PRELIMINARY ANALYSIS OF FLORISTIC DIVERSITY IN SELECTED WARDS OF CHERANELLOOR PANCHAYAT

DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE IN BOTANY BY RAVEENA MOHANDAS

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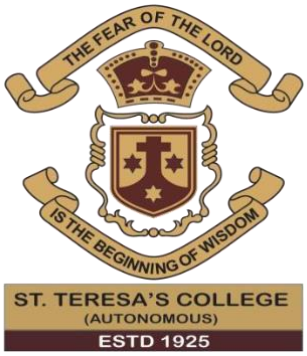

DEPARTMENT OF BOTANY

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ERNAKULAM

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CERTIFICATE

This is to certify that this dissertation entitled "**PRELIMINARY ANALYSIS OF FLORISTIC DIVERSITY IN SELECTED WARDS OF CHERANELLOOR PANCHAYAT**" is an authentic record work carried out by **Ms. Raveena Mohandas (Reg.No:AB20BOT017)** under the supervision and guidance of **Smt. Merin Alice George**, Department of Botany and Centre for Research , St. Teresa's College (Autonomous),Ernakulam in partial fulfillment of the requirements for the award of the degree of Bachelor of Science in Botany of Mahatma Gandhi University, Kottayam.

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Place: Ernakulam **MARY STIBI ES**

Date:

CONTENTS

1. INTRODUCTION

1. INTRODUCTION

All of the world's plants, animals, and microorganisms are included in taxonomy, which is the science of naming, describing, and classifying species. Taxonomists identify, describe, and classify species, particularly those that are novel to science, using morphological, behavioural, genetic, and biochemical observations. Taxonomy recognises and catalogues the elements of biological diversity, offering the fundamental information necessary for the management and application of the Convention on Biological Diversity.

Agriculture needs taxonomy because it aids in the identification of diseases, weeds, and other pests that affect plants, among other things. Understanding interrelationships, the history of evolution, as well as the expansion and reduction of biodiversity, is crucial. Because it can identify plant infections, weeds, and pests, it is significant for agriculture. As practically all of these responsible organisms belong to the same group, pesticide or biological control can be used in the appropriate way.

Taxonomy deals with the procedure of classification. The main steps are Characterization, identification, Nomenclature, Classification. Classification is not a single step process but involves hierarchy of steps. Characterisation, identification, classification and nomenclature are the processes that are basic to taxonomy. So characterisation is a basic step that leads to the identification of new species of organisms. However in systematics identification is the first step. Then identification of the organism. Identification is the finding of the correct name and place of an organism according to some approved system of classification. Nomenclature, in the biological classification system of naming organisms. The species to which the organism belongs is indicated by two words, the genus and species names, which are Latinized words derived from various sources. This system, which is called the Linnaean system of binomial nomenclature, was established in the 1750s by Carlos.

The study of arranging or classifying life forms or living organisms is known as Taxonomy. All significant studies on biodiversity, bug management, medication, bioprospecting, fisheries, protection, and so on are motivated by taxonomy. Importance of taxonomy:

It helps in the estimation of the world's population of living things. Its goal is to unite all living things. It motivates to study plant and animal traits. It denotes the demand for the

actual sequence of events. The taxonomy provides an overview of the local fauna and flora, which aids in the identification of endemic species.

Floral diversity refers to the diversity of plants occurring in a specific region during a particular era. It generally refers to the diversity of naturally occurring indigenous or native plants. The word “Flora " comes from the Latin, Flora – the goddess of plants (floris means flower). A total of 215,644 species of plants out of 298,000 predicted have been catalogued on earth till-date. Apart, 8,600 plant species have been recorded from the ocean out of an estimated 16,600. India, being one of the tropical countries, harbors 54,733 species including species of virus/bacteria and fungi.

In India, the floral diversity is concentrated in four phytogeographically unique regions, viz., Himalayas, Western Ghats, Northeast India and Andaman and Nicobar Islands. The Indian Flora accounts for 11.4% of the total recorded plant species of the world and about 28% of the plant species are endemic (species confined to a particular geographical region) to India. Angiosperms are the largest plant group in India comprising a total of 21,849 species, constituting 39.92% of floral diversity of the entire country, followed by fungi comprising 15,504 species, representing 28.33%. The country also has a high level of cryptogam (Bryophytes and Pteridophytes) diversity. A total of 1,310 species of Pteridophytes and around 2,791 of Bryophytes have been recorded from India so far.

The bryophytes (Mosses and Liverworts) are also significantly rich in the Himalayas, Nilgiris, Western Ghats, Eastern Ghats and Andaman and Nicobar Islands. Algae and Fungi have widespread distribution in India.

The diversity of marine algae in Gujarat coast of Okha-Dwarka region and MandappamPamban region of Tamil Nadu coast appear to be the species-richest. Lichens are composite organisms consist of symbiotic algae and fungi found very rich in the Western Ghats, Eastern and Western Himalayas and Andaman and Nicobar Islands. A total of 2,961 species of Lichenes has been recorded from India so far. Most of the ferns and gymnosperms (including cycads, pines, firs, junipers, etc.) grow in cool temperate zones of the Himalayas, and in the mountainous regions of southern India, especially in the Western Ghats. According to current estimates, the Indian flora represents nearly 12% of the global floral diversity (excluding viruses).

The significance of the Indian flora is further evidenced by the number of species of wild relatives of crop plants in different regions of the country. Rice, sugarcane, jute, tree cotton,

yams, brassicas, cucurbits, citrus fruits, various millets, tamarind, banana, mango, jackfruit, ginger, turmeric, cinnamons, cardamom, cumin seeds, black pepper, betel nut and numerous aromatic and medicinal plants are the important plant resources of the Indian region. Conservation is a protective measure to prevent the loss of genetic diversity of all species, to save species from extinction and ultimately to protect all the ecosystems from damage so as to promote their sustainable utilization. The floral diversity of Kerala can be categorized into three

(i) Wild and Indigenous,
(ii) Indigenous and Cultivated
(iii) Exotic, yet cultivated or wild

Wild and indigenous floral elements are found in natural forests and other natural ecosystems. They offer a variety of products and services to mankind, including medicines and non-wood forest products. The natural forests are also rich in different types of traditionally used wood items.

Indigenous and cultivated plant varieties were once common in our agricultural fields and homesteads. These areas were also rich with a variety of indigenous rice, coconut, areca nut, pepper, ginger, turmeric, tapioca, plantains etc. In the last few decades many of these varieties have been neglected or ignored with the introduction of high-yielding hybrid varieties. In addition to this weeds and pests introduced into the state along with exotic crops replaced many indigenous varieties. Thus, the agribiodivesity in the state has become a mixture of both indigenous and exotic species.

Flora of Kerala comprises a total of 11,840 taxa of plants (SoE,2007). Among them, angiosperms comprises the dominant group, composed of 4968 taxa, of which about 900 are those endemic to Western Ghats. Among the Western Ghats endemics, 252 taxa are those confined to Kerala State. The flora comprises of 866 species of algae, 4800 species of fungi, 520 species of lichens, 350 species of bryophytes, 332 species of pteridophytes, 4 species of gymnosperms and 4968 species of angiosperms or flowering plants. Habitat wise, algal species are mostly confined to aquatic or damp conditions whereas the other plant groups in the State ate mostly terrestrial in habit. Forest areas being well protected. Habit or life form-wise, there are herbs, shrubs, trees, lianas, epiphytes, lithophytes, saprophytes, etc. within the plant kingdom. Based on this the habitats are also different for different species. Table gives the details of the representation of different plant groups in the flora of Kerala. Apart from this there are hundreds of cultivated species either on

plantations or crop levels or as garden plants, ornamentals, etc. There are also 850 species and varieties of cultivars growing in the State with their origin in mostly tropical parts of the globe. Due to various reasons, many of them are in various threat categories of IUCN Red List of flora and fauna (2004), prepared at global level.

2. OBJECTIVES OF THE STUDY

OBJECTIVES OF THE STUDY

1) To study the floristic diversity of Cheranelloor Panchayat
2) To study the morphology and taxonomy of plants in Cheranelloor Panchayat
3) To find out variety of species found in Cheranelloor Panchayat
4) To find out the most common species found in Cheranelloor Panchayat
5) To find out the medicinal plants in Cheranelloor
6) To find out the number of herbs, shrubs, trees, climbers, creepers, Gymnosperms, Angiosperms, Bryophytes and Pteridophytes in Cheranelloor Panchayat

3.REVIEW OF THE LITERATURE

REVIEW OF LITERATURE

Vegetation science is a scientific discipline devoted to study plant communities, their total of 9 species belonging to 6 families were enumerated. The forests showed a dominance of Avicenna marina followed by Avicennia officinalis belonging to the Avicenniaceae family, whereas Sonneratia caseolaris recorded lowest density. Maximum relative basal area was represented by Avicennia marina followed by Avicennia officinalis, therefore these species registered the highest Importance value index (IVI) and relative IVI among the 9 mangroves species distributed. Diversity indices such as Shannon Wiener index H'(2.763), equitability (0.872) and Simpson's diversity index (0.825) were worked out for the entire Ayiramthengu island.

The mangroves are closely related to the social and cultural life of people in Ayiramthengu and its unique composition has to be protected in its pristine condition(Vishal Vijayan,N Rahees,K Vidyasagaran,2015)composition, evolution and the relationships among the component species. The present study focuses on floristic diversity and richness of the Mangroves in Ayiramthengu, Kollam district. A Botanical exploration in Puliyanam Kunnu, Chalavara Grama Panchayath of Palakkad district yielded a total of 80 wild taxa of angiosperms. These taxa belong to 65 genera covering 38 families including 36 herbs, 12 climbers, 14 Shrubs and 18 trees. Among them 12 species are endemics and 10 species are rare and red listed. Out of these 80 taxa, 69 species are recorded to be used in different systems of medicines like Ayurveda, Siddha, Unani, Tibetan, Homeopathy, Folk and Western or Modern systems.

The data will provide information on herbs, Shrubs, climbers and trees that exist in the Puliyanam Kunnu, Chalavara Grama Panchayath and about the natural condition under which these plants grow. Such studies will provide reliable information on the presents and distribution of plants in general. This data coupled with studies on threat assessment and trade can also guide focus. Conservation actions like species recovery for each species and its local uses are provided. Voucher specimens are deposited in the Sree Krishna college herbarium, with the correct botanical identity and medicinal uses recorded in brief(K Praveen Kumar).

A field study was conducted to investigate the present status of floristic diversity and standing stock of timber in the traditional homegardens of Thrissur district, Kerala. The study involved two stage stratified sampling of home gardens from 10 panchayats located

in the highland, midland, coastal and extra one peri-urban region of the district. A total of 330 homegardens were sampled as part of the study. About 163 plant species were recorded from all the sampled homegardens of Thrissur that included 122 tree species and 41 agricultural crop species.

A consistent decline in species diversity with decrease in home garden size was observed. Most abundant functional group of trees found in surveyed homegardens were timber species (53 species), followed by fruit trees (39 species). Asharp decline in number of species was observed in coastal land and peri-urban areas.

Total standing stock of prominent timber tree species were in the order Mangifera indica (38, 62, 996.9 m3), Tectona grandis (32, 22, 392.9 m3) and Artocarpus heterophyllus (30, 28, 362.2 m3). Average standing stock and projected standing stock of all timber species for the entire Thrissur district were 55.12 m3 ha−1 and 166, 85, 096.4 m3, respectively. To sum up, though the standing stock remained unaffected, the patterns of species composition and functional diversity of homegardens in Thrissur district are under change indicating their declining dependence for livelihood and economic security(SR Unnithan, TK Kunhamu, C Sunanda, EV Anoop, V Jamaludheen, A V Santhoshkumar, 2017

Credit for earlier floristic work goes to Graham (1837), Dalzell and Gibson (1861), Hooker (1872-1897), Cooke (1967): Nairne (1993). Cooke studied 'Flora of the Presidency of Bombay' in three volumes. It is the most important floristic work for identification of the species. This flora includes 162 varieties, 2513 species under 999 genera belonging to 147 families of the flowering plants. Flora of Purander compiled by Santapau (1956). He reported ca.592 species belonging to 101 families. Flora describes detailed floral diversity of the fort.

Floristics of Some wildlife sanctuaries and National Parks have been explored such as Nagzira (174 species) and Nawegaon (301 species) in Bhandara district have been published by Malhotra and Rao, (1980, 1981), Dhore and Joshi (1988) compiled the 'Flora of Melghat Tiger Reserve' comprising 648 species. 'Tadoba National Park' (Chandrapur Dist.) comprising 667 species by Malhotra and Moorthy (1992).Satara has attracted taxonomists since long back due to its floristic diversity. It lies on the border of Konkan and Desh. Hooker (1872-1897), Naime (1894), Cooke (1887, 1896), Vartak (1956) are the pioneer workers in the field of Taxonomy in the Satara region. Floristic studies in the

Panchgani region compiled by Birdwood (1896) and Father Blatter (1909). Father Blatter reported 367s species belonging to 89 families. Growth of forest trees of Mahabaleshwar studied by Gadgil and Vartak (1977). Bole and Almeida (1980 - 1989) has published materials for the Flora ofMahabaleshwar in a series of articles.

Resource of medicinal plants is the most important significance of Plant diversity. Many researchers around and in the country studied the medicinal plants from the various regions. Significant contributors were Dey (1896); Anonymous (1948-74, 1994); Kurup, Ramdas and Joshi (1979); Satyavati, (1976-1987); Shivarajan and Balchandran (1994).

Work on medicinal plants in Maharashtra was initiated by Agharkar (1953). He compiled a detailed account of medicinal plants of Bombay, which describes about 350 flowering plants with their medicinal uses, habit, habitat, localities, parts used, local uses and chemical constituents. Vartak (1957, 1959a, 1959b, 1959c, 1962, 1979 and 1982) made valuable contributions to the studies of medicinal plants of Pune and surrounding area. Similarly Kamick (1966), Sawant (1974), Malhotra and Moorthy (1976), Kamble and Pradhan (1980), Vartak and Mandavgane (1981), Shah et al.("1983), Sharma and Lakshminarasimhan (1986), Upadhye et al. (4986, 1994), Ved Prakash and Mehrotra (1987), Yadav and Bhamare (1989) have worked on local medicinal plants in the state.

Deokule and Magdum (1992) enumerated 103 plant species of medicinal interest distributed over 48 families. Upadhye and Kumbhojkar (1994) described 424 medicinal plants while Recently, Naik (1998b) published an account of 350 medicinal plant species of Marathwada region in Marathi. Mahekar and Yadav (2007) reported 618 species of medicinal plants from Maharashtra. She has concluded that 34 species are rare in occurrence and 15 species are under threat of extinction.Samant and Mohinder (2003), recorded 701 species of medicinal plants of these 138 species were trees, 135 species were shrubs and 421 species were herbs.

Observations of wild edible plants from the hilly region of Poona were studied by Vartak (1980). Ethnobotanical survey in the village Chitkul of Sangla valley was conducted by Negi et al. (2002). He reported 25 edible species with agricultural values,17 plant species of medicinal importance, 14 species with cultural and religious importance. Badave and Kothari (2007) studied 119 Wild edible plants from Koyana region, of Satara District

Floristic Studies

Radford (1986) defined floristics as "the study of plant species diversity in relation to habitat diversity within an area." Field study of the flora of an area and collection of specimens are fundamental components of floristics. Beyond a simple list of species present in an area, floristic studies also provide observations of the relationships between the species and community distribution and habitat, information about species biology, and estimates of diversity and abundance of species within the area. A compilation of these floristic studies of areas or regions, along with tabulation of the resulting voucher specimens, provide clues to the spatial and temporal distribution of Iowa's plants and give some indication of the changes occurring in the flora through time. For example, floristic studies provide the evidence for increasing abundance of an introduced weed or rarity of an endangered native species. Such studies allow the making of informed decisions regarding management and protection of a species, habitat type, or natural area.

The habitat descriptions and listed indicator species can be used in the determination of hydrologic, geologic and other features, and floristic data can serve as "ground-truthing" when compared with data obtained from remote-sensing techniques. Beyond the sciences, floristic studies contribute information to activities as diverse as selecting native plant species for landscaping, finding appropriate vegetation to support animal species, developing land use plans, and cataloging the poisonous plants in an area.

Several papers have summarized the status of knowledge of the Iowa flora. One of the first was Gilly's (1947) compilation from 114 early floristic and revisionary papers on Iowa's vascular plants. He concluded that there were 11 counties for which the flora was reasonably well known, while the floras of Adams, Audubon, and Mont-Gomery counties were extremely poorly known. As for taxonomic revisions, he stated that only 3 7 families (approximately 14 of the total) and an additional 25 genera had been more or less fully studied in Iowa.

Only seven years later, Thorne (1954) presented a more optimistic view of the status of Iowa floristics, reporting that since his arrival in Iowa (ca. 1949), he and his students "have undertaken to fill in some of the worst gaps in our botanical knowledge of the state." Yet in the 1954 paper he conceded that "certain counties and sections of Iowa still are much in need of botanical exploration and thorough collecting."

Eilers (1975) next published a summary of floristic knowledge. He provided a historical overview, noting that the first definitive recording of Iowa plants was a listing of 11 species

from the Spirit Lake vicinity during the Nicollet Expedition of 1839. He listed the previous attempts at providing a checklist of Iowa's vascular flora, the first of which was by Charles Bessey in 1871. Eilers recounted the contributions of naturalists such as J.C. Arthur, T.H. Macbride, L.H. Pammel, B. Shimek, A. Hayden, and H.S. Conard. Eilers' closing comments included the statement, "It is clear that Iowa has been adequately botanized since Gilly's 1947 paper." While he mentioned a number of families and genera needing careful taxonomic study, he concluded that "a great deal of work has been published on the flora of Iowa and we now have an adequate floristic survey of the state."

The year 1950 has been chosen by botanists studying the Iowa flora (e.g., Roosa 1981) as the transitional year between historical and modern studies. Because Ada Hayden died in 1950, and that date also approximates the arrival of Robert Thorne at the University of Iowa, the selection of that year has merit. A perusal of the research interests of the state's professional botanists, especially within aca-demia, within this modern period suggests that research in plant systematics and ecology has shifted from a parochial, field-oriented golden-age of floristic and taxonomic studies to a more lab-oriented, less Iowa-centered focus. However, a tabulation of the references cited in Eilers' (1975) paper clearly shows that floristic and taxonomic studies were certainly not depauperate in the decades since 1950 Similarly, and including more recent publications, a tab-ulation by decade of the "Selected References" from Eilers and Roosa (1994) indicates the trend continuing at least through the 1980s While it is true that these two samples are biased in being weighted for recent studies that might have duplicated an earlier, and therefore excluded, work, they reveal that progress of floristic and taxonomic studies in the state is ongoing.

Taxonomic and Distributional Studies of Particular Species or Plant Groups,While there have been attempts to monitor the status of weeds and the rarest plants, usually only dramatic changes in the relative abundance and distribution of Iowa's plant species have been noted or reported. These fluctuations and the necessarily disparate coverage because of the researchers' interests and location leave in question the current status of most of Iowa's plant species.

A notable exception, however, is Peck's study of the Iowa pteri-dophytes. Although no longer an Iowa resident, Peck has assembled a network of professional and amateur fern enthusiasts who have helped document the occurrence and distribution of the state's pteridophyte taxa. These efforts have resulted in a series of publications that make

pteridophyte distribution the best known of any group of Iowa's plants (Peck 1976a, 1980, 1983, 1989; Peck et al. 1989; Peck et al. 1997).

Studies of individual species of vascular plants and plant groups continue, with examples being the several reports of new findings of rare species by Nekola (1990) and Wilson (1992, 1993). Roosa et al. (1989; revised by Pearson in 1994 (unpubl.)) provided general information about the distribution patterns of Iowa's endangered and threatened vascular plants. Lammers and van der Valk (1977, 1978) listed Iowa's wetland and aquatic plants and provided county-level distribution maps.

Taxonomic revisions of Iowa's angiosperm (flowering plant) taxa are also completed or underway. Some of these revisions are limited to taxa as they occur within Iowa, while others cover a larger region or all of the taxa within a family or genus throughout their range. The flowering plant families and supra familial or sub familial taxa that have been treated on a statewide basis since 1950 include the Apiaceae (as Umbelliferae, Crawford 1970), tribes Senecioneae, Cynareae and Cichorieae of the Asteraceae (Davidson 1953), Liliaceae (Coleman 1950), Orchidaceae (Niemann 1986), Poaceae (Pohl 1966), Polemoniales (Kwang 1951), Salicaceae (Spence 1959), and Scrophulariaceae (Coffey 1966). Similar studies of genera or subgeneric taxa include those of Asclepias (Asclepiadaceae; Nicolson and Russell 1955), the Carex brevior (Dewey) Mackenz. ex Lunell group (Carex sect. Ova/es in part; Cyperaceae; Zager 1991), Elymus (Poaceae; Gabel 1984), Rubus (Rosaceae; Widrlechner 1998), and Setaria (Poaceae;Pohl 1951)

Sonurametal (2016) In this study, an ethno-botanical survey of the plant diversity was carried out in the different remote areas. The study was mainly emphasized on traditional uses of the 30 herbal plants of study area which are used for the treatment of various diseases and health problems. The information is carried out about the uses of herbal plants for primary health care and the treatment of various health disorders through the personal contact and personal interview of rural old people of study area. This study was mainly focused on keeping the record of the herbal potential possessed by the cultivated plants in this area and their sustainability for the welfare of the human race.

3. MATERIALS AND METHODS

MATERIALS AND METHODS

The area of Study was conducted in Cheranalloor panchayat,Ernakulam District Kerala; No.of Population in Panchayat – 30594 ; Total No.of Wards – 17 ; Area – 10.59 sq.km ; District – Ernakulam ; Block – Edappally.The project study area is the area within which field data is collected to identify all known species.

The duration of the floristic study was 2-3 months.During the period of time collected all the details about the varieties.

FIELD EQUIPMENTS

○ Scissors ○ Blades ○ Knife ○ Notepad ○ Pen ○ Pencil ○ For measuring the plant width,size,length a measuring tape is used ○ Scales used to take the length of the leaf

Types of plants selected are;

- Angiosperms, gymnosperms, bryophytes, pteridophytes, trees, herbs, shrubs, medicinal plants, ornamental plants ,climbers, creepers
- Angiosperms: flowers bearing, seeds bearing plants have seeds that are enclosed within an ovary.
- Gymnosperms: plants with seeds that are not encased within an ovary and do not produce fruit or flowers.
- Bryophytes: they have no roots or vascular tissue, but instead absorb water and nutrients from the air through their surface.
- Pteridophytes: seedless vascular plants, seen in cool, moist places.
- Trees: generally much larger in size than plants. Trees have few leaves or branches on the lower sections of their body.
- Herbs: They are defined by their lack of above-ground woody stems. Edible leaves, roots, stems.
- Shrubs: medium-sized, woody plants taller than herbs and shorter than a tree. Height from 6m to 10m.
- Medicinal plants: leaf shape, colour, odour and texture helps to identify these plants. They are anti-inflammatory, antiviral.

- Climbers: These plants show long, thin and weak stems with tendrils which again cannot stand erect. They need external assistance to vertically climb and carry its weight.
- Creepers: grow along with the soil horizontally. Flexible, soft, and green stem.

5.OBSERVATION AND RESULT

OBSERVATION AND RESULT

Ernakulam is one of the 14 districts in the Indian state of Kerala, that takes its name from the eponymous city division in Kochi. It is situated in the central part of the state, spans an area of about 3,000 square kilometres (1,200 sq mi), and is home to over 9% of Kerala's population. Its headquarters are located at Kakkanad.

The district is divided geographically into highland, midland, and coastal areas. The altitude of the highlands is about 300 m (980 ft). The Periyar River, Kerala's longest, flows through all the taluks except Muvattupuzha.

The Muvattupuzha River and a branch of the Chalakkudy River also flow through the district. The flora of this district is tropical. The heavy rainfall combined with moderate temperatures and fertile soil support abundant vegetation. Many of the common plants are found in the coastal area, which forms the lowland region. The midland region is occupied by coconut palms, paddy, tapioca, pepper, pineapple and pulses. The lower slopes of the highland region have teak and rubber.

The Cheranallur Census Town has a population of 30,594 of which 15,157 are males while 15,437 are females as per report released by Census India 2011. Population of Children between the ages of 0-6 is 2795 which is 9.14 % of the total population of Cheranallur (CT).

In Cheranallur Census Town, Female Sex Ratio is of 1018 against state average of 1084. Moreover, the Child Sex Ratio in Cheranallur is around 926 compared to Kerala state average of 964. Literacy rate of Cheranallur city is 97.52 % higher than the state average of 94.00 %. In Cheranallur, Male literacy is around 98.35 % while female literacy rate is 96.71 %.

Cheranallur used to be a very busy ferry in NH66 but the opening of the bridge called Varapuzha Bridge has negated the importance of the place. The only significant trade in the area is arecanut trading. The new National Highway to the vallarpadam container terminal from kalamassery passes through cheranellore cutting the NH66, forming the only junction in this highway, which is considered to become one of the biggest junctions in the city.

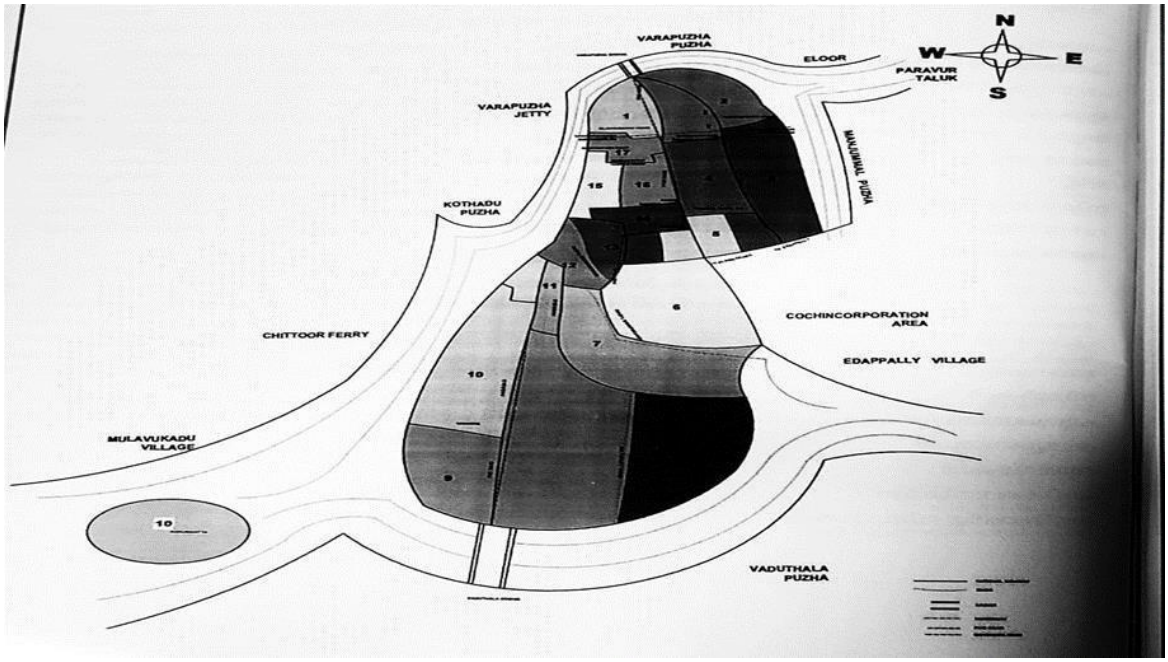
This makes Cheranellore a hotspot as it connects Edappally, Kalamassery, Paravur and Ernakulam.. The Cheranalloor ferry connects Eloor, Mannamthuruth and Cheranallur. All

the three places are bus terminals. Cheranallur is connected to Ernakulam through Chittoor and Edappally and Palarivattom.

Area of Study was Cheranalloor panchayat, Ernakulam District Kerala;

No. of Population in Panchayat	30594
Total No. of Wards	17
Area	10.59 sq.km
District	Ernakulam
Block	Edappally

Study Area



Identified plants from the study area were described here with binomial and characteristics

SL.NO	**FAMILY**	***BINOMIAL NAME***
1	Annonaceae	*Annona squamosa*

2	Fabaceae	*Bauhinia purpurea* *Caesalpinia pulcherrima* *Cassia fistula L.* *Tamarindus indica* *Mimosa pudica* *Pisum sativum* *Saraca asoca* *Clitoria ternatea*
3	Combretaceae	*Terminalia catappa L.* *Combretum indicum*
4	Malvaceae	*Hibiscus rosa-sinensis* *Abelmoschus esculentus*
5	Myrtaceae	*Psidium guajava* *Syzygium samarangense*
6	Rutaceae	*Murraya koenigii* *Citrus limon, (L.)Burm.f.* *Citrus maxima*
7	Cucurbitaceae	*Coccinia indica* *Citullus vulgari* *Momordica charantia* *Trichosanthes cucumerina*
8	Umbelliferae	*Centella asiatica*
9	Rubiacea	*Ixora coccinia* *Pentas lanceolata*

10	Apocyanaceae	*Catharanthus roseus* *Nerium oleander* *Alstonia scholaris* *Calotropis gigantia*
11	Asteraceae	*Tridax procumbens* *Eclipta prostrata* *Cosmos caudatus* *Chromolaena odorata*
12	Sapotaceae	*Manilkara zapota* *Donella lanceolata* *Pouteria campechiana*
13	Asclepiadaceae	*Pergularia daemia*
14	Solanaceae	*Capsicum annum L* *Solanum melongena L* *Solanum virginianum L*
15	Convolvulaceae	*Ipomoea repens*
16	Plantaginaceae	*Bacopa monnieri* *Scoparia dulcis L.*
17	Acanthaceae	*Justicia adhatoda* *Barleria cristata L.*
18	Verbinaceae	*Lantana camara*
19	Lamiaceae	*Ocimum tenuiflorum* *Leucas aspera* *Mentha arvensis L.* *Coleus amboinicus* *Tectona grandis*
20	Amaranthaceaea	*Amaranthus spinosus* *Gomphrena globosa*
21	Euphorbiaceae	*Manihot esculenta* *Acalypha indica* *Acalypha hispida*

22	Orchidaceae	*Phalaenopsis*
23	Nymphaceae	*Nelumbo nucifera*
24	Areceae	*Cocos nucifera* *Calamus rotang* *Dieffenbachia seguine* *Colacassia esculenta*
25	Poaceae	*Bambusa bambos* *Brachiaria mutica* *Setaria palmifolia* *Pennisetum pedicellatum*
26	Anacardiaceae	*Anacardium occidentale* *Mangifera indica* *Spondias mombin*
27	Zingiberaceae	*Curcuma longa L* *Zingiber officinale*
28	Piperaceae	*Piper nigrum L.*
29	Liliaceae	*Lilium candidum*
30	Bromeliaceae	*Ananas comosus*
31	Musaceae	*Musa paradisiaca*
32	Meliaceae	*Azadirachta indica* *Swietenia mahagoni*
33	Connaraceae	*Rourea santaloides*
34	Moraceae	*Artocarpus altilis, (Parkinson ex F.A. Zorn) Fosberg* *Artocarpus hirsute, Lamk* *Ficus drupacea*
35	Santalaceae	*Santalum album, L.*
36	Myristicaceae	*Myristica fragrans,Houtt.*
37	Bignoniaceae	*Spathodea campanulata, P . Beauv.*
38	Oleaceae	*Jasminum sambac*
39	Moringaceae	*Moringa oleifera*

40	Asparagaceae	*Asparagus racemosus*

1.Annonaceae

Annona squamosa

Annona squamosa is a small, well-branched tree or shrub from the family Annonaceae that bears edible fruits called sugar-apples or sweet shops.

Branches with light brown bark and visible leaf scars; inner bark light yellow and slightly bitter; twigs become brown with light brown dots

(Plate 1)

2.Fabaceae

Bauhinia purpurea

Bauhinia purpurea is a small to medium-size deciduous tree growing to 17 feet (5.2 m) tall. The leaves are 10–20 centimetres (3.9 -- 7.9 in) long and broad, rounded, and bilobed at the base and apex. The flowers are conspicuous, pink, and fragrant, with five petals. The fruit is a pod 30 centimetres (12 in) long, containing 12 to 16 seeds. Leaves are alternate.

Caesalpinia pulcherrima

It is a shrub growing to 3 m tall. In climates with few to no frosts, this plant will grow larger and is semievergreen. In Hawaii this plant is evergreen and grows over 5 m tall. Grown in climates with light to moderate freezing, plants will die back to the ground depending on cold, but will rebound in mid- to late spring. This species is more sensitive to cold than others. The leaves are bipinnate, bearing three to 10 pairs of pinnae, each with six to 10 pairs of leaflets 15–25 mm long and 10–15 mm broad. The flowers are borne in racemes, each flower with five yellow, orange, or red petals. The fruit is a pod 6–12 cm long.

Cassia fistula

The golden shower tree is a medium-sized tree, growing to 10–20 m tall with fast growth. The leaves are deciduous, and pinnate with three to eight pairs of leaflets, each leaflet 7–21 cm long and 4–9 cm broad. The flowers are produced in pendulous racemes 20–40 cm

long, each flower 4–7 cm diameter with five yellow petals of equal size and shape. The fruit is a legume, 30–60 cm long and 1.5–2.5 cm broad, with a pungent odor and containing several seeds. The tree has strong and very durable wood, and has been used to construct "Ehela Kanuwa", a site at Adam's Peak, Sri Lanka, which is made of C. fistula

Tamarindus indica

The tamarind is a long-lived, medium-growth tree, which attains a maximum crown height of 25 metres (80 feet). The crown has an irregular, vase-shaped outline of dense foliage. The tree grows well in full sun. It prefers clay, loam, sandy, and acidic soil types, with a high resistance to drought and aerosol salt (wind-borne salt as found in coastal areas)

Mimosa pudica

The stem is erect in young plants but becomes creeping or trailing with age. It can hang very low and become floppy. The stem is slender, branching, and sparsely to densely prickly, growing to a length of 1.5 m . The erect height of *M. pudica* usually reaches around ~30cm .

The leaves are pinnately compound, with one or two pinnae pairs, and 10–26 leaflets per pinna. The petioles are also prickly. Pedunculate (stalked) pale pink or purple flower heads arise from the leaf axils in mid-summer with more and more flowers as the plant gets older. A single flower survives for less than a day, and usually dies completely by the next day. Flowers of *M. pudica* are very brittle and soft. The globose to ovoid heads are 8– 10 mm apart and the filaments are pink to lavender. Pollens are circular with approximately 8 micrometers in diameter.

Pisum sativum

A pea is a most commonly green, occasionally golden yellow,or infrequently purple podshaped vegetable, widely grown as a cool-season vegetable crop. The seeds may be planted as soon as the soil temperature reaches 10 °C with the plants growing best at temperatures of 13 to 18 °C.They do not thrive in the summer heat of warmer temperate and lowland tropical climates, but do grow well in cooler, high-altitude, tropical areas. Many cultivars reach maturity about 60 days after planting.

Saraca ashoka

The ashoka is a rain-forest tree. Its original distribution was in the central areas of the

Deccan plateau, as well as the middle section of the Western Ghats in the western coastal zone of the Indian subcontinent.The ashoka is prized for its beautiful foliage and fragrant flowers. It is a handsome, small, erect evergreen tree, with deep green leaves growing in dense clusters.

Clitoria ternatea

It is a perennial herbaceous plant, with elliptic, obtuse leaves. It grows as a vine or creeper, doing well in moist, neutral soil. Its most striking feature is the color of its flowers, a vivid deep blue; solitary, with light yellow markings. They are about 4 cm long by 3 cm wide. Some varieties yield white flowers.The fruits are 5–7 cm long, flat pods with six to ten seeds in each pod. They are edible when tender.

(Plate 2)

3. Combretaceae *Terminalia*

catappa

The tree grows to 35 metres (115 feet) tall, with an upright, symmetrical crown and horizontal branches. The fruit are corky and light, and dispersed by water. As the tree gets older, its crown becomes more flattened to form a spreading, vase shape. Its branches are distinctively arranged in tiers. The leaves are large, 15–25 cm (6–9+3⁄4 in) long and 10–14 cm (4–5+1⁄2 in) broad, ovoid, glossy dark green, and leathery. They are dry-season deciduous; before falling, they turn pinkish-reddish or yellow-brown, due to pigments such as violaxanthin, lutein, and zeaxanthin.

Combretum indicum

The Rangoon creeper is a ligneous vine that can reach from 2.5 meters to up to 8 meters. The leaves are elliptical with an acuminate tip and a rounded base. They grow from 7 to 15 centimeters and their arrangement is opposite. The flowers are fragrant and tubular and their color varies from white to pink to red. The 30 to 35 mm long fruit is ellipsoidal and has five prominent wings. The fruit tastes like almonds when mature.

(Plate 3)

4.Malvaceae

Hibiscus rosa-sinensis

Hibiscus rosa-sinensis is a bushy, evergreen shrub or small tree growing tall and wide. The plant has a branched taproot. Its stem is aerial, erect, green, cylindrical, and branched.Its leaves are simple and petiolate, with alternate phyllotaxy. The leaf shape is ovate, the tip is acute, and the margin is serrated. Venation is unicostate reticulate, meaning the leaves' veins are branched or divergent. Its surface is glossy,Free lateral stipules are present

Abelmoschus esculentus

Easily grown in moist, moderately fertile, well-drained soils in full sun. Best flowering is in full sun. Thrives in hot summer climates. Seeds are sensitive to cold temperatures and should not be planted outside until soil temperatures have risen to 60°F. and night temperatures no longer dip below 55°F. As an alternative, seed may be started indoors about 1-2 weeks prior to the last frost date with seedling planted outside as soon as soils warms up. Harvest the pods when they reach 3" long. First harvest of okra will occur about 55 days after seeds sprout. Seed may be harvested from garden plants for planting the following year**.**

(Plate 4)

5.Myrtaceae

Psidium guajava

It is a small tropical tree or shrub of the family Myrtaceae, cultivated for its edible fruits. Guava trees are native to tropical America and are grown in tropical and subtropical areas worldwide. Guava fruits are processed into jams, jellies, and preserves and are common pastry fillings. Fresh guavas are rich in vitamins A, B, and C; they are commonly eaten raw and may be sliced and served with sugar and cream as a dessert.

Syzygium samarangense

It is a tropical tree growing to 12 m (39 ft) tall, with evergreen leaves 10–25 cm (4–10 in) long and 5–10 cm (2–4 in) broad. The leaves are elliptical, but rounded at the base; they are aromatic when crushed. The trunk is relatively short, with a wide – yet open – crown starting low on the tree. The bark is pinkish-gray in color, and flakes readily. (Plate 5)

6.Rutaceae

Murraya koenigii

It is a small tree, growing 4–6 metres tall, with a trunk up to 40 cm diameter. The aromatic leaves are pinnate, with 11–21 leaflets, each leaflet 2–4 cmlong and 1–2 cm broad. The plant produces small white flowers which can self-pollinate to produce small shiny-black drupes containing a single, large viable seed. The berry pulp is edible, with a sweet flavor. (Plate 6)

7.Cucurbitaceae

Coccinia indica

Coccinia species are perennial climbing or creeping herbs. Climbing is supported by simple or unequally bifid tendrils. Most species develop a tuber from the hypocotyl, sometimes on roots. The cotyledons are simple, entire and have a blunt tip. The leaves are usually stalked, rarely sessile. The leaves are simple to deeply lobed, usually with teeth along the margin. The lower leaf side often bears small nectar-producing glands.

Citrullus vulgaris

The watermelon is an annual that has a prostate or climbing habit. Stems are up to 3 metres long and new growth has yellow or brown hairs. Leaves are 60 to 200 millimetres long and 40 to 150 mm wide. These usually have three lobes that are lobed or doubly lobed. Young growth is densely woolly with yellowish-brown hairs which disappear as the plant ages. Like all but one species in the genus Citrullus, watermelon has branching tendrils.

Momordica charantia

This herbaceous, tendril-bearing vine grows up to 5 m in length. It bears simple, alternate leaves 4–12 cm across, with three to seven deeply separated lobes. Each plant bears separate yellow male and female flowers. In the Northern Hemisphere, flowering occurs during June to July and fruiting during September to November. It is a frost-tender annual in the temperate zone and a perennial in the tropics.The fruit has a distinct warty exterior and an oblong shape.

Trichosanthes cucumerina

Trichosanthes cucumerina is a monoecious annual vine climbing by means of tendrils. Leaves are palmately lobed, up to 25 cm long. Flowers are unisexual, white, opening at night, with long branching hairs on the margins of the petals. These hairs are curled up in the daytime when the flower is closed, but unfurl at night to form a delicate lacy display . Fruits can be up to 200 cm long, deep red at maturity, hanging below the vine.

(Plate 7)

8.Umbelliferae

Centella asiatica

Centella grows in temperate and tropical swampy areas in many regions of the world.[2] The stems are slender, creeping stolons, green to reddish-green in color, connecting plants to each other.It has long-stalked, green, rounded apices which have smooth texture with palmately netted veins. The leaves are borne on pericladial petioles, around 2 cm . The rootstock consists of rhizomes, growing vertically down. They are creamish in color and covered with root hairs.

(Plate 8)

9.Rubiaceae

Ixora cocinia

Ixora coccinea is a dense, multi-branched evergreen shrub, commonly 4–6 ft in height, but capable of reaching up to 12 ft high. It has a rounded form, with a spread that may exceed

its height. The glossy, leathery, oblong leaves are about 4 in long, with entire margins, and are carried in opposite pairs or whorled on the stems. Small tubular, scarlet flowers in dense rounded clusters 2–5 in across are produced almost all year long.

Pentas lanceolata

It is easily grown in average, medium, well-drained soils in full sun. Tolerates part shade, but best flowering in full sun. Best in organically rich, fertile soils. In St. Louis, grow in the ground as bedding annuals that are replaced in the garden each spring or in pots/containers as frost-tender perennials that are overwintered indoors.

(Plate 9)

10.Apocyanaceae

Catharanthus roseus

Catharanthus roseus is an evergreen subshrub or herbaceous plant growing 1 m tall. The leaves are oval to oblong, 2.5–9 cm long and 1 -- 3.5 cm wide, glossy green, hairless, with a pale midrib and a short petiole 1 -- 1.8 cm long; they are arranged in opposite pairs. The flowers range from white with a yellow or red center to dark pink with a darker red center, with a basal tube 2.5–3 cm long and a corolla 2–5 cm diameter with five petal-like lobes. The fruit is a pair of follicles 2–4 cm long and 3 mm wide.

Nerium oleander

Oleander grows to 2–6 metres tall, with erect stems that splay outward as they mature; first-year stems have a glaucous bloom, while mature stems have a grayish bark. The leaves are in pairs or whorls of three, thick and leathery, dark-green, narrow lanceolate, 5–21 cm long and 1 -- 3.5 cm broad, and with an entire margin filled with minute reticulate venation web typical of eudicots. The leaves are light green and very glossy when young, maturing to a dull dark green.

Alstonia scholaris

Alstonia scholaris is a glabrous tree and grows up to 40 m (130 ft) tall. Its mature bark is grayish and its young branches are copiously marked with lenticels.One unique feature of this tree is that in some places, such as New Guinea, the trunk is three-sided

Calotropis gigantia

Large, white, not scented peduncles arising between the petioles. Flower-buds ovoid, angled, Calyx lobes 5, divided to the base, white, ovate; corolla broadly rotate, valvate, lobes 5, deltoid ovate, reflexed, coronate-appendages broad, obtusely 2-auricled below the rounded apex which is lower than the staminal-column. Stamens 5, anthers short with membranous appendages, inflexed over the depressed apex of the pentagonal stigma. Pollinium one in each cell, pendulous caudicles slender.

(Plate 10)

11.**Asteraceae**

Tridax procumbens

The plant bears daisy-like yellow-centered white or yellow flowers with three-toothed ray florets. The leaves are toothed and generally arrowhead-shaped. Calyx is represented by scales or reduced to pappus.Its fruit is a hard achene covered with stiff hairs and having a feathery, plumelike white pappus at one end. The plant is invasive in part because it produces so many of these achenes, up to 1500 per plant, and each achene can catch the wind in its pappus and be carried some distance. This plant can be found in fields, meadows, croplands, disturbed areas, lawns, and roadsides in areas with tropical or semi tropical regions.

Eclipta prostrata

It is widespread and has adapted to a range of environments. It is found in poorly drained wet areas, saline conditions, along streams, in drains and canals of irrigated lowland rice paddies, in waste areas, and in upland fields.A single plant can produce as many as 17,000 seeds; germination affected by light, moisture level, pH, and temperature, but seeds have no dormancy.

Cosmos caudatus

The plant is known by several vernacular names in Central America which include.The species grows up to 2 m (6 ft 7 in) in height. The leaves are soft and pungent while the stem is light green with a purplish hue and succulent. As night falls the leaves fold to close the terminal buds as the plant literally sleeps. The flowers can be found solitary or in loose clusters and are produced on a single stalk on auxiliary heads.

Chromolaena odorata

Chromolaena odorata is a rapidly growing perennial herb. It is a multi-stemmed shrub which grows up to 2.5 m (100 inches) tall in open areas. It has soft stems but the base of the shrub is woody. In shady areas it becomes etiolated and behaves as a creeper, growing on other vegetation. It can then become up to 10 m (33 feet) tall. The plant is hairy and glandular and the leaves give off a pungent, aromatic odour when crushed. The leaves are opposite, triangular to elliptical with serrated edges.

(Plate 11)

12.Sapotaceae

Manilkara zapota

Sapodilla can grow to more than 30 m (98 ft) tall with a trunk diameter of up to 1.5 m. The average height of cultivated specimens, however, is usually between 9 and 15 m with a trunk diameter not exceeding 50 cm. It is wind-resistant and the bark is rich in a white, gummy latex called chicle. The ornamental leaves are medium green and glossy. They are alternate, elliptic to ovate, 7–15 cm long, with an entire margin. The white flowers are inconspicuous and bell-like, with a six-lobed corolla. An unripe fruit has a firm outer skin and when picked, releases white chicles from its stem. A fully ripened fruit has saggy skin and does not release chicles when picked.

Donella lanceolata

Evergreen trees, to 30 m high, bark grey or pale brown, smooth, cracked vertically, inner bark fibrous; exudation milky; branches horizontal; young shoots densely ferruginous pubescent. Leaves simple, alternate, scattered, spreading distichously, estipulate; petiole 3-10 mm long, slender, pubescent; lamina, elliptic, oblong, elliptic-oblong, oblonglanceolate, base acute, apex acuminate or caudate-acuminate, margin entire, glabrous when mature,

shiny, coriaceous; lateral nerves many, parallel, close, slender, looped near margin forming intramarginal nerve; intercostae reticulate.

Pouteria ccampechian

Erect slender tree with a spreading form, generally not more than 8 m tall, but able to reach a height of 30 m in optimal growing conditions. Habitat:Found at elevations below 1400 m, P. campechiana grows in a tropical or sub-tropical climate. Mainly a cultivated plant grown commercially, it has been reported to become naturalised in places like the Florida Keys, the Bahamas and Cuba, although it is also thought that these may be plants growing on former homesteads. P. campechiana is known to occur naturally only in southern Mexico. Stem:Trunk diameter may reach up to 1 m. Bark brown, furrowed with abundant white gummy latex. Young branches are velvety brown.

(Plate 12)

13.Asclepiadaceae Pergularia daemia

The opposite and broadly ovate to suborbicular leaves are very variable in size, with petioles of varying length. The leaves are almost glabrous above and velvety below.In the northern hemisphere the flowers appear from mid to late winter, and these are carried on lateral cymes. The flower corolla forms a greenish-yellow or dull white tube. The fruit matures after some 13 to 14 months when they release ovate seeds covered with velvety hairs.

(Plate 13)

14.Solanaceae

Capsicum annum L

The single flowers are an off-white (sometimes purplish) color while the stem is densely branched and up to 60 cm tall. The fruits are peppers that may be green, yellow, orange or red when ripe. While the species can tolerate most frost-free climates, C. annuum is especially productive in warm and dry climates.

Solanum melongena L

Tropical perennial plants are often cultivated as a tender or half-hardy annual in temperate climates. The stem is often spiny. The flowers are white to purple in color, with a fivelobed corolla and yellow stamens.

Solanum virginianum L

Thorny Nightshade is an erect herb, sometimes woody at the base, 50–70cm tall, and copiously armed with sturdy, needlelike.The plant has ovate-oblong, situated leaves that are unequally paired. They have an acute apex and unequal lobes and are either pinnate or possessive of usually 5-9 lobes. The veins and stalks of the leaves are prickly, the stalks[a] having a length of 2-3.5cm.

(Plate 14)

15.Convolvulaceae

Ipomea repens

Ipomoea aquatica grows in water or on moist soil. Its stems are 2–3 metres or longer, rooting at the nodes, and they are hollow and can float. The leaves vary from typically sagittate to lanceolate, 5–15 cm long and 2–8 cm broad. The flowers are trumpet-shaped, 3–5 cm in diameter, and usually white in colour with a mauve centre. Propagation is either by planting cuttings of the stem shoots, which will root along nodes, or by planting the seeds from flowers that produce seed pods.

(Plate 15)

16.Plantaginaceae

Bacopa monnieri

Bacopa monnieri is a non-aromatic herb. The leaves of this plant are succulent, oblong, and 4–6 mm thick. Leaves are oblongolate and are arranged oppositely on the stem. The flowers are small, actinomorphic and white, with four to five petals. It can even grow in slightly brackish conditions. Propagation is often achieved through cuttings.

Scoparia dulcis

It is a species of flowering plant in the plantain family. Common names include licorice weed,goatweed,[scoparia-weed and sweet-broom in English, tapeiçava, tapixaba, and vassourinha in Portuguese, escobillo in Spanish, and tipychä kuratu in Guarani. It is native to the Neotropics but it can be found throughout the tropical and subtropical world. (Plate 16)

17.Acanthaceae

Justicia adhatoda

It is a shrub.They are oppositely arranged, smooth-edged, and borne on short petioles.When dry they are of a dull brownish-green colour. They are bitter-tasting. When a leaf is cleared with chloral hydrate and examined microscopically the oval stomata can be seen. They are surrounded by two crescent-shaped cells at right angles to the ostiole. The epidermis bears simple one- to three-celled warty hairs, and small glandular hairs.
Cystoliths occur beneath the epidermis of the underside of the blade.

Barleria cristata

It grows as a shrub 60 –100 cm tall. The leaves are dark green on the upper surface and pale green on the lower surface. They are elliptical to narrowly ovate. The flowers are about 5 cm long, funnel-shaped in violet, pink, or white color. The fruits are about 1.5 cm long ellipsoid capsules. They become glabrous and glossy at maturity.

(Plate 17)

18.Verbinaceae

Lantana camara

Lantana camara is a perennial, erect sprawling or scandent, shrub which typically grows to around 2 metres tall and forms dense thickets in a variety of environments. Under the right conditions, it can scramble up into trees and can grow to 6 m tall.The leaves are broadly ovate, opposite, and simple and have a strong odour when crushed.

(Plate 18)

19.Lamiaceae

Ocimum tenuiflorum

Ocimum tenuiflorum, commonly known as holy basil, tulsi or tulasi, and tamole, damole, or domole in Fiji, is an aromatic perennial plant in the family Lamiaceae. It is native to the Indian subcontinent and widespread as a cultivated plant throughout the Southeast Asian tropics.

Leucas aspera

Leucas aspera is a plant species within the genus Leucas and the family Lamiaceae. Although the species has many different common names depending on the region in which it is located, it is most commonly known as Thumbai or Thumba. Found throughout India, it is known for its various uses in the fields of medicine and agriculture.

Mentha arvensis L.

The corn mint, field mint, or wild mint, is a species of flowering plant in the mint family Lamiaceae. It has a circumboreal distribution, being native to the temperate regions of Europe and western and central Asia, east to the Himalaya and eastern Siberia, and North America.

Coleus amboinicus

It is a semi-succulent perennial plant in the family Lamiaceae with a pungent oregano-like flavor and odor. Coleus amboinicus is considered to be native to parts of Africa, the Arabian Peninsula, and India, although it is widely cultivated and naturalized elsewhere in the tropics where it is used as a spice and ornamental plant.

Tectona grandis

Teak (Tectona grandis) is a tropical hardwood tree species in the family Lamiaceae. It is a large, deciduous tree that occurs in mixed hardwood forests. Tectona grandis has small, fragrant white flowers arranged in dense clusters (panicles) at the end of the branches. These flowers contain both types of reproductive organs (perfect flowers). The large, papery leaves of teak trees are often hairy on the lower surface. Teak wood has a leatherlike smell when it is freshly milled and is particularly valued for its durability and water

resistance. The wood is used for boat building, exterior construction, veneer, furniture, carving, turnings, and other small wood projects.

(Plate 19)

20.Amaranthaceae

Amaranthus spinosus

It is commonly known as the spiny amaranth,spiny pigweed, prickly amaranth or thorny amaranth, is a plant that is native to the tropical Americas, but is present on most continents as an introduced species and sometimes a noxious weed.[citation needed] It can be a serious weed of rice cultivation in Asia.

Gomphrena globosa

It is commonly known as globe amaranth, is an edible plant from the family Amaranthaceae. The round-shaped flower inflorescences are a visually dominant feature and cultivars have been propagated to exhibit shades of magenta, purple, red, orange, white, pink, and lilac. Within the flowerheads, the true flowers are small and inconspicuous.

(Plate 20)

21.Euphorbiaceae

Manihot esculenta

Manihot esculenta, commonly called cassava or yuca, is a woody shrub of the spurge family, Euphorbiaceae, native to South America, from Brazil and parts of the Andes. Although a perennial plant, cassava is extensively cultivated as an annual crop in tropical and subtropical regions for its edible starchy tuberous root, a major source of carbohydrates.

Acalypha hispida

The chenille plant is a flowering shrub which belongs to the family Euphorbiaceae,the subfamily Acalyphinae, and the genus Acalypha. Acalypha is the fourth largest genus of the family Euphorbiaceae, and contains many plants native to Hawaii and Oceania.

Acalypha hispida

The chenille plant is a flowering shrub which belongs to the family Euphorbiaceae,the subfamily Acalyphinae, and the genus Acalypha. Acalypha is the fourth largest genus of the family Euphorbiaceae, and contains many plants native to Hawaii and Oceania. (Plate 21)

22.Orchidaceae

Phalaenopsis

It is also known as moth orchids, is a genus of about seventy species of plants in the family Orchidaceae. Orchids in this genus are monopodial epiphytes or lithophytes with long, coarse roots, short, leafy stems and long-lasting, flat flowers arranged in a flowering stem that often branches near the end. Orchids in this genus are native to India, Taiwan, China, Southeast Asia, New Guinea and Australia with the majority in Indonesia and the Philippines.

(Plate 22)

23.Nymphaceae

Nelumbo nucifera

Nelumbo nucifera, also known as sacred lotus, Laxmi lotus, Indian lotus,[1] or simply lotus, is one of two extant species of aquatic plant in the family Nelumbonaceae. It is sometimes colloquially called a water lily, though this more often refers to members of the family Nymphaeaceae.

(Plate 23)

24.Arecaceae

Calamus rotang

It is also known as common rattan, is a plant species native to India, Sri Lanka and Myanmar (Burma). It is one of the scandent rattan palms used to make Malacca cane furniture, baskets, walking-sticks, umbrellas, tables and general wickerwork, and is found in Southwest Asia. The basal section of the plant grows vertically for 10 metres or so, after which the slender, tough stem grows horizontally for 200 metres or more. It is extremely flexible and uniform in thickness, and frequently has sheaths and petioles armed with

backward-facing spines which enable it to scramble over other plants. It has pinnate, alternate leaves.

Cocos nucifera

The coconut tree is a member of the palm tree family and the only living species of the genus Cocos.The term "coconut" can refer to the whole coconut palm, the seed, or the fruit, which botanically is a drupe, not a nut. The name comes from the old Portuguese word coco, meaning "head" or "skull", after the three indentations on the coconut shell that resemble facial features. They are ubiquitous in coastal tropical regions and are a cultural icon of the tropics.

Arum italicum

It is a species of flowering herbaceous perennial plant in the family Araceae, also known as Italian arum and Italian lords-and-ladies. It is native to the Mediterranean region. It is also naturalized in Great Britain, the Netherlands, Crimea, Caucasus, Canary Islands, Madeira, Azores, Argentina, and scattered locations in America

Dieffenbachia seguine

The herbaceous perennial grows 3 feet to 10 feet in height and 2 feet to 3 feet in width. The plant's leaves are large and green, and often with variegated white patterns. Like other Dieffenbachias, the sap is toxic. It has showy white flowers.

Colacasia esculenta

They are herbaceous perennial plants with a large corn on or just below the ground surface. The leaves are large to very large, long, with a sagittate shape. The elephant's-ear plant gets its name from the leaves, which are shaped like a large ear or shield. The plant reproduces mostly by means of rhizomes (tubers, corms), but it also produces "clusters of two to five fragrant inflorescences in the leaf axils" Like other members of the family, the plant contains an irritant which causes intense discomfort to the lips, mouth and throat. (Plate 24)

25.Poaceae

Bambusa bambos

It is a tall, bright-green colored spiny bamboo species, which grows in thickets consisting of a large number of heavily branched, closely growing culms. It reaches a height of 10–35 m and grows naturally in the forests of the dry zones.

Brachiaria mutica

Para grass is a vigorous, semi-prostrate perennial grass with creeping stolons which can grow up to 5 metres long. The stems have hairy nodes and leaf sheaths and the leaf blades are up to 2 centimetre wide and 30 centimetre long. It roots at the nodes and detached pieces of the plant will easily take root in moist ground. The flower-head is a loose panicle up to 30 centimetres long with spreading branches.

Setaria palmifolia

This species is a perennial grass with stems growing up to two or three meters long from a knotty rhizome. The stems can be up to a centimeter thick. The leaf sheaths are sparsely to totally hairy. The leaf blades are linear, oval,or lance-shaped and up to 60 to 80cm long by 7 or 8 cm wide. They have a pleated texture and are hairless or with some rough hairs.

Pennisetum pedicellatum

Desho is a herbaceous perennial grass which has a massive root system that anchors to the soil. It has a high biomass producing capacity and grows upright with the potential of reaching 90 cm to 120 cm in height depending on soil fertility. Desho is planted by cuts which have good survival rates and establish better compared to grasses planted by seed. Moreover, desho grows rapidly and is drought resistant once established. Desho is said to have high nutritive values and is naturally palatable for livestock.

(Plate 25)

26.Anacardiaceae

Anacardium occidentale

The cashew tree is large and evergreen, growing to 14 metres tall, with a short, often irregularly shaped trunk.The leaves are spirally arranged, leathery textured, elliptic to ovate, 4–22 cm broad, with smooth margins. The flowers are produced in a panicle or crest up to 26 cm long; each flower is small, pale green at first, then turning reddish, with five slender, acute petals .

Mangifera indica

It is a large green tree, valued mainly for its fruits, both green and ripe.Approximately 500 varieties have been reported in India.It can grow up to 15–30 metres tall with a similar crown width and a trunk circumference.The leaves are simple, shiny and dark green.

Red-yellow flowers appear at the end of winter, and also at the beginning of spring. Both male and female flowers are borne on the same tree.Climatic conditions have a significant influence on the time of flowering.

Spondias mombin

It is a small deciduous tree up to 20 m high and 1.5 m in girth, and is moderately buttressed. Its bark is thick, corky, and deeply fissured. When slashed, it is pale pink, darkening rapidly. Branches are low and branchlets are glabrous**.**

(Plate 26)

27.Zingibiberaceae

Curcuma longa L.

Turmeric is a perennial herbaceous plant that reaches up to 1 m tall. It has highly branched, yellow to orange, cylindrical, aromatic rhizomes.The leaves are alternate and arranged in two rows. They are divided into leaf sheath, petiole, and leaf blade.From the leaf sheaths, a false stem is formed.

Zingiber officinale

Ginger is a flowering plant whose rhizome, ginger root or ginger, is widely used as a spice and a folk medicine.It is a herbaceous perennial which grows annual pseudostems about one meter tall bearing narrow leaf blades. The inflorescences bear flowers having pale yellow petals with purple edges, and arise directly from the rhizome on separate shoots. (Plate 27)

28.Piperaceae

Piper nigrum

Black pepper is a flowering vine in the family Piperaceae, cultivated for its fruit , which is usually dried and used as a spice and seasoning. The fruit is a drupe which is about 5 mm in diameter, dark red, and contains a stone which encloses a single pepper seed. Peppercorns and the ground pepper derived from them may be described simply as pepper, or more precisely as black pepper, green pepper, or white pepper.

(Plate 28)

29.Liliaceae

Lilium candidum

Lilies are tall perennials ranging in height from 2–6 ft . They form naked or tunicless scaly underground bulbs which are their organs of perennation. In some North American species the base of the bulb develops into rhizomes, on which numerous small bulbs are found. (Plate 29)

30.Bromeliaceae

Ananas comosus

The pineapple is a herbaceous perennial, which grows to 1.0 to 1.5 m tall on average, although sometimes it can be taller. The plant has a short, stocky stem with tough, waxy leaves. When creating its fruit, it usually produces up to 200 flowers, although some largefruited cultivars can exceed this. Once it flowers, the individual fruits of the flowers join together to create a multiple fruit.

(Plate 30)

31.Musaceae

Musa paradisiaca

They are typically 2–9 metres tall when mature. The above-ground part of the plant is a "false stem" or pseudostem, consisting of leaves and their fused bases. Each pseudostem can produce a single flowering stem. After fruiting, the pseudostem dies, but offshoots may develop from the base of the plant.

(Plate 31)

32.Meliacea

Azadirachta indica

Neem is a fast-growing tree that can reach a height of 15–20 metres , and rarely 35–40 m. It is evergreen, shedding many of its leaves during the dry winter months. The branches are wide and spreading. The fairly dense crown is roundish and may reach a diameter of 20–25 m. The opposite, pinnate leaves are 20–40 cm long, with 20 to 30 medium to dark green leaflets about 3–8 cm long. The terminal leaflet often is missing. The petioles are short.

Swietenia mahagoni

Swietenia mahagoni is a medium-sized semi-evergreen tree growing to 30–35 metres tall. The leaves are pinnate, 12–25 centimetres long, with four to eight leaflets, each leaflet 5–6 centimetres long and 2–3 centimetres broad; there is no terminal leaflet. The flowers are small, produced in panicles. The fruit is a woody capsule 5–10 cm long and 3–6cm broad, containing numerous winged seeds.

(Plate 32)

33.Connaraceae

Rourea santaloides

Large woody climbing shrubs:leaves imparipinnate:leaflets 3-7,Subopposite or alternate ovate or elliptic.base rounded.Apex acute,thin-coriaceous.Flowers in axillary panicled cymes.Calyx lobes 5.enlarging in fruits.Petals 5. Val-oblong.yellowish.Stamens 10, alternating ones longer and shorter.Ovary more or less ovoid: ovules 2: style covered with stipitate glands. Follicles 1-2 cm long.Oblong slightly curved. Accrescent calyx and basal portion of style persistent.Seed 1, to 1cm long, obovate:aril red, sheathing at base. (Plate 33)

34.Moraceae

Artocarpus altilis

Evergreen tree. The bark is smooth. The leaves are alternate, dark green, flowermonecious, flowers are born on the club shaped spike,female inflorescence are globose clusters.

Artocarpus hirsuts

The leaves of this tree are simple and phyllotaxy is alternate. The shape can be described as elliptic or ovate. When it is young it is densely hirsute beneath. The apex of leaf is subacute or shortly acuminate, base is rounded or sub-acute, and margins undulate. Ten to twelve pairs of secondary nerves can be visible and the length of petiole is about 1.5-3 cm

Ficus drupacea

Its distinctive features include dense, woolly pubescence, bright yellow to red fleshy fruit, and grayish white bark.It can reach heights of 10–30 meters.Its fruit are eaten by pigeons, and it is pollinated by Eupristina belgaumensis.

(Plate 34)

35.Santalaceae

Santalum album

It is an evergreen tree that grows between 4–9 metres (13–30 feet).[2] The tree is variable in habit, usually upright to sprawling, and may intertwine with other species. The plant parasitises the roots of other tree species, with a haustorium adaptation on its own roots, but without major detriment to its hosts.[3] An individual will form a non-obligate relationship with a number of other plants

(Plate 35)

36.Myristicaceae

Myristica fragrans

It is an evergreen tree, usually 5–15 m tall, but occasionally reaching 20 m or even 30 m on Tidore. The alternately arranged leaves are dark green, 5–15 cm long by 2–7 cm wide with petioles about 1 cm long. The species is dioecious, i.e. "male" or staminate flowers and "female" or carpellate flowers are borne on different plants, although occasional individuals produce both kinds of flower. The flowers are bell-shaped, pale yellow and somewhat waxy and fleshy. Staminate flowers are arranged in groups of one to ten, each 5–7 mm long; carpellate flowers are in smaller groups, one to three, and somewhat longer, up to 10 mm long.

(Plate 36)

37.Bignoniaceae

Spathodea campanulata

The flower bud is ampule-shaped and contains water. People sometimes play with these buds because of their ability to squirt water.The sap sometimes stains yellow on fingers and clothes. The open flowers are cup-shaped and hold rain and dew, making them attractive to many species of birds.

(Plate 37)

38.Oleaceae

Jasminum sambac

It is an evergreen vine or shrub reaching up to 0.5 to 3 m tall.The species is highly variable, possibly a result of spontaneous mutation, natural hybridization, and autopolyploidy. Cultivated Jasminum sambac generally do not bear seeds and the plant is reproduced solely by cuttings, layering, marcotting, and other methods of asexual propagation.

(Plate 38)

39.Moringaceae *Moringa oleifera*

It is a fast-growing, deciduous tree that can reach a height of 10–12 metres and trunk diameter of 45 centimetres .The bark has a whitish-gray color and is surrounded by thick cork. Young shoots have purplish or greenish-white, hairy bark. The tree has an open crown of drooping, fragile branches, and the leaves build up a feathery foliage of tripinnate leaves. (Plate 39)

40.Asparagaceae

Asparagus racemosus

Shatavari has small pine-needle-like phylloclades that are uniform and shiny green. In July, it produces minute, white flowers on short, spiky stems, and in September it fruits, producing blackish-purple, globular berries. It has an adventitious root system with tuberous roots that measure about one metre in length, tapering at both ends, with roughly a hundred on each plant.

(Plate 40) **ANNONACEAE**

Annona squamosa

(Plate 1)

FABACEAE

Bauhinia purpurea

Caesalpinia pulcherrima

Cassia fistula

Tamarindus indica

Mimosa pudica

Pisum sativum

Saraca ashoka

Clitoria ternatea

(Plate 2)

COMBRETACEAE

Terminalia catappa

Combretum indicum

(Plate 3)

MALVACEAE

Hibiscus rosa-sinensis

Abelmoschus esculentus

(Plate 4)

MYRTACEAE

Psidium guajava

syzygium samarangense

(Plate 5)

RUTACEAE

Murraya koenigii

Citrus limon

(Plate 6)

CUCURBITACEAE

Coccinia indica

Citrullus lantanus

Momordica charantia

Trichosanthes cucumerina

(Plate 7)

UMBELLIFERAE

Centella asiatica

(Plate 8)

RUBIACEAE

Ixora coccinia

Pentas lanceolata

(Plate 9)

APOCYNACEAE

Catharanthus roseus

Nerium oleander

Alstonia scholaris

Calotropis gigantia

(Plate 10)

ASTERACEAE

Tridax procumbens

Eclipta prostrate

Cosmos caudatus

Chromolaena odorata

(Plate 11)

SAPOTACEAE

Manilkara zapota

Donella lanceolata

Pouteria campechiana

(Plate 12)

ASCLEPIADACEAE

Pergularia daemia

(Plate 13)

SOLANACEAE

Capsicum annum L

Solanum melongena L

Solanum virginianum L

(Plate 14)

CONVOLVULACEAE

Ipomoea repens

(Plate 15)

PLANTAGINACEAE

Bacopa monnieri

Scoparia dulcis

(Plate 16)

ACANTHACEAE

Justicia adhatoda

Barleria cristata L

(Plate 17)

VERBENACEAE

Lantana camara

(Plate 18)

LAMIACEAE

Ocimum tenuiflorum

Leucas aspera

Mentha arvensis L.

Coleus amboinicus

Tectona grandis

(Plate 19)

AMARANTHACEAE

Amaranthus spinosus ***Gomphrena globosa***

(Plate 20)

EUPHORBIACEAE

Manihot esculenta ***Acalypha indica*** ***Acalypha hispida***

(Plate 21)

ORCHIDACEAE

Phalaenopsis

(Plate 22)

NYMPHACEAE

Nelumbo nucifera

(Plate 23)

ARECACEAE

Cocos nucifera

Calamus rotang

Diffenbachia seguine

Colacassia esculenta

(Plate 24)

POACEAE

Bambusa bambos

Brachiaria mutica

Setaria palmifolia

Pennisetum pedicellatum

(Plate 25)

ANACARDIACEAE

Anacardium occidentale

Mangifera indica

Spondias mombin

(Plate 26)

ZINGIBERACEAE

Curcuma longa L

Zingiber officinale

(Plate 27)

PIPERACEAE

Piper nigrum L

(Plate 28)

LILIACEAE

Lilium candidum

(Plate 29)

BROMILIACEAE

Ananas comosus

(Plate 30)

MUSACEAEA

Musa paradisiaca

(Plate 31)

MELIACEAE

Azadirachta indica

Swietenia mahagoni

(Plate 32)

CONNARACEAE

Rourea santaloides

(Plate 33)

MORACEAE

Antocarpus altilis drupacea

Artocarpus hirsute

Lamk Ficus

(Plate 34)

SANTALACEAE

Santalum album,L.

(Plate 35)

MYRISTICACEAE

Myristica fragrans,Houtt.

(Plate 36)

BIGNONIACEAE

Spathodea campanulate,P. Beauv.

(Plate 37)

OLEACEAE

Jasminum sambac

(Plate 38)

MORINGACEAE

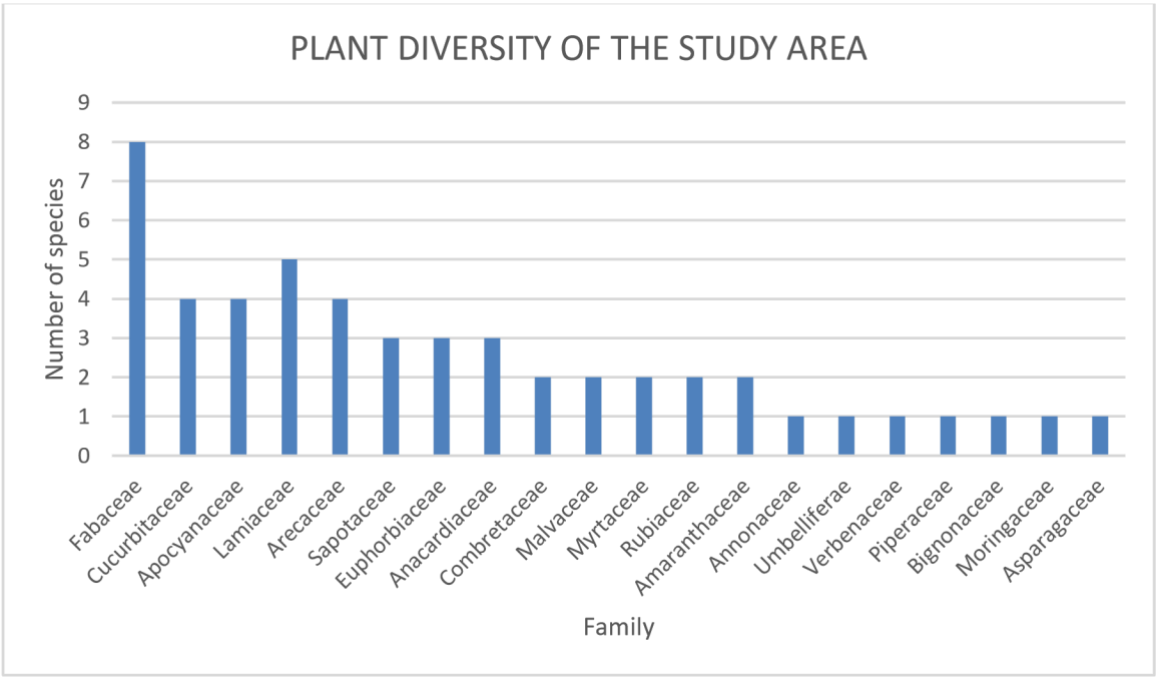
Moringa olrifera

(Plate 39)

ASPARAGACEAE

Asparagus racemosus

(Plate 40)


PLANT DIVERSITY OF THE STUDY AREA
Number of species
0
1
2
3
4
5
6
7
8
9
Fabaceae
Cucurbitaceae
Apocyanaceae
Lamiaceae
Arecaceae
Sapotaceae
Euphorbiaceae
Anacardiaceae
Combretaceae
Malvaceae
Myrtaceae
Rubiaceae
Amaranthaceae
Annonaceae
Umbelliferae
Verbenaceae
Piperaceae
Bignonaceae
Moringaceae
Asparagaceae
Family

6.DISCUSSION

DISCUSSION

A floristic study documents all the plant species found within a specific geographical area. Some ambitious and large-scale floristic projects involve development of keys, detailed descriptions, and illustrations of the plants, while some may produce a simple list of species found in an area. India can be divided into eight distinct-floristic-regions, namely, the western Himalayas, the eastern Himalayas, Assam, the Indus plain, the Ganga plain, the Deccan, Malabar and the Andamans. The present study is the preliminary analysis of floristic diversity in Cheranelloor Panchayat. The mainly focused to understand the different species found in Cheranelloor Panchayat. There were gymnosperms, Angiosperms, Bryophytes, Pteridophytes, Trees, Herbs ,Shrubs, Climbers, Creepers, ornamental plants etc.. were seen. Most of the plants identified were common and were documented according to Bentham and Hooker's Classification. The major flowering plants represented by the dicotyledons comprised 99 species under genera belonging to 40 families. The family with the highest number of plants belongs to . There were also medicinal plants including ocimum sanctum L., Azardirachta indica etc. Calotropis gigantea (L.) R. Br. Locally known as Erikku is effective in treating skin, digestive ,respiratory, circulatory and neurological disorders and was used to treat fevers, elphantias is, nausea, vomiting, and diarrhea. Cassia fistula L. also known as Kanikonna ,locally is used in the treatment of inflammatory swellings and as a cleaning agent for ulcers and wounds. It is believed to decrease purulent discharge and act as a local antiseptic. The fruits are also used a laxative. Saraca indica is used to cure hypothermia and diuretic conditions, irregular menstruation and used as a blood purifier in stomach ache. It is used also in

bleeding piles, vbacillary dysentry. Bama, fever, leprosy, abdominal, skin, cardiac, and respiratory diseark leaves, milky exudates of Alstonia scholaris are used to treat Diarrhea malarial fever, astses, ulcers, bronchitis, tumorsand rheumatic swellings. Asparagus ravemosus tubers are medicinally important to cure hyperacidity, gastritis cure diseases on account of impurity of blood, piles and eye diseases. Kavungu (Areca catechuL) is medicinal for alertness, increased stamina,a sense of well-being, euphoria and salivation. Shoot apex are toddy of Caryota urens L.used to cure diarrhoea, migraine and scorpionsting poisoning. Borassus flabellifer L.locally known as Karimbana is used for the treatment of difficulty in micturition, general debility, diarrhea, psychiatric conditions, hepatomegaly and acidity Invasive plant species like Swietenia mahagony were also seen there. All the plants found out had their own characteristic features.Due to the present climatic conditions and drastic weather change some of the plants were facing difficulty to grow.And there were several climatic factors which decreased the growth of species.

7. SUMMARY AND CONCLUSIONS

SUMMARY AND CONCLUSIONS

The term "floral diversity" describes the variety of plants that were present in a certain area during a particular time. It often refers to the variety of native or indigenous plants that are found in nature. The most common species seen are from the family Fabaceae.99 species found from the 40 families including trees, herbs, shrubs, climbers, creepers, medicinal plants, ornamental plants, etc. Invasive plant species like Swietenia mahagony also were identified. Medical plants include Ocimum sanctum L., Azardirachta indica etc. Trees including, Mangifera indica, Tectona grandis, Azadirachta indica etc. This study helps to know about the floristic diversity in Cheranelloor panchayat. And To understand the most common species in that panchayat. The most common species found in Cheranelloor panchayat were from the family Fabaceae. Field visits help to know about different species and family.

8.REFRENCE

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