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Living Fences, a Widespread Agroforestry Practice in Sri Lanka: Two Cases from Dry and Intermediate Zones

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Abstract*—The study was conducted to examine the structure and composition of live fence agroforestry practices in two regions of Sri Lanka and to identify key ecosystem system services provided by them. The studies were conducted in the Katupotha in Kurunegala district and Hingurakgoda in Polonnaruwa district. Species composition including dominance, diversity and sinusial formation were evaluated.

*Highest average relative importance, relative frequency and dominance values were obtained by Wetahira (Gliricidia sepium), Wetaendaru (Jataropha curcus) and Sudu araliya (Plumeria obtusa) at Katupotha and Teak (Tectona grandis), Wetahira (Gliricidia sepium), Ipil-ipil (Leucaena leucocephala), Neem (Azadiracta indica) and Yakadamaran (Syzygium zeylanicum) at Hingurakgoda. The RIV value shows that live fences of Katupotha was dominated by typical (structural) live fence trees (Over 90% dominance) whereas live fences at Hingurakgoda was dominated by high value timber trees (Over 60% dominance). The results indicate that living fences have high species diversity. A total of 72 species were recorded from the living fences in two sites. Live fences at Hingurakgoda were often more diverse than Katupotha although the total number of species recorded at Katupotha site (68) was more than that of Hingurakgoda (25). 21 out of 25 (84%) species recorded at Hingurakgoda were also recorded from Katupotha. Hence species reported at Hingurakgoda is almost a subset of species identified from living fences at Katupotha. The Index of Similarity for two sites (plant communities) was 0.58 as 21 out of 72 (29%) species were found common to both sites.

The study clearly shows that live fences in addition to acting as protective structures against theft of homegarden produce, entry of stray animals and encroachments also could make further contributions to the environment and mankind due to high biodiversity. They include provisioning of timber, food, medicine, fruits, vegetables and fodder for livestock regulatory functions such as shade, windbreak and enrichment of soil fertility and cultural services such as visual amenity due to having ornamental plants. Further this study indicates that there is lot of potential for further enriching these live fences to better perform ecosystem services. Since live fences are a common farming practice spanning all agro-ecological regions of Sri Lanka, they could serve as a place for conservation of species and tool for identification and evaluation of species for different regions and purposes.

Keywords*—*Agrobiodiversity, agroforestry, Gliricidia, homegardens, live fences.

I. INTRODUCTION

Live fencing is a widespread agroforestry practice in Sri Lanka where trees or shrubs are established to demarcate boundaries of plots of land such as homegardens and farmlands. In addition they perform some vital ecosystem functions such as, protecting from animals, trespassing and encroachments. Their ramifying roots underground will check soil erosion. Living fences can serve as habitats, corridors, or stepping stones for plant and animal species, adding structural and floristic complexity to the agricultural landscape and enhancing landscape connectivity (Forman & Baudry, 1984; Multipurpose Trees Species Research Network [MPTSRN], 1996; Harvey, Tucker & Estrada, 2004).

Although live fences are deliberately established now, it is believed that live fencing have originated out of different type of forest remnants found in the traditional villages of Sri Lanka. With the reduction of natural forests, incorporation of resources of forest origin in land use practices have become all the more important to meet man's demand for plant products and services.

The boundary fences in general are made out of barbed wire with live wooden, dead wooden or cement posts. They are mainly planted with species that can be propagated using stumps or live sticks. These sticks are planted close to each other to form the live fences. The growth of these fencing plants is kept under control by regular pruning and replanting to fill gaps. In areas where

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land holdings are small, utility plants for timber, fodder, green manure, medicinal and food too are established on the boundary fences.

Studies on live fences are available from many parts of the world including Costa Rica (Sauer, 1979; Budowski, 1987), Cuba (Crane, 1945), Kenya (Oteng, Stigter, Ng Ang, & Mungai, 2000), Mexico (Nabhan & Sheridan, 1977), Honduras, (Zahawi, 2005) and many states in India including Kerala (Chandrashekara, Sanker, Shajahan, Biowfield & Boa, 2000) and Eastern Ghats (Choudhury, Rai, Patnaik & Sitaram, 2005). Mishra, Vasudevan and Prasad, (2011) classified the biofences based on the type of area protected. Except for few recent studies (Jayavanan, Pushpakumara & Sivachandran, 2014), live fence practices in Sri Lanka remains relatively less studied and documented.

The objectives of this study was to examine the structure and composition of live fence agroforestry practices found in the low country intermediate and dry zones of Sri Lanka and to identify the key ecosystem services performed by them.

II. MATERIALS AND METHODS

Sites for studying live fences were selected randomly from well-established homegardens in the Katupotha and Hingurakgoda Divisional Secretory Divisions in the Kurunegala and Polonnaruwa districts, respectively. Summary of the agro-ecological setting and geographical information of the two sites are outlined in the Table 1.

Table.1: Summary of agro-ecological and geographical setting of Katupotha and Hingurakgoda sites.

Characteristic	**Katupotha**	**Hingurakgoda**
Agro-ecological region (AER)	IL1 (Low country intermediate zone)	DL1c (Low country dry zone)
Rainfall	Pattern is bimodal (Peaks in October-November and April-May)	
Annual Rainfall (mm)	1682 mm.	1554mm
Elevation (m)	152m	74m
Soil type	Red Yellow Podzolic	Reddish Brown Earth
Average Annual Temperature	27 ^{0}C	27 ^{0}C
Number of homegardens selected for the study	31	25
Geographical area	Kurakkanhenegedara, Dalupothagama, Nelumkanuwa, Pallewela and Thorapitiya	Kimbulwala Grama Niladari division

Source: Punyawardena, (2008)

A vegetation survey was conducted to identify the structure and composition of the live fences. Tree individuals recorded in the live fence were identified and their diameters at the breast height (DBH), total height, crown diameter and length of fences were measured. Clinometer was used to measure the tree height. DBH was measured using diameter tape and crown diameter by using the shadow of the tree during the mid-day.

Because of the presence of large number of individuals from same species of similar dimensions (for basal diameter, total height and crown diameter), size classes were defined and species were classified based on the physiognomic classes during the vegetation survey. Samples of each class were used to measure various dimensions of trees.

Collected data were used to evaluate various aspects of composition and structure of live fences. Composition, dominance and diversity of species were estimated through calculation of following indices:

Relative frequency (RF) is expressed as the percentage of plots in which a species is represented at least once.

$$\text{Relative frequency} = \frac{\text{Number of plots in which species was recorded} \times 100}{\text{Total Number of plots}}$$

Relative importance value (Myers & Shelton, 1980; Mueller-Dombois & Ellenberg, 2003) is the expression of domination of a species in different forest line formations and incorporates four measures:

Relative Importance Value (RIV) = ¼ x (Relative density + Relative basal area + Relative tree height + Relative crown diameter)

$$\text{Relative density} = \frac{\text{No. individuals of species A} \times 100}{\text{Total number of all individuals of all species}}$$

$$\text{Relative Basal Area} = \frac{\text{Sum of DBH of individuals of species A} \times 100}{\text{Sum of DBH of all individuals}}$$

$$\text{Relative Crown Diameter} = \frac{\text{Sum of crown diameters of individuals of species A} \times 100}{\text{Crown Diameter of all individuals}}$$

$$\text{Relative Height} = \frac{\text{Sum heights of individuals of species A} \times 100}{\text{Sum of heights of all individuals}}$$

Similarity or association of species between two sites were estimated using similarity index:

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$$\text{Index of similarity} = 2 \times \frac{\text{Number of common species for both communities}}{\text{Total number of species in both communities}}$$

Menhinick's Diversity Index was used to measure the species diversity of the live fences evaluated during the study. It is based on the ratio of number of species (S) and the square root of the total number of individuals (N).

$$\text{Diversity Index} = \frac{\text{Total number of species recorded}}{\text{Log value of individuals counted}}$$

Trees in the live fence were categorized into four vertical strata (*sinusia*) using a scheme developed after careful evaluation of the vertical structures of live fences (MPTSRN, 1996) as shown below:

- Herbaceous horizon (under cover): Up to 1.83 m in height providing ground level protection with small shrubs, under shrubs and other herbaceous perennials.
- Shrub horizon (sub canopy): multi-branched woody perennials, low growing trees and shrubs providing mid-level cover up to 7.62 m
- Tree horizon (canopy): Up to 7.62 - 15.25 m in height with selected trees based on their uses as well as canopy characteristics
- Emergent horizon (above canopy): tree species taller than 15.25 m

Further socio-economic characteristics of farmers practicing live fences at Katupotha were studied using questionnaire based survey. The information collected from the included occupations of land holders, the extent of homegardens and the length of live fences.

III. RESULTS AND DISCUSSION

3.1 Composition and Dominance

Table 1 shows the frequencies of the twelve most common tree species recorded from live fences in the Katupotha area. Wetahira and Wetaendaru were recorded in all plots giving 100% relative frequency value. Relative frequency of Sudu araliya was 96%. The relative importance (dominance) of the species in live fences in the Katupotha area also shows the similar trend as the relative frequency. Wetahira shows the highest importance (29.72%) followed by Wetaendaru (29.55%) and Sudu Araliya (22.69%).

Table.1: Predominant species recorded from the live fences in the Katupotha area.

Botanical name	**Common name**	**No. of individuals**	**Relative frequency**	**RIV (%)**	**Species rank**
Adathoda vasica	Pavatta	21	16.67	1.35	8
Anacardium occidentale	Cadju	24	37.50	1.00	11
Azadiracta indica	Kohomba	27	20.83	1.82	7
Berrya cordifolia	Halmilla	35	16.67	0.59	12
Ceiba pentandra	Kotta Pulun	60	58.33	2.52	5
Chukrasia tabularis	Hik	27	50.00	1.06	10
Erythrina indica	Katu erabadu	185	41.67	2.13	6
Gliricidia sepium	Wetahira	2272	100	29.72	1
Jatropha curcus	Weta endaru	4109	100	29.55	2
Nerium oleander	Kaneru	513	66.67	6.66	4
Plumeria obtuse	Sudu araliya	2138	95.83	22.69	3
Streblus aspera	Gas nithul	50	45.83	1.10	9

Key: RIV-Relative Importance Value.

Table 2 shows the frequencies of the ten most common tree species of the live fences in the Hingurakgoda area. According to these results Wetahira was recorded in all plots recording 100% relative frequency value as in the case of Katupotha. Relative frequency of Teak and Neem were 96% and 92%, respectively. The RIV values shows that teak (17.09%) was the most dominant species and it is followed by Wetahira (15.16%), Ipil-Ipil (12.30%), Neem (11.81%) and Yakadamaran (10.75%). This shows that most live fences in the Hingurakgoda are planted with high value timber species including Thekka (Teak) and Kohomba (Neem). They are also among the most dominant species ranking first and fourth, respectively based on the Relative Importance Value. Also it is significant to note that almost one half (59.6%) of the live fences have been taken up by the high value timber species.

Table.2: Predominant species recorded from the live fences in the Hingurakgoda area.

Botanical name	Common name	No. of individuals	Relative frequency	RIV (%)	Species rank
Artocarpus heterophyllus	Kos	105	64	6.07	9
Azadirachta indica	Kohomba	302	92	11.81	4
Gliricidia sepium	Wetahira	772	100	15.16	2
Leucaena leucocephala	Ipil ipil	390	68	12.30	3
Mangifera indica	Amba	252	72	7.76	6
Tectona grandis	Thekka	350	96	17.09	1
Syzygium zeylanicum	Yakada maran	325	76	10.75	5
Berrya cordifolia	Halmilla	212	64	7.06	7
Pterospermum suberifolium	Welan	173	48	6.82	8
Ficus racemosa	Attikka	122	56	5.18	10

Key: RIV-Relative Importance Value

3.2 Floristic Richness in the Live Fences

The live fences at Katupotha and Hingurakgoda recorded 68 and 25 species, respectively (Annexure 1). A total of 72 species were recorded from the living fences in two sites. 21 out of 25 (84%) species recorded at Hingurakgoda were also recorded from Katupotha. Hence species reported at Hingurakgoda is almost a subset of species identified from living fences at Katupotha. The Index of similarity was estimated to compare the two plant communities. It was 0.58 as 21 out of 72 (29%) species were found common to both sites. The index of similarity ranges from 0-2 and it also an indicator of the degree of species association with the site.

68 plant species recorded from Katupotha was belonging to 29 families and 63 genera whereas 25 species recorded from Hingurakgoda were belonging to 16 families and 24 genera (Table 3). The Floristic Richness Index (FRI) was calculated for the live fences in the two sites and the values were 160 and 65 for Katupotha and Hingurakgoda, respectively. This shows that floristic richness was much higher at Katupotha when compared to Hingurakkgoda.

Of the families recorded, Fabaceae was represented by most number of species at both sites that is by 9 and 4 species, respectively at Katupotha and Hingurakgoda. The other families represented by high number of species were Apocynaceae, Euphorbiaceae, Meliaceae, Rutaceae and Moraceae.

Table.3: Floristic richness of live fences at Katupotha and Hingurakgoda.

Site	Species	Genera	Families	FRI
Katupotha	68	63	29	160
Hingurakgoda	25	24	16	65

Key: FRI-Floristic Richness Index

3.3 Species Diversity of Live Fences

Species diversity of live fences were measured through recording occurrence of different species in live fences (Table 4) and by calculating diversity index (Table 5). The occurrence of different species in live fences shows that 35% and 60% of live fence plots at Katupotha and Hingurakgoda, respectively have recorded more than 10 species per live fence plot (Table 4).

Table.4: Tree diversity in live fences (Occurrence of species).

Number of species per plot	Number of plots	
	Katupotha	Hingurakgoda
1-5	3 (9.5)	-
6-10	17 (55)	10 (40)
11-15	7 (22.5)	12 (48)
15-20	4 (13)	03 (12)
Total	31 (100)	25 (100)

Key: Number given in the parenthesis is the percentage.

The diversity index (DI) values estimated for live fences are given in the Table 5. This shows that only 13% of live fences recorded DI more than 5 at Katupotha whereas it was 56% at Hingurakgoda. Hence results indicates that live fences at Hingurakgoda were often more diverse than Katupotha although the total number of species recorded at Katupotha site was more than that is recorded from Hingurakgoda.

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Table.5: Tree diversity in live fences (Diversity index).

Diversity Index Range	Number of plots	
	Katupotha	Hingurakgoda
0 – 3	7 (22.5)	3 (12)
3 –5	20 (64.5)	8 (32)
5 – 7	02 (6.5)	13 (52)
7 – 9	0	1 (04)
More than 12	02 (6.5)	0
Total	31 (100)	25 (100)

Key: Number given in the parenthesis is the percentage.

3.4 Uses of Live Fence Trees

Tree species recorded from live fences were categorized based on their main uses (Table 6). The common uses of live fence tree species include firewood, food, handicraft, fence post, medicinal, ornamental, timber and multi-purpose trees. Of the species recorded in live fences highest number (about 32%) fell under the category of timber at both sites.

Table.6: Categorizing tree species occurring in live fences at Katupotha and Hingurakgoda, based on main uses.

Main use	Number of species occurring in live fences	
	Katupotha	Hingurakgoda
Firewood	03 (4.5)	-
Food	07 (10.25)	04 (16.0)
Handicraft	03 (4.5)	01 (4.0)
Live Fence Structural	07 (10.25)	03 (12.0)
Medicinal	15 (22.0)	03 (12.0)
Ornamental	08 (11.5)	03 (12.0)
Multipurpose	03 (4.5)	03 (12.0)
Timber	22 (32.5)	08 (32.0)
Total	**68 (100)**	**25 (100)**

Key: Number given in the parenthesis is the percentage.

3.5 Tree Arrangement (Physiognomy)

Number of species recorded from different vertical layers in the live fences is shown in Table 7. According to the results, the tree horizon (Canopy: 7.62-15.25 m) recorded the highest number of species when compared to the other three sinusium identified in the live fences.

Table.7: Number of species at different layers.

Class	Horizon	Katupotha	Hingurakgoda
1	Herbaceous Horizon (understory) up to 1.83m	15 (22)	06 (24)
2	Shrub Horizon (sub canopy) up to 7.62m	16 (24)	07 (28)
3	Tree Horizon (Canopy) up to 15.25m	23 (34)	10 (40)
4	Emergent Horizon more than 15.25m	14 (20)	02 (08)
Total number of species		68 (100)	25 (100)

Key: Number given in the parenthesis is the percentage.

3.6 Socio-economic Characteristics

Following facts were unveiled from the questionnaire based survey conducted with farmers who were selected for the live fence study from the Katupotha area:

Land use:

The length of live fences and the extent of homegarden protected by them are shown in the Table 8. This shows that 84% of the homegardens were below 1.5 acres in extent and they cover about 62% of the total extent of the homegardens selected for the study. Further it is observed that all these smaller homegradens had intercrops in addition to the coconut which is the main crop of the area. Further it is found that most of these small homegardens are well managed also their live fences. The larger homegardens were found planted with monocultural coconut plantations and most of them were poorly maintained. About three quarter of the live fences in the study sample were found fortified with barbed wire.

Table.8: The extent of homegardens and the length of live fence established to protect them.

Land extent (Ac)	Number of plots	Total extent (Ac)	Total length of the fence (m)
0.5-1	14	10.75	1597.69
1-1.5	12	16.88	2762.69
1.5-2	-	-	-
>2	5	17.25	2067.29
Total	31	44.88	

Employment:

The main employment of the land holders are shown in the Table 9. This shows that about 30% of land holders were full-time farmers while others were involved in some form of off-farm employment.

Table.9: Employment of land holders.

Employment	No. of households	Percentage (%)
Farmers	10	32.3

Businessmen	6	19.4
Mason / carpenter	3	9.6
Teachers	3	9.6
Grama niladhari (Village Secretary)	2	6.5
Other	7	22.6
Total	31	100

IV. CONCLUSIONS

The results shows that Wetahira (*Gliricidia sepium*), Wetaendaru (*Jataropha curcus*) and Sudu araliya (*Plumeria obtusa*) were the most common and dominant species at Katupotha whereas Teak (*Tectona grandis*), Wetahira (*Gliricidia sepium*), Ipil-ipil (*Leucaena leucocephala*), Neem (*Azadirachta indica*) and Yakadamaran (*Syzygium zeylanicum*) at Hingurakgoda. Live fences of Katupotha was dominated by typical (structural) live fence trees such as Wetahira (*Gliricidia sepium*) however live fences at Hingurakgoda was dominated by high value timber trees. Live fences at Hingurakgoda were often more diverse than Katupotha although the total number of species recorded at Katupotha (68) was more than Hingurakgoda (25).

Growing and use of Wetahira (Gliricidia) is widely promoted by many Governmental, Non-governmental and private companies for green manure, vine support for pepper and fuelwood (including for dendro thermal power generation). Kaneru (*Nerium oleander*) plants should be discouraged as the seeds are a readily available poison.

It appears that selection of plant types for live fences depended on the properties including easy propagation, free availability of propagules, not being subjected to be eaten by stray cattle (except Wetahira), fast growth, low spread and aesthetics (e.g. *Nerium oleander*). Some of the tree species would have been avoided due to the wide spread crowns. But such trees with proper silvicultural practices could serve as sources of biomass energy and timber.

The study also shows that live fences in addition to acting as protective structures against theft of homegarden produce, entry of stray animals and encroachments also could make further contributions to the environment and mankind due to high biodiversity. They include provisioning of timber, food, medicine, fruits, vegetables and fodder for livestock regulatory functions such as shade, windbreak and enrichment of soil fertility and cultural services such as visual amenity due to having ornamental plants.

This study also shows that there is lot of potential for further enriching these live fences to better perform the ecosystem services. Since live fences are a common farming practice spanning all agro-ecological regions of Sri Lanka, they could serve as a place for species conservation and tool for identification and evaluation of species for different regions and purposes.

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Annexure 1. Tree species recorded in the live fences at Katupotha and Hingurakgoda and their uses.

No	**Botanical name**	**Family**	**Com. Sinhala name**	**Main use[1]**	**Katupotha**	**Hingurakgoda**
1	*Albizia lebbeck*	*Fabaceae*	*Mara*	T	X	X
2	*Albizia odoratissima*	*Fabaceae*	*Sooriya mara Huree mara*	T	X	-
3	*Alstonia macrophylla*	*Apocynaceae*	*Havarinuga*	T	X	-
4	*Alstonia scholaris*	*Apocynaceae*	*Rukattana*	H (T, M)	X	-
5	*Anacardium occidentale*	*Anacardiaceae*	*Kadju*	F	X	X
6	*Annanas comosus*	*Bromeliaceae*	*Wal annasi*	LFS	X	-
7	*Annona muricata*	*Annonaceae*	*Katu anoda*	F	X	X
8	*Artocarpus heterophyllus*	*Moraceae*	*Kos (Jak)*	MPT	X	X
9	*Atalantia ceylanica*	*Rutaceae*	*Yakinaran*	M	X	-
10	*Atalantia ceylanica*	Rutaceae	Yakinaran	M (FW)	-	X
11	*Azadirachta indica*	*Meliaceae*	*Kohomba*	M (T)	X	X
12	*Berrya cordifolia*	*Tiliaceae*	*Halmilla*	T	X	X
13	*Borassus flabellifer*	*Arecaceae*	*Thal (Palmyrah palm)*	H (O)	X	X
14	*Bridelia retusa*	*Euphorbiaceae*	*Ketakela*	T (M)	X	X
15	*Calohpyllum inophyllum*	*Clusiaceae*	*Domba*	T (M)	X	-
16	*Caryota urens*	*Arecaceae*	*Kithul*	MPT	X	X
17	*Cassia fistula*	*Fabaceae*	*Ehela*	O (T, M)	X	X
18	*Ceiba pentandra*	*Bombacaceae*	*Kotta (Pulun imbul)*	LFS (T)	X	X
19	*Cerbera manghas*	*Apocynaceae*	*Kaduru*	M	X	-
20	*Chukrasia tabularis*	*Meliaceae*	*Hulanhik*	T	X	-
21	*Croton laccifer*	*Euphorbiaceae*	*Keppetia*	M (FW)	X	-
22	*Diospyros ferrea*	*Ebenaceae*	*Kalumediria (Habaraliya)*	T	X	-
23	*Diospyros malabarica*	*Ebenaceae*	*Thimbiri*	T (M)	X	-
24	*Erythrina indica*	*Fabaceae*	*Katuerabadu*	LFS (M)	X	-
25	*Ficus benghalensis*	*Moraceae*	*Mahanuga*	O (M)	X	X
26	*Ficus racemosa*	Moraceae	Attikka	M (FW)	-	X
27	*Garcinia quaesita*	*Clusiaceae*	*Goraka*	F (M)	X	-
28	*Gliricidia sepium*	*Fabaceae*	*Wetahira*	LFS	X	X
29	*Glycosmis pentaphylla*	*Rutaceae*	*Dodampana*	M (FW)	X	-
30	*Grewia damine*	*Tiliaceae*	*Damunu*	T	X	-

	(G. tilifolia)					
31	*Jatropha curcas*	*Euphorbiaceae*	*Wetaendaru*	LFS	X	-
32	*Justicia adhathoda (Adathoda vasica)*	*Acanthaceae*	*Pavatta*	M	X	-
33	*Leucaena leucocephala*	*Fabaceae*	*Ipil-ipil*	MPT (FW)	X	X
34	*Limonia acidissima (Feronia limonia)*	*Rutaceae*	*Divul*	F	X	-
35	*Litsea glutinosa*	*Lauraceae*	*Bomi*	M	X	-
36	*Macaranga peltata*	*Euphorbiaceae*	*Kenda*	T (FW)	X	X
37	*Madhuca longifolia*	*Sapotaceae*	*Mi*	M (T)	X	-
38	*Mangifera indica*	*Anacardiaceae*	*Amba*	F	X	X
39	*Manihot glaziovii*	*Euphorbiaceae*	*Gasmanyokka*	LFS	X	X
40	*Margaritaria indicus (Phyllanthus indicus)*	*Phyllanthaceae*	*Keraw*	T (FW)	X	-
41	*Melia dubia*	*Meliaceae*	*Lunumidella*	T	X	-
42	*Microcos paniculata (Grewia microcos)*	*Tiliaceae*	*Kohukirilla*	FW (M)	X	-
43	*Mitragyna parvifolia*	*Rubiaceae*	*Helamba*	T	X	X
44	*Moringa oleifera*	*Moringaceae*	*Murunga*	F (LFS, M)	X	X
45	*Nauclea orientalis*	*Rubiaceae*	*Bakmee*	T (M)	X	-
46	*Nerium oleander*	*Apocynaceae*	*Kaneru*	O (LFS)	X	X
47	*Opuntia dillenii*	*Cactaceae*	*Katupathok*	LFS (O)	X	-
48	*Pagiantha dichotoma*	*Apocynaceae*	*Divikaduru*	M (H)	X	-
49	*Pamburus missionis*	*Rutaceae*	*Pamburu*	M	X	-
50	*Pandanus tectorius*	*Pandanaceae*	*Watekeya*	H (M)	X	-
51	*Pedilanthus tithymeloides variegatus*	*Euphorbiaceae*	*Kepumkeeriya*	O	X	-
52	*Phyllanthus myrtifolius*	*Phyllanthaceae*	*Gangawerella*	O (LFS)	X	-
53	*Phyllanthus polyphyllus*	*Phyllanthaceae*	*Kuratia*	FW	X	-
54	*Plumeria obstusa*	*Apocynaceae*	*Suduaraliya*	O	X	-
55	*Pongamia pinnata*	*Fabaceae*	*Magulkaranda*	M (T)	X	-
56	*Premna tomentosa*	*Verbenaceae*	*Bu-seru*	M (FW)	X	-
57	*Pterocarpus marsupium*	*Fabaceae*	*Gammalu*	M (T)	X	-
58	*Pterospermum suberifolium*	Sterculiaceae	Welan	T	-	X
59	*Sansivieria trifasciata*	*Agavaceae*	*Sensivieria (Snake plant)*	O	X	-
60	*Schleichera oleosa*	*Sapindaceae*	*Kon*	T (F)	X	-
61	*Sterculia foetida*	*Sterculiaceae*	*Thelambu*	T (M)	X	-
62	*Streblus aspera*	*Moraceae*	*Gasnithul*	FW	X	-
63	*Swietenia macrophylla*	*Meliaceae*	*Mahogani*	T	X	-
64	*Syzygium*	*Myrta*	*Damba*	T	X	-

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	gardneri	*ceae*		(M)		
65	*Syzygium zeylanicum*	Myrtaceae	Yakadamaran	T (FW)	-	X
66	*Tamarindus indica*	*Fabaceae*	*Siyambala*	F (T)	X	-
67	*Tectona grandis*	*Verbenaceae*	*Thekka*	T	X	X
68	*Terminalia bellirica*	*Combretaceae*	*Bulu*	M (T)	X	-
69	*Terminalia catappa*	*Combretaceae*	*Kottamba*	O (T)	X	-
70	*Thespesia populnea*	*Malvaceae*	*Gansooriya*	T (LFS, M)	X	-
71	*Vitex negundo*	*Verbenaceae*	*Nika*	M	X	-
72	*Walsura pisciadia (W.trifoliolata)*	*Meliaceae*	*Kirikon*	T (M)	X	-
	No. of species				68	25

Key: Firewood (FW), Food (F), Handicraft (H), Live Fence Structural (LFS), Medicinal (M), Ornamental (O), Multipurpose (MPT), Timber (T)

[1]**Other uses are given in the parenthesis**