.48	2.58
34	Hydnocarpus alpina	0.05	1.00	5.26	54.08	0.37	0.73	1.48	2.58
35	Microtropis wallichiana	0.21	4.00	5.26	13.52	1.48	0.73	0.37	2.58

Table 63 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
36	Drypetes wightii	0.21	4.00	5.26	10.35	1.48	0.73	0.28	2.49
37	Calophyllum austroindicum	0.05	1.00	5.26	50.00	0.37	0.73	1.37	2.47
38	Cassine paniculata	0.05	1.00	5.26	50.00	0.37	0.73	1.37	2.47
39	Commiphora caudata	0.05	1.00	5.26	50.00	0.37	0.73	1.37	2.47
40	Vateria indica	0.05	1.00	5.26	50.00	0.37	0.73	1.37	2.47
41	Artocarpus hirsutus	0.05	1.00	5.26	46.08	0.37	0.73	1.26	2.36
42	Euodia lunu-ankenda	0.05	1.00	5.26	46.08	0.37	0.73	1.26	2.36
43	Heritiera papilio	0.05	1.00	5.26	42.32	0.37	0.73	1.16	2.26
44	Meiogyne pannosa	0.16	3.00	5.26	13.70	1.11	0.73	0.37	2.21
45	Oreocnide integrifolia	0.16	3.00	5.26	12.52	1.11	0.73	0.34	2.18
46	Hydnocarpus wightiana	0.05	1.00	5.26	38.72	0.37	0.73	1.06	2.16
47	Otonephelium stipulaceum	0.05	1.00	5.26	38.72	0.37	0.73	1.06	2.16
48	Cinnamomum sp.	0.05	1.00	5.26	35.28	0.37	0.73	0.96	2.06
49	Diospyros ovalifolia	0.05	1.00	5.26	35.28	0.37	0.73	0.96	2.06
50	Fahrenheitia zeylanica	0.05	1.00	5.26	35.28	0.37	0.73	0.96	2.06
51	Atalantia racemosa	0.11	2.00	5.26	20.25	0.74	0.73	0.55	2.02
52	Chionanthus mala-elengi	0.11	2.00	5.26	19.36	0.74	0.73	0.53	2.00
53	Litsea coriacea	0.11	2.00	5.26	19.36	0.74	0.73	0.53	2.00
54	Aglaia lawii	0.05	1.00	5.26	32.00	0.37	0.73	0.87	1.97
55	Antidesma menasu	0.05	1.00	5.26	32.00	0.37	0.73	0.87	1.97
56	Callicarpa tomentosa	0.05	1.00	5.26	32.00	0.37	0.73	0.87	1.97
57	Olea dioica	0.05	1.00	5.26	32.00	0.37	0.73	0.87	1.97
58	Spondias indica	0.11	2.00	5.26	18.49	0.74	0.73	0.50	1.97
59	Alangium salvifolium	0.11	2.00	5.26	17.64	0.74	0.73	0.48	1.95
60	Macaranga indica	0.11	2.00	5.26	17.64	0.74	0.73	0.48	1.95
61	Garcinia spicata	0.11	2.00	5.26	16.81	0.74	0.73	0.46	1.93
62	Orophea uniflora	0.11	2.00	5.26	16.00	0.74	0.73	0.43	1.90
63	Sapindus laurifolia	0.11	2.00	5.26	16.00	0.74	0.73	0.43	1.90
64	Syzygium tamilnadensis	0.11	2.00	5.26	16.00	0.74	0.73	0.43	1.90
65	Orophea thomsonii	0.11	2.00	5.26	15.21	0.74	0.73	0.41	1.88

Table 64. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Cullenia exarillata	5.21	9.90	52.63	9.76	4.85	14.62
2	Knema attenuata	3.00	4.75	63.16	5.62	5.83	11.45
3	Polyalthia coffeoides	1.79	4.25	42.11	3.35	3.88	7.24
4	Myristica dactyloides	2.11	6.67	31.58	3.94	2.91	6.86
5	Garcinia gummi-gutta	1.47	4.00	36.84	2.76	3.40	6.16
6	Agrostistachys borneensis	1.42	3.86	36.84	2.66	3.40	6.06
7	Drypetes elata	1.84	7.00	26.32	3.45	2.43	5.88
8	Reinwardtiodendron anamalaiense	1.58	5.00	31.58	2.96	2.91	5.87
9	Mesua ferrea	1.68	6.40	26.32	3.16	2.43	5.58
10	Cinnamomum microcarpum	1.53	5.80	26.32	2.86	2.43	5.29
11	Mallotus philippensis	1.05	3.33	31.58	1.97	2.91	4.89
12	Palaquium ellipticum	1.32	5.00	26.32	2.47	2.43	4.89
13	Memecylon heyneanum	1.16	4.40	26.32	2.17	2.43	4.60
14	Syzygium munronii	1.11	4.20	26.32	2.07	2.43	4.50
15	Baccaurea courtallensis	1.16	5.50	21.05	2.17	1.94	4.11
16	Ixora brachiata	1.00	4.75	21.05	1.87	1.94	3.82
17	Persea macrantha	1.26	8.00	15.79	2.37	1.46	3.82
18	Garcinia spicata	1.21	7.67	15.79	2.27	1.46	3.72
19	Drypetes oblongifolia	1.16	7.33	15.79	2.17	1.46	3.63
20	Actinodaphne malabarica	0.68	3.25	21.05	1.28	1.94	3.22
21	Dimocarpus longan	0.89	5.67	15.79	1.68	1.46	3.13
22	Diospyros buxifolia	0.79	5.00	15.79	1.48	1.46	2.94
23	Litsea coriacea	0.79	5.00	15.79	1.48	1.46	2.94
24	Dysoxylum malabaricum	0.95	9.00	10.53	1.78	0.97	2.75
25	Hydnocarpus pentandra	0.68	4.33	15.79	1.28	1.46	2.74
26	Alangium salvifolium	0.42	2.67	15.79	0.79	1.46	2.25
27	Atalantia racemosa	0.42	2.67	15.79	0.79	1.46	2.25
28	Eugenia indica	0.63	6.00	10.53	1.18	0.97	2.15

Table 64 contd.

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
29	Mallotus repandus	0.63	6.00	10.53	1.18	0.97	2.15
30	Xanthophyllum arnottianum	0.63	6.00	10.53	1.18	0.97	2.15
31	Bridelia crenulata	0.84	16.00	5.26	1.58	0.49	2.06
32	Drypetes wightii	0.58	5.50	10.53	1.08	0.97	2.06
33	Clausena indica	0.53	5.00	10.53	0.99	0.97	1.96
34	Otonephelium stipulaceum	0.53	5.00	10.53	0.99	0.97	1.96
35	Tabernaemontana heyneana	0.53	5.00	10.53	0.99	0.97	1.96
36	Bischofia javanica	0.26	1.67	15.79	0.49	1.46	1.95
37	Acronychia pedunculata	0.42	4.00	10.53	0.79	0.97	1.76
38	Dipterocarpus indicus	0.42	4.00	10.53	0.79	0.97	1.76
39	Syzygium laetum	0.42	4.00	10.53	0.79	0.97	1.76
40	Cinnamomum sp.	0.37	3.50	10.53	0.69	0.97	1.66
41	Diospyros ovalifolia	0.58	11.00	5.26	1.08	0.49	1.57
42	Olea dioica	0.32	3.00	10.53	0.59	0.97	1.56
43	Pterospermum divorsifolium	0.32	3.00	10.53	0.59	0.97	1.56
44	Poeciloneuron indicum	0.47	9.00	5.26	0.89	0.49	1.37
45	Acinodaphne malabarica	0.42	8.00	5.26	0.79	0.49	1.27
46	Glycosmis microcarpa	0.37	7.00	5.26	0.69	0.49	1.18
47	Syzygium tamilnadensis	0.37	7.00	5.26	0.69	0.49	1.18
48	Microtropis wallichiana	0.32	6.00	5.26	0.59	0.49	1.08
49	Chionanthus mala-elengi	0.26	5.00	5.26	0.49	0.49	0.98
50	Fahrenheitia zeylanica	0.26	5.00	5.26	0.49	0.49	0.98
51	Meiogyne pannosa	0.26	5.00	5.26	0.49	0.49	0.98
52	Meliosma pinnata	0.26	5.00	5.26	0.49	0.49	0.98
53	Orophea uniflora	0.26	5.00	5.26	0.49	0.49	0.98
54	Sapindus laurifolia	0.26	5.00	5.26	0.49	0.49	0.98
55	Cinnamomum malabatrum	0.21	4.00	5.26	0.39	0.49	0.88
56	Euodia lunu-ankenda	0.21	4.00	5.26	0.39	0.49	0.88
57	Hopea parviflora	0.21	4.00	5.26	0.39	0.49	0.88
58	Spondias indica	0.21	4.00	5.26	0.39	0.49	0.88

Table 64 contd

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
59	Symplocos macrocarpa	0.21	4.00	5.26	0.39	0.49	0.88
60	Aglaia barberi	0.16	3.00	5.26	0.30	0.49	0.78
61	Aglaia lawii	0.16	3.00	5.26	0.30	0.49	0.78
62	Blachia umbellata	0.16	3.00	5.26	0.30	0.49	0.78
63	Callicarpa tomentosa	0.16	3.00	5.26	0.30	0.49	0.78
64	Ficus beddomei	0.16	3.00	5.26	0.30	0.49	0.78
65	Garcinia morella	0.16	3.00	5.26	0.30	0.49	0.78
66	Hydnocarpus alpina	0.16	3.00	5.26	0.30	0.49	0.78
67	Memecylon malabaricum	0.16	3.00	5.26	0.30	0.49	0.78
68	Orophea erythrocarpa	0.16	3.00	5.26	0.30	0.49	0.78
69	Orophea thomsonii	0.16	3.00	5.26	0.30	0.49	0.78
70	Sageraea laurifolia	0.16	3.00	5.26	0.30	0.49	0.78
71	Vepris bilocularis	0.16	3.00	5.26	0.30	0.49	0.78
72	Allophylus cobbe	0.11	2.00	5.26	0.20	0.49	0.68
73	Antiaris toxicaria	0.11	2.00	5.26	0.20	0.49	0.68
74	Aporusa lindleyana	0.11	2.00	5.26	0.20	0.49	0.68
75	Croton malabarica	0.11	2.00	5.26	0.20	0.49	0.68
76	Drypetes malabarica	0.11	2.00	5.26	0.20	0.49	0.68
77	Heritiera papilio	0.11	2.00	5.26	0.20	0.49	0.68
78	Holigarna grahamii	0.11	2.00	5.26	0.20	0.49	0.68
79	Macaranga indica	0.11	2.00	5.26	0.20	0.49	0.68
80	Oreocnide integrifolia	0.11	2.00	5.26	0.20	0.49	0.68
81	Antidesma menasu	0.05	1.00	5.26	0.10	0.49	0.58
82	Archidendron monadeiphum	0.05	1.00	5.26	0.10	0.49	0.58
83	Elaeocarpus tuberculatus	0.05	1.00	5.26	0.10	0.49	0.58
84	Neolitsea zeylanica	0.05	1.00	5.26	0.10	0.49	0.58
85	Symplocos cochin-chinensis	0.05	1.00	5.26	0.10	0.49	0.58

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 65. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Thottea siliquosa	4.58	10.88	42.11	15.43	6.67	22.09
2	Ventilago bombaiensis	2.47	3.13	78.95	8.33	12.50	20.83
3	Chassalia curviflora	3.74	7.89	47.37	12.59	7.50	20.09
4	Dendrocnide sinuata	2.26	4.30	52.63	7.62	8.33	15.96
5	Sarcandra chloranthoides	2.16	6.83	31.58	7.27	5.00	12.27
6	Lasianthus rostratus	1.74	4.71	36.84	5.85	5.83	11.68
7	Saprosma fragrans	1.89	7.20	26.32	6.38	4.17	10.55
8	Memecylon lawsonii	1.21	4.60	26.32	4.08	4.17	8.24
9	Leea robusta	0.95	3.00	31.58	3.19	5.00	8.19
10	Leea indica	0.89	3.40	26.32	3.01	4.17	7.18
11	Glycosmis pentaphylla	0.84	3.20	26.32	2.84	4.17	7.00
12	Strobilanthes sp.	1.58	15.00	10.53	5.32	1.67	6.99
13	Ochlandra travancorica	0.95	4.50	21.05	3.19	3.33	6.52
14	Cipadessa baccifera	0.63	3.00	21.05	2.13	3.33	5.46
15	Glycosmis macrocarpa	0.58	2.75	21.05	1.95	3.33	5.28
16	Lepisanthes erecta	0.58	2.75	21.05	1.95	3.33	5.28
17	Pandanus thwaitesii	0.42	2.67	15.79	1.42	2.50	3.92
18	Ixora sp.	0.16	1.00	15.79	0.53	2.50	3.03
19	Euonymus angulatus	0.37	3.50	10.53	1.24	1.67	2.91
20	Clausena austro-indica	0.21	2.00	10.53	0.71	1.67	2.38
21	Sauropus quadragularis	0.32	6.00	5.26	1.06	0.83	1.90
22	Clerodendron viscosum	0.21	4.00	5.26	0.71	0.83	1.54
23	Lepianthes erecta	0.21	4.00	5.26	0.71	0.83	1.54
24	Leea sp.	0.16	3.00	5.26	0.53	0.83	1.37
25	Calamus rheedii	0.11	2.00	5.26	0.35	0.83	1.19
26	Capparis rheedii	0.11	2.00	5.26	0.35	0.83	1.19
27	Capparis roxburghii	0.11	2.00	5.26	0.35	0.83	1.19
28	Lepianthes umbellata	0.11	2.00	5.26	0.35	0.83	1.19
29	Glycosmis microcarpa	0.05	1.00	5.26	0.18	0.83	1.01
30	Justicia santapaui	0.05	1.00	5.26	0.18	0.83	1.01
31	Strobilanthes tristis	0.05	1.00	5.26	0.18	0.83	1.01

Table 66. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1.	Pellionia heyneana	1.16	1.47	78.95	17.89	13.27	31.16
2.	Dracaena terniflora	0.53	1.11	47.37	8.13	7.96	16.09
3.	Pteris sp.	0.47	1.00	7.37	7.32	7.96	15.28
4.	Elatostema serratum	0.47	1.13	42.11	7.32	7.08	14.40
5.	Oplismenus compositus	0.32	1.00	31.58	4.88	5.31	10.19
6.	Stachyphrynium spicatum	0.32	1.00	31.58	4.88	5.31	10.19
7.	Boesenbergia pulcherrima	0.26	1.00	26.32	4.07	4.42	8.49
8.	Curcuma pseudomontana	0.26	1.00	26.32	4.07	4.42	8.49
9.	Strobilanthes sp.	0.26	1.00	26.32	4.07	4.42	8.49
10.	Ophiopogon intermedius	0.21	1.00	21.05	3.25	3.54	6.79
11.	Selaginella rependa	0.21	1.00	21.05	3.25	3.54	6.79
12.	Zingiber zerumbet	0.21	1.00	21.05	3.25	3.54	6.79
13.	Bolbitis virens	0.16	1.00	15.79	2.44	2.65	5.09
14.	Calanthe sylvatica	0.16	1.50	10.53	2.44	1.77	4.21
15.	Adiantum phillippense	0.11	1.00	10.53	1.63	1.77	3.40
16.	Bolbitis sp.	0.11	1.00	10.53	1.63	1.77	3.40
17.	Desmodium motorium	0.11	1.00	10.53	1.63	1.77	3.40
18.	Desmodium triflorum	0.11	1.00	10.53	1.63	1.77	3.40
19.	Nephrolepis falcata	0.11	1.00	10.53	1.63	1.77	3.40
20.	Oberonia ensiformis	0.11	1.00	10.53	1.63	1.77	3.40
21.	Selaginella sp.	0.11	1.00	10.53	1.63	1.77	3.40
22.	Adiantum lunuletum	0.05	1.00	5.26	0.81	0.88	1.70
23.	Andrographis neesiana	0.05	1.00	5.26	0.81	0.88	1.70
24.	Begonia malabarica	0.05	1.00	5.26	0.81	0.88	1.70
25.	Costus speciosus	0.05	1.00	5.26	0.81	0.88	1.70
26.	Cucumis melo	0.05	1.00	5.26	0.81	0.88	1.70
27.	Curculigo orchioides	0.05	1.00	5.26	0.81	0.88	1.70
28.	Desmodium zonatum	0.05	1.00	5.26	0.81	0.88	1.70

Table 66 contd.							
NO	**SPECIES NAME**	**D**	**AB**	**F**	**RD**	**RF**	**IVI**
29.	Geophila repens	0.05	1.00	5.26	0.81	0.88	1.70
30.	Hydrocotyle javanica	0.05	1.00	5.26	0.81	0.88	1.70
31.	Nervilia plicata	0.05	1.00	5.26	0.81	0.88	1.70
32.	Ophiorrhiza mungos	0.05	1.00	5.26	0.81	0.88	1.70
33.	Oplismenus burmannii	0.05	1.00	5.26	0.81	0.88	1.70
34.	Peperomia portulacoides	0.05	1.00	5.26	0.81	0.88	1.70
35.	Rhynchoglossum notonianum	0.05	1.00	5.26	0.81	0.88	1.70

Table 67. Structural Status of Climbers and Epiphytes

NO	**SPECIES NAME**	**D**	**AB**	**F**	**RD**	**RF**	**IVI**
1	Calamus thwaitesii	1.84	3.50	52.63	13.57	9.62	23.18
2	Erythropalum scandens	1.53	3.22	47.37	11.24	8.65	19.89
3	Piper nigrum	1.42	3.86	36.84	10.47	6.73	17.20
4	Thunbergia mysorensis	1.05	2.86	36.84	7.75	6.73	14.48
5	Pothos scandens	1.00	3.17	31.58	7.36	5.77	13.13
6	Smilax zeylanica	0.74	2.33	31.58	5.43	5.77	11.20
7	Piper longum	0.95	4.50	21.05	6.98	3.85	10.82
8	Ancistrocladus heyneanus	0.68	2.17	31.58	5.04	5.77	10.81
9	Tetrastigma leucostaphylum	0.32	1.50	21.05	2.33	3.85	6.17
10	Coscinium fenestratum	0.53	5.00	10.53	3.88	1.92	5.80
11	Derris brevipes	0.26	1.67	15.79	1.94	2.88	4.82
12	Kunstleria keralensis	0.32	3.00	10.53	2.33	1.92	4.25
13	Cissus discolor	0.16	1.00	15.79	1.16	2.88	4.05
14	Jasminum sp.	0.16	1.00	15.79	1.16	2.88	4.05
15	Desmos lawii	0.26	2.50	10.53	1.94	1.92	3.86
16	Pothos thomsonianus	0.21	2.00	10.53	1.55	1.92	3.47
17	Stephania wightii	0.21	2.00	10.53	1.55	1.92	3.47
18	Asplenium sp.	0.11	1.00	10.53	0.78	1.92	2.70

Table 67 contd.

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
19	Piper sp.	0.21	4.00	5.26	1.55	0.96	2.51
20	Usnea sp.	0.21	4.00	5.26	1.55	0.96	2.51
21	Aganosma cymosa	0.16	3.00	5.26	1.16	0.96	2.12
22	Ichnocarpus frutescens	0.16	3.00	5.26	1.16	0.96	2.12
23	Paramelia sp.	0.11	2.00	5.26	0.78	0.96	1.74
24	Anamirta cocculus	0.05	1.00	5.26	0.39	0.96	1.35
25	Argyreia sp.	0.05	1.00	5.26	0.39	0.96	1.35
26	Cerasiocarpum bennettii	0.05	1.00	5.26	0.39	0.96	1.35
27	Cryptolepis buchananii	0.05	1.00	5.26	0.39	0.96	1.35
28	Cyclea peltata	0.05	1.00	5.26	0.39	0.96	1.35
29	Derris canarensis	0.05	1.00	5.26	0.39	0.96	1.35
30	Dioscorea oppositifolia	0.05	1.00	5.26	0.39	0.96	1.35
31	Elaeagnus conferta	0.05	1.00	5.26	0.39	0.96	1.35
32	Ficus glaberrima var. bracheata	0.05	1.00	5.26	0.39	0.96	1.35
33	Jasminum malabaricum	0.05	1.00	5.26	0.39	0.96	1.35
34	Leptochilus decurrens	0.05	1.00	5.26	0.39	0.96	1.35
35	Loseneriella arnottiana	0.05	1.00	5.26	0.39	0.96	1.35
36	Luvunga eleutherandra	0.05	1.00	5.26	0.39	0.96	1.35
37	Microporus xylopus	0.05	1.00	5.26	0.39	0.96	1.35
38	Oberonia ensiformis	0.05	1.00	5.26	0.39	0.96	1.35
39	Salacia malabarica	0.05	1.00	5.26	0.39	0.96	1.35
40	Schefflera roxburghii	0.05	1.00	5.26	0.39	0.96	1.35
41	Strychnos colubrina	0.05	1.00	5.26	0.39	0.96	1.35
42	Vanda sp.	0.05	1.00	5.26	0.39	0.96	1.35

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

SEMI EVERGREEN FORESTS

Table 68. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1.	Lagerstroemia microcarpa	2.00	2.67	75.00	1543.86	7.08	6.00	4.37	17.45
2.	Terminalia bellirica	0.50	2.00	25.00	4556.25	1.77	2.00	12.90	16.67
3.	Hydnocarpus pentandra	2.50	3.33	75.00	483.06	8.85	6.00	1.36	16.21
4.	Bridelia crenulata	0.25	1.00	25.00	4608.00	0.88	2.00	13.04	15.93
5.	Xanthophyllum arnottianum	1.50	2.00	75.00	605.88	5.31	6.00	1.71	13.02
6.	Spondias indica	1.00	2.00	50.00	1624.50	3.54	4.00	4.60	12.14
7.	Elaeocarpus tuberculatus	0.25	1.00	5.00	3200.00	0.88	2.00	9.06	11.94
8.	Aglaia lawii	2.00	4.00	50.00	144.00	7.08	4.00	0.40	11.48
9.	Grewia tiliifolia	1.25	2.50	0.00	751.68	4.42	4.00	2.12	10.55
10.	Hopea parviflora	1.00	2.00	50.00	808.02	3.54	4.00	2.28	9.82
11.	Polyalthia coffeoides	0.50	1.00	50.00	1296.00	1.77	4.00	3.67	9.44
12.	Macaranga indica	1.00	2.00	50.00	584.82	3.54	4.00	1.65	9.19
13.	Haldina cordifolia	0.75	3.00	5.00	1439.39	2.65	2.00	4.07	8.73
14.	Terminalia paniculata	0.75	3.00	25.00	1386.24	2.65	2.00	3.92	8.58
15.	Baccaurea courtallensis	0.75	1.50	50.00	377.62	2.65	4.00	1.06	7.72
16.	Mesua ferrea	0.50	1.00	50.00	676.00	1.77	4.00	1.91	7.68
17.	Knema attenuata	0.25	1.00	25.00	1682.00	0.88	2.00	4.76	7.64
18.	Drypetes oblongifolia	1.25	5.00	5.00	141.97	4.42	2.00	0.40	6.82
19.	Mallotus philippensis	1.25	5.00	25.00	127.87	4.42	2.00	0.36	6.78
20.	Syzygium cumini	0.50	2.00	25.00	1056.25	1.77	2.00	2.99	6.76
21.	Apollonias arnotii	1.25	5.00	25.00	70.54	4.42	2.00	0.19	6.62
22.	Holigarna grahamii	0.25	1.00	25.00	1310.72	0.88	2.00	3.71	6.59
23.	Palaquium ellipticum	0.25	1.00	25.00	1310.72	0.88	2.00	3.71	6.59
24.	Diospyros ovalifolia	0.50	2.00	5.00	900.00	1.77	2.00	2.54	6.31
25.	Cullenia exarillata	0.25	1.00	25.00	1152.00	0.88	2.00	3.26	6.14
26.	Dysoxylum malabaricum	1.00	4.00	5.00	172.98	3.54	2.00	0.48	6.02
27.	Agrostistachys borneensis	1.00	4.00	25.00	75.03	3.54	2.00	0.21	5.75
28.	Aporusa lindleyana	0.25	1.00	25.00	968.00	0.88	2.00	2.74	5.62

Table 68 contd.									
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
29.	Persea macrantha	0.75	3.00	5.00	156.75	2.65	2.00	0.44	5.09
30.	Bischofia javanica	0.50	2.00	25.00	420.25	1.77	2.00	1.19	4.96
31.	Acronychia pedunculata	0.25	1.00	5.00	633.68	0.88	2.00	1.79	4.67
32.	Dalbergia latifolia	0.50	2.00	25.00	278.89	1.77	2.00	0.78	4.55
33.	Calophyllum polyanthum	0.50	2.00	25.00	243.36	1.77	2.00	0.68	4.45
34.	Cinnamomum microcarpum	0.50	2.00	25.00	151.29	1.77	2.00	0.42	4.19
35.	Antidesma menasu	0.50	2.00	25.00	132.25	1.77	2.00	0.37	4.14
36.	Garcinia gummi-gutta	0.25	1.00	5.00	242.00	0.88	2.00	0.68	3.57

Table 69. Structural Status of Saplings

NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
1	Aglaia lawii	1.50	3.00	50.00	29.95	25.00	12.50	5.45	42.95
2	Lagerstroemia microcarpa	0.75	1.50	50.00	69.36	12.50	12.50	12.61	37.61
3	Baccaurea courtallensis	0.50	1.00	50.00	73.96	8.33	12.50	13.45	34.28
4	Macaranga indica	0.25	1.00	25.00	62.72	4.17	6.25	11.41	21.82
5	Fagraea ceylanica	0.25	1.00	25.00	50.00	4.17	6.25	9.09	19.51
6	Dysoxylum malabaricum	0.50	2.00	25.00	25.00	8.33	6.25	4.54	19.13
7	Cinnamomum microcarpum	0.50	2.00	25.00	24.01	8.33	6.25	4.36	18.95
8	Polyalthia coffeoides	0.25	1.00	25.00	46.08	4.17	6.25	8.38	18.80
9	Drypetes oblongifolia	0.50	2.00	25.00	23.04	8.33	6.25	4.19	18.77
10	Alangium salvifolium	0.25	1.00	25.00	42.32	4.17	6.25	7.69	18.11
11	Persea macrantha	0.25	1.00	25.00	42.32	4.17	6.25	7.69	18.11
12	Xanthophyllum arnottianum	0.25	1.00	25.00	32.00	4.17	6.25	5.82	16.23
13	Acronychia pedunculata	0.25	1.00	25.00	28.88	4.17	6.25	5.25	15.67

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 70. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Aglaia lawii	3.25	6.50	50.00	18.31	10.53	28.84
2	Dalbergia latifolia	2.75	11.00	25.00	15.49	5.26	20.76
3	Baccaurea courtallensis	1.25	2.50	50.00	7.04	10.53	17.57
4	Diospyros buxifolia	1.50	6.00	25.00	8.45	5.26	13.71
5	Cinnamomum microcarpum	1.25	5.00	25.00	7.04	5.26	12.31
6	Drypetes oblongifolia	1.25	5.00	25.00	7.04	5.26	12.31
7	Olea dioica	1.25	5.00	25.00	7.04	5.26	12.31
8	Mallotus philippensis	1.00	4.00	25.00	5.63	5.26	10.90
9	Symplocos macrophylla	0.75	3.00	25.00	4.23	5.26	9.49
10	Acronychia pedunculata	0.50	2.00	25.00	2.82	5.26	8.08
11	Calophyllum polyanthum	0.50	2.00	25.00	2.82	5.26	8.08
12	Macaranga indica	0.50	2.00	25.00	2.82	5.26	8.08
13	Mesua ferrea	0.50	2.00	25.00	2.82	5.26	8.08
14	Polyalthia coffeoides	0.50	2.00	25.00	2.82	5.26	8.08
15	Pterocarpus divorsifolium	0.50	2.00	25.00	2.82	5.26	8.08
16	Garcinia gummi-gutta	0.25	1.00	25.00	1.41	5.26	6.67
17	Garcinia morella	0.25	1.00	25.00	1.41	5.26	6.67

D- Density, AB- Abundance, F-Frequency percentage, RD- Relative density, RF- Relative frequency, IVI- Importance value index.

Table 71. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Leea robusta	2.00	4.00	50.00	13.79	10.00	23.79
2	Ventilago bombaiensis	0.75	1.00	75.00	5.17	15.00	20.17
3	Strobilanthes sp.	2.00	8.00	25.00	13.79	5.00	18.79
4	Pandanus thwaitesii	1.25	2.50	50.00	8.62	10.00	18.62
5	Thottea siliquosa	1.25	2.50	50.00	8.62	10.00	18.62
6	Ochlandra travancorica	1.25	5.00	25.00	8.62	5.00	13.62
7	Saprosma fragrans	1.00	4.00	25.00	6.90	5.00	11.90
8	Chromolaena odorata	0.75	3.00	25.00	5.17	5.00	10.17
9	Cipadessa baccifera	0.75	3.00	25.00	5.17	5.00	10.17
10	Glycosmis pentaphylla	0.75	3.00	25.00	5.17	5.00	10.17
11	Gompandra tetrandra	0.75	3.00	25.00	5.17	5.00	10.17
12	Rauvolfia serpentina	0.75	3.00	25.00	5.17	5.00	10.17
13	Mallotus aureo-punctatus	0.50	2.00	25.00	3.45	5.00	8.45
14	Ziziphus oenoplia	0.50	2.00	25.00	3.45	5.00	8.45
15	Chassalia ophioxyloides	0.25	1.00	25.00	1.72	5.00	6.72

D- Density, AB- Abundance, F-Frequency percentage, RD- Relative density, RF- Relative frequency, IVI- Importance value index.

Table 72. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Adiantum sp.	0.25	1.00	25.00	3.45	4.55	8.00
2	Aneilima sp.	0.25	1.00	25.00	3.45	4.55	8.00
3	Bolbitis sp.	1.00	1.33	75.00	13.79	13.64	27.43
4	Curcuma pseudomontana	0.25	1.00	25.00	3.45	4.55	8.00
5	Dracaena terniflora	0.75	1.50	50.00	10.34	9.09	19.44
6	Elatostema serratum	0.25	1.00	25.00	3.45	4.55	8.00
7	Justicia japonica	0.25	1.00	25.00	3.45	4.55	8.00
8	Lepidagathis incurva	0.25	1.00	25.00	3.45	4.55	8.00
9	Ophiopogon intermedius	0.50	2.00	25.00	6.90	4.55	11.44
10	Oplismenus compositus	0.25	1.00	25.00	3.45	4.55	8.00
11	Panicum notatum	0.50	2.00	25.00	6.90	4.55	11.44
12	Pellionia heyneana	0.75	1.50	50.00	10.34	9.09	19.44
13	Pteris sp.	0.75	1.50	50.00	10.34	9.09	19.44
14	Scleria corymbosa	0.50	2.00	25.00	6.90	4.55	11.44
15	Stephania japonica	0.25	1.00	25.00	3.45	4.55	8.00
16	Strobilanthes sp.	0.25	1.00	25.00	3.45	4.55	8.00
17	Zingiber sp.	0.25	1.00	25.00	3.45	4.55	8.00

D- Density, AB- Abundance, F-Frequency percentage, RD- Relative density, RF- Relative frequency, IVI- Importance value index.

Table 73. Structural Status of Climbers

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Calamus thwaitesii	1.50	2.00	75.00	12.24	9.09	21.34
2	Ancistrocladus heyneanus	1.00	1.33	75.00	8.16	9.09	17.25
3	Piper nigrum	1.25	2.50	50.00	10.20	6.06	16.26
4	Tetrastigma leucostaphylum	0.75	1.00	75.00	6.12	9.09	15.21
5	Erythropalum scandens	1.00	2.00	50.00	8.16	6.06	14.22
6	Acacia caesia	0.75	1.50	50.00	6.12	6.06	12.18
7	Jasminum azoricum	0.50	1.00	50.00	4.08	6.06	10.14
8	Sarcostigma kleinii	0.50	1.00	50.00	4.08	6.06	10.14
9	Artabotrys zeylanicus	0.50	2.00	25.00	4.08	3.03	7.11
10	Croton caudatus	0.50	2.00	25.00	4.08	3.03	7.11
11	Cyratia tenuifolia	0.50	2.00	25.00	4.08	3.03	7.11
12	Rubia cordifolia	0.50	2.00	25.00	4.08	3.03	7.11
13	Smilax zeylanica	0.50	2.00	25.00	4.08	3.03	7.11
14	Toddalia asiatica	0.50	2.00	25.00	4.08	3.03	7.11
15	Capparis moonii	0.25	1.00	25.00	2.04	3.03	5.07
16	Derris brevipes	0.25	1.00	25.00	2.04	3.03	5.07
17	Entada rheedei	0.25	1.00	25.00	2.04	3.03	5.07
18	Gymnema sylvestre	0.25	1.00	25.00	2.04	3.03	5.07
19	Jasminum spp.	0.25	1.00	25.00	2.04	3.03	5.07
20	Paramigyna monophylla	0.25	1.00	25.00	2.04	3.03	5.07
21	Strychnos colubrina	0.25	1.00	25.00	2.04	3.03	5.07
22	Thunbergia mysorensis	0.25	1.00	25.00	2.04	3.03	5.07

D- Density, AB- Abundance, F-Frequency percentage, RD- Relative density, RF- Relative frequency, , IVI- Importance value index.

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Table 74. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xylia xylocarpa	4.44	6.67	66.67	449.75	16.19	8.33	1.35	25.87
2	Terminalia crenulata	2.78	3.57	77.78	1762.46	10.12	9.72	5.29	25.13
3	Terminalia paniculata	4.11	7.40	55.56	1051.48	14.98	6.94	3.15	25.08
4	Tectona grandis	0.78	1.75	44.44	5409.64	2.83	5.56	16.25	24.64
5	Anogeissus latifolia	0.33	1.00	33.33	4930.66	1.21	4.17	14.81	20.19
6	Grewia tiliifolia	2.67	6.00	44.44	786.51	9.72	5.56	2.36	17.63
7	Lagerstroemia microcarpa	1.22	2.75	44.44	1842.48	4.45	5.56	5.53	15.54
8	Cleistanthus collinus	0.44	2.00	22.22	3416.83	1.62	2.78	10.26	14.66
9	Dalbergia latifolia	0.67	1.50	44.44	2048.85	2.43	5.56	6.15	14.14
10	Albizia odoratissima	1.11	3.33	33.33	1087.34	4.05	4.17	3.26	11.48
11	Wrightia tinctoria	1.44	3.25	44.44	215.35	5.26	5.56	0.64	11.46
12	Bauhinia racemosa	0.33	1.00	33.33	1088.10	1.21	4.17	3.26	8.65
13	Pterocarpus marsupium	0.44	2.00	22.22	1045.79	1.62	2.78	3.14	7.53
14	Stereospermum chelonoides	0.11	1.00	11.11	1682.00	0.40	1.39	5.05	6.84
15	Phyllanthus emblica	0.22	1.00	22.22	772.84	0.81	2.78	2.32	5.90
16	Holarrhena pubescens	1.22	11.0	11.11	14.25	4.45	1.39	0.04	5.88
17	Naringi crenulata	1.11	10.0	11.11	26.54	4.05	1.39	0.07	5.51
18	Dillenia pentagyna	0.56	2.50	22.22	178.92	2.02	2.78	0.53	5.33
19	Haldina cordifolia	0.11	1.00	11.11	1152.00	0.40	1.39	3.46	5.25
20	Holoptelea integrifolia	0.89	8.00	11.11	44.22	3.24	1.39	0.13	4.76
21	Cassia fistula	0.22	1.00	22.22	368.64	0.81	2.78	1.10	4.69
22	Mallotus philippensis	0.78	7.00	11.11	94.03	2.83	1.39	0.28	4.50
23	Sterculia villosa	0.11	1.00	11.11	882.00	0.40	1.39	2.65	4.44
24	pmm9 (unidentified)	0.11	1.00	11.11	882.00	0.40	1.39	2.65	4.44
25	Bombax ceiba	0.11	1.00	11.11	551.12	0.40	1.39	1.65	3.44
26	Albizia procera	0.22	2.00	11.11	324.00	0.81	1.39	0.97	3.17
27	Dalbergia lanceolaria	0.22	2.00	11.11	309.76	0.81	1.39	0.93	3.12
28	pmm7 (unidentified)	0.33	3.00	11.11	123.30	1.21	1.39	0.37	2.97
29	Terminalia bellirica	0.11	1.00	11.11	348.48	0.40	1.39	1.04	2.84
30	Spondias indica	0.11	1.00	11.11	317.52	0.40	1.39	0.95	2.74
31	Diospyros montana	0.11	1.00	11.11	72.00	0.40	1.39	0.21	2.01

Table 75. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xylia xylocarpa	1.33	2.40	55.56	83.62	19.05	20.83	21.24	61.12
2	Wrightia tinctoria	1.33	3.00	44.44	57.59	19.05	16.67	14.62	50.34
3	Terminalia paniculata	1.00	3.00	33.33	36.40	14.29	12.50	9.24	36.03
4	Albizia odoratissima	0.44	2.00	22.22	35.83	6.35	8.33	9.10	23.78
5	Phyllanthus emblica	0.44	2.00	22.22	32.80	6.35	8.33	8.33	23.01
6	Holarrhena pubescens	0.89	8.00	11.11	4.46	12.70	4.17	1.13	17.99
7	Mallotus philippensis	0.11	1.00	11.11	32.00	1.59	4.17	8.12	13.88
8	Naringi crenulata	0.44	4.00	11.11	10.35	6.35	4.17	2.62	13.14
9	Holoptelea integrifolia	0.11	1.00	11.11	28.88	1.59	4.17	7.33	13.08
10	Anogeissus latifolia	0.22	2.00	11.11	21.16	3.17	4.17	5.37	12.71
11	Tectona grandis	0.22	2.00	11.11	18.49	3.17	4.17	4.69	12.03
12	Terminalia crenulata	0.22	2.00	11.11	17.64	3.17	4.17	4.48	11.82
13	Pterocarpus marsupium	0.22	2.00	11.11	14.44	3.17	4.17	3.66	11.00

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 76. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1.	Wrightia tinctoria	1.67	2.50	66.67	11.63	13.64	25.26
2.	Xeromophis uliginosa	1.67	5.00	33.33	11.63	6.82	18.45
3.	Tectona grandis	1.89	8.50	22.22	13.18	4.55	17.72
4.	Phyllanthus emblica	1.22	2.75	44.44	8.53	9.09	17.62
5.	Cleistanthus collinus	1.11	2.50	44.44	7.75	9.09	16.84
6.	Xylia xylocarpa	1.00	2.25	44.44	6.98	9.09	16.07
7.	Mallotus philippensis	0.67	2.00	33.33	4.65	6.82	11.47
8.	Naringi crenulata	0.89	4.00	22.22	6.20	4.55	10.75
9.	Cassia fistula	0.56	2.50	22.22	3.88	4.55	8.42
10.	Macaranga indica	0.56	2.50	22.22	3.88	4.55	8.42
11.	Grewia tiliifolia	0.44	2.00	22.22	3.10	4.55	7.65
12.	Lagerstroemia microcarpa	0.44	2.00	22.22	3.10	4.55	7.65
13.	Terminalia paniculata	0.44	2.00	22.22	3.10	4.55	7.65
14.	Terminalia crenulata	0.56	5.00	11.11	3.88	2.27	6.15
15.	Drypetes roxburghii	0.22	1.00	22.22	1.55	4.55	6.10
16.	Anogeissus latifolia	0.44	4.00	11.11	3.10	2.27	5.37
17.	Tabernaemontana heyneana	0.44	4.00	11.11	3.10	2.27	5.37
18.	Ziziphus xylopyrus	0.11	1.00	11.11	0.78	2.27	3.05

D- Density, AB- Abundance, F-Frequency percentage, RD- Relative density, RF- Relative frequency, IVI- Importance value index.

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Table 77. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Albizia amara	19.33	29.00	66.67	12.03	53.70	9.52	0.55	63.78
2	Givotia moluccana	3.67	5.50	66.67	275.35	10.19	9.52	12.79	32.50
3	Bauhinia racemosa	3.33	10.00	33.33	298.60	9.26	4.76	13.87	27.89
4	Albizia procera	0.67	1.00	66.67	353.44	1.85	9.52	16.42	27.79
5	Dalbergia paniculata	2.00	3.00	66.67	229.68	5.56	9.52	10.67	25.75
6	Commiphora caudata	0.67	2.00	33.33	345.96	1.85	4.76	16.07	22.68
7	Grewia sp.	2.33	3.50	66.67	46.81	6.48	9.52	2.17	18.18
8	Premna tomentosa	1.33	2.00	66.67	84.50	3.70	9.52	3.92	17.15
9	Schleichera oleosa	0.33	1.00	33.33	103.68	0.93	4.76	4.81	10.50
10	Anogeissus latifolia	0.33	1.00	33.33	72.00	0.93	4.76	3.34	9.03
11	Diospyros cordifolia	0.33	1.00	33.33	72.00	0.93	4.76	3.34	9.03
12	Pleiospermium alatum	0.33	1.00	33.33	72.00	0.93	4.76	3.34	9.03
13	Strychnos potatorum	0.33	1.00	33.33	72.00	0.93	4.76	3.34	9.03
14	Wrightia tintoria	0.33	1.00	33.33	72.00	0.93	4.76	3.34	9.03
15	Acacia catechu	0.67	2.00	33.33	42.25	1.85	4.76	1.96	8.57

Table 78. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Albizia amara	6.33	9.50	66.67	7.95	51.35	20.00	4.56	75.91
2	Albizia procera	1.00	1.50	66.67	45.92	8.11	20.00	26.36	54.47
3	Givotia moluccana	0.33	1.00	33.33	38.72	2.70	10.00	22.22	34.93
4	Wrightia tintoria	0.33	1.00	33.33	32.00	2.70	10.00	18.37	31.07
5	Premna tomentosa	1.00	3.00	33.33	18.02	8.11	10.00	10.34	28.45
6	Pleiospermium alatum	1.33	4.00	33.33	9.90	10.81	10.00	5.68	26.49
7	Grewia sp.	1.33	4.00	33.33	7.22	10.81	10.00	4.14	24.95
8	Anogeissus latifolia	0.67	2.00	33.33	14.44	5.41	10.00	8.28	23.69

Table 79. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Albizia amara	5.33	8.00	66.67	28.07	15.38	43.45
2	Albizia procera	2.33	3.50	66.67	12.28	15.38	27.67
3	Commiphora caudate	2.00	3.00	66.67	10.53	15.38	25.91
4	Premna tomentosa	2.67	8.00	33.33	14.04	7.69	21.73
5	Givotia moluccana	2.00	6.00	33.33	10.53	7.69	18.22
6	Wrightia tintoria	1.67	5.00	33.33	8.77	7.69	16.46
7	Commiphora pubescens	1.00	3.00	33.33	5.26	7.69	12.96
8	Dalbergia paniculata	1.00	3.00	33.33	5.26	7.69	12.96
9	Cycas circinalis	0.67	2.00	33.33	3.51	7.69	11.20
10	Diospyros melanoxyla	0.33	1.00	33.33	1.75	7.69	9.45

Table 80. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Helicteres isora	6.11	6.88	88.89	29.73	20.00	49.73
2	Chromolaena odorata	3.89	5.00	77.78	18.92	17.50	36.42
3	Ziziphus oenoplia	2.11	3.17	66.67	10.27	15.00	25.27
4	Clerodendron viscosum	1.56	4.67	33.33	7.57	7.50	15.07
5	Lantana camara	1.56	4.67	33.33	7.57	7.50	15.07
6	Cipadessa baccifera	1.67	15.00	11.11	8.11	2.50	10.61
7	Glycosmis pentaphylla	1.00	4.50	22.22	4.86	5.00	9.86
8	Thespesia lampas	1.00	4.50	22.22	4.86	5.00	9.86
9	Triumfetta rhomboidea	0.44	1.33	33.33	2.16	7.50	9.66
10	Ziziphus rugosa	0.33	1.50	22.22	1.62	5.00	6.62
11	Bambusa bambos	0.44	4.00	11.11	2.16	2.50	4.66
12	Streblus asper	0.22	2.00	11.11	1.08	2.50	3.58
13	Ventilago bombaiensis	0.22	2.00	11.11	1.08	2.50	3.58

Table 81. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Phaulopsis imbricata	1.22	1.83	66.67	10.38	6.32	16.69
2	Oplismenus compositus	0.56	1.00	55.56	4.72	5.26	9.98
3	Gomphostemma heyneanum	0.56	1.25	44.44	4.72	4.21	8.93
4	Pouzolzia zeylanica	0.56	1.25	44.44	4.72	4.21	8.93
5	Achyranthus aspera	0.44	1.33	33.33	3.77	3.16	6.93
6	Stachyphrynium spicatum	0.44	1.33	33.33	3.77	3.16	6.93
7	Adiantum sp.	0.33	1.00	33.33	2.83	3.16	5.99
8	Cyathula prostrata	0.33	1.00	33.33	2.83	3.16	5.99
9	Justicia japonica	0.33	1.00	33.33	2.83	3.16	5.99
10	Sida acuta	0.33	1.00	33.33	2.83	3.16	5.99
11	Andrographis elongata	0.33	1.50	22.22	2.83	2.11	4.94
12	Murdannia japanica	0.33	1.50	22.22	2.83	2.11	4.94
13	Alternanthera sessilis	0.22	1.00	22.22	1.89	2.11	3.99
14	Biophytum sensitivum	0.22	1.00	22.22	1.89	2.11	3.99
15	Curculigo orchioides	0.22	1.00	22.22	1.89	2.11	3.99
16	Curcuma psuedomontana	0.22	1.00	22.22	1.89	2.11	3.99
17	Elaphantopus scaber	0.22	1.00	22.22	1.89	2.11	3.99
18	Flemingia semialata	0.22	1.00	22.22	1.89	2.11	3.99
19	Kyllinga nemoralis	0.22	1.00	22.22	1.89	2.11	3.99
20	Mimosa pudica	0.22	1.00	22.22	1.89	2.11	3.99
21	Naregamia alata	0.22	1.00	22.22	1.89	2.11	3.99
22	Pancratium triflorum	0.22	1.00	22.22	1.89	2.11	3.99
23	Pupalia lappacea	0.22	1.00	22.22	1.89	2.11	3.99
24	Rhinacanthus nasutus	0.22	1.00	22.22	1.89	2.11	3.99
25	Selaginella sp.	0.22	1.00	22.22	1.89	2.11	3.99
26	Sida rhombifolia	0.22	1.00	22.22	1.89	2.11	3.99
27	Acalypha racemosa	0.11	1.00	11.11	0.94	1.05	2.00
28	Acrocephalus hispidus	0.11	1.00	11.11	0.94	1.05	2.00

Table 81 contd.

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
29	Ageratum conyzoides	0.11	1.00	11.11	0.94	1.05	2.00
30	Baliospermum solanifolium	0.11	1.00	11.11	0.94	1.05	2.00
31	Centrosema pubescens	0.11	1.00	11.11	0.94	1.05	2.00
32	Crotalaria retusa	0.11	1.00	11.11	0.94	1.05	2.00
33	Desmodium motorium	0.11	1.00	11.11	0.94	1.05	2.00
34	Dicliptera cuneata	0.11	1.00	11.11	0.94	1.05	2.00
35	Digitaria sp.	0.11	1.00	11.11	0.94	1.05	2.00
36	Haplanthoides neilgherryensis	0.11	1.00	11.11	0.94	1.05	2.00
37	Justicia procumbens	0.11	1.00	11.11	0.94	1.05	2.00
38	Knoxia sumatrensis	0.11	1.00	11.11	0.94	1.05	2.00
39	Mitracarpus villosus	0.11	1.00	11.11	0.94	1.05	2.00
40	Oxalis corniculata	0.11	1.00	11.11	0.94	1.05	2.00
41	Paspalidium flavidum	0.11	1.00	11.11	0.94	1.05	2.00
42	Paspalum scrobiculatum	0.11	1.00	11.11	0.94	1.05	2.00
43	Peperomia pullucida	0.11	1.00	11.11	0.94	1.05	2.00
44	Pogostemon paniculatus	0.11	1.00	11.11	0.94	1.05	2.00
45	Sebastiania chamaelea	0.11	1.00	11.11	0.94	1.05	2.00
46	Selaginella repands	0.11	1.00	11.11	0.94	1.05	2.00
47	Synedrella nodiflora	0.11	1.00	11.11	0.94	1.05	2.00
48	Tephrosia pulcherrima	0.11	1.00	11.11	0.94	1.05	2.00
49	Themeda triandra	0.11	1.00	11.11	0.94	1.05	2.00
50	Triumfetta rhomboidea	0.11	1.00	11.11	0.94	1.05	2.00
51	Vigna umbellata	0.11	1.00	11.11	0.94	1.05	2.00
52	Zingiber zerumbet	0.11	1.00	11.11	0.94	1.05	2.00

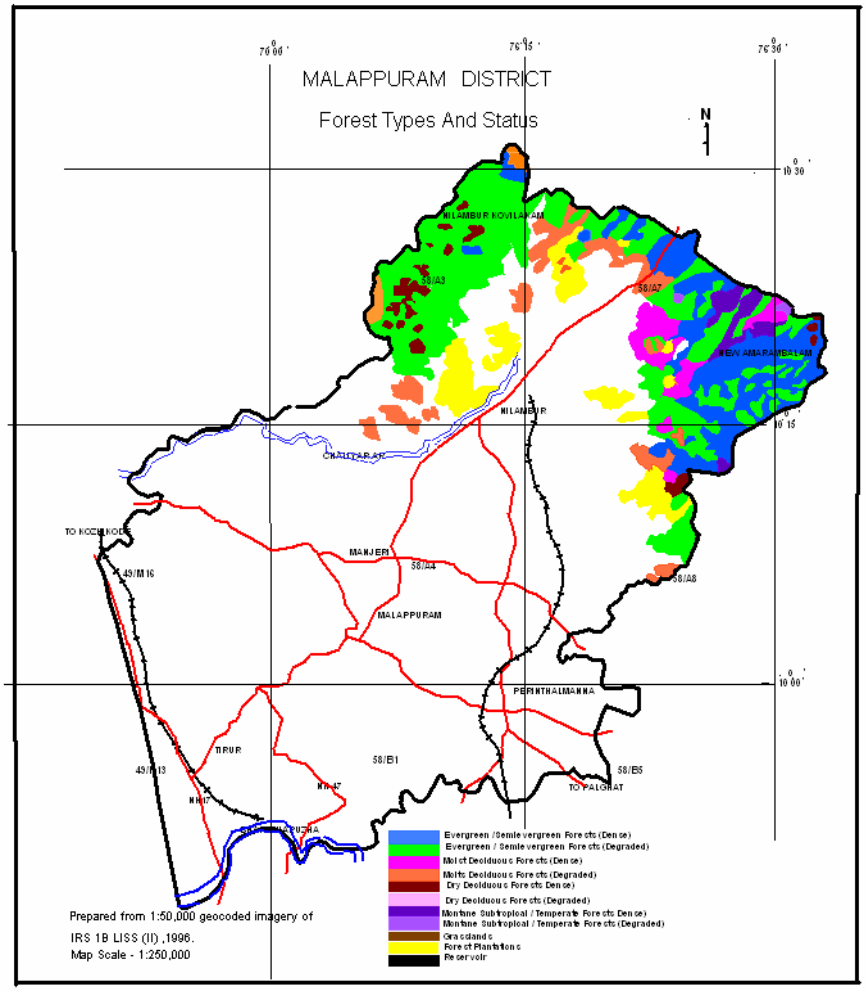
D- Density, AB- Abundance, F-Frequency percentage, RD- Relative density, RF- Relative frequency, IVI- Importance value index.

Table 82. Structural Status of Climbers and Epiphytes

NO	SPECIES NAME	D	AB	F	RD	RF	IVI
1	Acacia caesia	2.56	2.88	88.89	20.00	14.29	34.29
2	Hemidesmus indicus	2.33	3.50	66.67	18.26	10.71	28.98
3	Calycopteris floribunda	1.00	3.00	33.33	7.83	5.36	13.18
4	Naravelia zeylanica	1.00	3.00	33.33	7.83	5.36	13.18
5	Smilax zeylanica	1.00	3.00	33.33	7.83	5.36	13.18
6	Cryptolepis buchananii	0.33	1.00	33.33	2.61	5.36	7.97
7	Dioscorea pentaphylla	0.33	1.00	33.33	2.61	5.36	7.97
8	Spatholobus parviflorus	0.33	1.00	33.33	2.61	5.36	7.97
9	Ichnocarpus frutescens	0.56	2.50	22.22	4.35	3.57	7.92
10	Merremia tridentata ssp.hastata	0.22	1.00	22.22	1.74	3.57	5.31
11	Asparagus racemosus	0.44	4.00	11.11	3.48	1.79	5.26
12	Cissus discolor	0.22	2.00	11.11	1.74	1.79	3.52
13	Ipomoea campanulata	0.22	2.00	11.11	1.74	1.79	3.52
14	Lygodium flexuosum	0.22	2.00	11.11	1.74	1.79	3.52
15	Thunbergia fragrans	0.22	2.00	11.11	1.74	1.79	3.52
16	Tragia involucrata	0.22	2.00	11.11	1.74	1.79	3.52
17	Parthenocissus neilgheriensis	0.11	1.00	11.11	0.87	1.79	2.66
18	Aerides ringenus	0.11	1.00	11.11	0.87	1.79	2.66
19	Cissampelos pareira	0.11	1.00	11.11	0.87	1.79	2.66
20	Cissus heyneana	0.11	1.00	11.11	0.87	1.79	2.66
21	Cissus latifolia	0.11	1.00	11.11	0.87	1.79	2.66
22	Dendrobium macrostachyum	0.11	1.00	11.11	0.87	1.79	2.66
23	Dioscorea hamilltonii	0.11	1.00	11.11	0.87	1.79	2.66
24	Dioscorea oppositifolia	0.11	1.00	11.11	0.87	1.79	2.66
25	Dioscorea tomentosa	0.11	1.00	11.11	0.87	1.79	2.66
26	Dioscorea wallichii	0.11	1.00	11.11	0.87	1.79	2.66
27	Merremia vitifolia	0.11	1.00	11.11	0.87	1.79	2.66
28	Tertramus labialis	0.11	1.00	11.11	0.87	1.79	2.66
29	Tiliacora acuminata	0.11	1.00	11.11	0.87	1.79	2.66
30	Vanda testacea	0.11	1.00	11.11	0.87	1.79	2.66

FORESTS OF MALAPPURAM DISTRICT

Malappuram district has an actual forest area of 757 km^2 which forms about 21 per cent of the geographical area. About 59 per cent of the forests are considered to be degraded. The major vegetation types in the district can be broadly classified in to West Coast Tropical Evergreen forests, West Coast Tropical Semi Evergreen forests, South Indian Moist Deciduous forests, Southern Montane Wet Temperate forests and Grass lands. The forests in the district are rich with number of rare and endangered species.



VEGETATION STATUS OF MALAPURAM DISTRICT

EVERGREEN FORESTS

Table 83. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Syzygium gardneri	0.17	1.00	16.67	16200.00	0.32	1.14	20.30	21.76
2	Ficus nervosa	0.17	1.00	16.67	12800.00	0.32	1.14	16.04	17.50
3	Hopea parviflora	5.50	6.60	83.33	722.70	10.54	5.68	0.90	17.13
4	Baccaurea courtallensis	4.83	4.83	100.00	189.13	9.27	6.82	0.23	16.32
5	Vitex altissima	0.17	1.00	16.67	10775.12	0.32	1.14	13.50	14.96
6	Knema attenuata	5.00	7.50	66.67	243.66	9.58	4.55	0.30	14.43
7	Mangifera indica	0.17	1.00	16.67	10253.12	0.32	1.14	12.85	14.30
8	Pterygota alata	4.17	6.25	66.67	191.23	7.99	4.55	0.23	12.77
9	Drypetes elata	3.67	5.50	66.67	495.02	7.03	4.55	0.62	12.19
10	Polyalthia coffeoides	3.83	7.67	50.00	111.49	7.35	3.41	0.13	10.89
11	Xanthophyllum arnottianum	4.33	13.00	33.33	34.05	8.31	2.27	0.04	10.62
12	Calophyllum polyanthum	0.67	1.33	50.00	4095.12	1.28	3.41	5.13	9.82
13	Reinwardtiodendron anamalaiens	2.50	5.00	50.00	235.49	4.79	3.41	0.29	8.49
14	Otonephelium stipulaceum	1.00	2.00	50.00	1927.86	1.92	3.41	2.41	7.74
15	Dysoxylum malabaricum	1.50	3.00	50.00	573.11	2.88	3.41	0.71	7.00
16	Hydnocarpus pentandra	0.67	2.00	33.33	2572.88	1.28	2.27	3.22	6.77
17	Palaquium ellipticum	1.33	2.67	50.00	551.45	2.56	3.41	0.69	6.65
18	Cullenia exarillata	1.50	4.50	33.33	296.73	2.88	2.27	0.37	5.52
19	Spondias indica	0.83	2.50	33.33	1173.58	1.60	2.27	1.47	5.34
20	Strombosia ceylanica	1.33	4.00	33.33	314.70	2.56	2.27	0.39	5.22
21	Sapindus laurifolia	0.17	1.00	16.67	2312.00	0.32	1.14	2.89	4.35
22	Cinnamomum malabatrum	0.67	2.00	33.33	416.62	1.28	2.27	0.52	4.07
23	Macaranga peltata	0.17	1.00	16.67	2022.48	0.32	1.14	2.53	3.99
24	Mallotus philippensis	0.33	1.00	33.33	852.64	0.64	2.27	1.06	3.98
25	Cinnamomum sp.	0.33	1.00	33.33	795.24	0.64	2.27	0.99	3.90

Table 83 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
26	Actinodaphne malabarica	0.33	1.00	33.33	784.00	0.64	2.27	0.98	3.89
27	Dimocarpus longan	0.17	1.00	16.67	1848.32	0.32	1.14	2.31	3.77
28	Syzygium laetum	0.50	1.50	33.33	436.90	0.96	2.27	0.54	3.77
29	Persea macrantha	0.33	1.00	33.33	615.04	0.64	2.27	0.77	3.68
30	Apodytes dimidiata	0.17	1.00	16.67	1613.12	0.32	1.14	2.02	3.47
31	Vepris bilocularis	1.00	6.00	16.67	46.41	1.92	1.14	0.05	3.11
32	Garcinia spicata	0.17	1.00	16.67	865.28	0.32	1.14	1.08	2.54
33	Miliusa tomentosa	0.67	4.00	16.67	91.80	1.28	1.14	0.11	2.52
34	Flaucortia montana	0.50	3.00	16.67	208.05	0.96	1.14	0.26	2.35
35	Artocarpus hirsutus	0.33	2.00	16.67	457.96	0.64	1.14	0.57	2.34
36	Diospyros bourdilloni	0.33	2.00	16.67	299.29	0.64	1.14	0.37	2.15
37	Hopea racophloea	0.33	2.00	16.67	299.29	0.64	1.14	0.37	2.15
38	Drypetes oblongifolia	0.33	2.00	16.67	292.41	0.64	1.14	0.36	2.14
39	Hydnocarpus alpina	0.50	3.00	16.67	32.05	0.96	1.14	0.04	2.13
40	Olea dioica	0.17	1.00	16.67	474.32	0.32	1.14	0.59	2.05
41	Trewia nudiflora	0.33	2.00	16.67	88.36	0.64	1.14	0.11	1.88
42	Ixora brachiata	0.17	1.00	16.67	269.12	0.32	1.14	0.33	1.79
43	Strychnos nux-vomica	0.17	1.00	16.67	269.12	0.32	1.14	0.33	1.79
44	Holigarna grahamii	0.17	1.00	16.67	250.88	0.32	1.14	0.31	1.77
45	Terminalia bellirica	0.17	1.00	16.67	184.32	0.32	1.14	0.23	1.68
46	Turpinia malabarica	0.17	1.00	16.67	109.52	0.32	1.14	0.13	1.59
47	Diospyros sp.	0.17	1.00	16.67	76.88	0.32	1.14	0.09	1.55

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 84. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Hopea parviflora	1.67	2.50	66.67	72.70	17.54	14.81	9.48	41.84
2	Pterygota alata	1.50	2.25	66.67	74.42	15.79	14.81	9.70	40.31
3	Baccaurea courtallensis	1.00	2.00	50.00	80.08	10.53	11.11	10.44	32.08
4	Xanthophyllum arnottianum	1.50	4.50	33.33	21.86	15.79	7.41	2.85	26.04
5	Knema attenuata	1.00	3.00	33.33	31.36	10.53	7.41	4.09	22.02
6	Cullenia exarillata	0.50	1.50	33.33	70.72	5.26	7.41	9.22	21.89
7	Reinwardtiodendron anamaliens	0.67	2.00	33.33	45.12	7.02	7.41	5.88	20.31
8	Cinnamomum sp.	0.17	1.00	16.67	62.72	1.75	3.70	8.18	13.64
9	Otonephelium stipulaceum	0.17	1.00	16.67	62.72	1.75	3.70	8.18	13.64
10	Miliusa tomentosa	0.17	1.00	16.67	58.32	1.75	3.70	7.60	13.06
11	Drypetes elata	0.17	1.00	16.67	50.00	1.75	3.70	6.52	11.98
12	Cinnamomum malabatrum	0.17	1.00	16.67	46.08	1.75	3.70	6.01	11.46
13	Mallotus philippensis	0.17	1.00	16.67	42.32	1.75	3.70	5.52	10.97
14	Vepris bilocularis	0.33	2.00	16.67	25.00	3.51	3.70	3.26	10.47
15	Polyalthia coffeoides	0.33	2.00	16.67	23.04	3.51	3.70	3.00	10.21

Table 85. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Chassalia curviflora	7.17	8.60	83.33	0.00	26.54	18.52	0.00	45.06
2	Strobilanthes sp.	5.83	11.67	50.00	0.00	21.60	11.11	0.00	32.72
3	Ventilago bombaiensis	2.67	3.20	83.33	0.00	9.88	18.52	0.00	28.40
4	Memecylon lawsonii	2.50	7.50	33.33	0.00	9.26	7.41	0.00	16.67
5	Justicia santapaui	2.00	6.00	33.33	0.00	7.41	7.41	0.00	14.81
6	Ixora nigricans	1.83	5.50	33.33	0.00	6.79	7.41	0.00	14.20
7	Euonymus angulatus	0.83	2.50	33.33	0.00	3.09	7.41	0.00	10.49
8	Leea robusta	0.83	2.50	33.33	0.00	3.09	7.41	0.00	10.49
9	Boehmeria glomerulifera	1.33	8.00	16.67	0.00	4.94	3.70	0.00	8.64
10	Dendrocnide sinuata	1.00	6.00	16.67	0.00	3.70	3.70	0.00	7.41
11	Pandanus thwaitesii	0.50	3.00	16.67	0.00	1.85	3.70	0.00	5.56
12	Toddalia asiatica	0.50	3.00	16.67	0.00	1.85	3.70	0.00	5.56

Table 86. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Baccaurea courtallensis	8.17	8.17	100.00	0.00	13.00	8.11	0.00	21.11
2	Pterygota alata	6.67	8.00	83.33	0.00	10.61	6.76	0.00	17.37
3	Hopea parviflora	6.17	7.40	83.33	0.00	9.81	6.76	0.00	16.57
4	Knema attenuata	6.50	9.75	66.67	0.00	10.34	5.41	0.00	15.75
5	Drypetes elata	4.50	6.75	66.67	0.00	7.16	5.41	0.00	12.57
6	Reinwardtiodendron anamalaiens	3.17	6.33	50.00	0.00	5.04	4.05	0.00	9.09
7	Polyalthia coffeoides	3.00	6.00	50.00	0.00	4.77	4.05	0.00	8.83
8	Cullenia exarillata	3.33	10.00	33.33	0.00	5.31	2.70	0.00	8.01
9	Xanthophyllum arnottianum	3.33	10.00	33.33	0.00	5.31	2.70	0.00	8.01
10	Otonephelium stipulaceum	1.83	3.67	50.00	0.00	2.92	4.05	0.00	6.97
11	Dysoxylum malabaricum	1.50	3.00	50.00	0.00	2.39	4.05	0.00	6.44
12	Mallotus philippensis	1.17	2.33	50.00	0.00	1.86	4.05	0.00	5.91
13	Strombosia ceylanica	1.33	4.00	33.33	0.00	2.12	2.70	0.00	4.82
14	Cinnamomum sp.	1.17	3.50	33.33	0.00	1.86	2.70	0.00	4.56
15	Syzygium laetum	1.00	3.00	33.33	0.00	1.59	2.70	0.00	4.29
16	Persea macrantha	0.67	2.00	33.33	0.00	1.06	2.70	0.00	3.76
17	Olea dioica	0.50	1.50	33.33	0.00	0.80	2.70	0.00	3.50
18	Cinnamomum malabatrum	0.83	5.00	16.67	0.00	1.33	1.35	0.00	2.68
19	Vepris bilocularis	0.83	5.00	16.67	0.00	1.33	1.35	0.00	2.68
20	Flaucortia montana	0.67	4.00	16.67	0.00	1.06	1.35	0.00	2.41
21	Ixora brachiata	0.67	4.00	16.67	0.00	1.06	1.35	0.00	2.41
22	Palaquium ellipticum	0.67	4.00	16.67	0.00	1.06	1.35	0.00	2.41
23	Phoebe lanceolata	0.67	4.00	16.67	0.00	1.06	1.35	0.00	2.41
24	Drypetes oblongifolia	0.50	3.00	16.67	0.00	0.80	1.35	0.00	2.15
25	Hydnocarpus alpina	0.50	3.00	16.67	0.00	0.80	1.35	0.00	2.15
26	Hydnocarpus pentandra	0.50	3.00	16.67	0.00	0.80	1.35	0.00	2.15
27	Syzygium gardneri	0.50	3.00	16.67	0.00	0.80	1.35	0.00	2.15
28	Apodytes dimidiata	0.33	2.00	16.67	0.00	0.53	1.35	0.00	1.88

Table 86 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
29	Artocarpus hirsutus	0.33	2.00	16.67	0.00	0.53	1.35	0.00	1.88
30	Diospyros bourdilloni	0.33	2.00	16.67	0.00	0.53	1.35	0.00	1.88
31	Spondias indica	0.33	2.00	16.67	0.00	0.53	1.35	0.00	1.88
32	Alstonia scholaris	0.17	1.00	16.67	0.00	0.27	1.35	0.00	1.62
33	Calophyllum polyanthum	0.17	1.00	16.67	0.00	0.27	1.35	0.00	1.62
34	Garcinia spicata	0.17	1.00	16.67	0.00	0.27	1.35	0.00	1.62
35	Meiogyne pannosa	0.17	1.00	16.67	0.00	0.27	1.35	0.00	1.62
36	Toona ciliata	0.17	1.00	16.67	0.00	0.27	1.35	0.00	1.62
37	Turpinia malabarica	0.17	1.00	16.67	0.00	0.27	1.35	0.00	1.62
38	Vitex altissima	0.17	1.00	16.67	0.00	0.27	1.35	0.00	1.62

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 87. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Dracaena terniflora	1.17	1.40	83.33	0.00	36.84	33.33	0.00	70.18
2	Elatostema serratum	0.83	1.67	50.00	0.00	26.32	20.00	0.00	46.32
3	Pellionia heyneana	0.50	1.00	50.00	0.00	15.79	20.00	0.00	35.79
4	Barleria courtallica	0.33	1.00	33.33	0.00	10.53	13.33	0.00	23.86
5	Aneilema sp.	0.17	1.00	16.67	0.00	5.26	6.67	0.00	11.93
6	Curculigo orchioides	0.17	1.00	16.67	0.00	5.26	6.67	0.00	11.93

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 88. Structural Status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Ancistrocladus heyneanus	1.50	1.80	83.33	0.00	15.52	15.15	0.00	30.67
2	Piper nigrum	1.83	3.67	50.00	0.00	18.97	9.09	0.00	28.06
3	Calamus thwaitesii	1.00	3.00	33.33	0.00	10.34	6.06	0.00	16.41
4	Thunbergia mysorensis	0.67	1.33	50.00	0.00	6.90	9.09	0.00	15.99
5	Piper sp.	0.83	5.00	16.67	0.00	8.62	3.03	0.00	11.65
6	Kunstleria keralensis	0.50	1.50	33.33	0.00	5.17	6.06	0.00	11.23
7	Tetrastigma leucostaphylum	0.50	1.50	33.33	0.00	5.17	6.06	0.00	11.23
8	Cissus discolor	0.33	1.00	33.33	0.00	3.45	6.06	0.00	9.51
9	Desmos lawii	0.33	2.00	16.67	0.00	3.45	3.03	0.00	6.48
10	Jasminum azoricum	0.33	2.00	16.67	0.00	3.45	3.03	0.00	6.48
11	Calamus sp.	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
12	Derris sp.	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
13	Dioscorea sp.	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
14	Diploclisia glaucescens	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
15	Ellertonia rheedii	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
16	Entada rheedei	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
17	Gnetum ula	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
18	Liparis viridiflora	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
19	Millettia rubiginosa	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
20	Sarcostigma kleinii	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75
21	Strychnos colubrina	0.17	1.00	16.67	0.00	1.72	3.03	0.00	4.75

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

SEMI EVERGREEN FORESTS

Table 89. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Ailanthus triphysa	0.33	1.00	33.33	12800.00	1.06	4.00	50.28	55.34
2	Lagerstroemia microcarpa	1.00	1.00	100.00	5115.84	3.19	12.00	20.09	35.28
3	Hopea parviflora	9.00	27.00	33.33	66.60	28.72	4.00	0.26	32.98
4	Polyalthia coffeoides	5.67	8.50	66.67	208.02	18.09	8.00	0.81	26.90
5	Xylia xylocarpa	3.00	4.50	66.67	528.34	9.57	8.00	2.07	19.64
6	Pterygota alata	2.67	4.00	66.67	779.35	8.51	8.00	3.06	19.57
7	Stereospermum colais	0.33	1.00	33.33	2048.00	1.06	4.00	8.04	13.10
8	Holarrhena pubescens	0.67	1.00	66.67	492.84	2.13	8.00	1.93	12.06
9	Hydnocarpus pentandra	2.33	7.00	33.33	76.58	7.45	4.00	0.30	11.74
10	Terminalia paniculata	1.33	4.00	33.33	238.71	4.26	4.00	0.93	9.19
11	Macaranga indica	1.33	4.00	33.33	131.22	4.26	4.00	0.51	8.77
12	Ehreitia laevis	0.67	2.00	33.33	542.89	2.13	4.00	2.13	8.26
13	Cinnamomum malabatrum	0.33	1.00	33.33	737.28	1.06	4.00	2.89	7.96
14	Baccaurea courtallensis	0.33	1.00	33.33	619.52	1.06	4.00	2.43	7.49
15	Semecarpus anacardium	0.33	1.00	33.33	403.28	1.06	4.00	1.58	6.64
16	Schleichera oleosa	0.67	2.00	33.33	102.01	2.13	4.00	0.40	6.52
17	Madhuca neriifolia	0.67	2.00	33.33	68.89	2.13	4.00	0.27	6.39
18	Dillenia pentagyna	0.33	1.00	33.33	327.68	1.06	4.00	1.28	6.35
19	Chionanthus mala-elengi	0.33	1.00	33.33	169.28	1.06	4.00	0.66	5.72

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 90. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Pterygota alata	1.33	2.00	66.67	54.08	20.00	18.18	17.19	55.37
2	Polyalthia coffeoides	1.33	2.00	66.67	48.02	20.00	18.18	15.26	53.45
3	Xylia xylocarpa	1.33	2.00	66.67	44.18	20.00	18.18	14.04	52.22
4	Schleichera oleosa	0.33	1.00	33.33	50.00	5.00	9.09	15.89	29.98
5	Hopea parviflora	1.00	3.00	33.33	17.10	15.00	9.09	5.44	29.53
6	Macaranga indica	0.33	1.00	33.33	46.08	5.00	9.09	14.65	28.74
7	Terminalia paniculata	0.67	2.00	33.33	23.04	10.00	9.09	7.32	26.41
8	Madhuca neriifolia	0.33	1.00	33.33	32.00	5.00	9.09	10.17	24.26

Table 91. Structural Status of Seedligs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Pterygota alata	6.00	9.00	66.67	0.00	15.52	9.09	0.00	24.61
2	Lagerstroemia microcarpa	3.67	3.67	100.00	0.00	9.48	13.64	0.00	23.12
3	Polyalthia coffeoides	5.33	8.00	66.67	0.00	13.79	9.09	0.00	22.88
4	Xylia xylocarpa	3.67	5.50	66.67	0.00	9.48	9.09	0.00	18.57
5	Macaranga indica	3.00	4.50	66.67	0.00	7.76	9.09	0.00	16.85
6	Hopea parviflora	3.33	10.00	33.33	0.00	8.62	4.55	0.00	13.17
7	Cinnamomum malabatrum	2.33	7.00	33.33	0.00	6.03	4.55	0.00	10.58
8	Hydnocarpus pentandra	1.67	5.00	33.33	0.00	4.31	4.55	0.00	8.86
9	Madhuca neriifolia	1.67	5.00	33.33	0.00	4.31	4.55	0.00	8.86
10	Mallotus philippensis	1.67	5.00	33.33	0.00	4.31	4.55	0.00	8.86
11	Terminalia paniculata	1.67	5.00	33.33	0.00	4.31	4.55	0.00	8.86
12	Chionanthus mala-elengi	1.00	3.00	33.33	0.00	2.59	4.55	0.00	7.13
13	Ficus hispida	1.00	3.00	33.33	0.00	2.59	4.55	0.00	7.13
14	Schleichera oleosa	1.00	3.00	33.33	0.00	2.59	4.55	0.00	7.13
15	Xeromophis uliginosa	1.00	3.00	33.33	0.00	2.59	4.55	0.00	7.13
16	Ixora brachiata	0.67	2.00	33.33	0.00	1.72	4.55	0.00	6.27

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 92. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Strobilanthes sp.	6.67	10.00	66.67	0.00	35.71	20.00	0.00	55.71
2	Leea robusta	3.33	3.33	100.00	0.00	17.86	30.00	0.00	47.86
3	Clerodendron viscosum	3.33	10.00	33.33	0.00	17.86	10.00	0.00	27.86
4	Glycosmis pentaphylla	3.33	10.00	33.33	0.00	17.86	10.00	0.00	27.86
5	Ziziphus oenoplia	1.33	2.00	66.67	0.00	7.14	20.00	0.00	27.14
6	Ventilago bombaiensis	0.67	2.00	33.33	0.00	3.57	10.00	0.00	13.57

Table 93. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Oplismenus compositus	1.33	1.00	133.33	0.00	16.67	17.39	0.00	34.06
2	Stachyphrynium spicatum	1.33	1.00	133.33	0.00	16.67	17.39	0.00	34.06
3	Rungia pectinata	1.00	1.50	66.67	0.00	12.50	8.70	0.00	21.20
4	Costus speciosus	0.67	1.00	66.67	0.00	8.33	8.70	0.00	17.03
5	Flemingia semialata	0.67	1.00	66.67	0.00	8.33	8.70	0.00	17.03
6	Pteris sp.	0.67	1.00	66.67	0.00	8.33	8.70	0.00	17.03
7	Bolbitis sp.	0.33	1.00	33.33	0.00	4.17	4.35	0.00	8.51
8	Cyathula prostrata	0.33	1.00	33.33	0.00	4.17	4.35	0.00	8.51
9	Justicia wynaadensis	0.33	1.00	33.33	0.00	4.17	4.35	0.00	8.51
10	Phaulopsis imbricata	0.33	1.00	33.33	0.00	4.17	4.35	0.00	8.51
11	Rhinacanthus nasutus	0.33	1.00	33.33	0.00	4.17	4.35	0.00	8.51
12	Scleria sp.	0.33	1.00	33.33	0.00	4.17	4.35	0.00	8.51
13	Setaria palmifolia	0.33	1.00	33.33	0.00	4.17	4.35	0.00	8.51

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 94. Structural Status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Piper nigrum	2.00	3.00	66.67	0.00	21.43	13.33	0.00	34.76
2	Calamus thwaitesii	1.33	2.00	66.67	0.00	14.29	13.33	0.00	27.62
3	Naravelia zeylanica	1.00	1.50	66.67	0.00	10.71	13.33	0.00	24.05
4	Smilax zeylanica	1.00	1.50	66.67	0.00	10.71	13.33	0.00	24.05
5	Piper longum	1.00	3.00	33.33	0.00	10.71	6.67	0.00	17.38
6	Acacia caesia	0.67	2.00	33.33	0.00	7.14	6.67	0.00	13.81
7	Desmos lawii	0.67	2.00	33.33	0.00	7.14	6.67	0.00	13.81
8	Diploclisia glaucescens	0.67	2.00	33.33	0.00	7.14	6.67	0.00	13.81
9	Caesalpinia cucullata	0.33	1.00	33.33	0.00	3.57	6.67	0.00	10.24
10	Cosmostigma racemosum	0.33	1.00	33.33	0.00	3.57	6.67	0.00	10.24
11	Dioscorea hamiltonii	0.33	1.00	33.33	0.00	3.57	6.67	0.00	10.24

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

MOIST DECIDUOUS FORESTS

Table 95. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xylia xylocarpa	10.29	12.50	82.35	870.19	35.21	10.85	1.67	47.73
2	Terminalia paniculata	6.59	7.00	94.12	2547.45	22.54	12.40	4.90	39.84
3	Lagerstroemia microcarpa	1.06	2.25	47.06	8330.57	3.62	6.20	16.04	25.86
4	Dalbergia latifolia	1.35	2.88	47.06	2504.83	4.63	6.20	4.82	15.65
5	Dillenia pentagyna	0.88	2.50	35.29	2297.78	3.02	4.65	4.42	12.09
6	Bombax ceiba	0.18	1.00	17.65	3932.16	0.60	2.33	7.57	10.50
7	Alseodaphne semicarpifolia	0.06	1.00	5.88	3732.48	0.20	0.78	7.18	8.16
8	Hydnocarpus pentandra	0.35	2.00	17.65	2197.81	1.21	2.33	4.23	7.76
9	Mallotus philippensis	0.18	1.00	17.65	2480.66	0.60	2.33	4.77	7.70
10	Terminalia bellirica	0.18	1.00	17.65	2384.02	0.60	2.33	4.59	7.52
11	Macaranga peltata	0.29	1.67	17.65	2125.76	1.01	2.33	4.09	7.42
12	Miliusa tomentosa	0.29	1.67	17.65	1842.31	1.01	2.33	3.54	6.87
13	Pterocarpus marsupium	0.24	1.33	17.65	1518.00	0.80	2.33	2.92	6.05
14	Garuga pinnata	0.12	1.00	11.76	1681.00	0.40	1.55	3.23	5.18
15	Naringi crenulata	0.47	2.00	23.53	244.92	1.61	3.10	0.47	5.18
16	Strychnos nux-vomica	0.06	1.00	5.88	2048.00	0.20	0.78	3.94	4.92
17	Stereospermum chelonoides	0.47	2.67	17.65	346.25	1.61	2.33	0.66	4.60
18	Phyllanthus emblica	0.47	2.67	17.65	312.68	1.61	2.33	0.60	4.53
19	Ficus hispida	0.18	1.50	11.76	967.74	0.60	1.55	1.86	4.01
20	Persea macrantha	0.12	2.00	5.88	1398.76	0.40	0.78	2.69	3.87
21	Wrightia tinctoria	0.53	4.50	11.76	114.50	1.81	1.55	0.22	3.58
22	Schleichera oleosa	0.47	4.00	11.76	65.20	1.61	1.55	0.12	3.28
23	Bauhinia racemosa	0.41	3.50	11.76	107.90	1.41	1.55	0.20	3.16
24	Swietenia macrophylla	0.53	9.00	5.88	195.86	1.81	0.78	0.37	2.96
25	Gmelina arborea	0.18	1.50	11.76	403.44	0.60	1.55	0.77	2.93
26	Careya arborea	0.06	1.00	5.88	968.00	0.20	0.78	1.86	2.84
27	Swietenia mahagony	0.24	4.00	5.88	633.68	0.80	0.78	1.22	2.80
28	Olea dioica	0.12	1.00	11.76	331.24	0.40	1.55	0.63	2.59
29	Hopea parviflora	0.12	2.00	5.88	729.00	0.40	0.78	1.40	2.58

Table 95 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
30	Sterculia guttata	0.18	1.50	11.76	185.92	0.60	1.55	0.35	2.51
31	Albizia odoratissima	0.29	5.00	5.88	360.96	1.01	0.78	0.69	2.47
32	Cinnamomum sp.	0.06	1.00	5.88	677.12	0.20	0.78	1.30	2.28
33	Bombax insigne	0.18	3.00	5.88	410.02	0.60	0.78	0.78	2.16
34	Sterculia gutta	0.06	1.00	5.88	537.92	0.20	0.78	1.03	2.01
35	Cassia fistula	0.12	2.00	5.88	412.09	0.40	0.78	0.79	1.97
36	Tectona grandis	0.18	3.00	5.88	254.38	0.60	0.78	0.48	1.86
37	Meiogyne pannosa	0.06	1.00	5.88	348.48	0.20	0.78	0.67	1.64
38	Chionanthus mala-elengi	0.12	2.00	5.88	225.00	0.40	0.78	0.43	1.61
39	Grewia tiliifolia	0.18	3.00	5.88	86.64	0.60	0.78	0.16	1.54
40	Tabernaemontana heyneana	0.18	3.00	5.88	45.55	0.60	0.78	0.08	1.46
41	Aporusa lindleyana	0.18	3.00	5.88	35.19	0.60	0.78	0.06	1.44
42	Pterygota alata	0.18	3.00	5.88	32.05	0.60	0.78	0.06	1.44
43	Sapindus laurifolia	0.06	1.00	5.88	169.28	0.20	0.78	0.32	1.30
44	Ixora brachiata	0.12	2.00	5.88	59.29	0.40	0.78	0.11	1.29
45	Trewia nudiflora	0.12	2.00	5.88	57.76	0.40	0.78	0.11	1.28
46	Lepisanthes tetraphylla	0.12	2.00	5.88	51.84	0.40	0.78	0.09	1.27
47	Stereospermum colais	0.06	1.00	5.88	115.52	0.20	0.78	0.22	1.19
48	Toona ciliata	0.06	1.00	5.88	115.52	0.20	0.78	0.22	1.19
49	Holarrhena pubscens	0.06	1.00	5.88	98.00	0.20	0.78	0.18	1.16
50	Artocarpus hirsutus	0.06	1.00	5.88	92.48	0.20	0.78	0.17	1.15
51	Callicarpa tomentosa	0.06	1.00	5.88	92.48	0.20	0.78	0.17	1.15
52	Atalantia racemosa	0.06	1.00	5.88	81.92	0.20	0.78	0.15	1.13
53	Macaranga indica	0.06	1.00	5.88	72.00	0.20	0.78	0.13	1.11

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 96. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xylia xylocarpa	2.00	2.43	82.35	254.93	29.31	22.22	16.09	67.63
2	Terminalia paniculata	1.53	2.17	70.59	245.65	22.41	19.05	15.51	56.97
3	Naringi crenulata	0.88	1.88	47.06	153.53	12.93	12.70	9.69	35.32
4	Wrightia tinctoria	0.29	1.67	17.65	85.26	4.31	4.76	5.38	14.45
5	Olea dioica	0.24	1.33	17.65	69.62	3.45	4.76	4.39	12.60
6	Sterculia guttata	0.12	1.00	11.76	88.36	1.72	3.17	5.58	10.47
7	Dalbergia latifolia	0.24	2.00	11.76	36.98	3.45	3.17	2.33	8.95
8	Macaranga peltata	0.12	1.00	11.76	57.76	1.72	3.17	3.64	8.54
9	Tectona grandis	0.12	2.00	5.88	40.96	1.72	1.59	2.58	5.89
10	Ixora brachiata	0.06	1.00	5.88	54.08	0.86	1.59	3.41	5.86
11	Phyllanthus emblica	0.06	1.00	5.88	54.08	0.86	1.59	3.41	5.86
12	Stereospermum chelonoides	0.06	1.00	5.88	54.08	0.86	1.59	3.41	5.86
13	Schleichera oleosa	0.06	1.00	5.88	50.00	0.86	1.59	3.15	5.60
14	Pterygota alata	0.18	3.00	5.88	16.66	2.59	1.59	1.05	5.22
15	Dillenia pentagyna	0.12	2.00	5.88	27.04	1.72	1.59	1.70	5.01
16	Teminalia paniculata	0.06	1.00	5.88	38.72	0.86	1.59	2.44	4.89
17	Swietenia mahagony	0.12	2.00	5.88	22.09	1.72	1.59	1.39	4.70
18	Toona ciliata	0.06	1.00	5.88	35.28	0.86	1.59	2.22	4.67
19	Pterspermum divorsifolium	0.12	2.00	5.88	21.16	1.72	1.59	1.33	4.64
20	Bauhinia racemosa	0.12	2.00	5.88	20.25	1.72	1.59	1.27	4.59
21	Lagerstroemia microcarpa	0.06	1.00	5.88	32.00	0.86	1.59	2.02	4.47
22	Macaranga indica	0.06	1.00	5.88	32.00	0.86	1.59	2.02	4.47
23	Pterocarpus marsupium	0.06	1.00	5.88	32.00	0.86	1.59	2.02	4.47
24	Trewia nudiflora	0.06	1.00	5.88	32.00	0.86	1.59	2.02	4.47
25	Mallotus philippensis	0.06	1.00	5.88	28.88	0.86	1.59	1.82	4.27

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 97. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xylia xylocarpa	6.82	7.25	94.12	0.00	22.18	13.68	0.00	35.85
2	Terminalia paniculata	4.18	6.45	64.71	0.00	13.58	9.40	0.00	22.98
3	Mallotus philippensis	3.06	4.73	64.71	0.00	9.94	9.40	0.00	19.34
4	Macaranga peltata	1.76	3.75	47.06	0.00	5.74	6.84	0.00	12.57
5	Naringi crenulata	1.47	3.57	41.18	0.00	4.78	5.98	0.00	10.76
6	Olea dioica	1.59	4.50	35.29	0.00	5.16	5.13	0.00	10.29
7	Ziziphus rugosa	0.88	2.14	41.18	0.00	2.87	5.98	0.00	8.85
8	Ficus hispida	1.06	4.50	23.53	0.00	3.44	3.42	0.00	6.86
9	Pterygota alata	1.18	10.00	11.76	0.00	3.82	1.71	0.00	5.53
10	Bauhinia racemosa	0.82	4.67	17.65	0.00	2.68	2.56	0.00	5.24
11	Macaranga indica	0.82	4.67	17.65	0.00	2.68	2.56	0.00	5.24
12	Dalbergia latifolia	0.35	2.00	17.65	0.00	1.15	2.56	0.00	3.71
13	Dillenia pentagyna	0.53	4.50	11.76	0.00	1.72	1.71	0.00	3.43
14	Cassia fistula	0.24	1.33	17.65	0.00	0.76	2.56	0.00	3.33
15	Hydnocarpus pentandra	0.47	4.00	11.76	0.00	1.53	1.71	0.00	3.24
16	Sterculia guttata	0.41	3.50	11.76	0.00	1.34	1.71	0.00	3.05
17	Ixora brachiata	0.35	3.00	11.76	0.00	1.15	1.71	0.00	2.86
18	Wrightia tintoria	0.59	10.00	5.88	0.00	1.91	0.85	0.00	2.77
19	Strychnos nux-vomica	0.29	2.50	11.76	0.00	0.96	1.71	0.00	2.67
20	Tectonia grandis	0.29	2.50	11.76	0.00	0.96	1.71	0.00	2.67
21	Swietenia mahagony	0.41	7.00	5.88	0.00	1.34	0.85	0.00	2.19
22	Mangifera indica	0.12	1.00	11.76	0.00	0.38	1.71	0.00	2.09
23	Ziziphus xylopyrus	0.12	1.00	11.76	0.00	0.38	1.71	0.00	2.09
24	Callicarpa tomentosa	0.35	6.00	5.88	0.00	1.15	0.85	0.00	2.00
25	Chionanthus mala-elengi	0.35	6.00	5.88	0.00	1.15	0.85	0.00	2.00
26	Hopea parviflora	0.35	6.00	5.88	0.00	1.15	0.85	0.00	2.00
27	Madhuca neriifolia	0.29	5.00	5.88	0.00	0.96	0.85	0.00	1.81
28	Lepisanthes tetraphylla	0.24	4.00	5.88	0.00	0.76	0.85	0.00	1.62
29	Aporusa lindleyana	0.18	3.00	5.88	0.00	0.57	0.85	0.00	1.43

Table 97 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
30	Atalantia racemosa	0.18	3.00	5.88	0.00	0.57	0.85	0.00	1.43
31	Cinnamomum sp.	0.18	3.00	5.88	0.00	0.57	0.85	0.00	1.43
32	Grewia tiliifolia	0.18	3.00	5.88	0.00	0.57	0.85	0.00	1.43
33	Pterospermum divorsifolium	0.18	3.00	5.88	0.00	0.57	0.85	0.00	1.43
34	Phyllanthus emblica	0.12	2.00	5.88	0.00	0.38	0.85	0.00	1.24
35	Stereospermum colais	0.12	2.00	5.88	0.00	0.38	0.85	0.00	1.24
36	Trewia nudiflora	0.12	2.00	5.88	0.00	0.38	0.85	0.00	1.24
37	Cycas circinalis	0.06	1.00	5.88	0.00	0.19	0.85	0.00	1.05
38	Ziziphus jujuba	0.06	1.00	5.88	0.00	0.19	0.85	0.00	1.05

Table 98. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Helicteres isora	12.29	13.06	94.12	0.00	25.68	19.05	0.00	44.72
2	Ochlandra travancorica	13.53	57.50	23.53	0.00	28.26	4.76	0.00	33.02
3	Chromolaena odorata	5.94	7.21	82.35	0.00	12.41	16.67	0.00	29.07
4	Glycosmis pentaphylla	3.71	7.00	52.94	0.00	7.74	10.71	0.00	18.45
5	Ziziphus oenoplia	2.41	3.73	64.71	0.00	5.04	13.10	0.00	18.13
6	Clerodendron viscosum	3.53	6.67	52.94	0.00	7.37	10.71	0.00	18.09
7	Triumfetta rhomboidea	1.47	5.00	29.41	0.00	3.07	5.95	0.00	9.02
8	Bambusa bambos	1.06	6.00	17.65	0.00	2.21	3.57	0.00	5.78
9	Leea sp.	0.76	6.50	11.76	0.00	1.60	2.38	0.00	3.98
10	Strobilanthes sp.	1.18	20.00	5.88	0.00	2.46	1.19	0.00	3.65
11	Lantana camara	0.53	4.50	11.76	0.00	1.11	2.38	0.00	3.49
12	Ventilago bombaiensis	0.24	2.00	11.76	0.00	0.49	2.38	0.00	2.87
13	Thespesia lampas	0.59	10.00	5.88	0.00	1.23	1.19	0.00	2.42
14	Chassalia sp.	0.29	5.00	5.88	0.00	0.61	1.19	0.00	1.80
15	Leea robusta	0.18	3.00	5.88	0.00	0.37	1.19	0.00	1.56
16	Thottea siliquosa	0.06	1.00	5.88	0.00	0.12	1.19	0.00	1.31
17	Urena lobata	0.06	1.00	5.88	0.00	0.12	1.19	0.00	1.31
18	Zizyphus xylopyrus	0.06	1.00	5.88	0.00	0.12	1.19	0.00	1.31

Table 99. Structural Status of Herbs

ON	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Oplismenus compositus	1.76	2.00	88.24	0.00	29.70	19.48	0.00	49.18
2	Rungia pectinata	0.82	1.27	64.71	0.00	13.86	14.29	0.00	28.15
3	Stachyphrynium spicatum	0.47	1.33	35.29	0.00	7.92	7.79	0.00	15.71
4	Elephantopus scaber	0.35	1.00	35.29	0.00	5.94	7.79	0.00	13.73
5	Pteris sp.	0.29	1.00	29.41	0.00	4.95	6.49	0.00	11.44
6	Phaulopsis imbricata	0.24	1.00	23.53	0.00	3.96	5.19	0.00	9.16
7	Setaria palmifolia	0.24	1.00	23.53	0.00	3.96	5.19	0.00	9.16
8	Curculigo orchioides	0.29	1.67	17.65	0.00	4.95	3.90	0.00	8.85
9	Cyathula prostrata	0.24	1.33	17.65	0.00	3.96	3.90	0.00	7.86
10	Sida rhombifolia	0.24	1.33	17.65	0.00	3.96	3.90	0.00	7.86
11	Alpinia sp.	0.12	1.00	11.76	0.00	1.98	2.60	0.00	4.58
12	Cyprus sp.	0.12	1.00	11.76	0.00	1.98	2.60	0.00	4.58
13	Naregamia alata	0.12	1.00	11.76	0.00	1.98	2.60	0.00	4.58
14	Sida acuta	0.12	1.00	11.76	0.00	1.98	2.60	0.00	4.58
15	Achyranthus aspera	0.06	1.00	5.88	0.00	0.99	1.30	0.00	2.29
16	Adiantum sp.	0.06	1.00	5.88	0.00	0.99	1.30	0.00	2.29
17	Anisochilus carnosus	0.06	1.00	5.88	0.00	0.99	1.30	0.00	2.29
18	Costus speciousus	0.06	1.00	5.88	0.00	0.99	1.30	0.00	2.29
19	Desmodium sp.	0.06	1.00	5.88	0.00	0.99	1.30	0.00	2.29
20	Dracaena terniflora	0.06	1.00	5.88	0.00	0.99	1.30	0.00	2.29
21	Flemingia semialata	0.06	1.00	5.88	0.00	0.99	1.30	0.00	2.29
22	Hemigraphis crossandra	0.06	1.00	5.88	0.00	0.99	1.30	0.00	2.29
23	Urena lobata	0.06	1.00	5.88	0.00	0.99	1.30	0.00	2.29

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

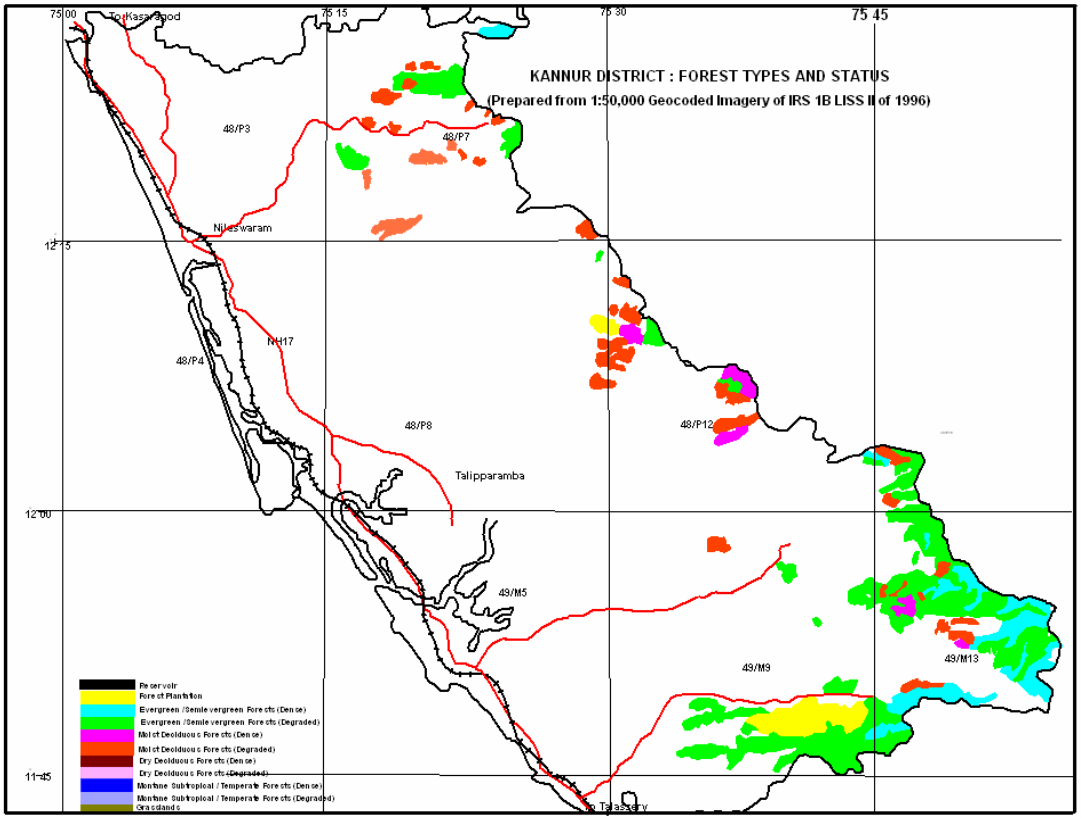
Table 100. Structural Status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Calycopteris floribunda	1.76	2.31	76.47	0.00	14.78	16.67	0.00	31.44
2	Piper longum	2.82	12.00	23.53	0.00	23.65	5.13	0.00	28.77
3	Hemidesmus indicus	1.76	3.00	58.82	0.00	14.78	12.82	0.00	27.60
4	Naravelia zeylanica	1.12	1.90	58.82	0.00	9.36	12.82	0.00	22.18
5	Ichnocarpus frutescens	1.06	3.00	35.29	0.00	8.87	7.69	0.00	16.56
6	Jasminum sp.	0.71	2.00	35.29	0.00	5.91	7.69	0.00	13.60
7	Acacia caesia	0.41	1.00	41.18	0.00	3.45	8.97	0.00	12.42
8	Cyclea peltata	0.59	2.50	23.53	0.00	4.93	5.13	0.00	10.05
9	Lygodium flexuosum	0.24	1.33	17.65	0.00	1.97	3.85	0.00	5.82
10	Caesalpinia cucullata	0.18	1.00	17.65	0.00	1.48	3.85	0.00	5.32
11	Smilax zeylanica	0.18	1.50	11.76	0.00	1.48	2.56	0.00	4.04
12	Bulbophyllum sp.	0.29	5.00	5.88	0.00	2.46	1.28	0.00	3.75
13	Piper nigrum	0.18	3.00	5.88	0.00	1.48	1.28	0.00	2.76
14	Piper sp.	0.18	3.00	5.88	0.00	1.48	1.28	0.00	2.76
15	Pothos scandens	0.12	2.00	5.88	0.00	0.99	1.28	0.00	2.27
16	Asparagus recemosus	0.06	1.00	5.88	0.00	0.49	1.28	0.00	1.77
17	Bauhinia scandens var.anguina	0.06	1.00	5.88	0.00	0.49	1.28	0.00	1.77
18	Dioscorea hamiltonii	0.06	1.00	5.88	0.00	0.49	1.28	0.00	1.77
19	Dioscorea pentaphylla	0.06	1.00	5.88	0.00	0.49	1.28	0.00	1.77
20	Merremia umbellata	0.06	1.00	5.88	0.00	0.49	1.28	0.00	1.77
21	Tiliacora acuminata	0.06	1.00	5.88	0.00	0.49	1.28	0.00	1.77

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

FORESTS OF KANNUR DISTRICT

Kannur district consists of four natural physiographic zones namely low land (2-7.5 m MSL), Mid land (7.5-75 m above MSL), high land (75 m-750 m above MSL) and high ranges (above 750 m MSL). Total geographic area of the district is 2966 km^2. The actual forest area in the district is 163.17 km^2, which forms about 5.50 per cent of total geographic area . The major vegetation types met within the district are, West Coast Tropical Evergreen forests, West Coast Semi-evergreen forests and South Indian Moist Deciduous forests.



VEGETATION STATUS OF KANNUR DISTRICT

EVERGREEN FORESTS

Table 101. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Syzigium sp.	0.50	1.00	50.00	9664.10	1.19	3.61	19.08	23.88
2	Knema attenuata	5.50	5.50	100.00	493.59	13.04	7.23	0.97	21.24
3	Drypetes elata	6.50	9.75	66.67	386.15	15.42	4.82	0.76	20.99
4	Antiaris toxicaria	0.67	1.33	50.00	5628.60	1.58	3.61	11.11	16.30
5	Aglaia barberi	3.33	5.00	66.67	525.94	7.91	4.82	1.03	13.76
6	Terminalia bellirica	0.17	1.00	16.67	5533.52	0.40	1.20	10.92	12.52
7	Myristica dactyloides	2.33	3.50	66.67	399.77	5.53	4.82	0.78	11.14
8	Holigarna grahamii	1.83	2.75	66.67	766.29	4.35	4.82	1.51	10.68
9	Hopea parviflora	0.50	1.00	50.00	2679.70	1.19	3.61	5.29	10.09
10	Artocarpus hirsutus	0.17	1.00	16.67	4086.08	0.40	1.20	8.06	9.66
11	Elaeocarpus tuberculatus	0.17	1.00	16.67	3394.88	0.40	1.20	6.70	8.30
12	Ficus sp.	0.17	1.00	16.67	3329.28	0.40	1.20	6.57	8.17
13	Xanthophyllum arnottianum	1.67	3.33	50.00	80.25	3.95	3.61	0.15	7.72
14	Vateria indica	2.17	13.00	16.67	59.56	5.14	1.20	0.11	6.46
15	Cinnamomum sp.	1.33	4.00	33.33	208.31	3.16	2.41	0.41	5.98
16	Kingiodendron pinnatum	0.50	1.50	33.33	1131.62	1.19	2.41	2.23	5.82
17	Olea dioica	1.17	3.50	33.33	228.01	2.77	2.41	0.45	5.62
18	Dipterocarpus indicus	1.17	3.50	33.33	186.36	2.77	2.41	0.36	5.54
19	Baccaurea courtallensis	1.17	3.50	33.33	88.16	2.77	2.41	0.17	5.35
20	Nothopegia racemosa	0.83	2.50	33.33	409.60	1.98	2.41	0.80	5.19
21	Diospyros paniculata	1.00	3.00	33.33	197.64	2.37	2.41	0.39	5.17
22	Garcinia spicata	0.83	2.50	33.33	139.87	1.98	2.41	0.27	4.66
23	Persea macrantha	0.17	1.00	16.67	1501.52	0.40	1.20	2.96	4.56
24	Canarium strictum	0.50	1.50	33.33	420.00	1.19	2.41	0.82	4.42
25	Chionanthus mala-elengi	0.50	1.50	33.33	322.66	1.19	2.41	0.63	4.23
26	Vitex altissima	0.50	3.00	16.67	912.66	1.19	1.20	1.80	4.19
27	Ixora brachiata	0.50	1.50	33.33	181.50	1.19	2.41	0.35	3.95
28	Polyalthia coffeoides	0.17	1.00	16.67	1132.88	0.40	1.20	2.23	3.83

Table 101 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
29	Dimocarpus longan	1.00	6.00	16.67	49.07	2.37	1.20	0.09	3.67
30	Spondias indica	0.17	1.00	16.67	968.00	0.40	1.20	1.91	3.51
31	Donella roxburghii	0.33	1.00	33.33	153.76	0.79	2.41	0.30	3.50
32	Calophyllum polyanthum	0.33	2.00	16.67	676.00	0.79	1.20	1.33	3.33
33	Strombosia ceylanica	0.83	5.00	16.67	60.31	1.98	1.20	0.11	3.30
34	Otonephelium stipulaceum	0.17	1.00	16.67	832.32	0.40	1.20	1.64	3.24
35	Diospyros bourdillonii	0.67	4.00	16.67	156.64	1.58	1.20	0.30	3.09
36	Croton malabarica	0.17	1.00	16.67	737.28	0.40	1.20	1.45	3.05
37	Turpinia malabarica	0.17	1.00	16.67	737.28	0.40	1.20	1.45	3.05
38	Artocarpus hetrophyllus	0.33	2.00	16.67	533.61	0.79	1.20	1.05	3.04
39	Hopea ponga	0.50	3.00	16.67	232.27	1.19	1.20	0.45	2.84
40	Sageraea laurifolia	0.33	2.00	16.67	169.00	0.79	1.20	0.33	2.32
41	Antidesma menasu	0.17	1.00	16.67	327.68	0.40	1.20	0.64	2.24
42	Reinwardtiodendron anamalaiense	0.33	2.00	16.67	86.49	0.79	1.20	0.17	2.16
43	Flaucortia montana	0.17	1.00	16.67	269.12	0.40	1.20	0.53	2.13
44	Casearia ovata	0.17	1.00	16.67	224.72	0.40	1.20	0.44	2.04
45	Pterygota alata	0.17	1.00	16.67	224.72	0.40	1.20	0.44	2.04
46	Mallotus philippensis	0.17	1.00	16.67	115.52	0.40	1.20	0.22	1.82

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 102. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xanthophyllum arnottianum	2.50	3.75	66.67	41.30	32.61	18.18	6.87	57.66
2	Cinnamomum sp.	0.33	1.00	33.33	81.00	4.35	9.09	13.48	26.92
3	Diospyros paniculata	0.50	1.50	33.33	65.34	6.52	9.09	10.87	26.48
4	Myristica dactyloides	0.83	2.50	33.33	35.34	10.87	9.09	5.88	25.84
5	Donella roxburghii	0.83	2.50	33.33	30.27	10.87	9.09	5.03	24.99
6	Hopea parviflora	0.17	1.00	16.67	62.72	2.17	4.55	10.43	17.15
7	Dipterocarpus indicus	0.83	5.00	16.67	7.74	10.87	4.55	1.28	16.70
8	Mangifera indica	0.17	1.00	16.67	54.08	2.17	4.55	9.00	15.72
9	Holigarna grahamii	0.17	1.00	16.67	50.00	2.17	4.55	8.32	15.04
10	Rinorea benghalensis	0.17	1.00	16.67	38.72	2.17	4.55	6.44	13.16
11	Diospyros bourdillonii	0.33	2.00	16.67	25.00	4.35	4.55	4.16	13.05
12	Flaucortia montana	0.33	2.00	16.67	19.36	4.35	4.55	3.22	12.11
13	Antiaris toxicaria	0.17	1.00	16.67	32.00	2.17	4.55	5.32	12.04
14	Vateria indica	0.17	1.00	16.67	32.00	2.17	4.55	5.32	12.04
15	Strombosia ceylanica	0.17	1.00	16.67	25.92	2.17	4.55	4.31	11.03

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 103. Structural Status of Seedlings

No	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Knema attenuata	7.83	7.83	100.00	0.00	10.26	6.82	0.00	17.08
2	Drypetes elata	6.33	9.50	66.67	0.00	8.30	4.55	0.00	12.84
3	Myristica dactyloides	6.33	9.50	66.67	0.00	8.30	4.55	0.00	12.84
4	Xanthophyllum arnottianum	5.67	8.50	66.67	0.00	7.42	4.55	0.00	11.97
5	Aglaia barberi	4.67	7.00	66.67	0.00	6.11	4.55	0.00	10.66
6	Cinnamomum sp.	3.50	4.20	83.33	0.00	4.59	5.68	0.00	10.27
7	Garcinia spicata	2.67	4.00	66.67	0.00	3.49	4.55	0.00	8.04
8	Donella roxburghii	4.17	12.50	33.33	0.00	5.46	2.27	0.00	7.73
9	Baccaurea courtallensis	3.00	6.00	50.00	0.00	3.93	3.41	0.00	7.34
10	Holigarna grahamii	2.00	3.00	66.67	0.00	2.62	4.55	0.00	7.17
11	Diospyros paniculata	2.67	5.33	50.00	0.00	3.49	3.41	0.00	6.90
12	Syzygium sp.	2.00	4.00	50.00	0.00	2.62	3.41	0.00	6.03
13	Dipterocarpus indicus	2.50	7.50	33.33	0.00	3.28	2.27	0.00	5.55
14	Actinodaphne bourdillonii	1.50	3.00	50.00	0.00	1.97	3.41	0.00	5.37
15	Olea dioica	1.67	5.00	33.33	0.00	2.18	2.27	0.00	4.46
16	Hopea parviflora	1.50	4.50	33.33	0.00	1.97	2.27	0.00	4.24
17	Pterygota alata	1.50	4.50	33.33	0.00	1.97	2.27	0.00	4.24
18	Chionanthus mala-elengi	1.17	3.50	33.33	0.00	1.53	2.27	0.00	3.80
19	Polyalthia coffeoides	1.17	3.50	33.33	0.00	1.53	2.27	0.00	3.80
20	Kingiodendron pinnatum	0.83	2.50	33.33	0.00	1.09	2.27	0.00	3.36
21	Nothopegia racemosa	0.67	2.00	33.33	0.00	0.87	2.27	0.00	3.15
22	Vateria indica	1.33	8.00	16.67	0.00	1.75	1.14	0.00	2.88
23	Artocarpus hirsutus	0.33	1.00	33.33	0.00	0.44	2.27	0.00	2.71
24	Diospyros bourdillonii	1.00	6.00	16.67	0.00	1.31	1.14	0.00	2.45
25	Dimocarpus longan	0.83	5.00	16.67	0.00	1.09	1.14	0.00	2.23
26	Hopea ponga	0.83	5.00	16.67	0.00	1.09	1.14	0.00	2.23
27	Strombosia ceylanica	0.83	5.00	16.67	0.00	1.09	1.14	0.00	2.23
28	Antidesma menasu	0.67	4.00	16.67	0.00	0.87	1.14	0.00	2.01
29	Atalantia racemosa	0.67	4.00	16.67	0.00	0.87	1.14	0.00	2.01

Table 103 contd.

No	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
30	Hydnocarpus pentandra	0.67	4.00	16.67	0.00	0.87	1.14	0.00	2.01
31	Reinwardtiodendron anamalaiense	0.67	4.00	16.67	0.00	0.87	1.14	0.00	2.01
32	Turpinia malabarica	0.67	4.00	16.67	0.00	0.87	1.14	0.00	2.01
33	Vitex altissima	0.67	4.00	16.67	0.00	0.87	1.14	0.00	2.01
34	Artocarpus hetrophyllus	0.50	3.00	16.67	0.00	0.66	1.14	0.00	1.80
35	Calophyllum polyanthum	0.50	3.00	16.67	0.00	0.66	1.14	0.00	1.80
36	Diospyros buxifolia	0.50	3.00	16.67	0.00	0.66	1.14	0.00	1.80
37	Persea macrantha	0.50	3.00	16.67	0.00	0.66	1.14	0.00	1.80
38	Elaeocarpus tuberculatus	0.33	2.00	16.67	0.00	0.44	1.14	0.00	1.58
39	Ixora brachiata	0.33	2.00	16.67	0.00	0.44	1.14	0.00	1.58
40	Mallotus philippensis	0.33	2.00	16.67	0.00	0.44	1.14	0.00	1.58
41	Otonephelium stipulaceum	0.33	2.00	16.67	0.00	0.44	1.14	0.00	1.58
42	Sageraea laurifolia	0.33	2.00	16.67	0.00	0.44	1.14	0.00	1.58
43	Croton malabarica	0.17	1.00	16.67	0.00	0.22	1.14	0.00	1.36

Table 104. Structural Status of Shrubs

No	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Strobilanthes sp.	11.33	11.33	100.00	0.00	34.52	20.00	0.00	54.52
2	Pandanus thwaitesii	5.00	6.00	83.33	0.00	15.23	16.67	0.00	31.90
3	Chassalia ophioxyloides	3.50	5.25	66.67	0.00	10.66	13.33	0.00	23.99
4	Ventilago bombaiensis	3.17	4.75	66.67	0.00	9.64	13.33	0.00	22.98
5	Leea sp.	2.00	4.00	50.00	0.00	6.09	10.00	0.00	16.09
6	Chassalia curviflora	3.00	9.00	33.33	0.00	9.14	6.67	0.00	15.80
7	Boehmeria glomerulifera	1.33	4.00	33.33	0.00	4.06	6.67	0.00	10.73
8	Ixora sp.	1.17	3.50	33.33	0.00	3.55	6.67	0.00	10.22
9	Thottea siliquosa	1.67	10.00	16.67	0.00	5.08	3.33	0.00	8.41
10	Mallotus beddomei	0.67	4.00	16.67	0.00	2.03	3.33	0.00	5.36

Table 105. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Dracaena terniflora	1.50	1.50	100.00	0.00	56.25	50.00	0.00	106.25
2	Pellionia heyneana	0.50	1.50	33.33	0.00	18.75	16.67	0.00	35.42
3	Costus speciosus	0.33	1.00	33.33	0.00	12.50	16.67	0.00	29.17
4	Oplismenus compositus	0.17	1.00	16.67	0.00	6.25	8.33	0.00	14.58
5	Stachyphrynium spicatum	0.17	1.00	16.67	0.00	6.25	8.33	0.00	14.58

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 106 Structural Status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Calamus thwaitesii	2.00	3.00	66.67	0.00	17.65	11.76	0.00	29.41
2	Pothos scandens	1.67	2.50	66.67	0.00	14.71	11.76	0.00	26.47
3	Piper sp.	1.83	5.50	33.33	0.00	16.18	5.88	0.00	22.06
4	Smilax zeylanica	1.00	2.00	50.00	0.00	8.82	8.82	0.00	17.65
5	Raphidophora pertusa	0.67	1.33	50.00	0.00	5.88	8.82	0.00	14.71
6	Sarcostigma kleinii	0.67	1.33	50.00	0.00	5.88	8.82	0.00	14.71
7	Strychnos colubrina	0.67	1.33	50.00	0.00	5.88	8.82	0.00	14.71
8	Erythropalum scandens	0.67	2.00	33.33	0.00	5.88	5.88	0.00	11.76
9	Jasminum azoricum	0.50	1.50	33.33	0.00	4.41	5.88	0.00	10.29
10	Coscinium fenestratum	0.33	1.00	33.33	0.00	2.94	5.88	0.00	8.82
11	Jasminum sp.	0.33	2.00	16.67	0.00	2.94	2.94	0.00	5.88
12	Myxopyrum smilacifolium	0.33	2.00	16.67	0.00	2.94	2.94	0.00	5.88
13	Ancistrocladus heyneanus	0.17	1.00	16.67	0.00	1.47	2.94	0.00	4.41
14	Cissus discolor	0.17	1.00	16.67	0.00	1.47	2.94	0.00	4.41
15	Diploclisia glaucescens	0.17	1.00	16.67	0.00	1.47	2.94	0.00	4.41
16	Toddalia asiatica	0.17	1.00	16.67	0.00	1.47	2.94	0.00	4.41

SEMI EVER GREEN FORESTS

Table 107. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Holigarna grahamii	2.25	3.00	75.00	1747.03	4.95	5.66	11.61	22.22
2	Aporusa lindleyana	6.00	6.00	100.00	193.49	13.19	7.55	1.28	22.02
3	Xylia xylocarpa	6.25	8.33	75.00	235.18	13.74	5.66	1.56	20.96
4	Dillenia pentagyna	5.25	10.50	50.00	324.68	11.54	3.77	2.15	17.47
5	Lagerstroemia reginae	4.25	8.50	50.00	132.55	9.34	3.77	0.88	13.99
6	Kingiodendron pinnatum	0.25	1.00	25.00	1705.28	0.55	1.89	11.34	13.77
7	Chionanthus mala-elengi	3.00	4.00	75.00	126.61	6.59	5.66	0.84	13.09
8	Mallotus philippensis	1.25	1.25	100.00	374.54	2.75	7.55	2.49	12.78
9	Hydnocarpus pentandra	1.25	2.50	50.00	900.60	2.75	3.77	5.98	12.51
10	Terminalia paniculata	0.25	1.00	25.00	1352.00	0.55	1.89	8.99	11.42
11	Lagerstroemia microcarpa	2.50	5.00	50.00	317.85	5.49	3.77	2.11	11.38
12	Persea macrantha	0.25	1.00	25.00	1270.08	0.55	1.89	8.44	10.88
13	Dimocarpus longan	1.00	2.00	50.00	450.00	2.20	3.77	2.99	8.96
14	Naringi crenulata	2.00	4.00	50.00	94.09	4.40	3.77	0.62	8.79
15	Tetrameles nudiflora	0.25	1.00	25.00	915.92	0.55	1.89	6.09	8.52
16	Bombax insigne	0.25	1.00	25.00	882.00	0.55	1.89	5.86	8.30
17	Grewia tiliiifolia	0.25	1.00	25.00	848.72	0.55	1.89	5.64	8.08
18	Artocarpus hetrophyllus	0.50	2.00	25.00	696.96	1.10	1.89	4.63	7.62
19	Atalantia racemosa	0.50	1.00	50.00	316.84	1.10	3.77	2.10	6.97
20	Vateria indica	1.50	6.00	25.00	159.87	3.30	1.89	1.06	6.24
21	Cinnamomum sp.	0.50	1.00	50.00	153.76	1.10	3.77	1.02	5.89
22	Polyalthia coffeoides	0.75	3.00	25.00	216.00	1.65	1.89	1.43	4.97
23	Strychnos nuxvomica	0.25	1.00	25.00	369.92	0.55	1.89	2.46	4.89
24	Hopea parviflora	0.50	2.00	25.00	282.24	1.10	1.89	1.87	4.86
25	Ficus hispida	1.00	4.00	25.00	42.78	2.20	1.89	0.28	4.36
26	Olea dioica	0.50	2.00	25.00	158.76	1.10	1.89	1.05	4.04
27	Gmelina arborea	0.50	2.00	25.00	156.25	1.10	1.89	1.03	4.02
28	Stereospermum colais	0.50	2.00	25.00	139.24	1.10	1.89	0.92	3.91
29	Archidendron monadalphum	0.50	2.00	25.00	100.00	1.10	1.89	0.66	3.65
30	Flaucortia montana	0.50	2.00	25.00	100.00	1.10	1.89	0.66	3.65
31	Baccaurea courtallensis	0.25	1.00	25.00	147.92	0.55	1.89	0.98	3.41
32	Actinodaphne bourdillonii	0.50	2.00	25.00	53.29	1.10	1.89	0.35	3.34
33	Madhuca neriifolia	0.25	1.00	25.00	72.00	0.55	1.89	0.47	2.91

Table 109. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Chionanthus mala-elengi	2.25	3.00	75.00	35.84	30.00	15.79	6.31	52.10
2	Madhuca neriifolia	0.50	1.00	50.00	73.96	6.67	10.53	13.03	30.22
3	Hydnocarpus pentandra	0.50	1.00	50.00	67.24	6.67	10.53	11.84	29.04
4	Mallotus philippensis	0.50	1.00	50.00	57.76	6.67	10.53	10.17	27.37
5	Vateria indica	1.00	4.00	25.00	11.28	13.33	5.26	1.98	20.58
6	Ardisia solanacea	0.25	1.00	25.00	58.32	3.33	5.26	10.27	18.87
7	Mangifera indica	0.25	1.00	25.00	50.00	3.33	5.26	8.81	17.40
8	Holigarna grahamii	0.50	2.00	25.00	27.04	6.67	5.26	4.76	16.69
9	Polyalthia coffeoides	0.25	1.00	25.00	38.72	3.33	5.26	6.82	15.41
10	Olea dioica	0.50	2.00	25.00	19.36	6.67	5.26	3.41	15.34
11	Alstonia scholaris	0.25	1.00	25.00	32.00	3.33	5.26	5.63	14.23
12	Atalantia racemosa	0.25	1.00	25.00	32.00	3.33	5.26	5.63	14.23
13	Cinnamomum sp.	0.25	1.00	25.00	32.00	3.33	5.26	5.63	14.23
14	Xylia xylocarpa	0.25	1.00	25.00	32.00	3.33	5.26	5.63	14.23

Table 110. Structural Status of Seelings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Chionanthus mala-elengi	5.75	5.75	100.00	0.00	8.71	6.06	0.00	14.77
2	Mallotus philippensis	3.75	3.75	100.00	0.00	5.68	6.06	0.00	11.74
3	Xylia xylocarpa	4.50	6.00	75.00	0.00	6.82	4.55	0.00	11.36
4	Aporusa lindleyana	4.25	5.67	75.00	0.00	6.44	4.55	0.00	10.98
5	Olea dioica	4.25	5.67	75.00	0.00	6.44	4.55	0.00	10.98
6	Cinnamomum sp.	3.50	4.67	75.00	0.00	5.30	4.55	0.00	9.85
7	Vateria indica	4.00	8.00	50.00	0.00	6.06	3.03	0.00	9.09
8	Lagerstroemia reginae	3.75	7.50	50.00	0.00	5.68	3.03	0.00	8.71
9	Hopea parviflora	3.50	7.00	50.00	0.00	5.30	3.03	0.00	8.33
10	Actinodaphne bourdillonii	1.75	2.33	75.00	0.00	2.65	4.55	0.00	7.20
11	Baccaurea courtallensis	2.50	5.00	50.00	0.00	3.79	3.03	0.00	6.82

Table 110 contd.									
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
12	Hydnocarpus pentandra	2.25	4.50	50.00	0.00	3.41	3.03	0.00	6.44
13	Naringi crenulata	2.00	4.00	50.00	0.00	3.03	3.03	0.00	6.06
14	Dimocarpus longan	1.75	3.50	50.00	0.00	2.65	3.03	0.00	5.68
15	Ficus hispida	1.75	3.50	50.00	0.00	2.65	3.03	0.00	5.68
16	Macaranga peltata	1.50	3.00	50.00	0.00	2.27	3.03	0.00	5.30
17	Polyalthia coffeoides	1.50	3.00	50.00	0.00	2.27	3.03	0.00	5.30
18	Pterygota alata	1.50	3.00	50.00	0.00	2.27	3.03	0.00	5.30
19	Dillenia pentagyna	1.25	2.50	50.00	0.00	1.89	3.03	0.00	4.92
20	Sterculia guttata	1.25	2.50	50.00	0.00	1.89	3.03	0.00	4.92
21	Xanthophyllum arnottianum	1.25	2.50	50.00	0.00	1.89	3.03	0.00	4.92
22	Holigarna grahamii	0.75	1.50	50.00	0.00	1.14	3.03	0.00	4.17
23	Lagerstroemia microcarpa	1.25	5.00	25.00	0.00	1.89	1.52	0.00	3.41
24	Madhuca neriifolia	1.00	4.00	25.00	0.00	1.52	1.52	0.00	3.03
25	Garcinia spicata	0.75	3.00	25.00	0.00	1.14	1.52	0.00	2.65
26	Kingiodendron pinnatum	0.75	3.00	25.00	0.00	1.14	1.52	0.00	2.65
27	Ardisia solanacea	0.50	2.00	25.00	0.00	0.76	1.52	0.00	2.27
28	Artocarpus hirsutus	0.50	2.00	25.00	0.00	0.76	1.52	0.00	2.27
29	Atalantia racemosa	0.50	2.00	25.00	0.00	0.76	1.52	0.00	2.27
30	Flaucortia montana	0.50	2.00	25.00	0.00	0.76	1.52	0.00	2.27
31	Strychnos nuxvomica	0.50	2.00	25.00	0.00	0.76	1.52	0.00	2.27
32	Syzigium sp.	0.50	2.00	25.00	0.00	0.76	1.52	0.00	2.27
34	Terminalia paniculata	0.50	2.00	25.00	0.00	0.76	1.52	0.00	2.27
35	Persea macrantha	0.25	1.00	25.00	0.00	0.38	1.52	0.00	1.89
36	Sterculia villosa	0.25	1.00	25.00	0.00	0.38	1.52	0.00	1.89

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 111. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Chassalia curviflora	10.00	13.33	75.00	0.00	32.00	21.43	0.00	53.43
2	Strobilanthes sp.	10.00	13.33	75.00	0.00	32.00	21.43	0.00	53.43
3	Chassalia ophioxyloides	2.25	4.50	50.00	0.00	7.20	14.29	0.00	21.49
4	Pavetta sp.	2.50	10.00	25.00	0.00	8.00	7.14	0.00	15.14
5	Helicteres isora	2.00	8.00	25.00	0.00	6.40	7.14	0.00	13.54
6	Glycosmis pentaphylla	1.50	6.00	25.00	0.00	4.80	7.14	0.00	11.94
7	Ixora sp.	1.25	5.00	25.00	0.00	4.00	7.14	0.00	11.14
8	Leea sp.	1.00	4.00	25.00	0.00	3.20	7.14	0.00	10.34
9	Pandanus thwaitesii	0.75	3.00	25.00	0.00	2.40	7.14	0.00	9.54

Table 112. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Oplismenus compositus	2.25	3.00	75.00	0.00	50.00	37.50	0.00	87.50
2	Dracaena terniflora	0.75	1.50	50.00	0.00	16.67	25.00	0.00	41.67
3	Costus speciosus	0.50	2.00	25.00	0.00	11.11	12.50	0.00	23.61
4	Cyathula prostrata	0.50	2.00	25.00	0.00	11.11	12.50	0.00	23.61
5	Stachyphrynium spicatum	0.50	2.00	25.00	0.00	11.11	12.50	0.00	23.61

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 113. Structural Status of Climbers

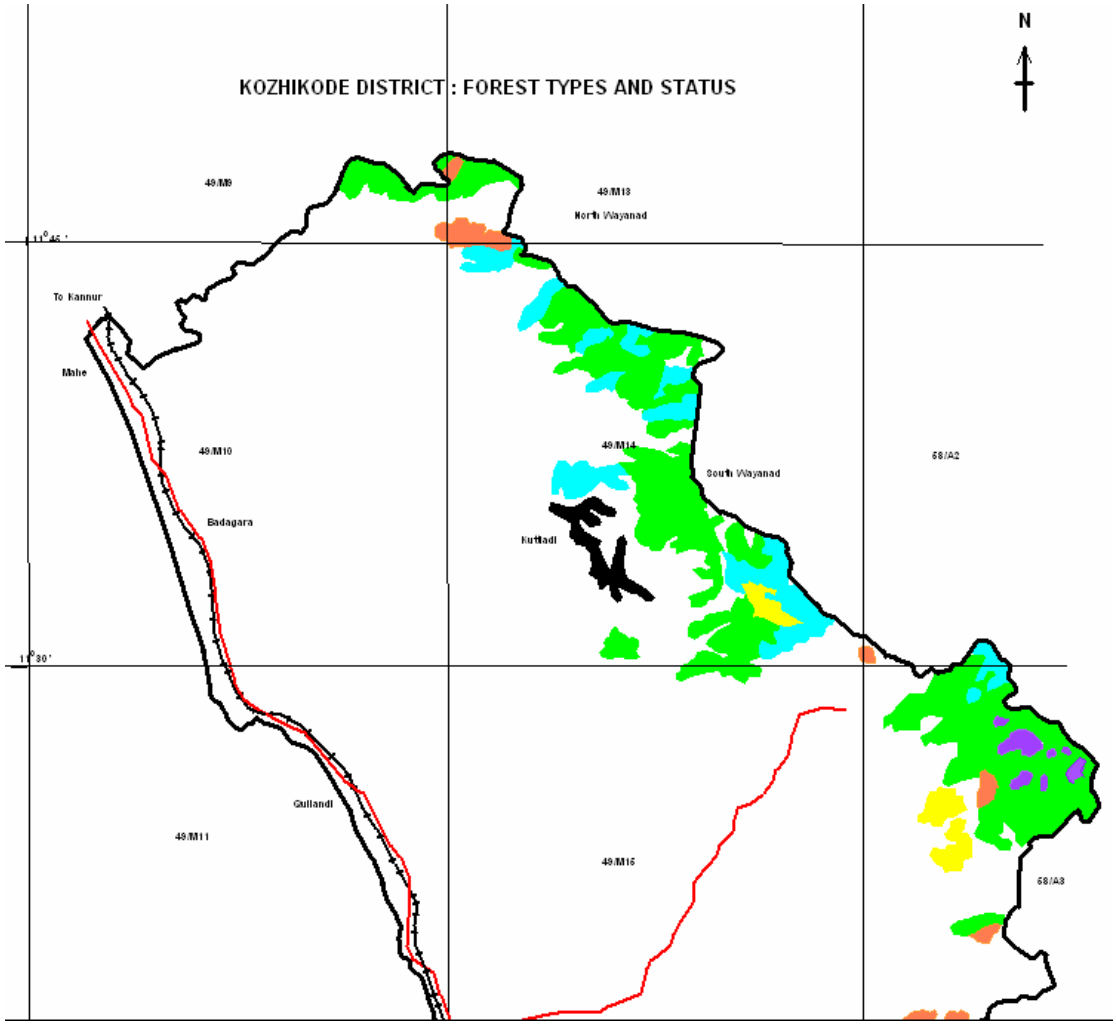
NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Piper sp.	2.25	4.50	50.00	0.00	18.00	7.41	0.00	25.41
2	Pothos scandens	1.50	2.00	75.00	0.00	12.00	11.11	0.00	23.11
3	Smilax zeylanica	1.25	2.50	50.00	0.00	10.00	7.41	0.00	17.41
4	Piper longum	1.50	6.00	25.00	0.00	12.00	3.70	0.00	15.70
5	Jasminum sp.	1.00	2.00	50.00	0.00	8.00	7.41	0.00	15.41
6	Acacia caesia	0.50	1.00	50.00	0.00	4.00	7.41	0.00	11.41
7	Anamirta cocculus	0.50	1.00	50.00	0.00	4.00	7.41	0.00	11.41
8	Myxopyrum smilacifolium	0.50	1.00	50.00	0.00	4.00	7.41	0.00	11.41
9	Strychnos colubrina	0.50	1.00	50.00	0.00	4.00	7.41	0.00	11.41
10	Ancistrocladus heyneanus	0.50	2.00	25.00	0.00	4.00	3.70	0.00	7.70
11	Calamus thwaitesii	0.50	2.00	25.00	0.00	4.00	3.70	0.00	7.70
12	Naravelia zeylanica	0.50	2.00	25.00	0.00	4.00	3.70	0.00	7.70
13	Asparagus racemosus	0.25	1.00	25.00	0.00	2.00	3.70	0.00	5.70
14	Coscinium fenestratum	0.25	1.00	25.00	0.00	2.00	3.70	0.00	5.70
15	Entada rheedei	0.25	1.00	25.00	0.00	2.00	3.70	0.00	5.70
16	Gnetum ula	0.25	1.00	25.00	0.00	2.00	3.70	0.00	5.70
17	Sarcostigma kleinii	0.25	1.00	25.00	0.00	2.00	3.70	0.00	5.70
18	Spatholobus parviflorus	0.25	1.00	25.00	0.00	2.00	3.70	0.00	5.70

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

FORESTS OF KOZHIKODE DISTRICT

Kozhikode district is located in the tropical belt and lying between the co-ordinates 8° 18' to 12 ° 18' N latitude and 74° 52' to 77° 22' E longitude.Total geographical area of Kozhikode is 2344 Km^2 and legal Forest area is 294.50 Km^2 but actual Forest area is 147.30 Km^2 .

The major vegetation types met within the district are, West Coast Tropical Evergreen Forests, West Coast Tropical Semi Evergreen Forests and South Indian Moist Deciduous Forests.



VEGETATION STATUS OF KOZHIKODE DISTRICT

EVERGREEN FORESTS

Table 114. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Vateria indica	5.33	8.00	66.67	896.80	12.31	4.04	1.17	17.52
2	Myristica dactyloides	4.00	4.80	83.33	876.67	9.23	5.05	1.15	15.43
3	Palaquium ellipticum	2.17	2.89	75.00	1876.22	5.00	4.55	2.46	12.00
4	Canarium strictum	0.75	1.29	58.33	4122.32	1.73	3.54	5.41	10.67
5	Cullenia exarillata	2.42	4.83	50.00	1407.08	5.58	3.03	1.84	10.45
6	Dimocarpus longan	1.17	1.75	66.67	2107.71	2.69	4.04	2.76	9.49
7	Drypetes elata	1.25	2.14	58.33	2106.12	2.88	3.54	2.76	9.18
8	Syzygium gardneri	0.17	1.00	16.67	5776.00	0.38	1.01	7.58	8.97
9	Elaeocarpus tuberculatus	1.00	2.00	50.00	2419.39	2.31	3.03	3.17	8.51
10	Reinwardtiodendron anamalaiense	2.08	5.00	41.67	402.07	4.81	2.53	0.52	7.86
11	Mesua ferrea	0.25	1.00	25.00	3993.84	0.58	1.52	5.24	7.33
12	Baccaurea courtallensis	1.08	1.86	58.33	753.84	2.50	3.54	0.98	7.02
13	Actinodaphne malabarica	0.33	1.00	3.33	3088.98	0.77	2.02	4.05	6.84
14	Xanthophyllum arnottianum	1.42	2.83	50.00	393.17	3.27	3.03	0.51	6.81
15	Persea macrantha	0.75	1.80	41.67	1944.13	1.73	2.53	2.55	6.80
16	Knema attenuata	1.42	4.25	33.33	544.57	3.27	2.02	0.71	6.00
17	Calophyllum polyanthum	0.42	1.67	25.00	2363.35	0.96	1.52	3.10	5.57
18	Polyalthia fragrans	0.83	2.00	41.67	716.40	1.92	2.53	0.94	5.38
19	Holigarna grahamii	0.25	1.00	25.00	2352.24	0.58	1.52	3.08	5.18
20	Semecarpus auriculata	0.92	2.75	33.33	638.62	2.12	2.02	0.83	4.97
21	Terminalia bellirica	0.17	2.00	8.33	3025.00	0.38	0.51	3.97	4.86
22	Filicium decipiense	0.08	1.00	8.33	3136.32	0.19	0.51	4.11	4.81
23	Agrostistachys borneensis	1.33	5.33	25.00	94.98	3.08	1.52	0.12	4.71
24	Cinnamomum sp.	0.08	1.00	8.33	2979.92	0.19	0.51	3.91	4.60
25	Otonephelium stipulaceum	0.33	1.00	33.33	1095.12	0.77	2.02	1.43	4.22
26	Strombosia ceylanica	0.50	2.00	25.00	1174.77	1.15	1.52	1.54	4.21
27	Garcinia gummi-gutta	0.42	1.67	25.00	1149.18	0.96	1.52	1.50	3.98

Table 114 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
28	Hopea parviflora	0.17	1.00	16.67	1971.36	0.38	1.01	2.58	3.98
29	Drypetes oblongifolia	0.58	2.33	25.00	701.93	1.35	1.52	0.92	3.78
30	Syzygium laetum	0.25	1.00	25.00	1066.66	0.58	1.52	1.40	3.49
31	Hydnocarpus pentandra	0.33	1.33	25.00	796.00	0.77	1.52	1.04	3.32
32	Mangifera indica	0.25	1.00	25.00	873.62	0.58	1.52	1.14	3.23
33	Diospyros paniculata	0.67	4.00	16.67	276.02	1.54	1.01	0.36	2.91
34	Vernonia arborea	1.00	12.0	8.33	35.36	2.31	0.51	0.04	2.85
35	Macaranga peltata	0.25	1.50	16.67	917.60	0.58	1.01	1.20	2.79
36	Spondias indica	0.08	1.00	8.33	1436.48	0.19	0.51	1.88	2.58
37	Symplocos macrophylla	0.33	2.00	16.67	617.19	0.77	1.01	0.81	2.58
38	Polyalthia coffeoides	0.83	10.0	8.33	85.03	1.92	0.51	0.11	2.53
39	Bischofia javanica	0.08	1.00	8.33	1352.00	0.19	0.51	1.77	2.47
40	Poeciloneuron indicum	0.25	1.50	16.67	669.92	0.58	1.01	0.87	2.46
41	Vepris bilocularis	0.17	1.00	16.67	750.76	0.38	1.01	0.98	2.38
42	Diospyros bourdillonii	0.75	9.00	8.33	104.31	1.73	0.51	0.13	2.37
43	Gomphandra coriacea	0.50	3.00	16.67	128.91	1.15	1.01	0.16	2.33
44	Croton malabaricus	0.25	1.50	16.67	545.30	0.58	1.01	0.71	2.30
45	Humboldtia brunonis	0.50	3.00	16.67	109.44	1.15	1.01	0.14	2.30
46	Erythrina stricta	0.08	1.00	8.33	1152.00	0.19	0.51	1.51	2.20
47	Sageraea laurifolia	0.08	1.00	8.33	1152.00	0.19	0.51	1.51	2.20
48	Symphillia mallotiformis	0.08	1.00	8.33	1095.12	0.19	0.51	1.43	2.13
49	Canthium dicoccum	0.17	1.00	16.67	556.96	0.38	1.01	0.73	2.12
50	Litsea coriacea	0.08	1.00	8.33	1058.00	0.19	0.51	1.38	2.08
51	Heritiera papilio	0.08	1.00	8.33	1003.52	0.19	0.51	1.31	2.01
52	Hopea racophloea	0.17	2.00	8.33	795.24	0.38	0.51	1.04	1.93
53	Apollonias arnottii	0.33	2.00	16.67	91.58	0.77	1.01	0.12	1.89
54	Artocarpus hirsutus	0.08	1.00	8.33	898.88	0.19	0.51	1.18	1.87
55	Meiogyne pannosa	0.25	1.50	16.67	148.00	0.58	1.01	0.19	1.78
56	Cynometra travancorica	0.33	4.00	8.33	327.68	0.77	0.51	0.43	1.70
57	Dysoxylum malabaricum	0.08	1.00	8.33	648.00	0.19	0.51	0.85	1.54

Table 114 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
58	Cynometra bourdillonii	0.42	5.00	8.33	22.14	0.96	0.51	0.02	1.49
59	Cynometra sp.	0.17	2.00	8.33	361.00	0.38	0.51	0.47	1.36
60	Flaucortia montana	0.08	1.00	8.33	474.32	0.19	0.51	0.62	1.32
61	Oreocnide integrifolia	0.33	4.00	8.33	40.95	0.77	0.51	0.05	1.32
62	Antidesma menasu	0.08	1.00	8.33	462.08	0.19	0.51	0.60	1.30
63	Hopea ponga	0.25	3.00	8.33	135.67	0.58	0.51	0.17	1.26
64	Syzygium mundagam	0.25	3.00	8.33	135.67	0.58	0.51	0.17	1.26
65	Fahrenheitia zeylanica	0.25	3.00	8.33	122.11	0.58	0.51	0.16	1.24
67	Aglaia barberi	0.08	1.00	8.33	392.00	0.19	0.51	0.51	1.21
68	Meteromyrtus wynaadensis	0.17	2.00	8.33	234.09	0.38	0.51	0.30	1.19
69	Cleidion javanicum	0.25	3.00	8.33	47.78	0.58	0.51	0.06	1.14
70	Prunus ceylanica	0.17	2.00	8.33	193.21	0.38	0.51	0.25	1.14
71	Turpinia malabarica	0.17	2.00	8.33	60.84	0.38	0.51	0.07	0.96
72	Pterospermum reticulatum	0.17	2.00	8.33	38.44	0.38	0.51	0.05	0.94
73	Litsea stocksii	0.08	1.00	8.33	169.28	0.19	0.51	0.22	0.91
74	Orophea erythrocarpa	0.08	1.00	8.33	134.48	0.19	0.51	0.17	0.87
75	Aglaia simplicifolia	0.08	1.00	8.33	115.52	0.19	0.51	0.15	0.84
76	Hopea sp.	0.08	1.00	8.33	81.92	0.19	0.51	0.10	0.80
77	Symplocos macrophylla ssp.rosea	0.08	1.00	8.33	81.92	0.19	0.51	0.10	0.80
78	Scleropyrum pentandrum	0.08	1.00	8.33	72.00	0.19	0.51	0.09	0.79

Table 115. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Myristica dactyloides	1.33	2.29	58.33	107.92	11.03	9.86	6.21	27.10
2	Baccaurea courtallensis	0.83	1.67	50.00	145.80	6.90	8.45	8.39	23.73
3	Agrostistachys borneensis	1.08	2.60	41.67	64.11	8.97	7.04	3.68	19.69
4	Xanthophyllum arnottianum	0.58	1.75	33.33	103.14	4.83	5.63	5.93	16.39
5	Drypetes elata	0.50	1.50	33.33	102.48	4.14	5.63	5.89	15.66
6	Reinwardtiodendron anamalaiense	0.67	2.00	33.33	66.69	5.52	5.63	3.83	14.98

Table 115 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
7	Symplocos macrophylla	0.08	1.00	8.33	184.32	0.69	1.41	10.60	12.70
8	Cullenia exarillata	0.75	3.00	25.00	38.91	6.21	4.23	2.23	12.67
9	Humboldtia brunonis	0.58	2.33	25.00	53.35	4.83	4.23	3.07	12.12
10	Vateria indica	0.50	2.00	25.00	61.05	4.14	4.23	3.51	11.87
11	Dimocarpus longan	0.83	5.00	16.67	18.68	6.90	2.82	1.07	10.78
12	Palaquium ellipticum	0.33	2.00	16.67	35.28	2.76	2.82	2.03	7.60
13	Syzygium gardneri	0.17	1.00	16.67	57.76	1.38	2.82	3.32	7.52
14	Otonephelium stipulaceum	0.25	1.50	16.67	43.74	2.07	2.82	2.51	7.40
15	Syzygium laetum	0.25	1.50	16.67	36.50	2.07	2.82	2.10	6.98
16	Aglaia simplicifolia	0.50	6.00	8.33	5.60	4.14	1.41	0.32	5.86
17	Syzygium munronii	0.50	6.00	8.33	4.72	4.14	1.41	0.27	5.81
18	Scleropyrum pentandrum	0.08	1.00	8.33	62.72	0.69	1.41	3.60	5.70
19	Garcinia morella	0.08	1.00	8.33	58.32	0.69	1.41	3.35	5.45
20	Polyalthia coffeoides	0.42	5.00	8.33	7.05	3.45	1.41	0.40	5.26
21	Holigarna grahamii	0.08	1.00	8.33	50.00	0.69	1.41	2.87	4.97
22	Persea macrantha	0.08	1.00	8.33	42.32	0.69	1.41	2.43	4.53
23	Knema attenuata	0.08	1.00	8.33	38.72	0.69	1.41	2.22	4.32
24	Cynometra bourdillonii	0.17	2.00	8.33	25.00	1.38	1.41	1.43	4.22
25	Garcinia gummi-gutta	0.17	2.00	8.33	24.01	1.38	1.41	1.38	4.16
26	Alstonia scholaris	0.08	1.00	8.33	35.28	0.69	1.41	2.03	4.12
27	Aglaia barberi	0.08	1.00	8.33	32.00	0.69	1.41	1.84	3.93
28	Hopea parviflora	0.08	1.00	8.33	32.00	0.69	1.41	1.84	3.93
29	Memecylon sp.	0.08	1.00	8.33	32.00	0.69	1.41	1.84	3.93
30	Meteromyrtus wynaadensis	0.08	1.00	8.33	32.00	0.69	1.41	1.84	3.93
31	Orophea erythrocarpa	0.08	1.00	8.33	32.00	0.69	1.41	1.84	3.93
32	Cleidion javanicum	0.17	2.00	8.33	18.49	1.38	1.41	1.06	3.85
33	Hopea ponga	0.17	2.00	8.33	17.64	1.38	1.41	1.01	3.80
34	Drypetes oblongifolia	0.17	2.00	8.33	16.00	1.38	1.41	0.92	3.70
35	Mesua ferrea	0.08	1.00	8.33	25.92	0.69	1.41	1.49	3.58
36	Pterospermum rubiginosum	0.08	1.00	8.33	25.92	0.69	1.41	1.49	3.58

Table 116. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Myristica dactyloides	7.58	9.10	83.33	0.00	7.27	4.88	0.00	12.15
2	Vateria indica	7.00	10.50	66.67	0.00	6.71	3.90	0.00	10.62
3	Dimocarpus longan	5.67	7.56	75.00	0.00	5.44	4.39	0.00	9.83
4	Cullenia exarillata	6.42	11.00	58.33	0.00	6.16	3.41	0.00	9.57
5	Reinwardtiodendron anamalaiense	5.92	10.14	58.33	0.00	5.68	3.41	0.00	9.09
6	Baccaurea courtallensis	4.67	6.22	75.00	0.00	4.48	4.39	0.00	8.87
7	Drypetes elata	4.42	5.89	75.00	0.00	4.24	4.39	0.00	8.63
8	Agrostistachys borneensis	4.83	7.25	66.67	0.00	4.64	3.90	0.00	8.54
9	Xanthophyllum arnottianum	4.67	8.00	58.33	0.00	4.48	3.41	0.00	7.89
10	Syzygium munronii	4.25	7.29	58.33	0.00	4.08	3.41	0.00	7.49
11	Palaquium ellipticum	3.25	6.50	50.00	0.00	3.12	2.93	0.00	6.04
12	Cinnamomum sp.	2.58	4.43	58.33	0.00	2.48	3.41	0.00	5.89
13	Otonephelium stipulaceum	2.42	4.83	50.00	0.00	2.32	2.93	0.00	5.24
14	Humboldtia brunonis	2.75	6.60	41.67	0.00	2.64	2.44	0.00	5.08
15	Semecarpus auriculata	2.58	6.20	41.67	0.00	2.48	2.44	0.00	4.92
16	Syzygium laetum	1.92	4.60	41.67	0.00	1.84	2.44	0.00	4.28
17	Actinodaphne malabarica	1.33	3.20	41.67	0.00	1.28	2.44	0.00	3.72
18	Garcinia gummi-gutta	1.25	3.75	33.33	0.00	1.20	1.95	0.00	3.15
19	Knema attenuata	1.67	6.67	25.00	0.00	1.60	1.46	0.00	3.06
20	Mesua ferrea	1.00	3.00	33.33	0.00	0.96	1.95	0.00	2.91
21	Persea macrantha	1.00	3.00	33.33	0.00	0.96	1.95	0.00	2.91
22	Polyalthia fragrans	0.83	2.50	33.33	0.00	0.80	1.95	0.00	2.75
23	Croton malabaricus	0.67	2.00	33.33	0.00	0.64	1.95	0.00	2.59
24	Hopea ponga	1.67	10.00	16.67	0.00	1.60	0.98	0.00	2.57
25	Elaeocarpus tuberculatus	0.58	1.75	33.33	0.00	0.56	1.95	0.00	2.51
26	Poeciloneuron indicum	0.75	3.00	25.00	0.00	0.72	1.46	0.00	2.18
27	Gomphandra coriacea	1.08	6.50	16.67	0.00	1.04	0.98	0.00	2.01
28	Syzygium gardneri	1.08	6.50	16.67	0.00	1.04	0.98	0.00	2.01
29	Polyalthia coffeoides	1.00	6.00	16.67	0.00	0.96	0.98	0.00	1.93

Table 116 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
30	Apollonias arnottii	0.92	5.50	16.67	0.00	0.88	0.98	0.00	1.85
31	Hopea racophloea	1.42	17.00	8.33	0.00	1.36	0.49	0.00	1.85
32	Strombosia ceylanica	0.92	5.50	16.67	0.00	0.88	0.98	0.00	1.85
33	Diospyros paniculata	0.83	5.00	16.67	0.00	0.80	0.98	0.00	1.77
34	Garcinia morella	0.83	5.00	16.67	0.00	0.80	0.98	0.00	1.77
35	Syzygium occidentale	0.67	4.00	16.67	0.00	0.64	0.98	0.00	1.62
36	Hopea parviflora	1.17	14.00	8.33	0.00	1.12	0.49	0.00	1.61
37	Memecylon sp.	0.58	3.50	16.67	0.00	0.56	0.98	0.00	1.54
38	Memecylon deccanense	0.42	2.50	16.67	0.00	0.40	0.98	0.00	1.38
39	Aglaia simplicifolia	0.83	10.00	8.33	0.00	0.80	0.49	0.00	1.29
40	Diospyros bourdillonii	0.83	10.00	8.33	0.00	0.80	0.49	0.00	1.29
41	Drypetes oblongifolia	0.58	7.00	8.33	0.00	0.56	0.49	0.00	1.05
42	Filicium decipiens	0.58	7.00	8.33	0.00	0.56	0.49	0.00	1.05
43	Meteromyrtus wynaadensis	0.58	7.00	8.33	0.00	0.56	0.49	0.00	1.05
44	Nothopegia colebrookeana	0.58	7.00	8.33	0.00	0.56	0.49	0.00	1.05
45	Antidesma menasu	0.50	6.00	8.33	0.00	0.48	0.49	0.00	0.97
46	Cynometra sp.	0.50	6.00	8.33	0.00	0.48	0.49	0.00	0.97
47	Cynometra travancorica	0.50	6.00	8.33	0.00	0.48	0.49	0.00	0.97
48	Meiogyne pannosa	0.50	6.00	8.33	0.00	0.48	0.49	0.00	0.97
49	Orophea erythrocarpa	0.50	6.00	8.33	0.00	0.48	0.49	0.00	0.97
50	Syzygium mundagam	0.50	6.00	8.33	0.00	0.48	0.49	0.00	0.97
51	Goniothalamus spp.	0.42	5.00	8.33	0.00	0.40	0.49	0.00	0.89
52	Cleidion javanicum	0.33	4.00	8.33	0.00	0.32	0.49	0.00	0.81
53	Fahrenheitia zeylanica	0.33	4.00	8.33	0.00	0.32	0.49	0.00	0.81
54	Holigarna grahamii	0.33	4.00	8.33	0.00	0.32	0.49	0.00	0.81
55	Kingiodendron pinnatum	0.33	4.00	8.33	0.00	0.32	0.49	0.00	0.81
56	Bischofia javanica	0.25	3.00	8.33	0.00	0.24	0.49	0.00	0.73
57	Canthium dicoccum	0.25	3.00	8.33	0.00	0.24	0.49	0.00	0.73
58	Cynometra bourdillonii	0.25	3.00	8.33	0.00	0.24	0.49	0.00	0.73
59	Gomphandra tetrandra	0.25	3.00	8.33	0.00	0.24	0.49	0.00	0.73

Table 116 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
60	Goniothalamus wynaadensis	0.25	3.00	8.33	0.00	0.24	0.49	0.00	0.73
61	Hydnocarpus pentandra	0.25	3.00	8.33	0.00	0.24	0.49	0.00	0.73
62	Oreocnide integrifolia	0.25	3.00	8.33	0.00	0.24	0.49	0.00	0.73
63	Symplocos macrophylla	0.25	3.00	8.33	0.00	0.24	0.49	0.00	0.73
64	Turpinia malabarica	0.25	3.00	8.33	0.00	0.24	0.49	0.00	0.73
65	Dysoxylum malabaricum	0.17	2.00	8.33	0.00	0.16	0.49	0.00	0.65
66	Litsea coriacea	0.17	2.00	8.33	0.00	0.16	0.49	0.00	0.65
67	Prunus ceylanica	0.17	2.00	8.33	0.00	0.16	0.49	0.00	0.65
68	Archidendron monadelphum	0.08	1.00	8.33	0.00	0.08	0.49	0.00	0.57
69	Pterospermum rubiginosum	0.08	1.00	8.33	0.00	0.08	0.49	0.00	0.57

Table 117. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Thottea siliquosa	9.83	13.11	75.00	0.00	22.82	15.52	0.00	38.34
2	Pandanus thwaitesii	3.25	4.88	66.67	0.00	7.54	13.79	0.00	21.34
3	Ventilago bombaiensis	3.58	6.14	58.33	0.00	8.32	12.07	0.00	20.39
4	Chassalia curviflora	5.42	16.25	33.33	0.00	12.57	6.90	0.00	19.47
5	Strobilanthes sp.	5.75	23.00	25.00	0.00	13.35	5.17	0.00	18.52
6	Dendrocnide sinuata	2.33	5.60	41.67	0.00	5.42	8.62	0.00	14.04
7	Chassalia sp.	2.33	7.00	33.33	0.00	5.42	6.90	0.00	12.31
8	Saprosma fragrans	2.33	9.33	25.00	0.00	5.42	5.17	0.00	10.59
9	Ixora elongata	1.67	10.00	16.67	0.00	3.87	3.45	0.00	7.32
10	Gomphandra tetrandra	1.25	7.50	16.67	0.00	2.90	3.45	0.00	6.35
11	Lasianthus rostratus	1.25	7.50	16.67	0.00	2.90	3.45	0.00	6.35
12	Sarcandra chloranthoides	1.17	7.00	16.67	0.00	2.71	3.45	0.00	6.16
13	Lepisanthes erecta	0.83	5.00	16.67	0.00	1.93	3.45	0.00	5.38
14	Boehmeria glomerulifera	0.75	4.50	16.67	0.00	1.74	3.45	0.00	5.19
15	Saprosma glomeratum	0.50	6.00	8.33	0.00	1.16	1.72	0.00	2.88
16	Justicia santapaui	0.42	5.00	8.33	0.00	0.97	1.72	0.00	2.69
17	Pavetta oblanceolata	0.42	5.00	8.33	0.00	0.97	1.72	0.00	2.69

Table 118. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Elatostema lineolatum	0.75	1.29	58.33	0.00	23.68	22.58	0.00	46.26
2	Pellionia heyneana	0.75	1.50	50.00	0.00	23.68	19.35	0.00	43.04
3	Dracaena terniflora	0.50	1.20	41.67	0.00	15.79	16.13	0.00	31.92
4	Peliosanthes tecta	0.50	1.20	41.67	0.00	15.79	16.13	0.00	31.92
5	Barleria sp.	0.17	1.00	16.67	0.00	5.26	6.45	0.00	11.71
6	Colebrookea oppositifolia	0.17	1.00	16.67	0.00	5.26	6.45	0.00	11.71
7	Bolbitis sp.	0.08	1.00	8.33	0.00	2.63	3.23	0.00	5.86
8	Elatostema serratum	0.08	1.00	8.33	0.00	2.63	3.23	0.00	5.86
9	Isanthera permollis	0.08	1.00	8.33	0.00	2.63	3.23	0.00	5.86
10	Neurocalyx wightii	0.08	1.00	8.33	0.00	2.63	3.23	0.00	5.86

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 119. Structural Status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Calamus sp.	2.83	3.78	75.00	0.00	20.24	15.25	0.00	35.49
2	Piper sp.	2.17	5.20	41.67	0.00	15.48	8.47	0.00	23.95
3	Kunstleria keralensis	1.67	4.00	41.67	0.00	11.90	8.47	0.00	20.38
4	Thunbergia mysorensis	1.33	3.20	41.67	0.00	9.52	8.47	0.00	18.00
5	Pothos armatus	1.42	4.25	33.33	0.00	10.12	6.78	0.00	16.90
6	Smilax zeylanica	0.67	1.33	50.00	0.00	4.76	10.17	0.00	14.93
7	Myxopyrum smilacifolium	0.67	2.00	33.33	0.00	4.76	6.78	0.00	11.54
8	Erythropalum scandens	0.50	2.00	25.00	0.00	3.57	5.08	0.00	8.66
9	Raphidophora pertusa	0.50	3.00	16.67	0.00	3.57	3.39	0.00	6.96
10	Pothos thomsonianus	0.42	2.50	16.67	0.00	2.98	3.39	0.00	6.37
11	Toddalia asiatica	0.42	2.50	16.67	0.00	2.98	3.39	0.00	6.37
12	Ancistrocladus heyneanus	0.33	2.00	16.67	0.00	2.38	3.39	0.00	5.77
13	Jasminum azoricum	0.17	1.00	16.67	0.00	1.19	3.39	0.00	4.58
14	Strychnos colubrina	0.17	1.00	16.67	0.00	1.19	3.39	0.00	4.58
15	Calamus hookerianus	0.25	3.00	8.33	0.00	1.79	1.69	0.00	3.48
16	Coscinium fenestratum	0.17	2.00	8.33	0.00	1.19	1.69	0.00	2.89
17	Cissus sp.	0.08	1.00	8.33	0.00	0.60	1.69	0.00	2.29
18	Derris sp.	0.08	1.00	8.33	0.00	0.60	1.69	0.00	2.29
19	Miquelia dentata	0.08	1.00	8.33	0.00	0.60	1.69	0.00	2.29
20	Sarcostigma kleinii	0.08	1.00	8.33	0.00	0.60	1.69	0.00	2.29

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

SEMI EVERGREEN FORESTS

Table 120. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Elaeocarpus tuberculatus	2.33	3.50	66.67	1218.31	7.07	5.71	8.74	21.53
2	Baccaurea courtallensis	3.33	3.33	100.00	195.01	10.10	8.57	1.40	20.07
3	Elaeocarpus glandulosus	0.33	1.00	33.33	1946.88	1.01	2.86	13.97	17.84
4	Euodia lunu-ankenda	0.33	1.00	33.33	1897.28	1.01	2.86	13.62	17.48
5	Bombax insigne	0.33	1.00	33.33	1752.32	1.01	2.86	12.58	16.44
6	Knema attenuata	2.33	3.50	66.67	367.00	7.07	5.71	2.63	15.42
7	Ficus racemosa	0.33	1.00	33.33	1458.00	1.01	2.86	10.46	14.33
8	Harpullia arborea	1.33	2.00	66.67	581.40	4.04	5.71	4.17	13.92
9	Otonephelium stipulaceum	1.67	2.50	66.67	393.53	5.05	5.71	2.82	13.59
10	Xanthophyllum arnottianum	3.33	10.00	33.33	16.20	10.10	2.86	0.11	13.07
11	Mallotus philippensis	0.67	1.00	66.67	696.96	2.02	5.71	5.00	12.73
12	Olea dioica	1.67	2.50	66.67	204.30	5.05	5.71	1.46	12.23
13	Drypetes elata	2.33	7.00	33.33	73.67	7.07	2.86	0.52	10.45
14	Vateria indica	0.33	1.00	33.33	915.92	1.01	2.86	6.57	10.44
15	Cinnamomum sp.	2.33	7.00	33.33	26.80	7.07	2.86	0.19	10.12
16	Holigarna grahamii	2.00	6.00	33.33	82.85	6.06	2.86	0.59	9.51
17	Polyalthia coffeoides	1.67	5.00	33.33	123.90	5.05	2.86	0.88	8.79
18	Strombosia ceylanica	0.67	2.00	33.33	470.89	2.02	2.86	3.38	8.25
19	Neonauclea purpurea	1.00	3.00	33.33	275.64	3.03	2.86	1.97	7.86
20	Terminalia paniculata	0.67	2.00	33.33	331.24	2.02	2.86	2.37	7.25
21	Alstonia scholaris	1.00	3.00	33.33	73.02	3.03	2.86	0.52	6.41
22	Grewia tiliifolia	0.67	2.00	33.33	174.24	2.02	2.86	1.25	6.12
23	Croton malabaricus	0.33	1.00	33.33	250.88	1.01	2.86	1.80	5.66
24	Holarrhena pubescens	0.67	2.00	33.33	96.04	2.02	2.86	0.68	5.56
25	Persea macrantha	0.67	2.00	33.33	49.00	2.02	2.86	0.35	5.22
26	Ficus hispida	0.33	1.00	33.33	184.32	1.01	2.86	1.32	5.19
27	Pterospermum reticulatum	0.33	1.00	33.33	72.00	1.01	2.86	0.51	4.38

Table 121. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xanthophyllum arnottianum	1.67	2.50	66.67	39.60	29.41	18.18	11.74	59.34
2	Holarrhena pubescens	0.33	1.00	33.33	50.00	5.88	9.09	14.83	29.80
3	Cinnamomum sp.	1.00	3.00	33.33	9.29	17.65	9.09	2.75	29.49
4	Croton malabaricus	0.33	1.00	33.33	42.32	5.88	9.09	12.55	27.52
5	Dimocarpus longan	0.33	1.00	33.33	42.32	5.88	9.09	12.55	27.52
6	Otonephelium stipulaceum	0.33	1.00	33.33	42.32	5.88	9.09	12.55	27.52
7	Baccaurea courtallensis	0.67	2.00	33.33	15.21	11.76	9.09	4.51	25.36
8	Garcinia gummi-gutta	0.33	1.00	33.33	32.00	5.88	9.09	9.49	24.46
9	Holigarna grahamii	0.33	1.00	33.33	32.00	5.88	9.09	9.49	24.46
10	Pterospermum divorsifolium	0.33	1.00	33.33	32.00	5.88	9.09	9.49	24.46

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 122. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xanthophyllum arnottianum	7.33	7.33	100.00	0.00	13.10	8.11	0.00	21.20
2	Baccaurea courtallensis	6.00	6.00	100.00	0.00	10.71	8.11	0.00	18.82
3	Mallotus philippensis	3.00	3.00	100.00	0.00	5.36	8.11	0.00	13.47
4	Knema attenuata	4.33	6.50	66.67	0.00	7.74	5.41	0.00	13.14
5	Harpullia arborea	4.00	6.00	66.67	0.00	7.14	5.41	0.00	12.55
6	Olea dioica	4.00	6.00	66.67	0.00	7.14	5.41	0.00	12.55
7	Otonephelium stipulaceum	3.67	5.50	66.67	0.00	6.55	5.41	0.00	11.95
8	Cinnamomum sp.	2.67	4.00	66.67	0.00	4.76	5.41	0.00	10.17
9	Croton malabaricus	2.00	3.00	66.67	0.00	3.57	5.41	0.00	8.98
10	Holigarna grahamii	1.33	2.00	66.67	0.00	2.38	5.41	0.00	7.79
11	Terminalia paniculata	2.67	8.00	33.33	0.00	4.76	2.70	0.00	7.46
12	Polyalthia coffeoides	2.33	7.00	33.33	0.00	4.17	2.70	0.00	6.87
13	Dimocarpus longan	2.00	6.00	33.33	0.00	3.57	2.70	0.00	6.27
14	Drypetes elata	2.00	6.00	33.33	0.00	3.57	2.70	0.00	6.27
15	Elaeocarpus glandulosus	2.00	6.00	33.33	0.00	3.57	2.70	0.00	6.27
16	Agrostistachys borneensis	1.00	3.00	33.33	0.00	1.79	2.70	0.00	4.49
17	Holarrhena pubescens	1.00	3.00	33.33	0.00	1.79	2.70	0.00	4.49
18	Neonauclea purpurea	1.00	3.00	33.33	0.00	1.79	2.70	0.00	4.49
19	Artocarpus hirsutus	0.67	2.00	33.33	0.00	1.19	2.70	0.00	3.89
20	Elaeocarpus tuberculatus	0.67	2.00	33.33	0.00	1.19	2.70	0.00	3.89
21	Garcinia gummi-gutta	0.67	2.00	33.33	0.00	1.19	2.70	0.00	3.89
22	Kingiodendron pinnatum	0.67	2.00	33.33	0.00	1.19	2.70	0.00	3.89
23	Pterygota alata	0.67	2.00	33.33	0.00	1.19	2.70	0.00	3.89
24	Persea macrantha	0.33	1.00	33.33	0.00	0.60	2.70	0.00	3.30

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 123. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Thottea siliquosa	10.33	10.33	100.00	0.00	47.69	25.00	0.00	72.69
2	Boehmeria glomerulifera	2.33	3.50	66.67	0.00	10.77	16.67	0.00	27.44
3	Ventilago bombaiensis	2.00	3.00	66.67	0.00	9.23	16.67	0.00	25.90
4	Helicteres isora	2.67	8.00	33.33	0.00	12.31	8.33	0.00	20.64
5	Chassalia sp.	1.33	4.00	33.33	0.00	6.15	8.33	0.00	14.49
6	Chassalia ophioxyloides	1.00	3.00	33.33	0.00	4.62	8.33	0.00	12.95
7	Leea sp.	1.00	3.00	33.33	0.00	4.62	8.33	0.00	12.95
8	Ochlandra travancorica	1.00	3.00	33.33	0.00	4.62	8.33	0.00	12.95

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 124. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Dracaena terniflora	1.33	1.00	133.33	0.00	33.33	33.33	0.00	66.67
2	Gymnostachyum febrifugum	1.00	1.00	100.00	0.00	25.00	25.00	0.00	50.00
3	Ophiorrhiza mungos	0.67	1.00	66.67	0.00	16.67	16.67	0.00	33.33
4	Costus speciosus	0.33	1.00	33.33	0.00	8.33	8.33	0.00	16.67
5	Globba marantina	0.33	1.00	33.33	0.00	8.33	8.33	0.00	16.67
6	Scleria annularis	0.33	1.00	33.33	0.00	8.33	8.33	0.00	16.67

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 125. Structural Status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Piper sp.	1.67	2.50	66.67	0.00	26.32	15.38	0.00	41.70
2	Acacia caesia	1.00	1.50	66.67	0.00	15.79	15.38	0.00	31.17
3	Calamus sp.	1.00	1.50	66.67	0.00	15.79	15.38	0.00	31.17
4	Erythropalum scandens	0.67	2.00	33.33	0.00	10.53	7.69	0.00	18.22
5	Argyreia sp.	0.33	1.00	33.33	0.00	5.26	7.69	0.00	12.96
6	Derris sp.	0.33	1.00	33.33	0.00	5.26	7.69	0.00	12.96
7	Jasminum azoricum	0.33	1.00	33.33	0.00	5.26	7.69	0.00	12.96
8	Raphidophora pertusa	0.33	1.00	33.33	0.00	5.26	7.69	0.00	12.96
9	Smilax zeylanica	0.33	1.00	33.33	0.00	5.26	7.69	0.00	12.96
10	Strychnos colubrina	0.33	1.00	33.33	0.00	5.26	7.69	0.00	12.96

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

MOIST DECIDUOUS FORESTS

Table 126. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xylia xylocarpa	10.25	10.25	100.00	228.47	32.54	11.76	2.08	46.38
2	Terminalia paniculata	7.75	7.75	100.00	182.04	24.60	11.76	1.66	38.02
3	Dillenia pentagyna	1.00	1.33	75.00	2339.28	3.17	8.82	21.34	33.34
4	Olea dioica	3.00	4.00	75.00	395.70	9.52	8.82	3.61	21.95
5	Schleichera oleosa	0.50	1.00	50.00	1197.16	1.59	5.88	10.92	18.39
6	Strychnos nux-vomica	1.00	2.00	50.00	956.33	3.17	5.88	8.72	17.78
7	Terminalia bellirica	0.75	1.50	50.00	932.50	2.38	5.88	8.51	16.77
8	Holarrhena pubescens	0.75	1.00	75.00	403.44	2.38	8.82	3.68	14.88
9	Stereospermum colais	0.25	1.00	25.00	1113.92	0.79	2.94	10.16	13.90
10	Persea macrantha	0.25	1.00	25.00	1003.52	0.79	2.94	9.15	12.89
11	Naringi crenulata	1.75	3.50	50.00	75.59	5.56	5.88	0.68	12.12
12	Dalbergia latifolia	0.25	1.00	25.00	768.32	0.79	2.94	7.01	10.74
13	Alstonia scholaris	0.25	1.00	5.00	524.88	0.79	2.94	4.79	8.52
14	Elaeocarpus serratus	0.75	3.00	25.00	286.59	2.38	2.94	2.61	7.93
15	Terminalia crenulata	0.50	2.00	25.00	353.44	1.59	2.94	3.22	7.75
16	Grewia tiliifolia	1.00	4.00	25.00	83.20	3.17	2.94	0.75	6.87
17	Chionanthus mala-elengi	1.00	4.00	25.00	53.56	3.17	2.94	0.48	6.60
18	Lagerstroemia microcarpa	0.50	2.00	25.00	59.29	1.59	2.94	0.54	5.06

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 127. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Naringi crenulata	3.75	5.00	75.00	22.54	55.56	30.00	10.30	95.85
2	Alangium salvifolium	0.25	1.00	25.00	54.08	3.70	10.00	24.70	38.40
3	Dillenia pentagyna	0.25	1.00	25.00	42.32	3.70	10.00	19.33	33.03
4	Euodia lunu-ankenda	0.25	1.00	25.00	35.28	3.70	10.00	16.11	29.82
5	Terminalia paniculata	0.75	3.00	25.00	12.52	11.11	10.00	5.72	26.83
6	Holarrhena pubescens	0.75	3.00	25.00	11.02	11.11	10.00	5.03	26.14
7	Vitex altissima	0.25	1.00	25.00	25.92	3.70	10.00	11.84	25.54
8	Chionanthus mala-elengi	0.50	2.00	25.00	15.21	7.41	10.00	6.94	24.35

Table 128. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Xylia xylocarpa	12.75	12.75	100.00	0.00	25.50	11.11	0.00	36.61
2	Naringi crenulata	9.00	9.00	100.00	0.00	18.00	11.11	0.00	29.11
3	Terminalia paniculata	7.75	7.75	100.00	0.00	15.50	11.11	0.00	26.61
4	Olea dioica	4.75	6.33	75.00	0.00	9.50	8.33	0.00	17.83
5	Holarrhena pubescens	2.25	3.00	75.00	0.00	4.50	8.33	0.00	12.83
6	Grewia tiliifolia	2.25	4.50	50.00	0.00	4.50	5.56	0.00	10.06
7	Chionanthus mala-elengi	1.75	3.50	50.00	0.00	3.50	5.56	0.00	9.06
8	Macaranga peltata	1.75	3.50	50.00	0.00	3.50	5.56	0.00	9.06
9	Schleichera oleosa	1.50	3.00	50.00	0.00	3.00	5.56	0.00	8.56
10	Dillenia pentagyna	0.75	1.50	50.00	0.00	1.50	5.56	0.00	7.06
11	Vitex altissima	1.50	6.00	25.00	0.00	3.00	2.78	0.00	5.78
12	Mallotus philippensis	1.00	4.00	25.00	0.00	2.00	2.78	0.00	4.78
13	Cinnamomum sp.	0.75	3.00	25.00	0.00	1.50	2.78	0.00	4.28
14	Terminalia crenulata	0.75	3.00	25.00	0.00	1.50	2.78	0.00	4.28
15	Strychnos nux-vomica	0.50	2.00	25.00	0.00	1.00	2.78	0.00	3.78
16	Ziziphus xylopyrus	0.50	2.00	25.00	0.00	1.00	2.78	0.00	3.78
17	Dalbergia latifolia	0.25	1.00	25.00	0.00	0.50	2.78	0.00	3.28
18	Pterospermum rubiginosum	0.25	1.00	25.00	0.00	0.50	2.78	0.00	3.28

Table 129. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Helicteres isora	23.00	30.67	75.00	0.00	45.32	17.65	0.00	62.97
2	Chromolaena odorata	14.25	14.25	100.00	0.00	28.08	23.53	0.00	51.61
3	Glycosmis pentaphylla	6.25	12.50	50.00	0.00	12.32	11.76	0.00	24.08
4	Ziziphus oenoplia	2.50	5.00	50.00	0.00	4.93	11.76	0.00	16.69
5	Clerodendron viscosum	1.50	6.00	25.00	0.00	2.96	5.88	0.00	8.84
6	Triumfetta rhomboidea	1.25	5.00	25.00	0.00	2.46	5.88	0.00	8.35
7	Bamboosa bambos	0.50	2.00	25.00	0.00	0.99	5.88	0.00	6.87
8	Hibiscus furcatus	0.50	2.00	25.00	0.00	0.99	5.88	0.00	6.87
9	Rauvolfia serpentina	0.50	2.00	25.00	0.00	0.99	5.88	0.00	6.87
10	Ventilago bombaiensis	0.50	2.00	25.00	0.00	0.99	5.88	0.00	6.87

Table 130. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Phaulopsis imbricata	0.75	1.00	75.00	0.00	20.00	20.00	0.00	40.00
2	Curculigo orchioides	0.75	1.00	75.00	0.00	20.00	20.00	0.00	40.00
3	Curcuma ecalcarata	0.50	1.00	50.00	0.00	13.33	13.33	0.00	26.67
4	Vernonia cineria	0.25	1.00	25.00	0.00	6.67	6.67	0.00	13.33
5	Sida acuta	0.25	1.00	25.00	0.00	6.67	6.67	0.00	13.33
6	Rungia pectinata	0.25	1.00	25.00	0.00	6.67	6.67	0.00	13.33
7	Naregamia alata	0.25	1.00	25.00	0.00	6.67	6.67	0.00	13.33
8	Canscora perfoliata	0.25	1.00	25.00	0.00	6.67	6.67	0.00	13.33
9	Zeuxine longilabris	0.25	1.00	25.00	0.00	6.67	6.67	0.00	13.33
10	Biophytum sensitivum	0.25	1.00	25.00	0.00	6.67	6.67	0.00	13.33

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

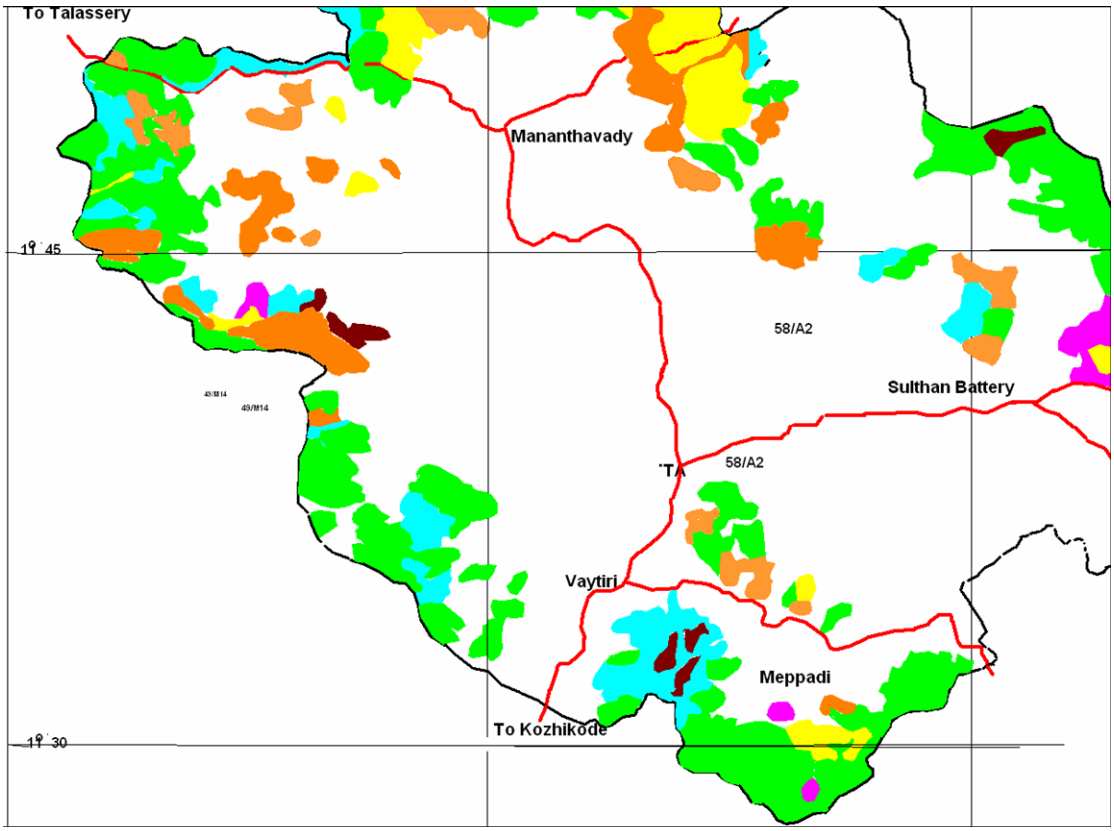
Table 131. Structural Status of Climbers

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Calycopteris floribunda	2.50	5.00	50.00	0.00	22.73	10.00	0.00	32.73
2	Ichnocarpus frutescens	2.00	4.00	50.00	0.00	18.18	10.00	0.00	28.18
3	Cyclea peltata	1.25	1.67	75.00	0.00	11.36	15.00	0.00	26.36
4	Cymbidium aloifolium	1.25	2.50	50.00	0.00	11.36	10.00	0.00	21.36
5	Asparagus racemosus	1.00	2.00	50.00	0.00	9.09	10.00	0.00	19.09
6	Dioscorea pentaphylla	0.50	1.00	50.00	0.00	4.55	10.00	0.00	14.55
7	Jasminum sp.	0.50	2.00	25.00	0.00	4.55	5.00	0.00	9.55
8	Naravelia zeylanica	0.50	2.00	25.00	0.00	4.55	5.00	0.00	9.55
9	Smilax zeylanica	0.50	2.00	25.00	0.00	4.55	5.00	0.00	9.55
10	Acacia caesia	0.25	1.00	25.00	0.00	2.27	5.00	0.00	7.27
11	Dioscorea sp.	0.25	1.00	25.00	0.00	2.27	5.00	0.00	7.27
12	Helicanthes elastica	0.25	1.00	25.00	0.00	2.27	5.00	0.00	7.27
13	Spatholobus parviflorus	0.25	1.00	25.00	0.00	2.27	5.00	0.00	7.27

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

FORESTS OF WYNAD DISTRICT

The present Wynad district includes parts of the former Kozhikode and Kannur Districts. The district is having a geographical area of 2131 km^2. The actual forest area in the district is about 791.86 km^2 which forms about 37.16 per cent total geographic area.The major vegetation types met within the district are West Coast Tropical Evergreen forests, West Coast Tropical Semi Evergreen forests, South Indian Moist Deciduous forests, Southern Tropical Dry Deciduous forests, Southern Montane Wet Temperate forests and Grass lands.



VEGETATION STATUS OF WAYANAD DISTRICT

EVERGREEN FORESTS

Table 132. Structural Status of Tress

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Elaeocarpus tuberculatus	1.40	2.00	70.00	4985.63	4.59	5.47	7.07	17.13
2	Bombax insigne	0.50	1.25	40.00	4468.99	1.64	3.13	6.34	11.10
3	Litsea floribunda	2.50	8.33	30.00	93.19	8.20	2.34	0.13	10.67
4	Palaquium ellipticum	0.20	1.00	20.00	5929.00	0.66	1.56	8.41	10.63
5	Vateria indica	2.40	8.00	30.00	289.43	7.87	2.34	0.41	10.62
6	Persea macrantha	0.20	1.00	20.00	5898.24	0.66	1.56	8.37	10.59
7	Calophyllum polyanthum	0.60	1.50	40.00	3407.07	1.97	3.13	4.83	9.92
8	Olea dioica	1.20	2.40	50.00	1006.57	3.93	3.91	1.42	9.26
9	Myristica dactyloides	1.00	2.00	50.00	1120.02	3.28	3.91	1.59	8.77
10	Cullenia exarillata	1.10	3.67	30.00	1803.66	3.61	2.34	2.56	8.51
11	Holigarna grahamii	0.40	1.33	30.00	3168.08	1.31	2.34	4.49	8.15
12	Ficus callosa	0.10	1.00	10.00	4802.00	0.33	0.78	6.81	7.92
13	Bischofia javanica	0.50	1.25	40.00	2214.14	1.64	3.13	3.14	7.90
14	Mallotus philippensis	0.70	1.75	40.00	1268.59	2.30	3.13	1.80	7.22
15	Polyalthia coffeoides	0.50	1.25	40.00	1643.52	1.64	3.13	2.33	7.09
16	Chionanthus mala-elengi	1.10	3.67	30.00	537.90	3.61	2.34	0.76	6.71
17	Apodytes dimidiata	0.70	2.33	30.00	1412.82	2.30	2.34	2.00	6.64
18	Macaranga peltata	0.50	1.67	30.00	1643.52	1.64	2.34	2.33	6.31
19	Mangifera indica	0.40	1.33	30.00	1479.68	1.31	2.34	2.10	5.75
20	Artocarpus hetrophyllus	0.10	1.00	10.00	3104.72	0.33	0.78	4.40	5.51
21	Hopea parviflora	1.40	14.00	10.00	70.40	4.59	0.78	0.09	5.47
22	Dimocarpus longan	0.70	2.33	30.00	472.49	2.30	2.34	0.67	5.30
23	Gordonia obtusa	0.20	1.00	20.00	2134.44	0.66	1.56	3.03	5.24
24	Otonephelium stipulaceum	0.50	1.67	30.00	835.39	1.64	2.34	1.18	5.16
25	Tabernaemontana heyneana	0.40	1.33	30.00	848.72	1.31	2.34	1.20	4.86
26	Fahrenheitia zeylanica	0.50	1.67	30.00	421.61	1.64	2.34	0.59	4.58
27	Mastixia arborea	0.20	1.00	20.00	1664.64	0.66	1.56	2.36	4.58
28	Semecarpus auriculata	0.10	1.00	10.00	2422.08	0.33	0.78	3.43	4.54

Table 132 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
29	Artocarpus hirsutus	0.60	3.00	20.00	413.95	1.97	1.56	0.58	4.11
30	Cinnamomum sp.	0.60	3.00	20.00	199.75	1.97	1.56	0.28	3.81
31	Memecylon heyneanum	0.80	8.00	10.00	258.40	2.62	0.78	0.36	3.77
32	Antidesma menasu	0.80	8.00	10.00	30.52	2.62	0.78	0.04	3.44
33	Actinodaphne bourdillonii	0.30	1.50	20.00	560.66	0.98	1.56	0.79	3.34
34	Symplocos macrophylla	0.30	1.50	20.00	454.14	0.98	1.56	0.64	3.19
35	Actinodaphne malabarica	0.20	1.00	20.00	676.00	0.66	1.56	0.95	3.17
36	Ficus sp.	0.10	1.00	10.00	1352.00	0.33	0.78	1.91	3.02
37	Prunus ceylanica	0.50	5.00	10.00	165.81	1.64	0.78	0.23	2.65
38	Mesua ferrea	0.40	4.00	10.00	298.90	1.31	0.78	0.42	2.51
39	Agrostistachys indica	0.50	5.00	10.00	61.90	1.64	0.78	0.08	2.50
40	Syzygium tamilnadensis	0.40	4.00	10.00	222.60	1.31	0.78	0.31	2.40
41	Dillenia bracteata	0.30	3.00	10.00	443.76	0.98	0.78	0.63	2.39
42	Syzygium laetum	0.40	4.00	10.00	150.51	1.31	0.78	0.21	2.30
43	Canarium strictum	0.10	1.00	10.00	737.28	0.33	0.78	1.04	2.15
44	Knema attenuata	0.10	1.00	10.00	722.00	0.33	0.78	1.02	2.13
45	Clerodendron viscosum	0.40	4.00	10.00	22.78	1.31	0.78	0.03	2.12
46	Neolamarckia cadamba	0.30	3.00	10.00	214.41	0.98	0.78	0.30	2.06
47	Hydnocarpus pentandra	0.20	2.00	10.00	376.36	0.66	0.78	0.53	1.97
48	Meliosma simplicifolia	0.20	2.00	10.00	364.81	0.66	0.78	0.51	1.95
49	Syzygium mundagam	0.30	3.00	10.00	126.96	0.98	0.78	0.18	1.94
50	Nothopegia colebrookeana	0.20	2.00	10.00	327.61	0.66	0.78	0.46	1.90
51	Elaeocarpus glandulosus	0.10	1.00	10.00	537.92	0.33	0.78	0.76	1.87
52	Gmelina arborea	0.20	2.00	10.00	306.25	0.66	0.78	0.43	1.87
53	Apollonias arnottii	0.30	3.00	10.00	36.50	0.98	0.78	0.05	1.81
54	Acronychia pedunculata	0.20	2.00	10.00	259.21	0.66	0.78	0.36	1.80
55	Turpinia malabarica	0.20	2.00	10.00	246.49	0.66	0.78	0.34	1.78
56	Glochidion ellipticum	0.20	2.00	10.00	112.36	0.66	0.78	0.15	1.59
57	Litsea coriacea	0.10	1.00	10.00	338.00	0.33	0.78	0.47	1.58
58	Symplocos racemosa	0.10	1.00	10.00	307.52	0.33	0.78	0.43	1.54

Table 132 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
59	Syzygium sp.	0.20	2.00	10.00	59.29	0.66	0.78	0.08	1.52
60	Aporusa lindleyana	0.20	2.00	10.00	42.25	0.66	0.78	0.05	1.49
61	Trichilia connaroides	0.10	1.00	10.00	269.12	0.33	0.78	0.38	1.49
62	Phoebe lanceolata	0.10	1.00	10.00	176.72	0.33	0.78	0.25	1.36
63	Aglaia barberi	0.10	1.00	10.00	169.28	0.33	0.78	0.24	1.34
64	Leptonychia caudata	0.10	1.00	10.00	87.12	0.33	0.78	0.12	1.23
65	Meteromyrtus wynaadensis	0.10	1.00	10.00	81.92	0.33	0.78	0.11	1.22
66	Reinwardtiodendron anamalaiense	0.10	1.00	10.00	72.00	0.33	0.78	0.10	1.21

Table 133. Structural Status of Saplings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Apollonias arnottii	0.90	2.25	40.00	66.50	10.71	8.70	5.24	24.65
2	Olea dioica	0.40	1.33	30.00	87.12	4.76	6.52	6.87	18.15
3	Myristica dactyloides	0.30	1.00	30.00	89.70	3.57	6.52	7.07	17.17
4	Syzygium munronii	1.20	12.00	10.00	2.87	14.29	2.17	0.22	16.68
5	Litsea floribunda	0.60	3.00	20.00	26.10	7.14	4.35	2.05	13.55
6	Artocarpus hirsutus	0.50	2.50	20.00	32.04	5.95	4.35	2.52	12.82
7	Elaeocarpus tuberculatus	0.20	1.00	20.00	73.96	2.38	4.35	5.83	12.56
8	Polyalthia coffeoides	0.40	2.00	20.00	40.50	4.76	4.35	3.19	12.30
9	Dimocarpus longan	0.30	1.50	20.00	50.46	3.57	4.35	3.98	11.90
10	Mallotus philippensis	0.40	2.00	20.00	32.80	4.76	4.35	2.58	11.69
11	Xanthophyllum arnottianum	0.30	1.50	20.00	44.82	3.57	4.35	3.53	11.45
12	Syzygium sp.	0.10	1.00	10.00	62.72	1.19	2.17	4.94	8.31
13	Baccaurea courtallensis	0.10	1.00	10.00	58.32	1.19	2.17	4.60	7.96
14	Otonephelium stipulaceum	0.10	1.00	10.00	54.08	1.19	2.17	4.26	7.63
15	Agrostistachys indica	0.40	4.00	10.00	7.41	4.76	2.17	0.58	7.52
16	Antidesma menasu	0.10	1.00	10.00	50.00	1.19	2.17	3.94	7.30
17	Macaranga peltata	0.10	1.00	10.00	50.00	1.19	2.17	3.94	7.30
18	Chionanthus mala-elengi	0.30	3.00	10.00	14.51	3.57	2.17	1.14	6.89
19	Actinodaphne bourdillonii	0.10	1.00	10.00	42.32	1.19	2.17	3.33	6.70

Table 133 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
20	Aglaia sp.	0.10	1.00	10.00	42.32	1.19	2.17	3.33	6.70
21	Prunus ceylanica	0.10	1.00	10.00	42.32	1.19	2.17	3.33	6.70
22	Syzygium mundagam	0.20	2.00	10.00	21.16	2.38	2.17	1.66	6.22
23	Clerodendron viscosum	0.20	2.00	10.00	18.49	2.38	2.17	1.45	6.01
24	Cinnamomum sp.	0.10	1.00	10.00	32.00	1.19	2.17	2.52	5.88
25	Mangifera indica	0.10	1.00	10.00	32.00	1.19	2.17	2.52	5.88
26	Mesua ferrea	0.10	1.00	10.00	32.00	1.19	2.17	2.52	5.88
27	Neolamarckia cadamba	0.10	1.00	10.00	32.00	1.19	2.17	2.52	5.88
28	Phoebe lanceolata	0.10	1.00	10.00	32.00	1.19	2.17	2.52	5.88
29	Reinwardtiodendron anamalaiense	0.10	1.00	10.00	32.00	1.19	2.17	2.52	5.88
30	Agrostistachys indica	0.20	2.00	10.00	12.96	2.38	2.17	1.02	5.57
31	Actinodaphne malabarica	0.10	1.00	10.00	25.92	1.19	2.17	2.04	5.40
32	Persea macrantha	0.10	1.00	10.00	25.92	1.19	2.17	2.04	5.40

Table 134. Structural Status of seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Cinnamomum sp.	3.90	5.57	70.00	0.00	6.45	5.74	0.00	12.18
2	Myristica dactyloides	3.60	7.20	50.00	0.00	5.95	4.10	0.00	10.05
3	Syzygium munronii	3.80	12.67	30.00	0.00	6.28	2.46	0.00	8.74
4	Agrostistachys indica	4.00	20.00	20.00	0.00	6.61	1.64	0.00	8.25
5	Olea dioica	2.40	4.80	50.00	0.00	3.97	4.10	0.00	8.07
6	Actinodaphne malabarica	1.90	3.80	50.00	0.00	3.14	4.10	0.00	7.24
7	Litsea floribunda	2.60	8.67	30.00	0.00	4.30	2.46	0.00	6.76
8	Elaeocarpus tuberculatus	1.10	1.83	60.00	0.00	1.82	4.92	0.00	6.74
9	Actinodaphne bourdillonii	2.00	5.00	40.00	0.00	3.31	3.28	0.00	6.58
10	Vateria indica	2.40	8.00	30.00	0.00	3.97	2.46	0.00	6.43
11	Apollonias arnottii	1.90	4.75	40.00	0.00	3.14	3.28	0.00	6.42
12	Cullenia exarillata	2.60	13.00	20.00	0.00	4.30	1.64	0.00	5.94
13	Mallotus philippensis	1.50	3.75	40.00	0.00	2.48	3.28	0.00	5.76
14	Otonephelium stipulaceum	1.50	3.75	40.00	0.00	2.48	3.28	0.00	5.76
15	Polyalthia coffeoides	1.30	4.33	30.00	0.00	2.15	2.46	0.00	4.61
16	Syzygium laetum	1.50	7.50	20.00	0.00	2.48	1.64	0.00	4.12
17	Dimocarpus longan	1.00	3.33	30.00	0.00	1.65	2.46	0.00	4.11
18	Mesua ferrea	1.40	7.00	20.00	0.00	2.31	1.64	0.00	3.95

Table 134 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
19	Macaranga peltata	0.40	1.00	40.00	0.00	0.66	3.28	0.00	3.94
20	Artocarpus hirsutus	0.70	2.33	30.00	0.00	1.16	2.46	0.00	3.62
21	Meteromyrtus wynaadensis	1.20	6.00	20.00	0.00	1.98	1.64	0.00	3.62
22	Xanthophyllum arnottianum	1.20	6.00	20.00	0.00	1.98	1.64	0.00	3.62
23	Apodytes dimidiata	0.90	4.50	20.00	0.00	1.49	1.64	0.00	3.13
24	Chionanthus mala-elengi	0.90	4.50	20.00	0.00	1.49	1.64	0.00	3.13
25	Phoebe lanceolata	1.20	12.00	10.00	0.00	1.98	0.82	0.00	2.80
26	Syzygium mundagam	1.20	12.00	10.00	0.00	1.98	0.82	0.00	2.80
27	Memecylon heyneanum	0.60	3.00	20.00	0.00	0.99	1.64	0.00	2.63
28	Clerodendron viscosum	1.00	10.00	10.00	0.00	1.65	0.82	0.00	2.47
29	Bischofia javanica	0.40	2.00	20.00	0.00	0.66	1.64	0.00	2.30
30	Antidesma menasu	0.80	8.00	10.00	0.00	1.32	0.82	0.00	2.14
31	Calophyllum polyanthum	0.30	1.50	20.00	0.00	0.50	1.64	0.00	2.14
32	Mastixia arborea	0.30	1.50	20.00	0.00	0.50	1.64	0.00	2.14
33	Nothopegia colebrookeana	0.80	8.00	10.00	0.00	1.32	0.82	0.00	2.14
34	Symplocos macrophylla	0.80	8.00	10.00	0.00	1.32	0.82	0.00	2.14
35	Reinwardtiodendron anamalaiense	0.60	6.00	10.00	0.00	0.99	0.82	0.00	1.81
36	Hopea parviflora	0.50	5.00	10.00	0.00	0.83	0.82	0.00	1.65
37	Knema attenuata	0.50	5.00	10.00	0.00	0.83	0.82	0.00	1.65
38	Symplocos racemosa	0.50	5.00	10.00	0.00	0.83	0.82	0.00	1.65
39	Syzygium tamilnadensis	0.50	5.00	10.00	0.00	0.83	0.82	0.00	1.65
40	Aporusa lindleyana	0.40	4.00	10.00	0.00	0.66	0.82	0.00	1.48
41	Prunus ceylanica	0.40	4.00	10.00	0.00	0.66	0.82	0.00	1.48
42	Baccaurea courtallensis	0.30	3.00	10.00	0.00	0.50	0.82	0.00	1.32
43	Hydnocarpus pentandra	0.30	3.00	10.00	0.00	0.50	0.82	0.00	1.32
44	Leptonychia caudata	0.30	3.00	10.00	0.00	0.50	0.82	0.00	1.32
45	Litsea coriacea	0.30	3.00	10.00	0.00	0.50	0.82	0.00	1.32
46	Symplocos sp.	0.30	3.00	10.00	0.00	0.50	0.82	0.00	1.32
47	Syzygium sp.	0.30	3.00	10.00	0.00	0.50	0.82	0.00	1.32

Table 134 contd.

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
48	Fahrenheitia zeylanica	0.20	2.00	10.00	0.00	0.33	0.82	0.00	1.15
49	Glochidion ellipticum	0.20	2.00	10.00	0.00	0.33	0.82	0.00	1.15
50	Gordonia obtusa	0.20	2.00	10.00	0.00	0.33	0.82	0.00	1.15
51	Meliosma simplicifolia	0.20	2.00	10.00	0.00	0.33	0.82	0.00	1.15
52	Memecylon deccanense	0.20	2.00	10.00	0.00	0.33	0.82	0.00	1.15
53	Neolamarckia cadamba	0.20	2.00	10.00	0.00	0.33	0.82	0.00	1.15
54	Persea macrantha	0.20	2.00	10.00	0.00	0.33	0.82	0.00	1.15
55	Semecarpus auriculata	0.20	2.00	10.00	0.00	0.33	0.82	0.00	1.15
56	Turpinia malabarica	0.20	2.00	10.00	0.00	0.33	0.82	0.00	1.15
57	Archidendron monadelphum	0.10	1.00	10.00	0.00	0.17	0.82	0.00	0.98
58	Drypetes wightii	0.10	1.00	10.00	0.00	0.17	0.82	0.00	0.98
59	Garcinia spicata	0.10	1.00	10.00	0.00	0.17	0.82	0.00	0.98
60	Heritiera papilio	0.10	1.00	10.00	0.00	0.17	0.82	0.00	0.98

Table 135. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Thottea siliquosa	6.90	8.63	80.00	0.00	14.65	14.55	0.00	29.20
2	Strobilanthes sp.	8.00	16.00	50.00	0.00	16.99	9.09	0.00	26.08
3	Chassalia curviflora	5.70	9.50	60.00	0.00	12.10	10.91	0.00	23.01
4	Ochlandra travancorica	5.30	10.60	50.00	0.00	11.25	9.09	0.00	20.34
5	Sarcandra chloranthoides	4.40	7.33	60.00	0.00	9.34	10.91	0.00	20.25
6	Chassalia sp.	4.00	13.33	30.00	0.00	8.49	5.45	0.00	13.95
7	Leea sp.	1.80	4.50	40.00	0.00	3.82	7.27	0.00	11.09
8	Pandanus thwaitesii	1.60	4.00	40.00	0.00	3.40	7.27	0.00	10.67
9	Lasianthus rostratus	2.10	7.00	30.00	0.00	4.46	5.45	0.00	9.91
10	Clerodendron viscosum	1.40	7.00	20.00	0.00	2.97	3.64	0.00	6.61
11	Dendrocnide sinuata	1.00	5.00	20.00	0.00	2.12	3.64	0.00	5.76
12	Ventilago bombaiensis	0.60	3.00	20.00	0.00	1.27	3.64	0.00	4.91
13	Gomphandra tetrandra	1.00	10.00	10.00	0.00	2.12	1.82	0.00	3.94
14	Ixora elongata	1.00	10.00	10.00	0.00	2.12	1.82	0.00	3.94
15	Saprosma fragrans	1.00	10.00	10.00	0.00	2.12	1.82	0.00	3.94
16	Boehmeria glomerulifera	0.80	8.00	10.00	0.00	1.70	1.82	0.00	3.52
17	Leea indica	0.50	5.00	10.00	0.00	1.06	1.82	0.00	2.88

Table 136. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Pteris sp.	0.40	1.00	40.00	0.00	12.12	14.81	0.00	26.94
2	Elatostema lineolatum	0.30	1.00	30.00	0.00	9.09	11.11	0.00	20.20
3	Elatostema serratum	0.30	1.00	30.00	0.00	9.09	11.11	0.00	20.20
4	Coleus malabaricus	0.20	1.00	20.00	0.00	6.06	7.41	0.00	13.47
5	Curculigo orchioides	0.20	1.00	20.00	0.00	6.06	7.41	0.00	13.47
6	Dracaena terniflora	0.20	1.00	20.00	0.00	6.06	7.41	0.00	13.47
7	Calamus sp.	0.30	3.00	10.00	0.00	9.09	3.70	0.00	12.79
8	Kunstleria keralensis	0.30	3.00	10.00	0.00	9.09	3.70	0.00	12.79
9	Erythropalam scandens	0.20	2.00	10.00	0.00	6.06	3.70	0.00	9.76
10	Thunbergia mysorensis	0.20	2.00	10.00	0.00	6.06	3.70	0.00	9.76
11	Alpinia sp.	0.10	1.00	10.00	0.00	3.03	3.70	0.00	6.73
12	Aneilema ovalifolim	0.10	1.00	10.00	0.00	3.03	3.70	0.00	6.73
13	Aneilema sp.	0.10	1.00	10.00	0.00	3.03	3.70	0.00	6.73
14	Curculigo sp.	0.10	1.00	10.00	0.00	3.03	3.70	0.00	6.73
15	Derris brevipens	0.10	1.00	10.00	0.00	3.03	3.70	0.00	6.73
16	Pellionia heyneana	0.10	1.00	10.00	0.00	3.03	3.70	0.00	6.73
17	Sarcostigma kleinii	0.10	1.00	10.00	0.00	3.03	3.70	0.00	6.73
	Total					99.99	99.96	0.0	199.96

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 137. Structural Status of Climbers and Epiphytes

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Smilax zeylanica	1.80	2.25	80.00	0.00	14.88	14.29	0.00	29.16
2	Erythropalam scandens	1.20	2.00	60.00	0.00	9.92	10.71	0.00	20.63
3	Piper sp.	1.30	4.33	30.00	0.00	10.74	5.36	0.00	16.10
4	Peperomia tetraphylla	1.00	5.00	20.00	0.00	8.26	3.57	0.00	11.84
5	Tetrastigma leucostaphylum	0.70	2.33	30.00	0.00	5.79	5.36	0.00	11.14
6	Thunbergia mysorensis	0.70	2.33	30.00	0.00	5.79	5.36	0.00	11.14
7	Jasminum sp.	0.50	1.67	30.00	0.00	4.13	5.36	0.00	9.49
8	Calamus hookerianus	0.70	3.50	20.00	0.00	5.79	3.57	0.00	9.36
9	Calamus sp.	0.50	2.50	20.00	0.00	4.13	3.57	0.00	7.70
10	Desmos lawii	0.40	2.00	20.00	0.00	3.31	3.57	0.00	6.88
11	Jasminum azoricum	0.40	2.00	20.00	0.00	3.31	3.57	0.00	6.88
12	Derris brevipens	0.30	1.50	20.00	0.00	2.48	3.57	0.00	6.05
13	Piper argyrophyllum	0.50	5.00	10.00	0.00	4.13	1.79	0.00	5.92
14	Bulbophyllum sp.	0.20	1.00	20.00	0.00	1.65	3.57	0.00	5.22
15	Derris sp.	0.20	1.00	20.00	0.00	1.65	3.57	0.00	5.22
16	Raphidophora pertusa	0.20	1.00	20.00	0.00	1.65	3.57	0.00	5.22
17	Toddalia asiatica	0.20	1.00	20.00	0.00	1.65	3.57	0.00	5.22
18	Kunstleria keralensis	0.30	3.00	10.00	0.00	2.48	1.79	0.00	4.27
19	Pseudaidia speciosa	0.30	3.00	10.00	0.00	2.48	1.79	0.00	4.27
20	Pothos scandens	0.20	2.00	10.00	0.00	1.65	1.79	0.00	3.44
21	Asparagus racemosus	0.10	1.00	10.00	0.00	0.83	1.79	0.00	2.61
22	Cissus discolor	0.10	1.00	10.00	0.00	0.83	1.79	0.00	2.61
23	Miquelia dentata	0.10	1.00	10.00	0.00	0.83	1.79	0.00	2.61
24	Rubus moluccanus	0.10	1.00	10.00	0.00	0.83	1.79	0.00	2.61
25	Sarcostigma kleinii	0.10	1.00	10.00	0.00	0.83	1.79	0.00	2.61
26	Oberonia sp.	0.10	0.00	10.00	0.00	0.00	1.79	0.00	1.79

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

MOIST DECIDUOUS FORESTS

Table 138. Structural Status of Trees

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Terminalia crenulata	10.25	10.25	100.00	1083.24	28.02	10.62	2.10	40.74
2	Pterocarpus marsupium	1.00	1.71	58.33	10897.08	2.73	6.19	21.21	30.14
3	Lagerstroemia microcarpa	3.92	5.88	66.67	1535.13	10.71	7.08	2.98	20.77
4	Ficus nervosa	0.08	1.00	8.33	9800.00	0.23	0.88	19.07	20.18
5	Anogeissus latifolia	4.00	8.00	50.00	394.90	10.93	5.31	0.76	17.01
6	Dalbergia latifolia	2.17	3.25	66.67	1475.17	5.92	7.08	2.87	15.87
7	Tectona grandis	1.92	4.60	41.67	1797.42	5.24	4.42	3.49	13.16
8	Stereospermum colais	1.17	2.80	41.67	2716.86	3.19	4.42	5.28	12.90
9	Phyllanthus emblica	1.58	2.71	58.33	605.28	4.33	6.19	1.17	11.70
10	Grewia tiliifolia	0.58	1.75	33.33	3254.89	1.59	3.54	6.33	11.47
11	Careya arborea	0.50	1.20	41.67	2465.33	1.37	4.42	4.79	10.59
12	Terminalia bellirica	0.67	2.00	33.33	2253.87	1.82	3.54	4.38	9.74
13	Olea dioica	1.50	4.50	33.33	517.41	4.10	3.54	1.00	8.64
14	Kydia calycina	1.33	4.00	33.33	394.18	3.64	3.54	0.76	7.95
15	Cassia fistula	0.67	2.00	33.33	273.90	1.82	3.54	0.53	5.89
16	Alstonia scholaris	0.08	1.00	8.33	2312.00	0.23	0.88	4.50	5.61
17	Bauhinia racemosa	0.33	1.33	25.00	808.02	0.91	2.65	1.57	5.13
18	Schleichera oleosa	0.75	4.50	16.67	658.84	2.05	1.77	1.28	5.10
19	Terminalia chebula	0.33	2.00	16.67	1051.84	0.91	1.77	2.04	4.72
20	Vitex altissima	0.67	4.00	16.67	398.00	1.82	1.77	0.77	4.36
21	Garuga pinnata	0.33	2.00	16.67	533.53	0.91	1.77	1.03	3.71
22	Syzygium sp.	0.08	1.00	8.33	1290.32	0.23	0.88	2.51	3.62
23	Oroxylum indicum	0.17	1.00	16.67	510.76	0.46	1.77	0.99	3.21
24	Stereospermum chelonoides	0.17	2.00	8.33	954.81	0.46	0.88	1.85	3.19
25	Ziziphus xylopyrus	0.25	1.50	16.67	168.54	0.68	1.77	0.32	2.78
26	Madhuca longifolia	0.08	1.00	8.33	768.32	0.23	0.88	1.49	2.60
27	Terminalia paniculata	0.58	7.00	8.33	22.70	1.59	0.88	0.04	2.52
28	Buchanania lanzan	0.08	1.00	8.33	722.00	0.23	0.88	1.40	2.51

Table 138 contd.									
NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
29	Miliusa tomentosa	0.08	1.00	8.33	605.52	0.23	0.88	1.17	2.29
30	Haldina cordifolia	0.42	5.00	8.33	108.10	1.14	0.88	0.21	2.23
31	Syzygium cumini	0.33	4.00	8.33	135.30	0.91	0.88	0.26	2.05
32	Gmelina arborea	0.08	1.00	8.33	359.12	0.23	0.88	0.69	1.81
33	Trichilia connaroides	0.08	1.00	8.33	269.12	0.23	0.88	0.52	1.63
34	Lagerstroemia parviflora	0.17	2.00	8.33	84.64	0.46	0.88	0.16	1.50
35	Mallotus tetracoccus	0.08	1.00	8.33	72.00	0.23	0.88	0.14	1.25
36	Xeromphis uliginosa	0.08	1.00	8.33	72.00	0.23	0.88	0.14	1.25

Table 139. Structural Status of Saplings

NO	**SPECIES NAME**	**D**	**AB**	**F**	**BA**	**RD**	**RF**	**RBA**	**IVI**
1	Cassia fistula	1.17	2.00	58.33	114.73	29.17	25.00	15.84	70.01
2	Terminalia crenulata	0.58	1.17	50.00	199.13	14.58	21.43	27.50	63.51
3	Xeromphis uliginosa	0.83	3.33	25.00	36.99	20.83	10.71	5.10	36.65
4	Terminalia chebula	0.17	1.00	16.67	96.04	4.17	7.14	13.26	24.57
5	Dalbergia latifolia	0.25	1.50	16.67	39.52	6.25	7.14	5.45	18.85
6	Lagerstroemia microcarpa	0.08	1.00	8.33	46.08	2.08	3.57	6.36	12.01
7	Phyllanthus emblica	0.25	3.00	8.33	12.90	6.25	3.57	1.78	11.60
8	Schleichera oleosa	0.08	1.00	8.33	42.32	2.08	3.57	5.84	11.49
9	Careya arborea	0.08	1.00	8.33	38.72	2.08	3.57	5.34	11.00
10	Mallotus philippensis	0.08	1.00	8.33	32.00	2.08	3.57	4.41	10.07
11	Ziziphus xylopyrus	0.08	1.00	8.33	32.00	2.08	3.57	4.41	10.07
12	Anogeissus latifolia	0.17	2.00	8.33	16.81	4.17	3.57	2.32	10.05
13	Olea dioica	0.17	2.00	8.33	16.81	4.17	3.57	2.32	10.05

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 140. Structural Status of Seedlings

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Cassia fistula	6.50	7.09	91.67	0.00	16.85	12.09	0.00	28.93
2	Dalbergia latifolia	5.67	7.56	75.00	0.00	14.69	9.89	0.00	24.58
3	Terminalia crenulata	4.83	5.80	83.33	0.00	12.53	10.99	0.00	23.52
4	Lagerstroemia microcarpa	2.75	6.60	41.67	0.00	7.13	5.49	0.00	12.62
5	Anogeissus latifolia	2.17	6.50	33.33	0.00	5.62	4.40	0.00	10.01
6	Tectona grandis	1.75	5.25	33.33	0.00	4.54	4.40	0.00	8.93
7	Olea dioica	1.58	4.75	33.33	0.00	4.10	4.40	0.00	8.50
8	Kydia calycina	1.33	4.00	33.33	0.00	3.46	4.40	0.00	7.85
9	Catunaregam torulosa	1.25	3.75	33.33	0.00	3.24	4.40	0.00	7.64
10	Ziziphus xylopyrus	0.92	2.75	33.33	0.00	2.38	4.40	0.00	6.77
11	Xeromphis uliginosa	1.00	4.00	25.00	0.00	2.59	3.30	0.00	5.89
12	Schleichera oleosa	1.08	6.50	16.67	0.00	2.81	2.20	0.00	5.01
13	Phyllanthus emblica	0.58	2.33	25.00	0.00	1.51	3.30	0.00	4.81
14	Miliusa tomentosa	0.92	5.50	16.67	0.00	2.38	2.20	0.00	4.57
15	Terminalia chebula	0.92	5.50	16.67	0.00	2.38	2.20	0.00	4.57
16	Naringi crenulata	0.58	3.50	16.67	0.00	1.51	2.20	0.00	3.71
17	Sterculia villosa	0.58	3.50	16.67	0.00	1.51	2.20	0.00	3.71
18	Bauhinia racemosa	0.50	3.00	16.67	0.00	1.30	2.20	0.00	3.49
19	Allophylus cobbe	0.42	2.50	16.67	0.00	1.08	2.20	0.00	3.28
20	Vitex altissima	0.42	2.50	16.67	0.00	1.08	2.20	0.00	3.28
21	Butea monosperma	0.33	2.00	16.67	0.00	0.86	2.20	0.00	3.06
22	Careya arborea	0.33	2.00	16.67	0.00	0.86	2.20	0.00	3.06
23	Wrightia tinctoria	0.67	8.00	8.33	0.00	1.73	1.10	0.00	2.83
24	Grewia tiliifolia	0.50	6.00	8.33	0.00	1.30	1.10	0.00	2.39
25	Diospyros montana	0.33	4.00	8.33	0.00	0.86	1.10	0.00	1.96
26	Garuga pinnata	0.25	3.00	8.33	0.00	0.65	1.10	0.00	1.75
27	Pterocarpus marsupium	0.25	3.00	8.33	0.00	0.65	1.10	0.00	1.75
28	Lagerstroemia parviflora	0.17	2.00	8.33	0.00	0.43	1.10	0.00	1.53

Table 141. Structural Status of Shrubs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Lantana camara	7.08	8.50	83.33	0.00	19.54	19.23	0.00	38.77
2	Chromolaena odorata	7.75	11.63	66.67	0.00	21.38	15.38	0.00	36.76
3	Helicteres isora	6.33	15.20	41.67	0.00	17.47	9.62	0.00	27.09
4	Cipadessa baccifera	4.92	14.75	33.33	0.00	13.56	7.69	0.00	21.26
5	Glycosmis pentaphylla	3.42	10.25	33.33	0.00	9.43	7.69	0.00	17.12
6	Triumfetta rhomboidea	0.92	3.67	25.00	0.00	2.53	5.77	0.00	8.30
7	Bambusa bambos	1.08	6.50	16.67	0.00	2.99	3.85	0.00	6.83
8	Ziziphus oenoplia	0.67	4.00	16.67	0.00	1.84	3.85	0.00	5.69
9	Bambusa sp.	0.50	3.00	16.67	0.00	1.38	3.85	0.00	5.23
10	Rauvolfia serpentina	0.50	3.00	16.67	0.00	1.38	3.85	0.00	5.23
11	Leea sp.	0.33	2.00	16.67	0.00	0.92	3.85	0.00	4.77
12	Urena lobata	0.33	2.00	16.67	0.00	0.92	3.85	0.00	4.77
13	Grewia flavscens	0.67	8.00	8.33	0.00	1.84	1.92	0.00	3.76
14	Helixanthera obtusata	0.67	8.00	8.33	0.00	1.84	1.92	0.00	3.76
15	Thespesia lampas	0.50	6.00	8.33	0.00	1.38	1.92	0.00	3.30
16	Maesa indica	0.33	4.00	8.33	0.00	0.92	1.92	0.00	2.84
17	Uraria rufescens	0.17	2.00	8.33	0.00	0.46	1.92	0.00	2.38
18	Solanum torvum	0.08	1.00	8.33	0.00	0.23	1.92	0.00	2.15

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 142. Structural Status of Herbs

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Kyllinga nemoralis	1.00	1.33	75.00	0.00	13.64	11.84	0.00	25.48
2	Cynoglossum zeylanicum	0.83	1.11	75.00	0.00	11.36	11.84	0.00	23.21
3	Costus speciosus	0.83	1.25	66.67	0.00	11.36	10.53	0.00	21.89
4	Curcuma ecalcarata	0.58	1.00	58.33	0.00	7.95	9.21	0.00	17.17
5	Curculigo orchioides	0.67	1.33	50.00	0.00	9.09	7.89	0.00	16.99
6	Oplismenus compositus	0.42	1.00	41.67	0.00	5.68	6.58	0.00	12.26
7	Globba marantina	0.50	1.50	33.33	0.00	6.82	5.26	0.00	12.08
8	Arisaema tortuosum	0.33	1.00	33.33	0.00	4.55	5.26	0.00	9.81
9	Elephantopus scaber	0.33	1.00	33.33	0.00	4.55	5.26	0.00	9.81
10	Gomphostemma heyneana	0.25	1.00	25.00	0.00	3.41	3.95	0.00	7.36
11	Sida cordifolia	0.25	1.00	25.00	0.00	3.41	3.95	0.00	7.36
12	Asclepias curassavica	0.33	2.00	16.67	0.00	4.55	2.63	0.00	7.18
13	Biophytum sensitivum	0.17	1.00	16.67	0.00	2.27	2.63	0.00	4.90
14	Cyprus sp.	0.17	1.00	16.67	0.00	2.27	2.63	0.00	4.90
15	Ageratum conyzoides	0.08	1.00	8.33	0.00	1.14	1.32	0.00	2.45
16	Commelina sp.	0.08	1.00	8.33	0.00	1.14	1.32	0.00	2.45
17	Malaxis rheedei	0.08	1.00	8.33	0.00	1.14	1.32	0.00	2.45
18	Mimosa pudica	0.08	1.00	8.33	0.00	1.14	1.32	0.00	2.45
19	Nervilia aragoana	0.08	1.00	8.33	0.00	1.14	1.32	0.00	2.45
20	Nervilia plicata	0.08	1.00	8.33	0.00	1.14	1.32	0.00	2.45
21	Nervilia prainiana	0.08	1.00	8.33	0.00	1.14	1.32	0.00	2.45
22	Sida rhombifolia	0.08	1.00	8.33	0.00	1.14	1.32	0.00	2.45

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

Table 143. Structural Status of Climbers and Epiphytes

NO	SPECIES NAME	D	AB	F	BA	RD	RF	RBA	IVI
1	Asparagus racemosus	3.08	7.40	41.67	0.00	28.24	10.42	0.00	38.66
2	Gloriosa superba	1.17	3.50	33.33	0.00	10.69	8.33	0.00	19.02
3	Dioscorea sp.	0.67	1.33	50.00	0.00	6.11	12.50	0.00	18.61
4	Drynaria quercifolia	0.83	3.33	25.00	0.00	7.63	6.25	0.00	13.88
5	Cyclea peltata	0.50	2.00	25.00	0.00	4.58	6.25	0.00	10.83
6	Acacia caesia	0.58	3.50	16.67	0.00	5.34	4.17	0.00	9.51
7	Ichnocarpus frutescens	0.42	2.50	16.67	0.00	3.82	4.17	0.00	7.98
8	Rubia cordifolia	0.33	2.00	16.67	0.00	3.05	4.17	0.00	7.22
9	Cissus heyneana	0.25	1.50	16.67	0.00	2.29	4.17	0.00	6.46
10	Argyriea sp.	0.17	1.00	16.67	0.00	1.53	4.17	0.00	5.69
11	Bulbophyllum sp.	0.33	4.00	8.33	0.00	3.05	2.08	0.00	5.14
12	Vanda testacea	0.33	4.00	8.33	0.00	3.05	2.08	0.00	5.14
13	Cymbidium aloifolium	0.25	3.00	8.33	0.00	2.29	2.08	0.00	4.37
14	Dendrobium aqueum	0.25	3.00	8.33	0.00	2.29	2.08	0.00	4.37
15	Oberonia sp.	0.25	3.00	8.33	0.00	2.29	2.08	0.00	4.37
16	Taxillus tomentosus	0.25	3.00	8.33	0.00	2.29	2.08	0.00	4.37
17	Aerides ringens	0.17	2.00	8.33	0.00	1.53	2.08	0.00	3.61
18	Argyreia cuneata	0.17	2.00	8.33	0.00	1.53	2.08	0.00	3.61
19	Luisia zeylanica	0.17	2.00	8.33	0.00	1.53	2.08	0.00	3.61
20	Remusatia vivipara	0.17	2.00	8.33	0.00	1.53	2.08	0.00	3.61
21	Cayratia roxburghii	0.08	1.00	8.33	0.00	0.76	2.08	0.00	2.85
22	Naravelia zeylanica	0.08	1.00	8.33	0.00	0.76	2.08	0.00	2.85
23	Smilax zeylanica	0.08	1.00	8.33	0.00	0.76	2.08	0.00	2.85
24	Spatholobus parviflorus	0.08	1.00	8.33	0.00	0.76	2.08	0.00	2.85
25	Thunbergia tomentosa	0.08	1.00	8.33	0.00	0.76	2.08	0.00	2.85
26	Vanda sp.	0.08	1.00	8.33	0.00	0.76	2.08	0.00	2.85
27	Wattakaka volublis	0.08	1.00	8.33	0.00	0.76	2.08	0.00	2.85

D- Density, AB- Abundance, F-Frequency percentage, BA- Basal area, RD- Relative density, RF- Relative frequency, RBA- Relative basal area, IVI- Importance value index.

DISCUSSION AND CONCLUSION

The vegetation maps prepared using remote sensing data products are the very basis of the landscape analysis and served as one of the most important input layers. The parameters analysed for understanding the landscape heterogeneity are fragmentation, porosity, pachyness, interspersion and juxtaposition. Apart from these, disturbance due to biotic/ anthropogenic aspects was modeled in GIS domain as biotic zoning. Integration of these inputs were modeled for deriving disturbance index .

The phytosociology for Total Importance Value (TIV) for each forest type was calculated and a data base on economic value for 214 species are prepared for Kerala.The moist deciduous forest was found to be with high economic value. The typewise TIV data generated was used as one of the input for preparing biological richness map. The TIV for entire Kerala state is estimated as 9.38.

The fragmentation level was estimated as a function, of the number of forest and non-forest patches present in a window size of 500 x 500 m. Forest fragmentation is an index of anthropogenic pressure showing the extent of the degree of isolation of patches from the contiguous area along with the forest loss. Stratified over the vegetation types, all the forest show significantly less fragmentation. Moist deciduous forest shows relatively high degree of fragmentation, may be due to high degree of exploitation because of its relatively higher economic value. Evergreen forest shows least degree of fragmentation due to remoteness and less economic value .

The disturbance index map generated explains the gradients of disturbance for the entire Kerala state. Disturbance index in semievergreen forests were highest (29.68%). Evergreen forests depicted least disturbance. The dry deciduous forests have least *"high disturbed zone"* (4.38%). Moist deciduous forests with indication of disturbance and high disturbance may accrue priority over other forests for conservation.

The biological richness map prepared is based on various factors, *vis.,* disturbance index, species diversity, biological value, ecosystem uniqueness, and terrain complexity. This indicates the degree of richness of the biota. The forests of Kerala are moderately rich in biological richness. Semievergreen forests showed the highest amount of biologicaly rich areas (23.16%), followed by evergreen forests (18.39%). The trend in the highly *"biological rich"* category shows that the semievergreen has the maximum area followed by evergreen, moist deciduous and dry deciduous respectively; and is due to highly interspersed, juxtaposed patches in the evergreen category.

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