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Floristic Diversity Assessment of Home Garden in Palayamkottai Region of Tirunelveli District, Tamil Nadu a Means of Sustainable Biodiversity Conservation

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ABSTRACT

Home garden is an integrated system which consists of different plants in its small area that produces a variety of foods and agricultural products including vegetables, fruits, medicinal plants, ornamentals etc. All home gardeners were individually interviewed about home garden management and plant utilization, among other information. The biological and cultural significance of agro biodiversity in home gardens are highlighted with the future obligation and prospect in home gardens to improve our natural resource and avoid the pollution with free air circulation. The main objective of this study was to assess the status, composition and diversity of plants in an urban home gardens with the help of socio economic factors of households. The study was carried out in Palayamkottai region of Tirunelveli district of Tamil Nadu, India. A total of 182 species were observed, which belonging to 159 genera and 71 families. Most of plants were dicot with 53 families and 150 species, whereas monocot with 15 families and 29 species and third one gymnosperm were presented with 2 families and 2 species and a single species of Pteridophyte also were documented. Fabaceae, Apocyanaceae and Solanaceae were the most dominant family in this home garden.

KEYWORDS: *Home garden, biodiversity, agricultural, medicinal plant and ornamental*

INTRODUCTION

Home gardens are traditional agro forestry systems characterized by the intricacy of their structure with lot of functions. Home gardens can be defined as 'land use system involving deliberate management of multipurpose biological varieties such as trees, herbs and shrubs in intimate association with annual and perennial agricultural crops and variable livestock within the compounds of individual houses[1]. Home garden is an integrated system which comprises different things in its small area (the family house, a kitchen garden, a mixed garden etc). It produces a variety of foods, medicine and agricultural products. These products could be used both for home consumption and for incoming purpose. There are numerous types of home gardens were serving for several functions. Vegetable gardens were the cultivation of different kinds of vegetables and fruits. Herbal gardens can be grown in a small a spot as a window box. Growing of culinary herbs and spices gives the freshest ingredients. Different herbs are usually separated through the planting design and cultivated in pot. Rose gardens mainly for the cultivation of flowers for income or beautification and fourth one knot gardens had squares of flora or paving encased by dwarf. The knot garden looks to control nature to into beautiful patterns. Oriental gardens are incorporates the use of water and paths, rocks and sculptured bushes and trees to create a peaceful and tranquil garden. Wild garden is a natural type of garden. Its natural style encourages the growth of natural plants and wild grasses. Home gardens are cultivation systems for both food and non-food production. Nevertheless, home gardens are mostly known for their food production function considered to be their basic function[2]. The different denominations associated to home gardens are home food gardens, urban food gardens, domestic food gardens and kitchen garden[3,4&5] are evidences of the paramount importance attributed to food production function of home gardens in the available literature. However, based on the spectrum of home gardens eco-friendly services [6,7,8,9&10] and the different uses reported to be combine to home gardens[11,12&13], the non-food productions (medicinal, ornamental, etc.) are also of importance especially in some topographical framework. For

instance in Benin, where the reported plant used for non-food purposes compare to food ones[12] it should be expected that home gardens are functionally diverse. Because food and health care are basic human needs, we predict that food and medicinal function will predominate other functions. Home garden species typically have multiple uses, meeting family needs for food, medicine, shade, religious rituals and ornamental purposes[14],and these species can be cultivated, tolerated, enhanced, and protected[15] .Tolerance includes practices within human-made environments that are directly related to the conservation of useful plants that existed before the environments were transformed. Currently, the floristic composition of home gardens tends toward ornamental plants[16] .Not all plants receive the same attention. The choice of certain species is associated with their use in community celebrations or as foods consumed in everyday life and the use of certain species to treat diseases for generations [17].A clear differentiation of the floristic composition between Mestizo and Maya home gardens[18] .In Latin America, the purpose of home gardens is related to the edible, medicinal and aesthetic uses of a particular species, which are the most common factors due to the high frequency of these uses[19]. In this study, the floristic composition of home gardens, the contribution of edible and medicinal species to household subsistence in Palayamkottai region of Tirunelveli District, Tamil Nadu, India.

MATERIALS AND METHODS

Study Area

The present study was conducted in Palayamkottai (8.7166 º N and 77.7333 º E) region of Tirunelveli district of Tamil Nadu, India. Temperature 28º C and humidity 78%. Palayamkottai was called as the Oxford of the southern Tamil Nadu. It is around 189.9 km^2 and the population about 4, 73,637. Mainly four areas were considered in this study such as KTC Nagar, Perumalpuram, Santhi Nagar and NGO Colony (Fig.1).

Fig1. Map of the study area.

Information collection and analysis

Field information from these home gardens was collected from January to August, 2018. In the first interview, each interviewee was asked the following questions to obtain a list of the most frequently mentioned home garden plants. For this analysis 182 species were considered. The botanical material was identified with the support of college Herbarium for St. Xavier's college of Palayamkottai and experts of taxonomy. Households were identified as sampling units for the survey.

RESULT AND DISCUSSION

A total of 182 plant species were collected from the Palayamkottai region of Tirunelveli District. In the Habitat, most of the home harden plants 32% (60 species) were trees, 21 % (39 species) were shrubs, 33% (61 species) were herbs, 10% were (18 species) climbers and 4% (7 species) were twiners (Fig.2).

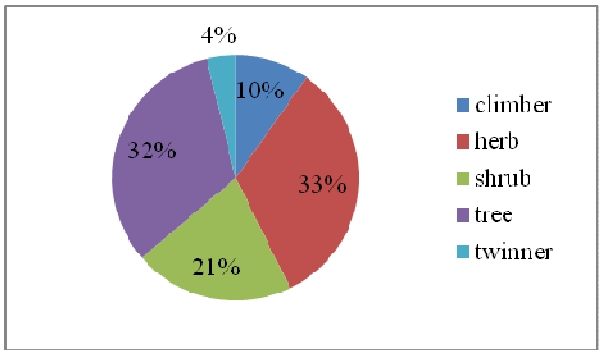

Fig2. Habit wise distribution of plant species in the study area.

The 182 plant species (including a Gymnosperm and Pteridophyte) belonging to 159 genera and 71 families.

Table No. 1: List of plant species from Palayamkottai, Tirunelveli District

S. No	Botanical Name	Vernacular Name	Family	Habit
1.	Andrographis paniculata(Burm.f.) Wall. ex Nees	Siriyanangai	Acanthaceae	Herb
2.	Barleria cristata L.	December poo	Acanthaceae	Herb
3.	Barleria prionitis L	Sulli flower	Acanthaceae	Herb
4.	Crossandra infundibuliformis (L.) Nees	Kanakambaram	Acanthaceae	Herb
5.	Justicia adhatoda L.	Aadathoda	Acanthaceae	Shrub
6.	Pseudoranthemum laxiflorum (A. Gray). F.T.Hubb.ex.L.H.Bailey	Nagamalli	Acanthaceae	Shrub
7.	Thunbergia grandiflora (Roxb. ex Rottl.) Roxb	----------	Acanthaceae	Climber
8.	Acorurs calamus L.	Vasambu	Acoraceae	Herb
9.	Alternanthera sessilis (L.) R. Br. ex DC.	Ponnankanni keerai	Amaranthaceae	Herb
10.	Amaranthus dubius Mart.exThell	Thandu keerai	Amaranthaceae	Herb
11.	Amaranthus viridis L.	Kuppai keerai	Amaranthaceae	Herb
12.	Celosia argentea L.	Kozhi kondai	Amaranthaceae	Herb
13.	Gomphrena globosa L.	Vaada malli	Amaranthaceae	Herb
14.	Achyranthus bidentata Blume	Sennaiyuruvi	Amaranthaceae	Herb
15.	Zephyranthes candida(Lindl). Herb.	Rain lily	Amaryillidaceae	Herb
16.	Polianthes tuberosa L.	Nila Sampangi	Amaryliceaeae	Herb
17.	Allium cepa L.	Vengayam	Amaryllidaceae	Herb
18.	Crinum asiaticum L.	Visha mungil	Amaryllidaceae	Herb
19.	Anacardium occidentale L.	Kollampalam	Anacardiaceae	Tree
20.	Mangifera indica L.	Maamaram	Anacardiaceae	Tree
21.	Annona squamosa L.	Seethapalam	Annonaceae	Tree
22.	Polyalthia longifolia Sonn.	Nettulingam	Annonaceae	Tree
23.	Centella asiatica (L.) Urban	Vallarai keerai	Apiaceae	Herb
24.	Coriandrum sativum L.	Malli elai	Apiaceae	Herb
25.	Allamanda cathartica L.	Allamanda poo	Apocyanaceae	Hardy climber
26.	Hemidemus indicus (L.) R.Br.	Nannaari	Apocyanaceae	Twiner
27.	Nerium oleander L.	Arali poo	Apocyanaceae	Shrub
28.	Plumeria alba L.	Nela Sampangi	Apocyanaceae	Tree
29.	Plumeria rubra L.	----------	Apocyanaceae	Tree
30.	Adenium obesum (Forssk.) Roem. & Schult.	Desert rose	Apocynaceae	Shrub
31.	Calotropis gigantea (L.) Dryand.	Erukam poo	Apocynaceae	Shrub
32.	Cascabela thevetia (L.) Lippold	Ponnarali	Apocynaceae	Shrub
33.	Catharanthus roseus (L.) G. Don	Nithiya kalyani	Apocynaceae	Herb
34.	Plumeria pudica Jacq.	Perungalli	Apocynaceae	Shrub
35.	Tabernaemontana divaricata (L.) R.Br.exRoem. & Schult.	Nanthiya vattam	Apocynaceae	Shrub
36.	Colacasia esculenta (L.) Schott	Seppa Kilangu	Araceae	Herb
37.	Monstera deliciosa Liebm.	Windowleaf	Araceae	Climber
38.	Araucaria columnaris J.R.Forst. Hook.	Christmas maram	Araucariaceae	Tree
39.	Cocos nucifera L.	Thennai	Arecaceae	Tree
40.	Dypsis lutescens (H.Wendl.) Beentje&J.Dransf.	Areca palm	Arecaceae	Herb
41.	Epipremnum aureum (Linden &Andre) G.S. Bunting	Money plant	Arecaceae	Climber
42.	Phoenix dactylifera L.	Perichai	Arecaceae	Tree
43.	Rhapis excelsa (Thunb.) A.Henry	Injambakkam	Arecaceae	Shrub
44.	Agave americana L.	Anaikathalai	Asparagaceae	Shrub
45.	Asparagus racemosus Willd.	Thanneer vittan	Asparagaceae	Climber
46.	Chlorophytum comosum (Thunb.) Jacques	----------	Asparagaceae	Herb
47.	Draceaena reflexa Lam.	----------	Asparagaceae	Tree
48.	Sansevieria trifaciata Prain	Paambu kattralai	Asparagaceae	Herb
49.	Aloe vera (L.) Burm.f.	Kathalai	Asphodelaceae	Herb
50.	Chrysanthemum indicum L.	Saamanthi	Asteraceae	Herb
51.	Chrysogonum peruvianumL.	Zinnia poo	Asteraceae	Herb
52.	Eclipta prostrata (L.) L.	Karisilanganni	Asteraceae	Herb
53.	Helianthus annuus L.	Suriyagandhi poo	Asteraceae	Shrub
54.	Tagetes erecta L.	Tulukka malligai	Asteraceae	Herb
55.	Impatiens balsaminaL.	Kacittumpai	Balsaminaceae	Herb
56.	Basella alba L.	Pasalai keerai	Basellaceae	Twiner

57.	Tecoma stans (L.) Juss. ex Kunth	Nakacenpakam	Bignoniaceae	Shrub
58.	Cordia sebestena L.	Aechinaruvihli	Boraginaceae	Tree
59.	Brassica juncea (L.) Czern.	Kadugu	Brassicaceae	Herb
60.	Ananas cosmosus (L.) Merr	Annachi	Bromeliaceae	Shrub
61.	Mammillaria baumii Boed	----------	Cactaceae	Shrub
62.	Opuntia dillenii (Ker-Gawl.) Haw.	Sappathikalli	Cactaceae	Shrub
63.	Tamarindus indica L.	Pulia maram	Fabaceae	Tree
64.	Phanera purpurea (L.) Benth.	Nilattiruvatti	Fabaceae	Tree
65.	Carica papaya L.	Pappali	Caricaceae	Tree
66.	Casuarina equisetifolia L.	Savukku	Casuariniaceae	Tree
67.	Saraca asoca (Roxb.) Willd.	Asogamaram	Caesalpiniaceae	Tree
68.	Senna alexandrina Mill.	Alakalam	Caesalpiniaceae	Shrub
69.	Senna auriculata(L.) Roxb.	Aavaram poo	Caesalpiniaceae	Tree
70.	Combretum constrictum (Benth.)	Maruthamaram	Combretaceae	Tree
71.	Combretum indicum (L.)DeFilipps	Irangun malli	Combretaceae	Tree
72.	Tradescantia pallida (Rose) D.R.Hunt	Paccaialari	Commelinaceae	Herb
73.	Ipomoea quamoclit L.	Mayir manikkam	Convolvulaceae	Twiner
74.	Chamaecostus cuspidatus (Nees & Mart.) C.Specht & D.W.Stev.	Neyccarikamaram	Costaceae	Herb
75.	Costus woodnii L.	----------	Costaceae	Herb
76.	Costus igneus Nak	Insulin chedi	Costaceae	Herb
77.	Citrullus lanatus (Thunb.) Matsum. & Nakai	Dharpoosani	Cucurbitaceae	Climber
78.	Coccinia grandis (L.) Voigt	Kovaka	Cucurbitaceae	Climber
79.	Cucumis sativusL.	Vellarikai	Cucurbitaceae	Climber
80.	Cucurbita maxima Duchesne	Poosanikai	Cucurbitaceae	Climber
81.	Lagenaria siceraria (Molina) Standl.	Suraikai	Cucurbitaceae	Climber
82.	Luffa acutangula Mill.	Peerkankai	Cucurbitaceae	Climber
83.	Momordica charantia L.	Pavaikai	Cucurbitaceae	Climber
84.	Cupressus sempervirens L.	Churam	Cupressaceae	Tree
85.	Cycas circinalis L.	Madanakama poo	Cycadaceae	Tree
86.	Cycas revolutaThunb.	----------	Cycadaceae	Tree
87.	Muntingia calabura L.	Then pazham	Elaeocarpaceae	Tree
88.	Euphorbia cyatophora Murray	Thiththili poo	Euphorbiaceae	Herb
89.	Codiaeum variegatum (L.) Rumph. ex A.Juss	Aathuppoondu	Euphorbiaceae	Shrub
90.	Euphorbia hirta L.	Amman pacharicy	Euphorbiaceae	Herb
91.	Euphorbia milii Des Moul.	Kreeda kalli	Euphorbiaceae	Shrub
92.	Euphorbia tithymaloides L.	Kaṇṇadi kaḷḷi	Euphorbiaceae	Shrub
93.	Euphorbia trigona Mill.	Paal kalli	Euphorbiaceae	Herb
94.	Ricinus communis L.	Amanakku	Euphorbiaceae	Shrub
95.	Arachis hypogaeaL.	Ver kadalai	Fabaceae	Herb
96.	Clitoria ternatea L.	Shangu pushpam	Fabaceae	Twiner
97.	Cyamopsis tetragonoloba (L.) Taub.	Kottavarai	Fabaceae	Herb
98.	Leucaena leucocephala (Lam.)de Wit	----------	Fabaceae	Tree
99.	Mimosa pudica L.	Thottachinungi	Fabaceae	Herb
100.	Pithecellobium dulce (Roxb.) Benth.	Kodukkapuli	Fabaceae	Tree
101.	Pongamia pinnata (L.) Pierre	Pungai maram	Fabaceae	Tree
102.	Sesbania grandiflora (L.) Pers.	Agathi keerai	Fabaceae	Tree
103.	Sesbania sesban (L.) Merr.	Sittragathi	Fabaceae	Shrub
104.	Trigonellefoenum-graecum L.	Venthya keerai	Fabaceae	Herb
105.	Vigna radiata (L.) R. Wilczek	Siru pairu	Fabaceae	Herb
106.	Vigna unguiculata (L.) Walp.	Thata pairu	Fabaceae	Herb
107.	Bauhinia tomentosa L.	Iruvachi	Fabaceae	Tree
108.	Bauhinia variegata (L.)Benth	Semmantharai	Fabaceae	Tree
109.	Coleus blumi Benth	----------	Lamiaceae	Herb
110.	Mentha spicata L.	Puthina	Lamiaceae	Herb
111.	Ocimum tenuiflorum L.	Thulasi	Lamiaceae	Shrub
112.	Plectranthus amboinicus (Lour.) Spreng.	Karpooravalli elai	Lamiaceae	Herb
113.	Volkameria inermis L.	Shangam cooppy	Lamiaceae	Shrub
114.	Delonix regia (Boj. ex Hook.) Raf.	Vaagai	Leguminoceae	Tree
115.	Lawsonia inermis L.	Marudhani	Lythraceae	Tree
116.	Punica granatum L.	Maadhulai	Lythraceae	Tree
117.	Michelia champaca (L.) Baill. ex Pierre	Shenbaga poo	Magnoliaceae	Tree

118.	Abelmoschus esculentus (L.) Moench	Vendai	Malvaceae	Shrub
119.	Ceiba pentandra (L.) Gaertn.	Ilavam panchu maram	Malvaceae	Tree
120.	Guazuma ulmifolia Lam.	Thenmaram	Malvaceae	Tree
121.	Hibiscus rosa-sinensis L.	Chemparuthy	Malvaceae	Shrub
122.	Thespesia populnea (L.) Sol. Ex Correa	Poovarasu	Malvaceae	Tree
123.	Azadirachta indica A. Juss.	Vembu	Meliaceae	Tree
124.	Melia azedarach L.	Malai vempu	Meliaceae	Tree
125.	Albizzia lebbeck (L.) Benth	----------	Mimisaceae	Tree
126.	Moringa oleifera Lam.	Murungai	Moringaceae	Tree
127.	Ensete superbum Roxb.	Kal valai	Musaceae	Tree
128.	Musa paradisiaca L.	Vazhai	Musaceae	Tree
129.	Eucalyptus globus L.	Thailamaram	Myrtaceae	Tree
130.	Psidium guajava L.	Koiya	Myrtaceae	Tree
131.	Syzygium cumini (L.) Skeels	Naval maram	Myrtaceae	Tree
132.	Nephrolepis multiflora F.M.Jarett ex C.V.Morton	----------	Nephrolepidaceae	Shrub
133.	Bougainvillea spectabilis Willd.	Thaal poo	Nyctaginaceae	Climber
134.	Mirabilis jalapa L.	Anthimantharai	Nyctaginaceae	Herb
135.	Nymphaea alba L.	Water lily	Nymphaeaceae	Herb
136.	Jasminum auriculatum Vahl	Mullai	Oleaceae	Twiner
137.	Jasminum grandiflorum L.	Pitchi	Oleaceae	Twiner
138.	Jasminum multiflorum (Burm. f.) Andrews	Kasturi- mallikai	Oleaceae	Twiner
139.	Jasminum sambac (L.) Sol.	Kundumalli	Oleaceae	Shrub
140.	Nyctanthes arbor-tristis L.	Parijatham	Oleaceae	Shrub
141.	Spathoglottis plicata Blume	----------	Orchidaceae	Shrub
142.	Pandanus amarylifolius Roxb.	Ramba	Pandanaceae	Tree/Shrub
143.	Pedalium murex L.	Aana nerunchi	Pedaliaceae	Herb
144.	Phyllanthus acidus (L.) Skeels	Pulipu nelli	Phyllanthaceae	Tree
145.	Phyllanthus amarus L.	Keelanelli	Phyllanthaceae	Herb
146.	Phyllanthus emblica L.	Periya nelli	Phyllanthaceae	Tree
147.	Piper betle L.	Vetrilai kodi	Piperaceae	Climber
148.	Russelia equisetiformis Schlecht. & Cham.	----------	Plantaginaceae	Shrub
149.	Plumbago zeylanica L.	Chittiramoolam	Plumbaginaceae	Herb
150.	Bambusa vulgaris Schrad ex J.C. Wendl	Mungil	Poaceae	Tree
151.	Zea mays L.	Cholam	Poaceae	Herb
152.	Portulaca grandiflora Hook.	Pattu rose	Portulacaceae	Herb
153.	Ziziphus jujuba Mill.	Elandhai	Rhamnaceae	Tree
154.	Rosa domestica L.	Roja	Rosaceae	Shrub
155.	Hamelia patensJacq.	Theepputhar	Rubiaceae	Small tree
156.	Ixora coccinea L.	Vetchi poo	Rubiaceae	Shrub
157.	Knoxia hybrid L.	----------	Rubiaceae	Herb
158.	Penta lanceolata (Forssk.) Deflers	Pavazhamalli	Rubiaceae	Shrub
159.	Aegle marmelos L.	Vilva maram	Rutaceae	Tree
160.	Citrus bergamia Risso	Naarthangai	Rutaceae	Tree
161.	Citrus limetta Risso	Sathukudi	Rutaceae	Tree
162.	Citrus limon (L Burm.f.)	Elumicchai	Rutaceae	Tree
163.	Murraya koenigii (L.) Spreng.	Kariveppilai	Rutaceae	Tree
164.	Cardiospermum halicacabum L.	Mudakattan	Sapindaceae	Climber
165.	Manilkara zapota (L.) P. Royen	Sappota	Sapotaceae	Tree
166.	Mimusops elengi L.	Magizhamboo	Sapotaceae	Tree
167.	Capsicum annuum L.	Milagai	Solanaceae	Shrub
168.	Datura metel L.	Umatai	Solanaceae	Herb
169.	Solanum americanum Mill.	Manathakkali	Solanaceae	Herb
170.	Solanum lycopersicum L.	Thakkaali	Solanaceae	Shrub
171.	Solanum melongena L.	Katharika	Solanaceae	Shrub
172.	Solanum torvum Dunal	Sundaikai	Solanaceae	Shrub
173.	Solanum trilobatum L.	Thuthuvalai	Solanaceae	Climber
174.	Solanum virginianum L.	Kandankatrikai	Solanaceae	Herb
175.	Withania coagulans (Stocks) Dunal	Amukura	Solanaceae	Herb
176.	Lantana camera L.	Unni chedi	Verbenaceae	Shrub
177.	Tectona grandis L.f.	Tekku	Verbenaceae	Tree

178.	Cissus quadrangularis L.	Pirandai kodi	Vitaceae	Climber
179.	Vitis vinifera L.	----------	Vitaceae	Climber
180.	Zamia furfuracea L.	----------	Zamiaceae	Herb
181.	Curcuma longa L.	Manjal	Zingiberaceae	Herb
182.	Zingiber officinale Roscoe	Inji	Zingiberaceae	Herb

Taxonomically dicotyledons plants represent the more number of species contribute 150 species belonging to 53 families, whereas monocotyledonous plants contribute 29 species belonging to 15 families, gymnosperm presented with 2 families and 2 species and one pteridophyte species were documented in the study area.

Fabaceae (16 species and 13 Genera), Apocyanaceae (11 species and 10 Genera) and Solanaceae (9 species and 4 Genera) were the most dominant family in this home garden. Acanthaceae (7 speccies and 6 genera), Cucurbitaceae (7 species and 7 genera), Euphorbiaceae (7 species and 4 genera), Lamiaceae (5 species and 5 genera), Asteraceae (5 species and 5 genera), Oleaceae (5 species and 2 genera), Asparagaceae (5 species and 5 genera), Amaranthaceae (6 species and 5 genera), Rutaceae (5species and 3 genera), Malvaceae (5 species and 5 genera), Arecaceae (5 species and 5 genera), Caesalpinaceae (5 species and 4 genera), Rubiaceae (4 species and 4 genera), Araceae (3 species and 3 genera), Amaryillidaceae (4 species and 4 genera), Myrtaceae (3 species and 3 genera), Costaceae (3 species and 2 genera), Phyllanthaceae (3 species and 1 genera), Anacardiaceae, Annonaceae, Apiaceae, Araceae, Cactaceae, Combretaceae, Cycadaceae, Lythraceae, Meliaceae, Musaceae, Nyctaginaceae, Plantaginaceae, Poaceae, Sapotaceae, Verbenaceae, Vitaceae and Zingiberaceae were represented by two species each, whereas Acoraceae, Agavaceae, Araucariaceae, Asphodelaceae, Balsaminaceae, Basellaceae, Bignoniaceae, Boraginaceae, Brassicaceae, Bromeliaceae, Caricaceae, Casuarinaceae, Commelinaceae, Convolvulaceae, Cupressaceae, Elaeocarpaceae, Leguminoceae, Magnoliaceae, Mimisaceae, Moringaceae, Nymphaeaceae, Orchidaceae, Palmaceae, Pandanaceae, Pedaliaceae, Piperaceae, Plumbaginaceae, Portulacaceae, Rhamnaceae, Rosaceae, Sapindaceae, Simarobauceae, Zamiaceae and Nephrolepidaceae (Pteridophytes) were mono specific. Zamiaceae and Cupressaceae families are gymnosperm. Nephrolepidaceae was presented in Pteridophytes (Table 2).

Table No. 2: Distribution of plant families in the study area

S. No	Family	Genus	Species	S. No	Family	Genus	Species
1.	Acanthaceae	6	7	36.	Lamiaceae	7	7
2.	Acoraceae	1	1	37.	Leguminosae	2	2
3.	Agavaceae	1	1	38.	Lythraceae	2	2
4.	Amaranthaceae	5	6	39.	Magnoliaceae	1	1
5.	Amaryillidaceae	2	2	40.	Malvaceae	5	5
6.	Anacardiaceae	2	2	41.	Meliaceae	2	2
7.	Annonaceae	2	2	42.	Mimisaceae	1	1
8.	Apiaceae	2	2	43.	Moringaceae	1	1
9.	Apocyanaceae	8	12	44.	Musaceae	2	2
10.	Araceae	3	3	45.	Myrtaceae	3	3
11.	Fabaceae	13	17	46.	Nephrolepidaceae	1	1
12.	Araucariaceae	1	1	47.	Nyctaginaceae	2	2
13.	Arecaceae	3	3	48.	Nymphaeaceae	1	1
14.	Asparagaceae	5	5	49.	Ochidaceae	1	1
15.	Asphodelaceae	1	1	50.	Oleaceae	2	5
16.	Asteraceae	6	7	51.	Palmaceae	1	1
17.	Balsaminaceae	1	1	52.	Pandanaceae	1	1
18.	Basellaceae	1	1	53.	Pedaliaceae	1	1
19.	Bignoniaceae	1	1	54.	Phyllanthaceae	1	3
20.	Boraginaceae	1	1	55.	Piperaceae	1	1
21.	Brassicaceae	1	1	56.	Plantaginaceae	2	2
22.	Bromeliaceae	1	1	57.	Plumbaginaceae	1	1
23.	Cactaceae	2	2	58.	Poaceae	2	2
24.	Caesalpinaceae	2	2	59.	Portulacaceae	1	1
25.	Caricaceae	1	1	60.	Rhamnaceae	1	1
26.	Casuarinaceae	1	1	61.	Rosaceae	1	1
27.	Combretaceae	1	2	62.	Rubiaceae	4	4
28.	Commelinaceae	1	1	63.	Rutaceae	3	5
29.	Convolvulaceae	1	1	64.	Sapindaceae	1	1
30.	Costaceae	2	3	65.	Sapotaceae	2	2
31.	Cucurbitaceae	7	7	66.	Simarobauceae	1	1
32.	Cupressaceae	1	1	67.	Solanaceae	4	10
33.	Cycadaceae	1	2	68.	Verbenaceae	1	1
34.	Elaeocarpaceae	1	1	69.	Vitaceae	2	2
35.	Euphobiaceae	5	7	70.	Zamiaceae	1	1
				71.	Zingiberaceae	2	2

Most plant species of the study area are of considerable ecological and economic importance, useful as bio resources to wild fauna and human beings. Of the total 182 wild/naturalized plant species, most are useful as medicinal plants, and others are valuable as edible fruits, timbers, fuel wood, etc. Although food production is recognized as a basic function of home gardens[2] ,the motivation for home gardening is not always for mainly food production. With the recent studies on home gardens in Benin[20], they revealed high prevalence of food and medicinal plants in gardens, confirming the importance of food production in gardening, and evidencing the key importance of medicinal plant in gardening systems in Benin.

Home gardens with primarily for both food and medicinal purposes and with more functions (ornamental, protection/delimitation, and miscellaneous purposes) were found everywhere but most garden with high prevalence of ornamental plant species were also mostly found in these regions under the westernization influence. The ornamental quality of Tilzapotla's home gardens differed from that in other regions; these home gardens were mainly used for food security, to improve families' nutrition, and for economic growth in some cases[21]. Nevertheless, there are newly emerging positive trends in home gardening, which encourage people to maintain biodiversity in rural and urban gardens.

In developing countries the nutritional value of local, neglected horticultural species has been assessed and their cultivation in family gardens promoted to guarantee the intake of vitamins and micro-nutrients[22] ·In high-income countries the growing demand for healthier life styles and closer connection with nature has driven a renewed interest towards sustainable agricultural systems and "traditional" food products, capable of connecting consumers to the natural and cultural heritage of a community or a geographical region. Many urban citizens of the developed world have taken up some form of self-production of food in their terraces, roofs, gardens or courtyards as well as in communal areas shared among neighbours[23] .
For all the enumerated wild and naturalized plant species, information such as botanical name, vernacular name, family and habit are provided and plant species in the checklist and their photographs are showed in (Fig3).

Figure No 3. Selected Plants of Home Garden

CONCLUSION

In this study, we observed totally of 182 plant species belonging to 159 genera and 71 families from the home gardens of Palayamkottai, Tirunelveli District. Among them, 60 species (32%) were trees, 39 species (21 %) were shrubs, 61 species (33%) were herbs, 18 species (10%) were climbers and 7 species (4%) were twiners. Home gardens provide good economic and social conditions for outstanding production. They are an important production system of food, medicine and other essential products. It also provides environments in which part of the genetic diversity for many crops species can be maintained. In conclusion, home gardens play a major role in the production of food, job opportunities, crop improvement, development, maintenance of the green nature and so on.

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