

## Utility of Wild Food Plants by Indigenous Tribes from Telangana State, India: An Ethnobotanical Perspective

Sateesh Suthari<sup>1\*</sup>, E. Sandhya Priyadarshini<sup>2</sup>, KiranEsampally<sup>3</sup> and Sreeramulu Nallella<sup>4</sup>

### Abstract

An ethnobotanical study was conducted for wild food plants among twenty ethnic groups of Telangana State during 2015-2019. A total of 89 plant taxa belonging to 76 genera and 46 families were recorded and the consumption of wild food plants is still very important for many tribes in the region in a multitude of ways such as vegetables, fruits, pickles, snacks, beverages, etc. Some wild food plants like *Madhucalongifolia* var. *latifolia*, *Diospyros melanoxylon*, *Phyllanthus emblica* have great economic importance and linked with the socio-economic empowerment of tribal communities in the State. The present study emphasizes the importance of wild food plants for ethnic tribes on one hand, and helpful to understand the conservation strategy and economics of wild food plants dealing with the collection and sale, on the other.

**Keywords:** Wild plants; Nutrition; Food security; Ethnic communities; Subsistence; Edible

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### Introduction

In forest ecosystem, the wild food plants play a vital role in the survival of wild animals and subsistence for human being especially during dry season and drought conditions. Wild food plants are wild plants with one or more parts that can be used for food of gathered at the appropriate time of growth and properly prepared. Man has learnt many things by the process of trial-and-error method and has the ability to select edible and poisonous plant parts by this method. More than 250 million indigenous

people rely on traditional mode of collection of wild food plants for their subsistence and more than 100 million people in South Asia alone who use the traditional methods of gathering, fishing, herding and farming to support the bare necessities of living. One study estimated that about one billion people consume wild food daily for their diet throughout the world [1]. Ethnobotanical studies suggested that more than 7000 species of wild edible plants have been used for food [2]. The important prerequisite for proper utilization of raw materials of the country is the survey of its natural resources, enlisting the users, and the preparation of an inventory. Conventional food plants are not enough to fulfil the requirements of food and therefore extensive work is being done on emergency food plants throughout the world [3]. The consumption of wild food plants concept is age old process in India which was cited in many ancient scriptures like Kautilya's Arthashastra. India is one of the 12 mega diversity nations with 8% of the global biodiversity residing in only 2.4% geographical area of the world [4]. One study has estimated that more than 3900 wild food plants and vegetables are underutilized by different tribal communities in India, of these, 1532 species from

<sup>1</sup>Department of Botany, Vaagdevi Degree and PG College, Hanamkonda, Warangal-506009, Telangana, India

<sup>2</sup>Department of Botany, Kakatiya University, Warangal-506009, Telangana, India

<sup>3</sup>Department of Botany, Telangana University, Nizamabad-503322, Telangana, India

<sup>4</sup>Department of Botany, Kakatiya Mahila Degree and PG College, Hanamkonda-506001, Telangana, India

### \*Corresponding author:

Dr. Sateesh Suthari, Department of Botany, Vaagdevi Degree and PG College, Hanamkonda, Warangal-506009, Telangana, India, Tel: 9441712719

✉ suthari.botany@gmail.com

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Western Ghats and Himalayan region [5]. In India, most of the ethnic tribes are living in the hamlets or villages proximate to the forests. They depend upon forests for their daily minimum needs. They do collect wild food plants along with other non-timber forest products (NTFPs) for their survival and economic subsistence. Kulkarni and Kumbhojkar [6] documented wild fruit plant resources utilized by Mahadeoko tribes of western Maharashtra while Nene [7] enlisted 300 food plant resources utilized during famine. A study from Andhra Pradesh reported 156 plant species as wild plants used for food purposes by ethnic communities [8] where another study recorded 80 species from north-coastal Andhra Pradesh [9]. The plant products obtained in the wild or modified form include fruits, tubers, vegetables, gums, resins, honey, bee-wax, etc. The plant products obtained in the wild or modified form include fruits, tubers, vegetables, gums, resins, honey, bee-wax, etc. These food plants have considerable amount of carbohydrates, high energy and protein supplement. The main aim of the present study is to identify, documentation wild food plants, mode of use and socio-economic aspects of plant resources available in Telangana State, India.

## Methodology

Extensive field trips were conducted to collect the information about the wild food plants from the indigenous tribes covering all seasons of the year. These repeated tours helped to collect the data on wild food plants and ethnobotanical plant material from flower to seed, underground parts, etc. from a wide range of habitats in the study area. The seeds, barks and underground parts of the species were collected for proper identification and deposited in the museum. The data was documented for food plant species which are wild when they are used by the tribes of Telangana districts for their nutrition and or economic subsistence. The data were gathered usually from elderly people, farmers, shepherds, mid-wives, homemakers and family/village heads. The interviews and discussions were carried out by the pre-meditated or semi-structured questionnaires, or simply noted in the field note book. The plant specimens were identified with the help of standard floras [10], e-floras, revisions, etc. The nomenclature of the species was updated following [www.theplantlist.org](http://www.theplantlist.org) and International Code of Nomenclature for Algae, Fungi, and Plants [11].

## Study area

Telangana was formed on 2nd June, 2014 as the 29th state and it is the 12th largest state in Union of India. It spreads over an area of 1,12,077 sq. km which is 3.4% of total geographical area of the country. It has a population of 35.19 million accounting of 2.91% of total population of India [12]. It lies in between 15°43' to 19°55'46"N latitudes and 77°09'02" to 81°18'51" longitudes. It is bounded on the north and north-west by Maharashtra, west by Karnataka, north-east by Chattisgarh, east by Odisha and south by Andhra Pradesh. The government has reorganized the then ten districts into 31 in 2016 and 2 districts in 2019 (**Figure 1**). The state is predominantly drained by two major rivers, Godavari and Krishna, and has subtropical climate.

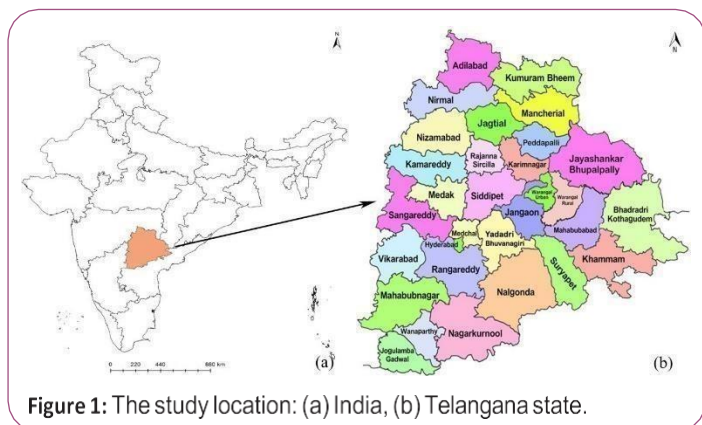


Figure 1: The study location: (a) India, (b) Telangana state.

The state is very warm and dry during the summer (March-May) and the annual average temperature ranges from 15°C to 45°C. Sometimes, the temperature rises up to 50°C in coal belt areas Godavarikhani, Ramagundam, Kothagudem, Sathupalli, Manuguru and Bhupalpally. In December and January, in some areas, the temperature drops up to 4°C during nights and is very cold [13].

## Ethnic people of Telangana

There are about 20 scheduled tribes, inhabiting both the hilly and plain regions of Telangana State. Of these, eleven ethnic tribal groups of central India are found in Telangana, which are Koyas, Gonds, Kolams, Naikpods, Konda Reddis, Pardhans, Thotis, Andhs, Mannewars, Bhils and Gowaris. The Yerukulasand Lambadis are largely found in the plains. There are Chenchus of Nallamalais settled in Nallamalai forest region of Mahabubnagar and some pockets of Warangal district (Regonda mandal), Vikarabad forest region (Ranga Reddy district) and Nalgonda district on the bank of Krishna River. In Telangana, the total schedule tribe population is 31.78 lakh and accounts for 9.03% of total population of the State. Most of the ethnic tribes (ca. 53%) were inhabited in the erstwhile districts such as Khammam (20.68%), Warangal (16.7%) and Adilabad (15.6%). The predominant tribes in the State are Lambadis (20.46%), Koyas (4.86%), Gonds (2.98%) and Yerukalas (1.44%). Nakkala and Dhulia communities were recognized as tribes in 2002-2003 and they distributed sporadically in the state. The State government has announced in 2017 that the communities such as Boyas and Mathura Lambadis can also be considered under scheduled tribes. Most of the tribal people were settled in 10 districts, namely, Adilabad, Komuram Bheem-Asifabad, Manjerali, Jayashankar Bhupalpally, Mulugu, Warangal Rural, Mahabubabad, Bhadradi Kothagudem, Khammam and Nagar Kurnool [14]. Raj Koyas and Gothi Koyas are migrants from the neighbouring Chattisgarh state and are rehabilitated in some hamlets of Jayashankar Bhupalpally, Mulugu and Bhadradi Kothagudem districts. These migrated tribes have started occupying the forest lands and made their settlement by clearing forest lands and practicing farming.

## Forest area

Telangana state has a forest cover of 20,419 sq km which is 18.22% of its geographical area. The erstwhile districts in Telangana with good forest cover are Adilabad (5,688 sq km), Khammam (4,433 sq km) and Warangal (2,918 sq km), and occupy about 64% while the northern Telangana region occupies 79.2% of the total forest cover of the State [12]. The forests in northern Telangana are largely of tropical dry deciduous type, with teak dominating and forming pure stands in Adilabad district which extend to south and southeastern part where it forms Tectona-Terminalia transition zone and then Terminalia-Hardwickia association, further to Madhuca-Terminalia-Cleistanthus zone along the river Godavari towards the east [15-17]. The State consists a good number of wildlife sanctuaries for on-site conservation of wildlife as well plant wealth, namely, Kawal (893 sq km), Pranahita (136), Sivaram (38.66), Eturnagaram (803), Pakhal (860), Kinnerasani (635.41), Pocharam (129.85), Manjeera (20), and shares two sanctuaries Papikondalu (591 sq km) and NSTR (Nagarjunasagar Srisailem Tiger Reserve; 3568 sq km) with adjoining state Andhra Pradesh.

Sl no.	Vernacular name	Scientific name	Family	Life-form	Useful part	Mode of use
1	Uttareni	<i>Achyranthes aspera</i> L.	Amaranthaceae	Herb	Tender leaf	Vegetable
2	Maredu	<i>Aegle marmelos</i> (L.) Corrêa	Rutaceae	Tree	Fruit	Edible
3	Konda pindi	<i>Aerva lanata</i> (L.) Juss.	Amaranthaceae	Herb	Tender leaf	Vegetable
4	Ooduga	<i>Alangium salviifolium</i> (L.f.) Wangerin	Cornaceae	Tree	Fruit	Edible
5	Nagali kura	<i>Allmania nodiflora</i> (L.) R.Br. ex Wight	Amaranthaceae	Herb	Leaf	Vegetable
6	Ponnaganti kura	<i>Alternanthera sessilis</i> (L.) R.Br. ex DC.	Amaranthaceae	Herb	Tender leaf	Vegetable
7	Totakura	<i>Amaranthus tricolor</i> L.	Amaranthaceae	Herb	Leaves	Vegetable
8	Thota kura	<i>Amaranthus viridis</i> L.	Amaranthaceae	Herb	Leaf; tender shoot	Vegetable
9	Kanda	<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicolson	Araceae	Herb	Tuber	Vegetable
10	Jeedi mamidi	<i>Anacardium occidentale</i> L.	Anacardiaceae	Tree	Kernel	Edible
11	Shethaphalam	<i>Annona squamosa</i> L.	Annonaceae	Tree	Fruit	Edible
12	Kodi dumpa	<i>Aponogeton natans</i> (L.) Engl. & K.Krause	Aponogetonaceae	Herb	Tuber (roasted)	Edible
13	Tella uppi	<i>Azima tetracantha</i> Lam.	Salvadoraceae	Shrub	Fruit	Edible
14	Gara	<i>Balanites roxburghii</i> Planch.	Zygophyllaceae	Shrub	Fruit	Edible
15	Veduru	<i>Bambusa bambos</i> (L.) Voss	Poaceae	Shrub	Young shoot	Edible
16	Neeroddi	<i>Barringtonia acutangula</i> (L.) Gaertn.	Lecythidaceae	Tree	Tender leaf	Vegetable
17	Bodenta kura	<i>Bauhinia purpurea</i> L.	Fabaceae	Tree	Unripe fruit	Vegetable
18	Addaku	<i>Bauhinia vahlii</i> Wight & Arn.	Fabaceae	Climber	Seed (roasted)	Edible
19	Thadi	<i>Borassus flabellifer</i> L.	Arecaceae	Tree	Seed pulp	Edible
20	Pedda morri	<i>Buchanania axillaris</i> (Desr.) Ramam.	Anacardiaceae	Tree	Kernel	Edible
21	Chinna morli	<i>Buchanania cochinchinensis</i> (Lour.) M.R.Almeida	Anacardiaceae	Tree	Kernel	Edible
22	Chapateega barige	<i>Calamus rotang</i> L.	Arecaceae	Climber	Fruit	Edible
23	Balusu	<i>Canthium coromandelicum</i> (Burm.f.) Alston	Rubiaceae	Shrub	Fruit	Edible
24	Nalla uppi	<i>Capparis sepiaria</i> L.	Capparaceae	Shrub	Ripe fruit	Edible
25	Aadonda	<i>Capparis zeylanica</i> L.	Capparaceae	Shrub	Fruit	Vegetable
26	Kundetikkommulu	<i>Caralluma adscendens</i> (Roxb.) R.Br.	Apocynaceae	Herb	Tender stem	Vegetable/ Pickle
27	Pedda kalimi	<i>Carissa carandas</i> L.	Apocynaceae	Shrub	Fruit	Edible
28	Kalimi	<i>Carissa spinarum</i> L.	Apocynaceae	Shrub	Fruit	Edible
29	Giraka thati	<i>Caryota urens</i> L.	Arecaceae	Tree	Stem pith	Edible
30	Rela	<i>Cassia fistula</i> L.	Fabaceae	Tree	Flower	Vegetable/ Pickle
31	Gunugu	<i>Celosia argentea</i> L.	Amaranthaceae	Herb	Tender leaf	Vegetable
32	Saraswati aku	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Herb	Leaf	Edible
33	Pedda bikki	<i>Ceriscoides turgida</i> (Roxb.) Tirveng.	Rubiaceae	Tree	Fruit	Edible
34	Chengalva gadda	<i>Cheilocostus speciosus</i> (J.Koenig) C.D.Specht	Costaceae	Herb	Rhizome	Pickle
35	Chakrabanthi	<i>Chenopodium album</i> L.	Amaranthaceae	Herb	Leaves	Vegetable
36	Tella nelathadi	<i>Chlorophytum arundinaceum</i> Baker	Asparagaceae	Herb	Flower	Pickle
37	Musli	<i>Chlorophytum tuberosum</i> (Roxb.) Baker	Asparagaceae	Herb	Flower	Pickle
38	Nalleru	<i>Cissus quadrangularis</i> L.	Vitaceae	Climber	Young shoot	Pickle
39	Pusa golibi	<i>Coix lacryma-jobi</i> L.	Poaceae	Herb	Fruit (caryopsis)	Edible
40	Chama gadda	<i>Colocasia esculenta</i> (L.) Schott	Araceae	Herb	Rhizome	Vegetable
41	Perinta kura	<i>Corchorus trilocularis</i> L.	Malvaceae	Herb	Leaf	Vegetable
42	Iriki	<i>Cordia dichotoma</i> G.Forst.	Boraginaceae	Tree	Fruit	Edible
43	Nelathati	<i>Curculigo orchioides</i> Gaertn.	Hypoxidaceae	Herb	Rhizome	Edible
44	Bongu	<i>Dendrocalamus strictus</i> (Roxb.) Nees	Poaceae	Shrub	Tender rhizome	Vegetable
45	Chenchali kura	<i>Digera muricata</i> (L.) Mart.	Amaranthaceae	Herb	Tender leaf	Vegetable
46	Kalinga	<i>Dillenia pentagyna</i> Roxb.	Dilleniaceae	Tree	Fruit	Edible
47	Bellam gadda	<i>Dioscorea alata</i> L.	Dioscoreaceae	Climber	Tuber	Vegetable
48	Chenna gadda	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Climber	Tuber	Vegetable
49	Govinda gadda	<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae	Climber	Tuber	Vegetable
50	Illanda	<i>Diospyros chloroxylon</i> Roxb.	Ebenaceae	Tree	Fruit	Edible
51	Tuniki	<i>Diospyros melanoxylon</i> Roxb.	Ebenaceae	Tree	Fruit	Edible
52	Paldattam	<i>Ehretia laevis</i> Roxb.	Boraginaceae	Tree	Fruit	Edible
53	Devadaru	<i>Erythroxylum monogynum</i> Roxb.	Erythroxylaceae	Shrub	Fruit	Edible
54	Medi	<i>Ficus racemosa</i> L.	Moraceae	Tree	Fruit	Edible
55	Garugu	<i>Garuga pinnata</i> Roxb.	Burseraceae	Tree	Fruit	Edible
56	Jana	<i>Grewia damine</i> Gaertn.	Malvaceae	Shrub	Fruit	Edible
57	Banka jana	<i>Grewia flavescens</i> Juss.	Malvaceae	Shrub	Fruit	Edible
58	Jibilika	<i>Grewia hirsuta</i> Vahl	Malvaceae	Shrub	Fruit	Edible



59	Thutikura	<i>Ipomoea aquatica</i> Forssk.	Convolvulaceae	Creeper	Leaf	Vegetable
60	Thummi	<i>Leucas aspera</i> (Willd.) Link	Lamiaceae	Herb	Leaf	Vegetable
61	Velaga	<i>Limonia acidissima</i> Groff	Rutaceae	Tree	Fruit	Edible
62	Ippa	<i>Madhuca longifolia</i> var. <i>latifolia</i> (Roxb.) A.Chev.	Sapotaceae	Tree	Corolla, Fruit	Edible
63	Adavi mamidi	<i>Mangifera indica</i> L.	Anacardiaceae	Tree	Fruit	Edible
64	Pala	<i>Manilkara hexandra</i> (Roxb.) Dubard	Sapotaceae	Tree	Fruit	Edible
65	Alli	<i>Memecylon edule</i> Roxb.	Melanostomaceae	Tree	Tender leaf	Vegetable
66	Boda kakara	<i>Momordica dioica</i> Roxb. ex Willd.	Cucurbitaceae	Climber	Unripe fruit	Vegetable
67	Munaga	<i>Moringa concanensis</i> Nimmo	Moringaceae	Tree	Fruit	Edible
68	Thamara	<i>Nelumbo nucifera</i> Gaertn.	Nelumbonaceae	Herb	Rhizome	Vegetable
69	Pulichinta	<i>Oxalis corniculata</i> L.	Oxalidaceae	Herb	Leaf	Vegetable
70	Chitti eatha	<i>Phoenix loureiroi</i> Kunth	Arecaceae	Shrub	Fruit	Edible
71	Usiri	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Tree	Fruit	Edible
72	Buddakase chettu	<i>Physalis angulata</i> L.	Solanaceae	Herb	Fruit	Edible
73	Shivachinta	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Fabaceae	Tree	Fruit	Edible
74	Paayili kura	<i>Portulaca oleracea</i> L.	Portulacaceae	Herb	Leaf	Vegetable
75	Sannapayili	<i>Portulaca quadrifida</i> L.	Portulacaceae	Herb	Leaf	Vegetable
76	Magasiri gadda	<i>Pueraria tuberosa</i> (Willd.) DC.	Fabaceae	Climber	Tuber	Vegetable
77	Boddi kura	<i>Rivea hypocrateriformis</i> Choisy	Convolvulaceae	Climber	Leaf	Vegetable
78	Pusugu	<i>Schleichera oleosa</i> (Lour.) Merr.	Sapindaceae	Tree	Fruit	Edible
79	Bullakaya	<i>Schrebera swietenoides</i> Roxb.	Oleaceae	Tree	Fruit	Edible
80	Chennangi	<i>Senna occidentalis</i> (L.) Link	Fabaceae	Herb	Leaf	Vegetable/ Pickle
81	Kamanchi	<i>Solanum americanum</i> Mill.	Solanaceae	Herb	Fruit	Edible
82	Allaneredu	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Tree	Fruit	Edible
83	Muvva kanda	<i>Tacca leontopetaloides</i> (L.) Kuntze	Dioscoreaceae	Herb	Tuber	Vegetable
84	Kukkelaga	<i>Tamilnadia uliginosa</i> (Retz.) Tirveng. and Sastre	Rubiaceae	Tree	Fruit	Edible
86	Nakkera	<i>Ximenia americana</i> (L.)	Olacaceae	Tree	Fruit pulp	Edible
87	Bojja	<i>Xylia xylocarpa</i> (Roxb.) Taub.	Fabaceae	Tree	Seed (roasted)	Edible
85	Tella galijeru	<i>Zaleya decandra</i> (L.) Burm.f.	Aizoaceae	Herb	Leaf	Vegetable
88	Regu	<i>Ziziphus jujuba</i> Mill.	Rhamnaceae	Tree	Fruit	Edible
89	Pariki	<i>Ziziphus oenopolia</i> (L.) Mill.	Rhamnaceae	Climber	Fruit	Edible

**Table 1:** Wild food plants used by ethnic communities of Telangana State and their scientific name, family, life-form, useful part and mode of use.

## Results

The present study is first of its kind in Telangana State and gathered information from local inhabitants on wild food plants. The study is resulted 89 plant species under 76 genera of 46 families and arranged in alphabetical order (**Table 1**). **Table 1** provides local name, botanical name, family, life-form, useful part and mode of usage. Plant parts like roots, tubers, rhizomes, young shoots, tender leaves, flowers, fruits, seeds, kernels, pulp of some parts, etc. are used to collect for food from wild by the local inhabitants for their survival and sometimes for commerce in Telangana.

The study reports that Amaranthaceae is predominated with 9 species under 8 genera, followed by Fabaceae (7/6), Anacardiaceae, Arecaceae, Dioscoreaceae and Malvaceae with 4 species of each, Apocynaceae, Poaceae and Rubiaceae with 3 plant taxa of each, respectively. About 26 families are represented with single species each, namely, Aizoaceae, Annonaceae, Apiaceae, Aponogetonaceae, Burseraceae, Cornaceae, Costaceae, Cucurbitaceae, Dilleniaceae, Erythroxylaceae, Hypoxidaceae, Lamiaceae, Lecythidaceae, Melanostomaceae, Moraceae, Moringaceae, Myrtaceae, Nelumbonaceae, Olacaceae, Oleaceae, Oxalidaceae, Phyllanthaceae, Salvadoraceae, Sapindaceae, Sapotaceae, Vitaceae and Zygophyllaceae (**Table 1**). Based on the collection of plant parts, the present study data is analyzed under 3 broad categories. They are:

### Underground parts

This category includes roots, tubers and rhizomes of which can store high starch reserves and provides a great nutritive value to the ethnic people in remote areas. The wild boars are the major competitors to the tribes because these wild animals mostly survive on the underground parts for their survival. This group comprises 12 plant species as food resources which are consumed wither boiled or roasted form, some of the prominent collections are *Amorphophalus paeoniifolius*, *Colocasia esculenta*, *Dioscorea alata*, *D. bulbifera*, etc.

### Leaves and shoots

Leaves, shoots and flowers play a vital role and have great importance in the diet of ethnic communities in the State. Primarily, these aerial parts are collected from the nearest forest regions for their daily use as leafy vegetable or sometimes make them as pickles. These parts are highly nutritive and rich source of vitamins and minerals. They can also usually add local chilli (*Capsicum annuum* L. of Solanaceae) and pinch of salt along with other ingredients for taste or flavor. A total of 25 plant taxa were recorded under this category as source of food by the ethnic communities of Telangana State. The major sources include in this section are *Aerva lanata*, *Amaranthus viridis*, *Ipomoea aquatica*, *Leucas aspera*, *Rivea hypocrateriformis*, *Senna occidentalis*, etc.

### Flower, fruits and seeds

In the study area, flowers, fruits and fruit related parts (kernel, caryopsis, seed, pulp) are the major contributors with 52 species as food resources and used in a wide variety of ways. Many fruits are edible, some are used as vegetable and few can provide economic subsistence to the tribal communities. E.g., *Diospyros melanoxylon*, *Madhuca longifolia* var. *latifolia*, etc. The fruit part seeds have little importance in their diet and they used in minimum quantity either in pulp (*Borassus flabellifer*) or roasted (*Bauhinia vahlii*, *Xylia xylocapra*) form. The tribes used to store the seeds and corolla of *Madhuca* to consume them in unfavorable conditions.

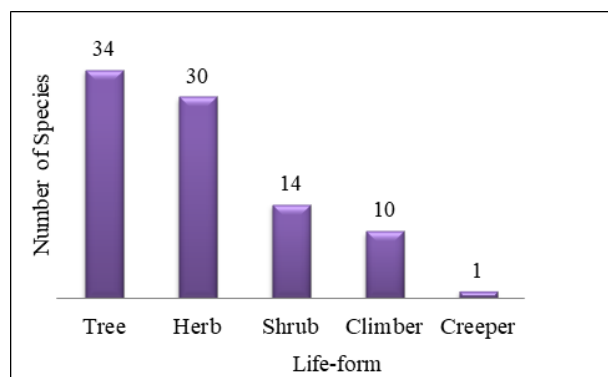
Of these, trees are predominated with 34 species, immediately followed by herbs (30), shrubs (14), climbers (10) and creeper with single species only (**Figure 2**). Most of edible parts are fruits represented with 51 species, followed by vegetables (31), pickle 4 and vegetable/pickle 3. The ethnic communities mainly depend on fruits (57.3%) and leaves as vegetables (34.8%) for their diet (**Figures 3 and 4**).

### Beverages

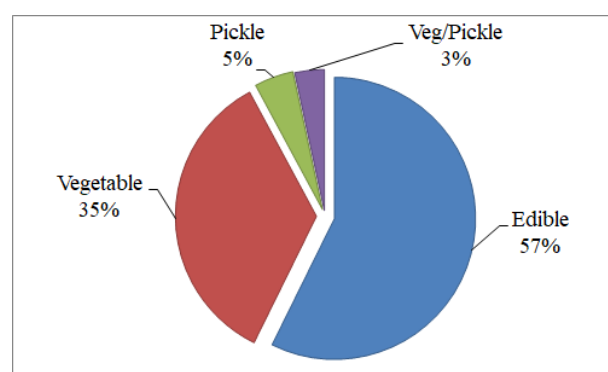
These are the drinks prepared by local tribes for intoxication or strength during festivals or massive programmes. They use plant resources for the preparation by fermenting or brewing. The noted local drinks are "ippa sara" (traditional mahua wine) prepared and used by Koyas and Gonds of the fleshy corollas of *Madhuca longifolia* var. *latifolia* (ippa/mahua). It is not only an alcoholic refreshing drink but also an integral part of the cultural, social and religious life of them in the State. Besides, the toddy which is also obtained from the sap of *Arecaceae* members such as *Borassus flabellifer* L., *Phoenix sylvestris* (L.) Roxb. and *Caryota urens* L. The fresh juice is not intoxicating; the fermented juice one is often used. It is usually obtained from the wild or running wild palm trees or planted trees in the case of *Borassus* and *Phoenix*. *Caryota* is wild in the forests of erstwhile Warangal and Khammam districts. The tribals prefer this toddy over the available alcoholic liquors. It is documented that the income from a tree of *Caryota urens* is more than one lakh per year.

### Menace of monkeys in villages and along roadsides in forest areas

Most of animals like monkeys and bears enter villages and even towns in search of food for their survival due to the depletion of wild food plants in the forest areas. The unavailability of fruit bearing plant species effects the survival of wild animals in the forest regions so that the wildlife enters the habitations of human population for sustenance. To avoid this, the government of Telangana has launched a programme called, 'Telangana ku Haritha Haram' on 5th June 2015. The mission of this programme is to improve the forest cover up to 33% by planting 230 crore saplings in four years, i.e., 2015-2019. The main motto of



**Figure 2:** Number of species of life-form category of food plants in wild.



**Figure 3:** Mode of utility pattern of wild food plants by ethnic tribes of Telangana.



**Figure 4:** Few ethnobotanically used wild food plants from Telangana. (A) Conventional drying process of corolla of mahua, (B) Koya tribe is showing mahua kernels while interviewing, (C) Ripe fruits of tendu; (D) *Phyllanthusemblica* fruits, (E) Fruits of *Buchanania* (inset: tribal woman is showing collected fruits), (F) Tribal women are selling jelly seeds of toddy palm and ripe fruits of tendu, (G-I) Tapping of toddy from *Caryota* and *Borassuspalms*.

programme is that by planting saplings, the state would receive sufficient, stable rains and in turn would make monkeys or wildlife goes back to their natural habitats (forest regions). If the diversity of plants disappears, thus results will be disastrous.

## Discussion and Conclusion

Based on field trips and gathered data from tribal communities in Telangana, the outcome of the study is very interesting and productive that most of the ethnic tribes used wild food plants for their daily consumption, and some forest products of *Madhuca longifolia* var. *latifolia*, *Phyllanthus emblica*, *Diospyros melanoxylon*, etc. are for their economic subsistence besides their personal use. The tribes usually get commerce by selling collected wood food plant parts in the nearby weekly markets from the fruits of *Diospyros*, *Buchanania*, *Madhuca*, *Phyllanthus*, *Ziziphus*, jelly seeds of *Borassus* and tubers of *Colocasia*. Based on the edible plant part, the wild food plants were classified into 6 broad categories, namely, edible underground parts, greens, flowers, fruits, seeds and other edible kinds (bark, etc.). There is immediate need to conserve the natural resources along with traditional knowledge on one hand and it is very important to control the indigenous plant species from exotic plant taxa such as *Chromolaena odorata*, *Hyptis suaveolens*, *Parthenium hysterophorus*, *Lantana camara*, *Cyanthillium cinereum*, *Ageratum conyzoides*, etc. on the other indigenous people do not prefer modern food habits for their day-to-day life due to the food habits may alter their life style and they thought that the modern food habits can cause various health disorders also. Due to the lack of sufficient farming land, water facilities and other resources, the tribal people engaged in the collection of wild food plants and non-timber forest produce from the surrounding forest areas in season, store them properly for other seasons and some of the collected products sell to adjacent GCC (Girijan Co-operative Corporation) regional centers or private traders. It is observed that the collection of wild food plants from deeper areas of the forests was engaged mainly by women in Telangana. Advanced tribes who live far from forests like Yerukalas, Lambadis are no longer used wild food plants and they are habitualized to modern food styles. The present study on wild food plants is highly useful for further confirmation and exploration studies in nutritive values and food security.

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