

EXPLORING THE NOVEL USES OF BIODIVERSITY: PLANTS AS FOOD RESOURCES IN THE WILDERNESS

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ABSTRACT

Biodiversity includes different life forms on which human beings do survive on the planet earth. Since ancient times, wild plants have played a significant role in human life. Several wild plants used by rural and tribal communities contribute importantly to the food basket, ensuring food security and supporting livelihoods for many communities around the world. The dependence on these wild plants has gradually declined with cultivation of high yielding varieties and introduction of more exotic plant species. However, many people in tribal pockets still use those species as a supplement to their basic food needs. The present ethno-botanical study based on extensive botanical survey and interviews from selected tribal and rural villages of Odisha reflects on the use of potential wild food plants.

The current study systematically assessed the diversity and consumption patterns of wild plants as food among the tribal and rural communities of Koraput district, Odisha. A total of 112 wild plant species were documented, distributed across 86 genera and 51 families. The recorded species include 26 trees, 3 shrubs, 68 herbs, and 15 climbers/creepers. Among these, 83 species are used as green leafy vegetables, while the others serve as sources of edible fruits, tubers, seeds, and various other parts, consumed either raw or cooked. Commonly used leafy vegetables include *Achyranthes aspera*, *Alternanthera sessilis*, *Centella asiatica*, *Bauhinia purpurea*, *Emilia sonchifolia*, and *Hibiscus sabdariffa*. Similarly, plants such as *Dioscorea*, *Madhuca longifolia*, *Coccinia grandis*, and *Ficus hispida* are important for their edible tubers, flowers, fruits, and other parts. Beyond dietary uses, several species like *Achyranthes aspera*, *Centella asiatica*, and *Mitracarpus hirtus* also possess medicinal value. This study aims to provide baseline data that can assist in prioritizing conservation efforts, alongside promoting the sustainable use and management of these plant resources, with an emphasis on enhancing regional food security.

Keywords: Plant biodiversity, Wild Edible Plants, Leafy vegetables, Food security

INTRODUCTION

Human have been hunters and gatherers for about 350,000 generations, then mostly agriculturalist for another 600, and quite recently, industrialised agriculture has existed for just two generations (Pretty 2003). Primitive man in search of food had consumed various plant parts such as roots, tubers, leaves, fruits and nuts collected from the wild, before he learnt to grow plants. Living in nature, man screened out plants those were edible and identified plants unsuitable for consumption (Sahoo et al., 2016). From the time immemorial, wild edible plants of forested landscape have been playing a vital role by supplementing nutrition and diet to the tribal communities (Misra et al., 2013).

Wild edible plants are defined as “plants which, as a whole or in part (roots, leaves, or fruits), are acceptable for consumption by urban and rural communities” (Shaheen et al., 2017). According to the Food and Agriculture Organization (FAO), wild edible plants are “plants that grow spontaneously in self-maintaining populations in natural or semi-natural ecosystems and can exist independently of direct human action.” In India, it is estimated that around **800 species** are consumed as food, primarily by tribal inhabitants. With about **75 percent** of the Indian population living in rural areas, the consumption of wild edibles is an integral part of food habits in many societies, deeply connected to their socio-cultural, spiritual life, and health.

Wild edible plants play a major role in fulfilling the nutritional requirements of tribal and rural populations in remote regions, providing additional food supplements throughout the year. They are

particularly vital during periods of food scarcity, helping to meet the food needs of these communities (Khan et al., 2017).

The widespread use and availability of wild plants underscore their value, especially among indigenous cultures. However, in recent times, traditional practices related to wild plant use in many tribal communities are at risk and gradually declining. This highlights an urgent need for ethnobotanical studies and comprehensive documentation of wild edible plants, along with innovative approaches to harness their potential for the welfare of humanity (Panda, 2014).

Traditional knowledge about wild plants has been developed and used in almost every culture around the world (Javier et al., 2006), and India is no exception. The traditional knowledge and use of wild edible plants among various ethnic groups in India are both extensive and distinct (Mishra et al., 2008; Sharma and Savant, 2012). A report by the Government of India highlights that food shortages are a common issue in underdeveloped tribal and rural regions (Arora and Panda, 1996). Even with these difficulties, these communities manage to survive by relying on alternative food sources when regular staples such as wheat and rice are not available (Jain, 1991).

Odisha, one of the eastern states of India, has the oldest and richest cultural traditions involving the use of plants for different ethnobotanical purposes. Its diverse topography has enabled the preservation of traditional knowledge related to plant resources, which locals use as food. Although the consumption of wild-gathered plants constitutes an important part of human nutrition in Odisha, a review of the literature reveals that, apart from a few studies by Sinha and Larka (2005), Rout (2007), Mahapatra and Panda (2012), and Mishra and Mishra (2013), research on wild edible plants in the state remains largely unexplored, incomplete, and scanty. However, there is no concrete report about the potential wild food plant in wilderness from the study area. Hence, the study was undertaken with the aim of documenting and analyzing the wild food plants consumed by people from various tribal and rural villages in the Koraput, district of Odisha.

MATERIALS AND METHODS

Study area: The present study was conducted in the Koraput district of Odisha, located between 18°13' to 19°10' N latitude and 82°5' to 83°23' E longitude (Fig. 1). Situated in the southern part of Odisha, Koraput is predominantly tribal with a low literacy rate. This region forms part of the Eastern Ghats of India and is characterized by an undulating terrain of hills, plateaus, and valleys that support diverse vegetation types.

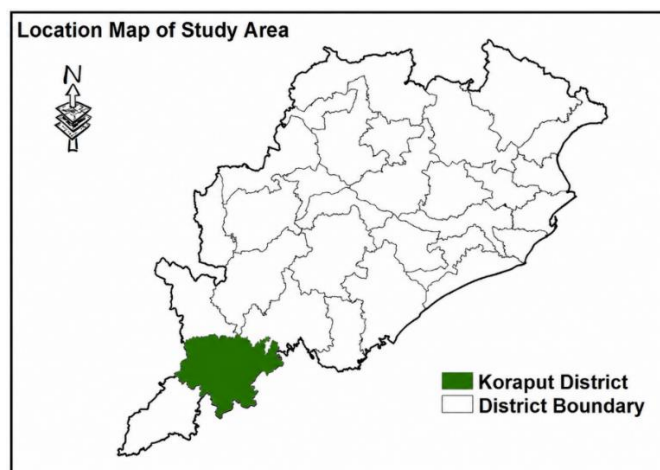


Figure 1: Map showing Study Site (Koraput district of Odisha)

Most of the district is covered by forest, providing habitat for several major ethnic groups, including the Bhumia, Paraja, Kandha, Gadaba, Koya, Paika, Saura, and other tribes. Koraput is recognized as an agrobiodiversity hotspot due to its rich diversity of plant genetic resources. The tribal communities frequently consume various wild plants found in their environment as regular food and vegetables, especially during periods of food scarcity.

Observation, Plant Identification and Collection of Ethno-botanical Data:

An extensive and systematic field survey was undertaken in different tribal villages across the Koraput district of Odisha to document the use of wild edible plants. The authors visited the study area across different seasons to gather information on useful edible wild food plants found in the wilderness. Both forest and rural/tribal areas were explored, where elderly tribal and non-tribal men and women were identified and interviewed to gather ethnobotanical knowledge according to the methodology outlined by Jain (2010).

In the present study structured questionnaire was developed to collect detailed information, including Odia names of the plants, parts of the plants used, methods of collection, modes of use food preparation techniques. The data are based on firsthand information, which was cross verified with people from neighbouring villages. Additionally, the collected information was compared with existing literature for validation. The plants were identified by following “Flora of Odisha” (Saxena and Brahman, 1996). Efforts were made to collect plant specimens in flowering and fruiting stages for provisional identification using regional floras. Unidentified specimens were taken to the laboratory for further analysis. The herbarium of collected plants is maintained in the Botany Section, Department of Education in Science and Mathematics, Regional Institute of Education, Bhubaneswar.

RESULTS AND DISCUSSION

The present study was undertaken to systematically assess the diversity and consumption patterns of wild plants as food among the tribal and rural communities of Koraput district, Odisha. The survey revealed a rich diversity, documenting 112 wild plant species belonging to 88 genera across 53 families (Table 1). Among these species, the growth forms comprised 26 trees, 3 shrubs, 68 herbs, 15 climbers/creepers (Fig. 2) In terms of botanical classification, most of plants recorded were dicots (95 species), while a smaller portion belonged to the monocots (17 species) (Fig. 3). The family-wise distribution showed the highest representation from Amaranthaceae with 11 species, followed by Brassicaceae and Cucurbitaceae, each with 6 species (Fig. 4).

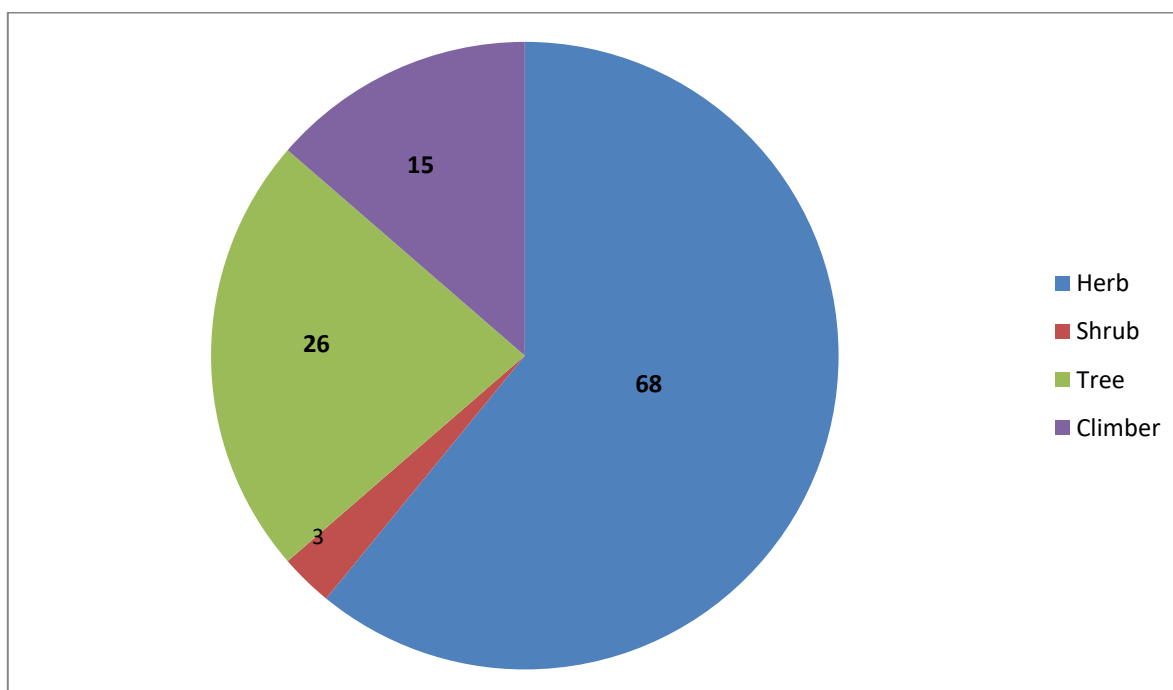


Figure 2. Habit wise distribution of wild plants used as food material

Plate 1: Some major Wild Leafy Vegetables Practised by the Tribal Communities of Koraput



Cleome gynandra

Mitracarpus hirtus

Emilia sonchifolia



Bauhinia purpurea

Arisaema tortuosum

Celosia argentea



Commelina attenuate

Rivea hypocrateriformis

Talinum portulacifolium



Leucas aspera

Chenopodium album

Paederia foetida

The study also documented the specific plant parts used as food and their modes of utilization. It was observed that leaves were the most consumed plant part, followed by fruits, shoots, and flowers (Fig. 5). The use of large number of leaves may be due to deciduous nature of flora. The fruits, flower etc. are not available throughout the year. Photographs of some important leafy vegetables traditionally used by the tribal communities in Koraput are presented in Plate 1. Regarding the origin and availability of these plants, the majority (78 species) were wild and collected directly from the wilderness by local people. A smaller number (14 species) were cultivated, and some (20 species) were found both in wild and cultivated forms (Fig. 6). These findings highlight the significant reliance of tribal and rural communities on a diverse range of wild edible plants, underscoring the importance of conserving both biodiversity and indigenous knowledge systems in Koraput.

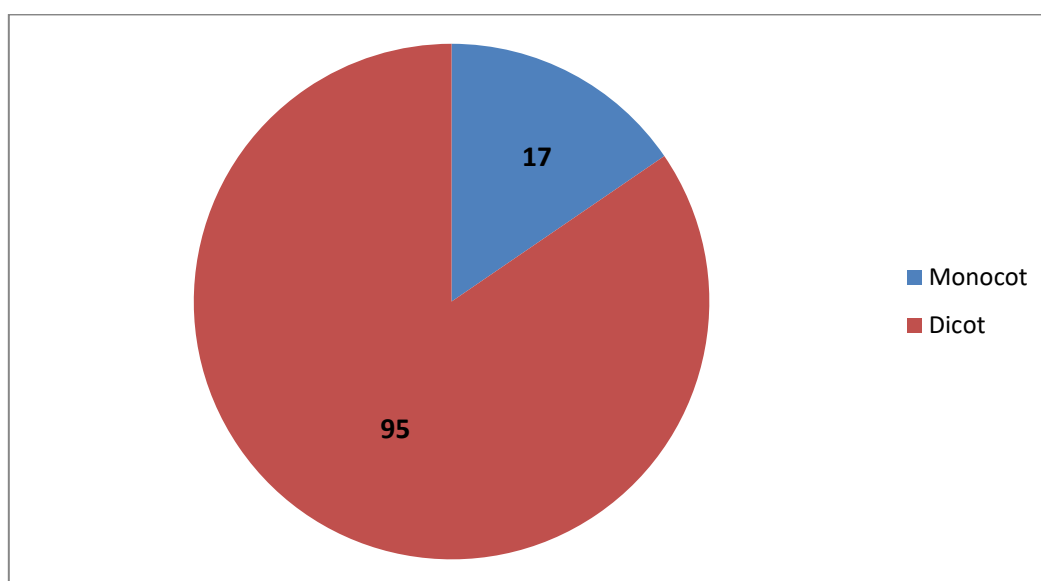


Figure 3. Division wise distribution of wild food plants

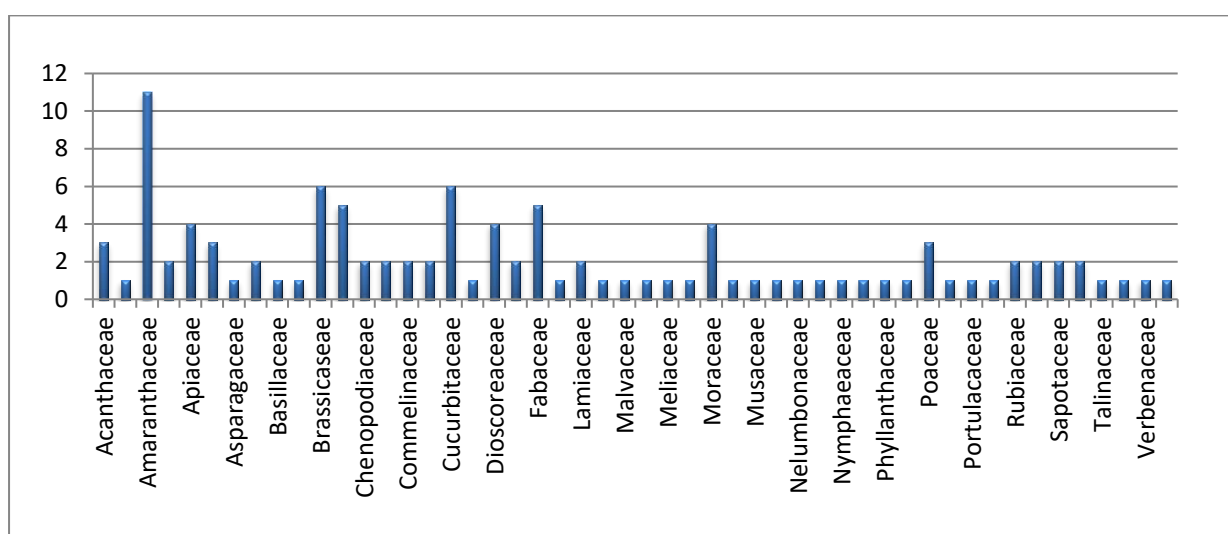


Figure 4. Distribution of wild food plants according to family

Out of the 112 plant species recorded in the study, 83 are used primarily as green leafy vegetables, while the remainder serve as sources of edible fruits, tubers, seeds, and other parts, consumed either raw or cooked. Widely used leafy vegetables include species such as *Achyranthes aspera*, *Alternanthera sessilis*, *Amaranthus viridis*, *Celosia argentea*, *Centella asiatica*, *Bauhinia purpurea*, *Enydra fluctuans*, *Emilia sonchifolia*, *Hibiscus sabdariffa*, *Oxalis corniculata*, and *Phylla nodiflora*. In addition to leafy greens, plants like *Dioscorea*, *Madhuca longifolia*, *Coccinia grandis*, *Ficus hispida*, *Borassus flabellifer*, *Trapa natans* var. *bispinosa*, and *Limonia acidissima* are valued for their tubers, flowers, fruits, and other edible parts.

Beyond their nutritional value, many of these plants also possess medicinal properties. For example, *Achyranthes aspera*, *Centella asiatica*, *Mitracarpus hirtus*, *Leucas aspera*, and *Paederia foetida* are traditionally used for various therapeutic purposes. Some species, including *Azadirachta indica*, *Aegle marmelos*, *Ficus benghalensis*, *Syzygium cumini*, and *Diospyros malabarica*, hold religious significance for the local communities. Others, like *Nelumbo nucifera* and *Nymphaea alba*, are appreciated for their ornamental beauty. Moreover, several plants such as *Bauhinia vahlii*, *Borassus*

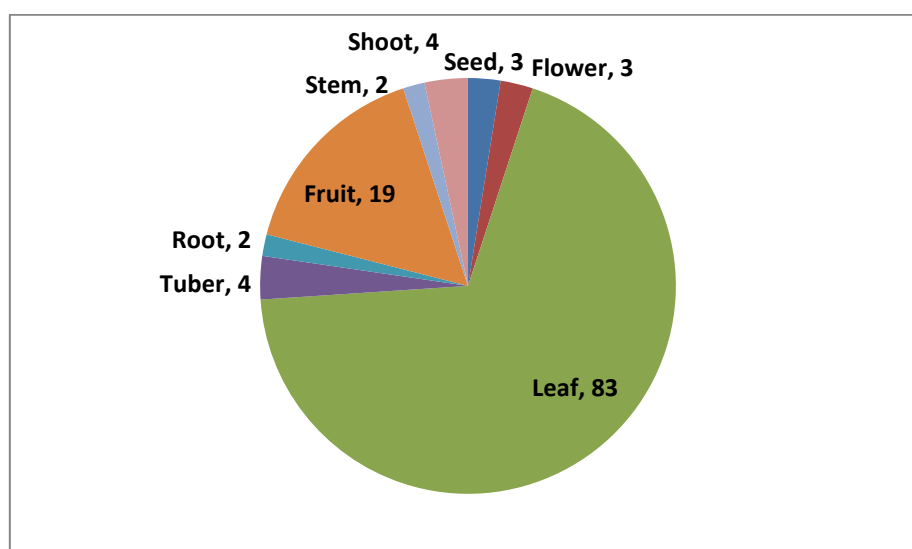
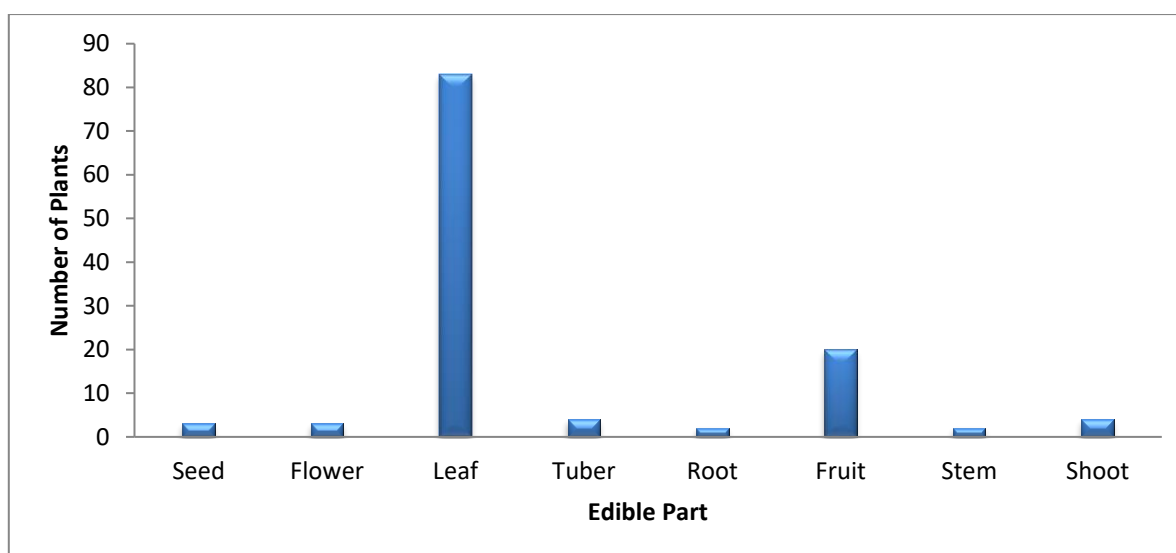


Figure 5. Plant parts used as food material

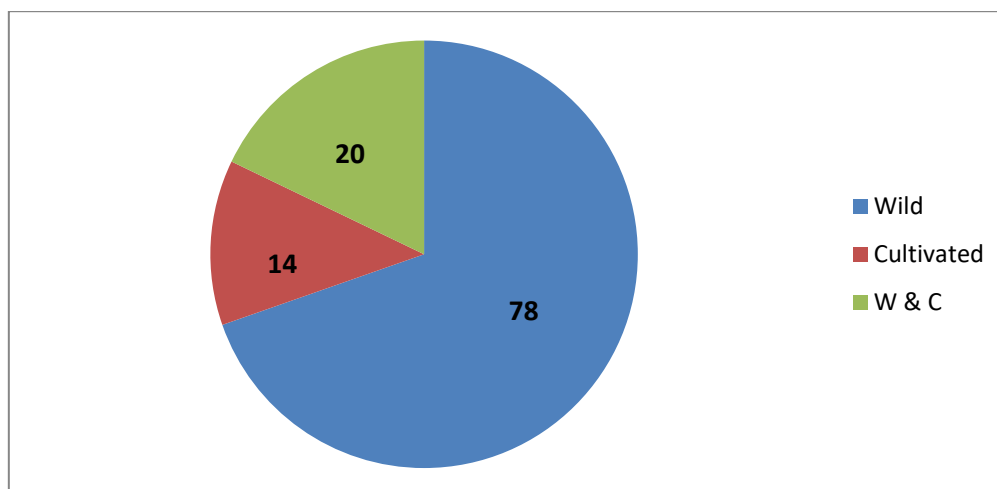


Figure. 6 Distribution of wild and cultivated food plant species recorded in the study area

flabellifer, *Diospyros melanoxylon*, *Madhuca longifolia*, *Phoenix sylvestris*, *Phyllanthus emblica*, *Trapa natans* var. *bispinosa*, and *Alternanthera sessilis* are utilized by local inhabitants to support their sustainable livelihoods (fig. 7).

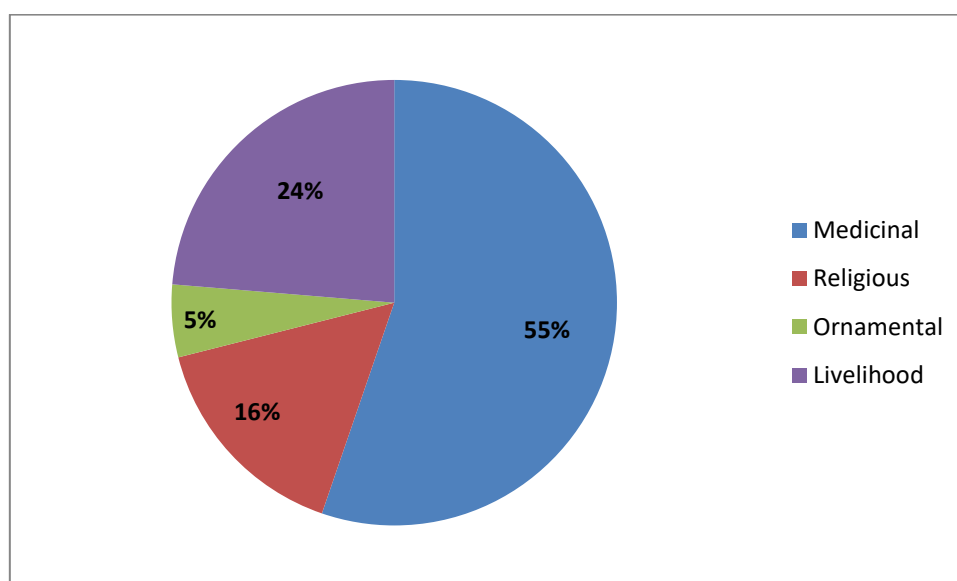


Figure. 7 Multiple Economic uses of wild plants besides being used as food material

This diverse range of uses highlights the integral role wild plants play in the dietary, medicinal, cultural, ornamental, and economic lives of the tribal and rural populations in Koraput. The collected data providing detailed information on these wild food plants are summarized in Table 1.

During the study period, it was revealed that the tribal people of Koraput utilize a variety of wild plant species as part of their diet. The edible parts consumed include leafy vegetables, fruits, seeds, shoots, and underground parts such as tubers. The predominance of leaves among the recorded plant parts may be attributed to the deciduous nature of the local flora. In deciduous ecosystems, flowers and fruits are available only during specific phenological periods, whereas leaves remain the most consistently accessible plant part for much of the year, leading to their higher representation in ethnobotanical studies. (Singh and Kushwaha 2006).

These wild food plant parts are typically collected freely from the natural environment. Before consumption, they are thoroughly washed, then boiled or cooked, often sliced, and finally eaten as part of their meals. In India, the tribal and rural people traditionally use about 9500 wild plants for various purposes such as medicine, food, fodder, fuel, fibre, essence, culture and other miscellaneous purposes (Panda and Misra, 2011). Out of these about 3900 wild plants are used as food that is mostly consumed during emergency (Anonymous, 1995). The consumption pattern of wild food plants largely depends on their availability in the natural environment. Most wild edible fruit plants are consumed by both tribal and non-tribal communities, often driven by their limited economic resources and the need to supplement their diets with readily accessible natural food sources. However, it is established that most of the wild food plants are rich in nutrients and vitamins (Mishra, 2018).

Besides being used as food, many of these wild plants are also valued for their medicinal properties. Local communities extensively utilize these species to treat various ailments, relying on their rich indigenous knowledge passed down through generations. For example, leaf of the plant *Achyranthes aspera* used to control vomiting and dysentery. *Aerva lantana* used against swelling and eye diseases. The plant *Glinus oppositifolius* is used as medicine for itchs and other skin diseases. Similarly, several wild plants are traditionally used to treat a variety of ailments, including fever, dysentery, joint pain, asthma, stomach disorders, skin diseases, mouth ailments, indigestion, vomiting, cold, and cough. These herbal medicines are typically administered orally and are often combined with additives such as warm water, common salt, or milk to enhance their effectiveness.

It was also observed that, a number of wild food plants are of religious importance and the plants like *Azadirachta indica*, *Aegle marmelos*, *Ficus benghalensis*, *Syzygium cumini*, *Diospyros malabarica* are major plant species which are worshiped by the local peoples in the sacred groves or within the villages and remain conserved. Because culture and tradition of tribal and rural peoples also plays a major role for the conservation of biodiversity (Panda et. al 2014; Bisoi and Panda, 2015).

CONCLUSION

The findings of our study reveal that the practice of consuming wild edible plants remains alive among the rural and tribal communities of Koraput. These plants serve as important food supplements and help bridge the gap during periods of food scarcity. The primary reasons for relying on wild plant parts as food include insufficient availability of cultivated food, poor accessibility and marketability of food resources, and low agricultural yields in the study area. Moreover, many of these edible plants in the district are rapidly depleting due to population growth and related human activities such as road construction, housing development, expansion of agricultural land, and forest degradation. The lack of sustainable harvesting practices further exacerbates the decline of these valuable plant resources.

Thus, it is essential to document the traditional knowledge related to the intangible uses of these plants. Efforts to conserve biodiversity and preserve traditional food systems must be integrated and strengthened for the benefit of society. Furthermore, this study aims to provide baseline data that can aid in prioritizing conservation efforts, as well as promoting the sustainable use and management of plant resources, with a focus on ensuring regional food security.

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Table 1. List of Wild Food Plants with their part(s) used and Mode of Consumption

Name of the Plant Sl. No	Family	Common (English)	NameLocal (Odia)	Name	Habit	PartUsed	Mode of Consumption
1.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Prickly Chaff Flower	Apamaranga	H	L	Young leaves and shoots are collected, roasted and eaten
2.	<i>Acalypha indica</i> L.	Euphorbiaceae	Indian Copperleaf	Mukta jhuri	H	L	Leaves are fried with oil, then eaten
3.	<i>Aerva lantana</i> (L.) Juss	Amaranthaceae	Mountain Knot Grass	Paunsia	H	L	Leaves are collected, fried and eaten
4.	<i>Allium cepa</i> L.	Amaryllidaceae	Onion	Piaja	H	L	Young leaves and shoots are collected, fried then eaten
5.	<i>Allium sativum</i> L.	Amaryllidaceae	Garlic	Rasuna	H	L	Young leaves and shoots are collected, fried then eaten
6.	<i>Allmania nodiflora</i> R.Br.	Amaranthaceae	Node Flower Allmania	Chadheimundia saga	H	L	Leaves and young shoot are roasted with mustard oil and then eaten.
7.	<i>Alternanthera ficoidea</i> (L.)	Amaranthaceae	Sanguinaria	Bana madaranga	H	L	Young leaves and shoots are collected, fried then eaten
8.	<i>Alternanthera sessilis</i> L.R. Br.	Amaranthaceae	Sessile Joyweed	Madaranga	H	L	Leaves and young shoot are roasted with mustard oil and then eaten
9.	<i>Amaranthus blitum</i> L.	Amaranthaceae	Purple amaranth	Kosila	H	L	Leaves and young shoots are cut into small pieces, cooked with salt and chilly and then eaten
10.	<i>Amaranthus caudatus</i> L.	Amaranthaceae		Khada saga	H	L	Leaves and young shoots are cut into small pieces, roasted then eaten
11.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Prickly amaranth	Kanta leutia	H	L	Leaves and young shoots are cut into small pieces, cooked with salt and chilly and then eaten.
12.	<i>Amaranthus tricolor</i> L.	Amaranthaceae	Chinese spinach/fountain plant	Lal Khada	H	L	Leaves are collected, fried/roasted then eaten
13.	<i>Amaranthus viridis</i> L.	Amaranthaceae	Wild amaranth	Leutia	H	L	Leaves and young shoots are collected, fried then eaten
14.	<i>Andrographis paniculata</i> (Burm.f.) Nees	Acanthaceae	Creat	Bhuin nimba/Chireita	H	L	Leaves are collected, fried and eaten
15.	<i>Arisaema tortuosum</i> (Wall.) Schott	Araceae	Whipcord Cobra Lily	Bana nada	H	L	Young shoot/Fruit stalk is fried to prepare curry and eaten

16. <i>Azadirachta indica</i> A.Juss with mustard oil.	Meliaceae	Neem	Neem	T	L	Fresh tender leaf along with flower is fried
17. <i>Bambusa bambos</i> (L.) Voss Bamboo	Poaceae	Kanta baunsa	Indian Throny	T	L	Young shoots (Karada) are cut into small pieces, cooked with salt and chilly and then eaten
18. <i>Basella alba</i> L.	Basillaceae	Indian spinach	Poi	C	L	Stem and leaves are used to prepare curry
19. <i>Bauhinia purpurea</i> L. collected, cooked as curry or fried and taken.	Caesalpiniaceae	Geranium tree	Kuilari	T	L	Young shoots along with leaves are
20. <i>Bauhinia vahlii</i> Wight & Arn. climber	Caesalpiniaceae	Camel's foot	Siali	C	L, Se	Young leaves are collected, cooked as curry and taken. Seeds are eaten after boiling or cooked as vegetable
21. <i>Bauhinia variegata</i> L. taken and flowers coated with rice powder are very good in taste after fried	Caesalpiniaceae	Kachnor	Kanchan	T	L, Fl	Leaves are collected, cooked as curry and
22. <i>Benincasa hispida</i> (Thunb.) Cogn.	Cucurbitaceae	Ash gourd	Panikakharu	C	L, Fr	Young shoots along with leaves are collected, cooked as curry or fried and then eaten. Fruit is commonly eaten as vegetable
23. <i>Boerhavia diffusa</i> L. collected, fried/ roasted then eaten	Nyctaginaceae	Hog weed	Puruni saga	H	L	Tender leaves and young shoots are
24. <i>Brassica napus</i> L. stored in an eaten. Seed is used as spices and extraction of edible oil	Brassicaceae	Rape	Sorisa saga	H	L, Se	Chopped leaves and stems are dried in shade,
25. <i>Brassica oleracea</i> L. var <i>botrytis</i> L.	Brassicaceae	Cauliflower	Phula kobi	H	L, Fl	Leaves are fried or made into curry and consumed. Inflorescence commonly eaten as vegetable
26. <i>Brassica oleracea</i> L. var capitata L.	Brassicaceae	Cabbage	Banda/patra kobi	H	L	Leaves are fried separately or with other vegetables, then eaten
27. <i>Brassica oleracea</i> L. var. <i>gongylodes</i> L.	Brassicaceae	Knol-Khol	Ganthi/Ol kobi	H	L	Leaves are fried separately or with other vegetables, then eaten
28. <i>Celosia argentea</i> L. roasted then eaten	Amaranthaceae	Silver Cockscomb	Ghurudi sag	H	L	Young leaves and shoots are collected,
29. <i>Centella asiatica</i> L. roasted then eaten	Apiaceae	Indian pennywort	Thalkudi	H	L	Leaves and young shoots are collected,
30. <i>Chenopodium album</i> L. with other vegetable adding salt and chilly	Chenopodiaceae	White goosefoot	Bathua saga	H	L	Leaves and young shoots are cooked along

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31.	<i>Cicer arietinum</i> L.	Fabaceae	Gram	Buta saga	H	L, Se	Young leaves and shoots are collected, roasted then eaten. seeds consumed as raw or cooked
32.	<i>Cinnamomum tamala</i> (Buch.-Ham.) T.Nees & Eberm.	Lauraceae	Indian cassia-lignea	Teja patra	T	L	Leaves are used as spice in making curry.
33.	<i>Cleome gynandra</i> L.	Cleomaceae	Spider flower	Araka saga	H	L	Leaves and young shoots are collected, roasted then eaten
34.	<i>Cleome viscosa</i> L.	Cleomaceae	Asian spider flower	Bana sorisa	H	L	Leaves and young shoots are collected, fried/roasted then eaten
35.	<i>Colocasia esculenta</i> (L.) Schott	Araceae	Elephant ear taro	Saro	H	L, Tu	Leaves are collected, fried with oil then eaten. Tuber is consumed after cooking in curries
36.	<i>Commelina attenuate</i> K.D.Koenig ex Vahl	Commelinaceae	Asian spider flower	Chhena saga	H	L	Leaves and young shoots are collected, fried/roasted then eaten
37.	<i>Commelina benghalensis</i> L.	Commelinaceae	Day flower	Kansiri	H	L	Leaves and young shoots are collected, fried/roasted then eaten
38.	<i>Corchorus capsularis</i> L.	Tiliaceae	White jute	Nalita	H	L	Tender leaves are collected, curry is prepared and eaten.
39.	<i>Coriandrum sativum</i> L	Apiaceae	Coriander	Dhania	H	L	Leaves and shoots are collected, added to curry for aroma and also chutney is prepared from the fresh leaves.
40.	<i>Cucurbita maxima</i> Duchesne.	Cucurbitaceae	Sweet gourd	Kakharu saga	C	L, Fr	Leaves and young stems are collected, roasted then eaten. Fruit is commonly consumed as vegetable
41.	<i>Dendrocalamus strictus</i> (Roxb.) Nees	Gramineae (Poaceae)	Bamboo	Baunsa	T	Sh	Young shoots are cut into small pieces, cooked with salt and chilly and then eaten
42.	<i>Emilia sonchifolia</i> (L.) DC. ex DC.	Asteraceae	Purple Sow Thistle	Musakani sag	H	L	Tender leaves and young shoots are collected, cooked then eaten
43.	<i>Enydra fluctuans</i> DC.	Asteraceae	Water cress	Hidmicha	H	L	Leaves are cooked with mustard oil, chilly, salt and eaten
44.	<i>Eryngium foetidum</i> L.	Apiaceae	Long Coriander	Jangali dhania	H	L	Leaves and shoots are collected, added to curry for aroma and also chutney is prepared
45.	<i>Furcraea foetida</i> (L.) Haw.	Asparagaceae	Giant Cabuya	Muruga	S	L	Young shoots are collected, fried, then eaten.
46.	<i>Glinus oppositifolius</i> (L.) A.DC.	Molluginaceae	Gima	Pita saga	H	L	Young leaves and shoots are collected,

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47.	<i>Hibiscus sabdariffa</i> L.	Malvaceae	Roselle	Kanuria/Khatapal anga	H	L	roasted with other vegetables then eaten The leaves are very sour in taste. So, leaves are collected, cooked with water and other vegetables to prepare sour water 'sambar'
48.	<i>Hybanthus enneaspermus</i> (L.) F.Muell.	Violaceae	Spade Flower	Luni saga	H	L	Leaves and young shoots are collected, fried/roasted then eaten
49.	<i>Hydrolea zeylanica</i> (L.) Vahl	Hydroleaceae	Ceylon Hydrolea	Langulia	H	L	Leaves and young shoots are roasted and taken as food
50.	<i>Hygrophila auriculata</i> (Schumach.) Heine	Acanthaceae	Marsh Barbel	Khikri sag	H	L	Leaves are roasted with oil and then eaten
51.	<i>Ipomoea aquatica</i> Forssk.	Convolvulaceae	Swamp cabbage/water bindweed Bottle gourd	Kalama saga	C	L	Leaves and tender shoots are collected, cooked and then eaten
52.	<i>Lagenaria siceraria</i> (Molina) Standl.	Cucurbitaceae		Lao	C	L, Fr	Leaves and young stems are cooked with other vegetables. Fruit is consumed as vegetable Leaves and young shoots are collected,
53.	<i>Lepidium sativum</i> L.	Brassicaceae	Garden grass	Himba saga	H	L	roasted then eaten
54.	<i>Leucas aspera</i> (Willd.) Link	Lamiaceae	Common Leucas	Gayisa	H	L	Leaves are eaten after frying or roasting
55.	<i>Limnophila indica</i> (L.) Druce	Plantaginaceae	Indian Marshweed	Keralata	H	L	Leaves and young shoots are roasted and taken as food
56.	<i>Marsilea minuta</i> L.	Marsileaceae	Dwarf Water Clover	Sunsunia	H	L	Tender leaves and young shoots are roasted and taken as food
57.	<i>Mentha spicata</i> L.	Lamiaceae	Garden mint	Podina	H	L	Young leaves paste adding salt chilly is used as chutney
58.	<i>Mitracarpus hirtus</i> (L.) DC.	Rubiaceae	tropical girdlepod	Ganthia sag	H	L	Leaves are boiled with water and then eaten
59.	<i>Momordica charantia</i> L.	Cucurbitaceae	Bitter gourd	Kalara	H	L	Leaves are eaten after frying or roasting
60.	<i>Moringa oleifera</i> Lam.	Moraginaceae	Drum stick	Sajana	T	L, Fr	Leaves are eaten after frying and also added to curries and fruit is also used to prepare curries, sambar etc. Leaves are used as spice in curry and give it a
61.	<i>Murraya koenigii</i> L. Spreng	Rutaceae	Curry tree leaf	Bhursanga	T	L	specific scent. Also young leaves used to prepare chutny. Leaves are eaten after frying or roasting
62.	<i>Oroxylum indicum</i> (L.) Kurz	Bignoniaceae	Midnight horror	Phapni sag	T	L	
63.	<i>Oxalis corniculata</i> L.	Oxalidaceae	Indian sorrel	Amliti saga	H	L	Leaves are cooked with mustard oil, chilly,

64.	<i>Paederia foetida</i> L.	Rubiaceae	Skunk Vine	Pasaruni	H	L	salt with potato as delicious curry to eat Leaves are eaten after frying or roasting
65.	<i>Phyla nodiflora</i> (L.) Greene	Verbenaceae	Frog Fruit	Langli saga/ Kicharanga	H	L	Leaves are collected and taken after cooking
66.	<i>Pimpinella heyneana</i> (Wall. ex DC.) Kurz	Fabaceae	Heyne burnet	Charmali	H	L	Leaves along with flowers and seeds are collected, fried then eaten. The plant is having a special fragrance.
67.	<i>Pisum sativum</i> L.	Fabaceae	Pea	Matar saga	H	L	Leaves and young shoots are collected, fried with oil and other vegetables, eaten
68.	<i>Plectranthus mollis</i> (Aiton) Spreng.	Lamiaceae	Soft-Stem Mintleaf	Sakra/Gondri	H	L, Se	Leaves are fired with oil and chilly then eaten, also seeds are used to prepared sweets.
69.	<i>Polygonum plebeium</i> R.Br.	Polygonaceae	Alpine knot weed	Muthi saga	H	L	Leaves and young shoot are roasted with mustard oil and then eaten
70.	<i>Portulaca oleracea</i> L.	Portulacaceae	Common purslane	Balubalua saga	H	L	Tender leaves and shoots are collected, roasted then eaten
71.	<i>Raphanus sativus</i> L.	Brassicaceae	Radish	Mulasaga	H	L, Rt	Leaves are fried along with other vegetables then eaten and modified root is used as vegetable and in salad
72.	<i>Rivea hypocrateriformis</i> Choisy	Convolvulaceae	Midnapore Creeper	Kindu sag	C	L	Leaves are eaten after frying or roasting
73.	<i>Rungia pectinata</i> (L.) Nees	Acanthaceae	Comb Rungia	Hasa ada/Mati sag	H	L	Leaves are collected, fried with oil then eaten
74.	<i>Senna tora</i> (L) Roxb	Caesalpiniaceae	Sickle Senna	Chakunda Sag	H	L	Tender leaves and shoots are cooked and then taken as food
75.	<i>Solanum americanum</i> Mill.	Solanaceae	Black nightshade	Nunununia	H	L	Leaves are collected fried, then eaten
76.	<i>Solanum tuberosum</i> L.	Solanaceae	Patato	Allu saga	H	L, Tu	Fresh leaves are collected, roasted with oil and then eaten and Tubers are boiled or fried and eaten
77.	<i>Spinacia oleracea</i> L.	Chenopodiaceae	Spinach	Palanga	H	L	Leaves are fried with vegetables and also cooked with dal and potato to make dalma curry.
78.	<i>Talinum portulacifolium</i> (Forssk.) Asch. ex Schweinf.	Talinaceae	Ceylon Spinach	Matipoi	H	L	Leaves are collected fried with other vegetable then eaten
79.	<i>Trachyspermum ammi</i> (L.) Sprague	Apiaceae	Indian dill	Juani	H	L	Leaves and young shoots are collected, roasted then eaten. It is highly scented
80.	<i>Trianthema portulacastrum</i> L	Aizoaceae	Horse-Purslane	Puruni saga	H	L	Leaves and young shoots are collected, fried

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81.	<i>Trigonella corniculata</i> L.	Fabaceae	Cultivated Fenugreek	Firingi saga/Kasturimethi	H	L	then eaten Leaves are fried along with other vegetables
82.	<i>Trigonella foenum-graecum</i> L.	Fabaceae	Fenugreek	Methi	H	L	Fresh leaves are collected and chutney is prepared or roasted and taken
83.	<i>Vicia sativa</i> L.	Fabaceae	Garden vetch	Anisaga	H	L	Leaves are roasted with oil and then eaten
84.	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Bael apple	Bel	T	Fr	Ripe fruits is eaten raw or by cooking and often used to prepare juice/drink
85.	<i>Artocarpus heterophyllus</i> Lam.	Moraceae	Jack fruit	Panasa	T	Fr	Ripe fruits are sweet, eaten raw and theunripe fruits are used as vegetables
86.	<i>Averrhoa carambola</i> L.	Oxalidaceae	Star fruit	Karamanga	T	Fr	Eaten raw or cooked
87.	<i>Borassus flabellifer</i> L.	Araceae	Palmyra Palm	Tala	T	Fr	Fruits are having sweet, jelly sap, consumed as raw/drink
88.	<i>Coccinia grandis</i> (L.) Voigt	Cucurbitaceae	Lvy gourd	Kainchikakudi	C	Fr	Fruits are consumes raw or cooked
89.	<i>Cucumis melo</i> L.	Cucurbitaceae	Muskmelon	Phutikakudi	C	Fr	very popular summer fruit in northern parts of India
90.	<i>Dillenia indica</i> L.	Dilleniaceae	Elephant apple	Oau	T	Fr	Ripe fruits are sour in taste, used for flavouring curries and to prepare different sour dishes (pickles/jellies).
91.	<i>Dioscorea alata</i> L.	Dioscoreaceae	Asiatic yam	Khamb alu	C	Tu	Tuber Consumed after boiling or cooked with other vegetables
92.	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Air yam	Pita kanda	C	Tu	Tubers are kept in water for a long time then boiled/cooked and eaten
93.	<i>Dioscorea pentaphyla</i> L.	Dioscoreaceae	Five Leaf Yam	Masia kanda	C	Tu	Tubers are eaten by cooking as vegetable
94.	<i>Dioscorea tomentosa</i> L.	Dioscoreaceae		Taraga kanda	C	Tu	Tubers are boiled, then cooked and eaten
95.	<i>Diospyros malabarica</i> (Desr.)Kostel	Ebenaceae	Gaub persimmon	Mankada kendu	T	Fr	Ripe fruits are soft, sweet in taste and eatenas raw
96.	<i>Diospyros melanoxylon</i> Roxb.	Ebenaceae	Coromandel Ebony persimmon	Kendu	T	Fr	Ripe fruits are sweet in taste and eaten as raw
97.	<i>Ficus benghalensis</i> L.	Moraceae	Banyan	Bara	T	Fr	Ripe fruits are eaten in food scarcity period. Tribal peoples use it as food regularly
98.	<i>Ficus recemosa</i> L.	Moraceae	Clister fig tree	Goolar	T	Fr	Ripe fruits are eaten as raw
99.	<i>Limonia acidissima</i> Groff	Rutaceae	Wood Apple	Kaintha	T	Fr	The pulp of ripe fruits are sour in taste and used to prepare chutney/jellies and often eaten as raw
100.	<i>Madhuca longifolia</i> (J.Koenig ex L.) J.F.Macbr.	Sapotaceae	Indian Butter Tree	Mahula	T	Fl	Flowers are edible, which is very delicious And nutritive and also used in the preparation of local wine.

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101. <i>Manilkara hexandra</i> (Roxb.) Dubard	Sapotaceae	milk tree	Khirakoli	T	Fr	Ripe fruits are eaten fresh as berries
102. <i>Momordica dioica</i> Roxb. ex Willd.	Cucurbitaceae	Spiny gourd	Kankada	C	Fr	Fruits are consumed as vegetable by frying with oil and other vegetables
103. <i>Musa paradisiaca</i> L.	Musaceae	Banana	Kela	T	Fr, Fl, St,	Fruit is eaten, both in raw and ripen form. The flower of the plant is also consumed by removing the spathe followed by cooking, and the central stock is rich in iron and cooked in rural areas.
104. <i>Nelumbo nucifera</i> Gaertn.	Nelumbonaceae	Lotus	Padma	H	Rt, Se	Root is collected, cut into small pieces then fried and eating. Seeds are eaten as raw or cooked
105. <i>Nymphaea alba</i> L.	Nymphaeaceae	Water lily	Kain	H	St	Stem is collected, fried then eaten
106. <i>Phoenix sylvestris</i> (L.) Roxb.	Arecaceae	Date palm	Khajuri	T	Fr	Ripe fruits are sweet, eaten raw and can be preserved to prepare jellies/jams etc.
107. <i>Phyllanthus acidus</i> (L.) Skeels	Phyllanthaceae	Star Gooseberry	Nara koli	T	Fr	Fruits are consumed as raw or cooked. The mature fruits are also eaten fresh with salt to neutralize the acidity
108. <i>Phyllanthus emblica</i> L.	Phyllanthaceae	Indian Gooseberry	Amla	T	Fr	Fruit is eaten raw as berries and used to prepare pickles/jellies
109. <i>Pithecellobium dulce</i> (Roxb.) Benth.	Mimosaceae	Sweet Tamarind	Sima Kaian	T	Fr	Fruit is a pod with sweet, pulpy flesh that surrounds the seed, are edible as raw or by cooking
110. <i>Syzygium cumini</i> (L.) Skeets	Myrtaceae	Java plum	Jamu	T	Fr	Ripe fruits are widely eaten as berries
111. <i>Trapa natans</i> var. <i>bispinosa</i> (Roxb.) Makino	Lythraceae	Water Chestnut	Pani singada	H	Fr	The nuts are eaten raw when fresh of consumed after cooking or boiling.
112. <i>Ziziphus oenoplia</i> (L.) Mill.	Rhamnaceae	Jackal jujube	Kanteikoli	S	Fr	Ripe fruits are eaten raw mostly by the children as it is sweet and acidic in taste.

T:Tree, S:Shrub, H:Herb, C:Climber, L:Leaf, Fl:Flower, Fr:Fruit, Sh:Shoot, Tu:Tuber, Rt:Root, Se:Seed

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