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SURVEY OF WILD EDIBLE PLANTS IN VALLAVILAI, KANNIYAKUMARI DISTRICT

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ABSTRACT:

The term "Wild Edible Plants" is used to describe all plant resources outside of agriculture areas that are harvested and collected for the purpose of human consumption. WEPs have important role to play in poverty eradication, security of food availability, diversification of agriculture, generation of income resources. Mainstreaming biodiversity and ecosystem services into food production systems involves strong trade-offs and is critical for balancing livelihoods, culture, habitability, and ecological diversity across heterogeneous landscapes. Wild plants provide materials of diet to the less advanced section of human community.

Keywords: Agriculture, biodiversity, habitability and ecological diversity

INTRODUCTION:

WEPs are generally gathered from diverse habitats, viz, forests, cultivable fields and even anthropogenically disturbed zones like roadsides and wastelands by different traditions throughout the world. A huge number of ethnic communities and local populace residing in the developing countries draw significant part of their subsistence and livelihood from wild edible plants (Schippmann *et al.*, 2002). Historically, humans may have utilized more than 7000 WEPs so far (Grivetti and Ogle, 2000), but many such food resources and valuable plants are still to be explored (Mohan, 2000).

EWPs are marketable and provide the opportunity to supplement hold income. People in different parts of the world depend on plant resources for their basic needs for food, clothes and shelter occurring in their environment (Balick and Cox, 1996). In India large numbers of wild edible plants are widely distributed throughout the country and consumed in various ways (Arora and Pandey, 1996).

Man had depended on plants from time immemorial. The human life and culture has directly or indirectly been influenced by their surrounding environment. The primitive people are well acquainted with the properties and uses of plants of their surroundings (Nadanakunjidam, 2003; Binu Thomas *et al.*, 2012 and Rajendran, 2011).

Although rural people utilized wild plants for their livelihood, the scientists have recently realized importance of such plants in rural economy (Plotkin and Famolare, 1992) Sometimes the nutritional value of traditional wild plants is higher than several known common vegetables and fruits (Nordeide *et al*., 1996; Sundriyal and Sundriyal, 2001; Orech *et al*., 2007).

In recent decades, due to increasing modernization and globalization, the nutritional, ecological, socio-economic, and livelihood benefits of WEPs are well recognized (Powell *et al.*, 2015; Landis and Fontenot, 2016 and Aryal *et al.*, 2018) but still underrated, neglected, and underutilized in many regions (Kuhnlein *et al.*, 2009).

The present study was undertaken to document the wild edible plants of Vallavilai village, to assess the WEPs diversity of coastal line and to enumerate information about the plants. Vallavilai is a coastal Village on the shore of the Arabian Sea in Kanyakumari district, Tamil Nadu, India. It was situated near the border of Tamil Nadu and Kerala. This village is the part of Kollencode muncipality.

MATERIALS AND METHODS:

STUDY AREA:

The present study was conducted in the Vallavilai coastal village. This village comes under Kollencode municipality of Killiyoor taluk. This village has coastal villages on the shore of the Arabian Sea in Kanniyakumari district, Tamil Nadu, India. It was situated near the border with Tamil Nadu and Kerala on north-west to Kanniyakumari and south-west to Thiruvananthapuram. This village is located nearly 70 km from Kanniyakumari and 30 km from Thiruvanathapuram. It is a fishing village of Kollencode municipality.

Kanniyakumari district is situated in the Southern most tip of Tamil Nadu, Southern Peninsular India (77° 15´- 77° 30´ E, 8° 30´- 8° 15´ N), located in the part of Southern Western Ghats. It occupies an area of about 1684 sq.km, which is 1.29 percent of the total geographical area of state. Kanniyakumari coastal line has a length of about 71.5 km. The location of the study area had latitude 8.28 and longitude 77.11. The cimate of the district is warm and humid. The soil of the district is broadly classified into two major groups namely, Red and Alluvial soil

FLORISTIC STUDY:

Regular survey were made during the study period (December 2024 to March 2025). The present survey was conducted in Wild Edible Plant growing in their natural habitats like grounds, road sides, open land, etc. The information was collected from the coastal/old aged people. Most of the Wild Edible Pants are medicinal plants. The plant specimens were identified and photographed. Maximum plants have been photographed in their natural habitat. The plant specimens were collected and identified taxonomically with help of local floras. The biological

information of the studied plant material was recorded in the field note book. The plant specimens were collected depending upon their availability from the area under survey. The edible parts of the plants were confirmed through the literature available. All plants were categorized on the basis of habit, taxonomic identification, photographic documentation.

RESULT AND DISCUSSION:

Total 111 plant species belonging to 52 families and 90 genera were recorded from the study area Vallavilai coastal village which comes under Kollencode municipality. They are tabulated with botanical name, common name or vernacular name and family. Family wise distribution shows that Solanaceae was dominant family with 8 species, followed by Malvaceae and Fabaceae (7 species); Lamiaceae (6 species); Moraceae and Myrtaceae (5 species).

The list of plants are categorized by their growth habit and useful parts. The growth habits reported in present study are whole plant, leaf, leaf stalk, stem, root, flower, fruit, seed, gel, skin, etc. The wild edible plants are consumed by cooked or uncooked. Most of the wild plants are consumed as raw.

Alternanthera sessilis, Amaranthus cruentus, Amaranthus viridis, Basella alba, Cardiospermum halicacabum, Cissus quadrangularis, Coccinia indica, Moringa oleifera, Solanum nigrum, Talinum fruticosum, etc. are used as green leafy vegetable. Leafy greens are super healthy, packed with vitamin A, B, C, E and K, minerals like magnesium, iron, and calcium, and bunch of flavonoids and phytochemicals. The leaves and young shoot of *Alternanthera sessilis* are cooked and used as a vegetable The leaves are believed to be many recommended for breast-feeding mothers as it increases lactation. *Cissus quadrangularis* is a traditional medicine usually said to come from Ayurveda but appearance like to have a wide of locations, which have used it medicinally due to its growth in numerous locations. Its traditional usages are mostly provided around treating feminine disorders (menopause, libido, and menstrual disorders) or treating bones (increasing bone mass or accelerating fracture healing rates) which gives it the traditional name of the 'Bone Setter'. Some other traditional usages regard in to its supposed antique properties, and pain relieving properties. *Coccinia indica* is good for diabetes as helping in controlling blood sugar level. It is rich fiber, which aids in digestion, prevents constipation and very good sources of beta-carotene, vitamin C and protein. *Solanum nigrum,* the leaves are one of the best leafy green vegetables one can eat for health. Fry in ghee to purify root, ripe berries, seeds, leaves, and stem are used in Ayurveda medicine.

List Of Plants Categorized By Their Family, Growth Habit And Useful Parts:

SI. NO	BOTANICAL NAME	FAMILY	VERNACULAR NAME	EDIBLE PARTS	GROWTH HABIT
1.	*Abrus precatorius* L.	Fabaceae	Kunnikuru	Leaves, Roots & Stem	Perennial climber
2.	*Abutilon indicum* (L.) Sweet.	Malvaceae	Cheepukai	Seeds	Shrub
3.	*Acalypha indica* L.	Euphorbiaceae	Kuppaimeni	Leaves & Shoots	Annual herb

4.	*Aloe vera* (L.) Burm. F.	Asphodelaceae	Kattralai	Gel & Skin	Herb
5.	*Alternanthera sessilis* (L.) R.Br. ex DC.	Amaranthaceae	Ponnankani	Leaves, Flowers & Tender stems	Annual or perennial herb
6.	*Amaranthus cruentus* L.	Amaranthaceae	Sivappu keerai	Leaves, Tender stem, Seeds & Flowers	Annual herb
7.	*Amaranthus viridis* L.	Amaranthaceae	Kuppai keerai	Leaves, Tender stem, Seeds & Flowers	Annual herb
8.	*Amorphophallus paeoniifolius* (Dennst.) Nicolson.	Araceae	Chena	Corm, Leaves & Leaf stalk	Herb
9.	*Anacardium occidentale* L.	Anacardiaceae	Kollampazham	Seed & Ripened fruit	Tree
10.	*Andrographis paniculata* (Burm. F.) Nees.	Acanthaceae	Nilavembu	Leaves	Annual herb
11.	*Annona muricata* L.	Annonaceae	Mullumunthiri	Fruit, Young shoots & Leaves	Tree
12.	*Annona reticulata* L.	Annonaceae	Ramar seethapazham	Fruit	Tree
13.	*Annona squamosa* L.	Annonaceae	Seethapazham	Fruit	Tree
14.	*Artocarpus altilis* (Parkinson) Fosberg.	Moraceae	Aynipila	Fruit, Seed, Flower & Leaves	Tree
15.	*Artocarpus heterophyllus* Lam.	Moraceae	Palapazham	Fruit, Seeds & Young leaves	Tree
16.	*Artocarpus hirsutus* Lam.	Moraceae	Aynipazham	Fruit & Seeds	Tree
17.	*Asystasia gangetica* (L.) T. Anderson.	Acanthaceae	Miti-keerai	Young tender leaves & Stem	Herb
18.	*Averrhoa bilimbi* L.	Oxalidaceae	Irumbanpuli	Fruit	Tree
19.	*Averrhoa carambola* L.	Oxalidaceae	Aanapulinjikka	Fruit	Tree
20.	*Azadirachta indica* A. Juss.	Meliaceae	Vepa maram	Fruit, Flowers, Leaves & Sap	Tree
21.	*Bambusa bambos* (L.) Voss	Poaceae	Mula / Mungil	Tender shoot, Seeds &	Tree

				Fruit (Cereal)	
22.	*Basella alba* L.	Basellaceae	Kodi pasalaikeerai	Leaves & Stem tips	Climber
23.	*Boerhavia diffusa* L. nom. Cons.	Nyctaginaceae	Mookkaratti	Whole plant	Creeping herb
24.	*Borassus flabellifer* L.	Arecaceae	Panampazham	Fruit, Sap & Tubers	Tree
25.	*Breynia androgyna* (L.) Chakrab. & N. P. Balakr.	Phyllanthaceae	Madhura cheera / Vellikeerai	Leaves, Stems, Flowers & Immature fruit	Shrub
26.	*Capsicum annuum* L.	Solanaceae	Kodamilagu	Fruit, Leaves & Flowers	Small perennial herb
27.	*Capsicum chinense* Jacq.	Solanaceae	Mormilagu	Fruit	Shrub
28.	*Capsicum frutescens* L.	Solanaceae	Kaanthaarimilagu	Fruit, Leaves & Seeds	Shrub
29.	*Cardiospermum halicacabum* L.	Sapindaceae	Mudankathaan	Leaves & Young shoots	Perennial or annual climber
30.	*Carica papaya* L.	Caricaceae	Pappali	Fruit, Seeds, Leaves & Flowers	Tree
31.	*Centella asiatica* (L.) Urban.	Apiaceae	Vallarai	Leaves &Stem	Herb
32.	*Centrosema pubescence* Benth.	Fabaceae	Kattupayar	Leaves &Stem	Climber
33.	*Cissampelos pareira* L.	Menispermaceae	Malathaangi / Vattathiruppi	Leaves	Climbing shrub
34.	*Cissus quadrangularis* L.	Vitaceae	Pyrandai	Leaves & Young shoot	Climbing shrub
35.	*Citrus japonica* Thunb.	Rutaceae	Kumquat	Fruit	Tree
36.	*Citrus limon* (L.) Osbeck.	Rutaceae	Elumichai	Fruit	Tree
37.	*Citrus maxima* Merr.	Rutaceae	Pamplimasu	Fruit	Tree
38.	*Clitoria ternatea* L.	Fabaceae	Sangupoo	Flowers, Leaves, Young shoots & Tender pods (Fruit)	Climber
39.	*Coccinia grandis* (L.) Voigt.	Cucurbitaceae	Kovaikkai	Young leaves, Shoots & Fruits	Perennial climber

40.	*Cocos nucifera* L.	Arecaceae	Thennai	Endosperm /Coconut meat (Fruit)	Tree
41.	*Coleus aromaticus* Benth.	Lamiaceae	Karpooravalli	Leaves	Climbing / Creeping
42.	*Commelina benghalensis* L.	Commelinaceae	Kanavalai	Leaves & Roots	Creeping annual herb
43.	*Colocasia esculenta* (L.) Schott.	Araceae	Chembu	Corms, Leaves & Stems	Perennial herb
44.	*Cucumis maderaspatanus* L.	Cucurbitaceae	Musumuskkai	Leaves, Fruit, Sap & Young shoot	Climbing herb
45.	*Cucurbita pepo* L.	Cucurbitaceae	Kumpalam	Fruit, Flowers, Young leaves, Young shoot tips &Seeds	Annual climber
46.	*Eclipta prostrata* (L.)L.	Asteraceae	Karisilanganni	Leaves & Young shoots	Annual herb
47.	*Elaeocarpus serratus* L.	Eleocarpaceae	Kara	Fruit	Tree
48.	*Erythrina variegata* L.	Fabaceae	Murukku	Leaves, Bark & Seeds	Tree
49.	*Eugenia monticola* (Sw.) DC.	Myrtaceae	Biriji	Fruit	Shrub
50.	*Euphorbia hirta* L.	Euphorbiaceae	Ammanpacharisi	Young leaves & Shoots	Herb
51.	*Ficus carica* L.	Moraceae	Athipalam	Fruit, Leaves & Roots	Tree
52.	*Flacourtia jangomas* (Lour.) Raeusch.	Salicaceae	Lovlolika	Fruit	Tree
53.	*Gracinia gummi-gutta* (L.) N. Robson.	Clusiaceae	Kudampuli	Fruit rind & Seeds	Tree
54.	*Grona triflora* (L.) H. Ohashi & K. Ohashi.	Fabaceae	Siruppullai	Leaves & Root	Creeping herb
55.	*Hemidesmus indicus* (L.) R. Br.	Apocynaceae	Nannari / Narunenti	Root	Perennial climber
56.	*Heterotis rotundifolia* (Sm.) Jacq. –Fel.	Melastomataceae	-	Leaves	Shrub
57.	*Hibiscus hispidissimus* Griff.	Malvaceae	Kantagomgura	Leaves, Flowers, Seeds & Roots	Shrub

58.	*Hibiscus rosa-sinensis* L.	Malvaceae	Semparuthi	Flowers, Leaves & Root	Shrub
59.	*Hibiscus sabdariffa* L.	Malvaceae	Pulichaikeerai	Leaves, Flowers & Seeds	Annual or perennial herb / Sub-shrub
60.	*Hydrocotyle vulgaris* L.	Araliaceae	Malai vallarai	Leaves	Creeping herb
61.	*Ixora coccinea* L.	Rubiaceae	Chethi / Vedchi	Flowers & Ripe fruits	Shrub
62.	*Justicia adhatoda* L.	Acanthaceae	Adhathodai	Leaves, Flowers & Fruit	Perennial shrub
63.	*Lantana camara* L.	Verbenaceae	Unnichedi	Ripe fruits	Shrub
64.	*Leucas aspera* (Willd.) Link.	Lamiaceae	Thumbai	Leaves & Flower	Annual herb
65.	*Mangifera indica* L.	Malvaceae	Mangamaram	Fruit	Tree
66.	*Manihot esculenta* Crantz.	Euphorbiaceae	Marichinikizhangu	Starchy root & Leaves	Perennial shrub
67.	*Malilkara zapota* (L.) P. Royen.	Sapotaceae	Sapotamaram	Fruit, Leaves & Shoots	Tree
68.	*Maranta arundinaceae* L.	Marantaceae	Koovakizhangu	Rhizome	Perennial herb
69.	*Mentha viridis* (L.) L.	Lamiaceae	Pudina	Whole pant	Perennial herb
70.	*Micrococca mercurialis* (L.) Benth.	Euphorbiaceae	Kunukkuthooki	Leaves	Herb
71.	*Mimosa pudica* L.	Fabaceae	Thottavadi	Flowers, Seeds & Leaves	Herb
72.	*Momordica charantia* L.	Cucurbitaceae	Paagarkaai	Young shoot & Flowers	Climber
73.	*Moringa oleifera* Lam.	Moringaceae	Murungai maram	Leaves, Root, Bark, Flowers, Fruit &Seeds	Tree
74.	*Morus indica* L.	Moraceae	Kambli chedi / Mulberry	Fruits	Shrub / Small tree
75.	*Muntingia calabura* L.	Muntingiaceae	Taen pazham	Fruits & Leaves	Shrub / Small tree
76.	*Murraya koenigii* (L.) Spreng.	Rutaceae	Karruvapilai	Leaves & Fruit (Berries)	Shrub / Small tree
77.	*Musa paradisiaca* L.	Musaceae	Vaazhai	Fruit, Flower & Stem	Tree like herb

78.	*Ocimum tenuiflorum* L.	Lamiaceae	Tulsi	Leaves, Flower & Seed	Perennial herb
79.	*Pandanus amaryllifolius* Roxb.	Pandanaceae	Rambha	Leaves, Fruit & Seeds	Shrub
80.	*Passiflora edulis* Sims.	Passifloraceae	Bonjikka / Passion fruit	Fruit	Climber
81.	*Passiflora foetida* L.	Passifloraceae	Chokkan kai	Fruit	Climber
82.	*Phyllanthus acidus* (L.) Skeels.	Phyllanthaceae	Pulipunelli	Fruit & Young leaves	Small tree / Shrub
83.	*Phyllanthus emblica* L.	Phyllanthaceae	Kattunelli	Fruit, Leaves, Bark, Flowers & Seeds	Tree
84.	*Phyllanthus niruri* L.	Phyllanthaceae	Keezhanelli	Leaves	Herb
85.	*Physalis minima* L.	Solanaceae	Sodukkuthakkali	Fruit	Herb
86.	*Pimenta dioica* (L.) Merr.	Myrtaceae	Vellai milaku / All spice tree	Fruit, Seeds, Leaves & Bark	Tree
87.	*Piper betel* L.	Piperaceae	Vetrilai	Leaves	Climber
88.	*Piper longum* L.	Piperaceae	Thippali / Pippali	Fruit (Dried spikes) & Roots	Climber
89.	*Piper nigrum* L.	Piperaceae	Nalla milagu	Fruit	Climber
90.	*Psidium guajava* L.	Myrtaceae	Koyya	Leaves, Fruits & Seeds	Shrub / Small tree
91.	*Pouteria campechiana* (Kunth) Baehni.	Sapotaceae	Muttapazham	Fruit	Tree
92.	*Premna serratifolia* L.	Lamiaceae	Kozhichedi	Leaves & Fruit	Shrub / Tree
93.	*Punica granatum* L.	Lythraceae	Maathulai	Fruit & Seeds	Shrub / Small tree
94.	*Rosa damascene* Mill.	Rosaceae	Rose	Dried flower	Shrub
95.	*Santalum album* L.	Santalaceae	Santhanam	Fruits	Tree
96.	*Sesamum indicum* L.	Pedaliaceae	Ellu	Seeds & Leaves	Annual herb
97.	*Sida acuta* Burm. f.	Malvaceae	Ariva mooku keerai	Leaves	Perennial shrub
98.	*Solanum lycopersicum* L.	Solanaceae	Thakkali	Fruit & Seed	Herb
99.	*Solanum melongena* L.	Solanaceae	Kathiri	Fruit & Seed	Shrub

100.	*Solanum nigrum* L.	Solanaceae	Manathakkali	Fruits & Leaves	Herb / Small shrub
101.	*Solanum torvum* Sw.	Solanaceae	Sundakkai	Leaves, Fruits & Flowers	Shrub / Small tree
102.	*Syzygium cumini* (L.) Skeels.	Myrtaceae	Njaval	Fruits, Seeds, Leaves & Flowers	Tree
103.	*Syzygium samarangense* (Blume) Merr. & L. M. Perry.	Myrtaceae	Jambu	Fruits	Tree
104.	*Talinum fruticosum* (L.) Juss.	Portulacaceae	Pasalai keerai	Leaves, Flowers & Young shoots	Perennial herb
105.	*Tamarindus indica* L.	Fabaceae	Puliyamaram	Fruit (Pulp), Seeds & Leaves	Tree
106.	*Terminalia catappa* L.	Compretaceae	Naatubadam	Fruit & Seed	Tree
107.	*Theobroma cacao* L.	Malvaceae	Cocoa tree / Chocolate nut tree	Fruit & Seed	Tree
108.	*Thespesia populnea* (L.) Sol. Ex Correa.	Malvaceae	Poovarasu	Leaves, Flowers, Buds & Unripe fruit	Tree
109.	*Tridax procumbens* L.	Asteraceae	Odiyanpachila	Leaves	Perennial \ annual herb
110.	*Vitex nigundo* L.	Lamiaceae	Nocchi	Seeds & Leaves	Shrub / Small tree
111.	*Ziziphus oenoplia* (L.) Mill.	Rhamnaceae	Surai ilantai	Berries / Fruits	Shrub / Tree

There are 31 herbs, 2 sub-shrubs, 18 shrubs, 10 small trees, 15 climbers and 35 trees. The majority of the plants were trees followed by herbs, shrubs, climbers, small trees and sub-shrubs. The medicinal use of the wild edible plants in the study area are noticed and mode of preparation of medicines are paste, juice, decoction, powder. The wild edible plants consumed by the tribal people as food also used for medicines for various diseases.

RESULTS AND CONCLUSION:

Total 111 plant species belonging to 51 families and 90 genera were recorded from the study area Vallavilai. The plants belonging to 51 families were tabulated with botanical name, common name, edible parts, growth habit, etc. Among them eight plants belong to the family Solanaceae, followed by Malvaceae and Fabaceae (7 plant species); Lamiaceae (6 plant species); Moraceae and Myrtaceae (5 plant species). Most of the plants growth habit

are tree (35 plant species). The remaining plants are herb (31 plant species), sub-shrub (2 plant species), shrub (18 plant species), small tree (10 plant species), climber (15 plant species) of wild edible plants.

The wild edible plants and their utilization is well recognized by the local communities. It was observed that the majority of the local inhabitant were depends on wild vegetation for under-utilized wild edible plants but over-utilized wild edible plants were commercially cultivated. But the present study focused on wild edible plants. In some cases over-utilization of such wild edible plants may affect the diversity and create threats to the vegetation. Therefore both wild and cultivated wild edible plants needs to be used in sustainable manner. Using the present study as a baseline, medicinal properties of the plants are also noted. There is a need for the further studies to directly evaluate the quantity of WEPs consumed so that actual contribution of WEPs within the overall diet to nutrient intakes of vulnerable groups in the community can be known.

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