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Full Research Article

Conservation of Indigenous Wild Edible Plants Used by Different Communities of Kangchup Hills, Senapati, North East India

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Abstract

Several wild plants have been used as food by tribals and other local people living in and around the forest areas in North East India. The diversity of wild species not only offers varieties in family food diet and contribute to household food security but offer also in generation of income by selling the excessive food plants in the local markets. The study area is located in between 24°45´-24°51´ N latitude and 93°48´-93°55´E longitudes at Kangchup hills, Senapati District of Manipur state at an altitude ranging from 865 m to 1785 m above mean sea level. The study was undertaken to survey and documentation of wild edible plants for three years from January 2011 to December 2013. 52 species of wild edibles belonging to 47 genera and 38 families were recorded out of which 26 were vegetables, 15 fruits and 11 spices/ aromatic plant species from the study area. The study area is inhabited by different ethnic groups i.e. Thadou (Kuki), Vaiphei, Chiru, Ireng (Rongmei) and Meitei. Some edible plants have great economic value and are highly linked with socio-economic development of tribal communities of the state. Most of them in these areas depends on forest products for their livelihood. The traditional knowledge on wild food plants is declining day by day due to overexploitation and biotic disturbances in the forest ecosystems. Therefore the present study emphasized the need for the protection and conservation of these wild edible plant species for the benefit of human mankind and future generations.

1. Introduction

Forest are the area where a community of plants, birds and animals make shelter for their own. Plants provide food and other life-supporting commodities and are very important for survival of human beings and other organisms; besides, they protect our environment and maintain nature. India is a homeland of very diverse ethnic groups. Traditional agriculture and forest resources are still in the primary means of livelihood. The North-Eastern region of India comprising seven states harbouring more than 130 major tribal communities, out of a total 427 tribal communities have been recognized in India (Dutta and Dutta, 2005; Ramakrishnan, 1992). Tribal people are the ecosystem people who live in harmony with nature and maintain a close link between man and environment. Various ethnic groups with different languages practicing different forms of agriculture inhabit this region. About 800 species of wild edible plants are consumed as food plants mainly by the tribal inhabitants in India (Singh and Arora, 1978). Out of 800 species, about 300 plant species occurred in the North Eastern region (Kanjilal, 1934-40; Singh and Arora, 1978; Jain and Dam, 1979; Watt, 1889-99).

Manipur is one of the special significant for the conservation of biodiversity because it is recognized as one of the rich endemism, ethno medicinal and also wild food plants. The wild edible plants with high diversity are widely distributed in mountain forests and are valuable source of food and medicines for domestic and commercial purposes. North-Eastern region lies in the range of North Eastern Himalaya and this, region is included as one of the nine newly identified biodiversity hot spots (Roach, 2005). Manipur is inhabited by various ethnic groups and communities follow various cultural traits. The hills of Manipur are inhabited by the Naga, Kuki and Mizo tribes while the valley is populated mostly by the Meitei and Meitei Pangal (Muslim) communities. The region constitutes the part of Indo-Burma as hot spots of biodiversity (Myers et al., 2000) rich in diversity of flora and fauna.

A number of workers have been studied on wild edible plants in different parts of India (Jain and Rao, 1977; Singh and Arora, 1988; Watt, 1889-1899; Sundriyal et al., 2004; Tribal knowledge on wild edible plants and its utilization of Meghalaya and Tripura North Eastern region (Sawian et al. 2007; Kayang, 2007; Kar et al., 2012; Deb et al., 2013); and ethno botanical study of Tangkhul Naga Tribes, Ukhrul, Manipur (Singh et al., 1989); Wild edible plants available in the market of Manipur, North Eastern region (Chakraborty, 2003; Singh and Singh 1985, 1988). However no detailed information is available on the study of wild edible plants used by different communities in Manipur. Therefore the present study was undertaken to document the wild edible plants are needed to conserve such information for the economy of plant resources.

2. Materials and Methods

Senapati District of Manipur, North East India located between 24°45′-24°51′ N latitudes and 93°48′-93°55′ E longitudes occupies the bigger portion of the North Western sites of Manipur Valley which is inhabited by a large number of ethnic communities living in close vicinity of forests. The study area is located in the bordering area of Imphal West District under the jurisdiction of Senapati District, Manipur, Kangchup area is inhabited by different communities such as Thadou (Kuki), Hmar, Vaiphei, Kom, Chiru, Ireng, Kabui, Nepali in the hilly region, Meitei and Meitei Pangal (Muslim) in the Valley. Among these, Thadou (Kuki), Vaiphei, Chiru, Ireng (Liangmei/Rongmei) and Meitei (Manipuri) were dominated in the study area. Most of them in this area depends on the production from forest resources as their day to day livelihood.

Frequent field trips were made over a period of three years from January 2011 to December 2013 in order to survey the inhabited areas of tribal communities in Senapati District of Manipur. Details on wild edible plants were recorded by interviewing the local people of different communities and local markets (weekly/Hapta) were also visited for inventory of wild edible plants used for commercial purpose. The collected plant specimens are deposited to herbarium chamber of Botany Department, Lilong Haoreibi College, Lilong, Imphal, Manipur. They provided useful information on wild edible plants including usefulness of different parts of various plants.

The botanical names were identified from Botanical Survey of India (BSI), Shillong, National Botanical Institute (NBRI) Lucknow and also consulted from Deb's (1961), Flora of Manipur both Monocot and Dicot, Kanjilal et al. (1934-40) Flora of Assam, Hooker, (187-1897) Flora of British India; Chauhan et al. (2000) Flora of Manipur Volume 1.

3. Results and Discussion

The plant species were enumerated alphabetically the botantical names along with their family, local names in Kuki (K), Vaiphei (V), Chiru (Ch), Rongmei (R) and Manipuri (M) growth habit, plant parts used and commercial food purpose are given in (Table 1). A total of 52 wild edible plant species

Table 1: Wild edible plants used by different communities of Kangchup hills, Senapati district, Manipur

Sl. no.	Botanical name/ family	Local names	Parts used	Habit	Uses
Vegetables					
1.	*Agaricus campestris* L. (Agaricaceae)	Chengum (M) Papah (V, K) Patungpah (Ch)	Fruiting body	Mushroom	Fruiting body is prepared as vegetable item, mainly cooked as fried and simple boil. It is a delicious food having more nutritious protein. Highly Marketable.
2.	*Aralia armata* (Wall) Seem (Araliaceae)	Chom pambi (M)	Young shoot/ leaves fruit	Shrub	Young leaves are eaten as raw and cooked vegetable and juice of boiled leaves are taken to get relief from kidney failure. Fruits also use in making chutney, marketable.
3.	*Auricularia delicate* (Fr.) P. Henn. (Auriculariaceae)	Uchina (M) Pachop (V, K) Cinokon (R) Pachopnor (Ch)	Fruiting body	Mushroom	A saprophytic fungus grown on rotten wood in shaddy places. Highly marketable and used as vegetable, ripe fruiting body with soaked pea and also prepared as iromba and subjee.
4.	*Bambusa arundinaceae* Willd. (Poaceae)	Saneibi Wa (M, Ch) Gohtang (H.K,V)	Tender shoot	Bamboo	Young bamboo shoots are eaten as cooked vegetable curry. It is also fermented as soibum and soidon marketable throughout the year .

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Sl. no.	Botanical name/ family	Local names	Parts used	Habit	Uses
5.	*Centella asiatica* L. (Apiaceae)	Peruk (M) Koklei (R) Changkongcheh (V,K) Lengchong (Ch)	Whole plant	Herb	Whole plant is used either raw or cooked as vegetable curry and also contain high medicinal property, highly marketable throughout the year.
6.	*Cissus adnata* Roxb. (Vitaceae)	Kokngouyen angouba (M) Ruirapbo (Ch)	Leaves	Climber	Leaves used as vegetable curry items, boiled extract of leaves used in urinary troubles due to stone.
7.	*Clerodendrum colebrookianum* Walp. (Verbenaceae)	Anphui (H,V, K, Ch) Khuthap angouba (M)	Young leaves/ shoots	Shrub	Tender shoot used as cooked vegetables, boiled leaves are taken to get relief from high blood pressure. A seasonal marketable.
8.	*Clerodendrum serratum* L. Moon. (Verbenaceae)	Moirang Khanam (M) Peitumkhao (V, K) Chikpak (Ch) Leiruwap (R)	Tender Shoot and inflorescence	Under Shrub	Tender shoot and inflorescence used as vegetable curry. Root is used in rheumatism and dyspepsia.
9.	*Curcuma anguistifolia* Roxb. (Zingiberaceae)	Yaipan (M) Aipah (K) Aipak (V) Gapuwang (R)	Flower/Inflorescence	Herb	Wild herb rhizomatous stem. Flower used as vegetable curry especially for the preparation of pakouri (Borah) and marketable.
10.	*Cycas pectinata* D.Don (Cycadaceae)	Yendang (M)	Tender leaves	Shrub	Tender leaves and male cone are eaten as raw salad and fried vegetable curry. Tasty and seasonal marketable.
11.	*Dioscorea alata* L. (Dioscoreaceae)	Haa angouba (M) Bahah (V, K) Aarah (Ch) Ruu (R)	Tuber	Climber	Plant tuber used as cooked vegetable items and also best for pakouri, marketable.
12.	*Dioscorea pentaphylla* L. (Dioscoreaceae)	Ha Angangba (M)	Tuber	Climber	Tubers are eaten as vegetable curry and also used as tonic, marketable.
13.	*Elatostema dissectum* Wedd. (Urticaceae)	Lhunganche (V, K)	Whole plant	Herb	Whole plant cooked as vegetable and marketable.
14.	*Eurya japonica* Thunb. (Ternstroemiaceae)	Shijou (H, K,V) Uyangan (M) Camreshi (Ch) Thingmaning (R)	Leaves	Tree	Leaves cooked as vegetable curry specially for the preparation of Changal Meh and also mixed with dried meat, a delicious food for Kuki tribes of Manipur.
15.	*Ficus auriculata* Lour. (Syn. F. roxburghii Wall.) (Moraceae)	Heibra (M) Theibah (V,K)	Young leaves	Small Tree	Tender leaves used as vegetable curry. Fruits are edible and used for making jams, marketable.
16.	*Melocana bambusoides* Trin. (Poaceae)	Moubiwa (M) Mao (V, K) Rohmi (Ch) Riang (R)	Tender shoot	Bamboo	Tender shoot used as vegetable curry. Most of the tribal people preferred simple boil known as Mehtam, in Kuki tribe.

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Sl. no.	Botanical name/ family	Local names	Parts used	Habit	Uses
17.	*Plantago erosa* Wall.ex Roxb. (Plantaginaceae)	Yempat (M)	Whole plant	Herb	Whole plant are eaten as simple boil, chutney and cooked as vegetable curry.
18.	*Rhynchotechum ellipticum* A.DC. (Gesneraceae)	Yembum (M) Cheklap (V, K)	Leaves	Shrub	Young leaves used as vegetable either raw or cooked and also used for stomach ulcer, marketable.
19.	*Schima wallichi* DC. Korth. (Ternstroemiaceae)	U-shoi (M) Antoi (Ch) Khengthing (V, K) Thun (R)	Young leaves	Tree	Tender leaves used as raw vegetable especially for the preparation of Singju item.
20.	*Schoepfia fragrans* Wall. (Olacaceae)	Shipthing (V, K) Khachong (M)	Tender leaves	Tree	Tender leaves (Red colour) used as vegetable, slightly sour in taste.
21.	*Schyzophyllum commune* Fr. (Agaricaceae)	Kanglayen (M) Pashih (V, K) Pachichet (Ch)	Fruiting body	Mushroom	It is an ingredient in chilly chutney (Iromba) and simple boil (Kangsoi, Paknam), highly marketable throughout the year. The fruiting bodies serve as vegetable and subjee.
22.	*Smilex zeylanicum* L. (Syn. S. macrophylla Roxb.) (Smilaceae)	Keisum (M)	Tender leaves	Climber	Tender leaves used in preparation of Singju items.
23.	*Tricholoma giganteum* Var. (Lentinulaceae)	Thangji-uyen (M) Papan (V, K)	Fruiting body	Mushroom	Used as fried and boiled delicacy. Especially, this plant is used as one of the special food item at the time of Meitei Cheiraoba celebration (New year of Meitei community) highly demand for market.
24.	*Viola serpens* Wall. (Violaceae)	Huikhong/ Mansang (M)	Whole plant	Herb	Whole plant are taken as cooked vegetable specially for the preparation of iromba and also marketable.
25.	*Wendlandia grandis* Cowan. (Rubiaceae)	Pheija (M) Aakshipak (V), Aakshipah (K), Beeting (Ch)	Young in florescence	Tree	Tender shoots and inflorescence used in preparation of shingju and iromba mixed with *Parkia javanica* either raw or cooked and also marketable.
26.	*Zanthoxylum rhetsa* (Roxb.) DC. (Minosaceae)	Khang (M)	Tender leaves	Small tree	Young leaves often used as cooked vegetable and fried with sprawn (local), marketable.
Fruits					
1.	*Antidesma acidum* Retz. (syn. A. *diandrum* (Roxb) Roth) Euphorbiaceae	Ching Heiyen (M) Toikih (V) Langphai tah (R) Toikeh (K)	Fruits	Small tree	Ripe fruits are eaten raw and marketable.
2.	*Artocarpus lakoocha* Roxb. (Moraceae)	Heirikokthong (M) Tahalthai (R) Kongtha (Ch)	Fruits (Fleshy)	Tree	Ripe fruits are eaten raw and marketable.
3.	*Castanopsis tribuloides* A. DC. (Fagaceae)	U-Thangji (M) Shething (V, K)	Seed	Tree	Roasted seeds are eaten and marketable

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Sl. no.	Botanical name/ family	Local names	Parts used	Habit	Uses
4.	*Docynia indica* Decne. (Rosaceae)	Heitup (M) Theitup (K,V, H) Theithup (Ch) Phakthai (R)	Fruits	Tree	Ripe fruits are eaten raw and also prepared as wet and dried pickles and sell in the market.
5.	*Elaeocarpus floribundus* (Blume) (Elaeocarpaceae)	Chorphon (M) Zonmod (H, K, V) Rengmondra (Ch)	Fruits	Tree	Fruits are used for the preparation of Hei thongba, served as traditional digestion item for every grand feast of Meitei community. Marketable, It also prepared as wet and dry pickle items.
6.	*Phyllanthus emblica* L. (Euphorbiaceae)	Heikru (M) Sohlhu (V, K) Heisuru (Ch)	Fruits	Tree	An excellent source of vitamin C. Fruits are eaten as raw or cooked especially fruits are prepared for making both dry and wet pickles, marketable throughout the year.
7.	*Eugenia jambolana* Lamk. (Myrtaceae)	Jam (M)	Fruit	Tree	Edible fruit marketable seeds are useful against diabetes treatment.
8.	*Ficus auriculata* Lour. (Moraceae)	Heirit (M) Theichang (V, K)	Fruit	Tree	Fruits are eaten either unripe or ripe, marketable.
9.	*Ficus cunnia* Buch.-Ham. (Moraceae)	Kangrou (M) Theion (V, K)	Fruits	Small tree	Ripe fruits are eaten, sweet in taste.
10.	*Hodgsonia heteroctita* Hk.f. and Th (Syn. H. *macrocarpa* (Bl.) Cogn. In DC). (Cucurbitaceae)	Kathai (M) Khungra (Ch) Kachuthai (R) Khahungah (V, K)	Fruit (Nut)	Climber	Dried nut used as chutney, rich oil, very tasty food, leaves as silk warm feed. A rare nut, marketable.
11.	*Juglans regia* L. (Juglandaceac)	Heijuga (M) Makha (V, K)	Fruit (Nut)	Tree	Nuts eaten raw and fruits are marketable during September, October season. Nut is used in nervous disorders and improving memory.
12.	*Lithocarpus dealbata* (Miq.) Rehder (Fagaceae)	Kuhi (M) Thingithing (V, K)	Seed	Tree	Roasted seeds are eaten and feels oily taste.
13.	*Myrica esculenta* Buch-Ham. (Myricaceae)	Nonganghei (M) Makei (V, K, H) Makeira (Ch) Loukhelthai (R)	Fruits	Tree	Ripe fruits are eaten raw, and selling in the market, it contains plenty of juice.
14.	*Oroxylum indicum* Vent. (Bignoniaceae)	Shamba (M) Paaklong (V) Tongnong (Ch) Pahlong (K)	Fruit (Bean)	Shrub	Bean used as cooked vegetable such as fried, and chutney items and also one of the anticancer plant.
15.	*Rhus semialata* Murray. (Anacardiaceae)	Heimang (M) Hongma (V, K, H) Hongmarah (Ch) Tamuthai (R)	Fruits	Small tree	Fruits eaten raw both unripe and ripen, highly marketable. Water soak fruits are used in dyspepsia, peptic ulcers and unhealthy uterus. Fruit also used in preparation of sweet items.
Spices/Aromatic					
1.	*Alpinia galanga* Willd (Zingiberaeceae)	Kanghoo (M) Kumbru (Ch)	Rhizome	Herb	Crushed rhizome used as spices item in the preparation of meat curry and chutney.

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Sl. no.	Botanical name/ family	Local names	Parts used	Habit	Uses
2.	*Aquilaria agalocha* Roxb. (Aquilariaceae)	Agor (M)	Mature tree (Oleoresin)	Tree	Highly demand for the purpose of aromatic items i.e. agarbati dhup and other perfumes.
3.	*Artemisia vulgaris* L. (Asteraceae)	Laibakngou (M) Gamsai (V, K) Ramsai (Ch)	Tender shoot	Under Shrub	Young shoot used as cooked vegetable and also used in hair lotion.
4.	*Betula alnoides* Buch.-Ham (Betulaceae)	Pareng nakuppi (M) Hengjao (V) Hengjaothing (K)	Tree bark	Tree	Children of the hilly areas eaten inner portion of the bark due to its good aroma and sweet taste, small branches are used as tooth brush by the hilly regions of Manipur.
5.	*Cinnamomum tamala* (Buch.-Ham.) (Lauraceae)	Tejpata (M) Thing-dohgimtui (V, K) Thingboh (Ch) Langphaitah (R)	Leaves/barks	Tree	Leaves and bark powder used spices in preparation of tea, curry and dishes. A good sale throughout the year.
6.	*Cinnamomum zeylanicum* Bryn. (Lauraceae)	Usingsha (M) Thin-guithum (V, K, H) Mansu (R) Singsairah (Ch)	Barks	Tree	Bark powdered used as flavouring agent known as Dalchini. A marketable flavouring powder.
7.	*Elsholtzia blande* Benth (Lamiaceae)	Kanghuman (M)	Young leaves	Under Shrub	Young leaves eaten as cook vegetable curry and inflorescence used in preparation of singju items.
8.	*Eryngium foetidum* L. (Apiaceae)	Awa phadigom (M) Kormaroi (Ch) Goimarui (R)	Whole plant	Herb	Leaves used for flavouring agent in various item of meat and vegetable curries. Marketable through out the year.
9.	*Houttuynia cordata* Thunb. (Saururaceae)	Tokningkok (M) Aithanglou (K, H) Laithanglou (V) Carem (Ch)	Leaves/roots	Herb	Whole plant used as spices for the preparation of local chutney items. Fresh leaf are eaten for promoting blood purification, decoction leaf and root taken for dysentery and indigestion. Highly marketable.
10.	*Litsaea citrata* (Blume) (Lauraceae)	Usingsha laba (M) Thingsaira (Ch) Thingthinggah (V)	Fruits	Tree	Fruits are used as spices in preparation of chutney.
11.	*Zanthoxylum acanthopodium* DC. (Rutaceae)	Mukthrubi (M) Siliphai (Ch) Lhingnamseh (K,V)	Leaves/fruits/ flower	Shrub	Leaves and fruits are used as a spices for cooking meat items and also serve as mouth refresher. Leaves and flower especially for various items of Chutney, Marketable.

belonging to 47 genera and 38 families were collected from different hilly areas of Senapati District, Manipur. Out of these, 26 species as vegetables, 15 species as fruits and 11 species as spices/aromatic.

Fruiting bodies of *Agaricus campestris* L., *Auricularia delicate* (Fr.) P. Henin., *Schyzophyllum commune* Fr. and *Tricholoma giganteum* var. are the wild edible mushroom sold in the market and highly demand for the preparation of soup item and vegetable curry. Leafy vegetables such as *Centella asiatica* (L.), *Houttuynia cordata* Thunb. and *Eryngium foetidum* L. are sold in the market at a large scale. *Curcuma anguistifolia* Roxb. also one of the scented flower vegetable it contains high medicinal property. The seeds of *Castanopsis tribuloides* A. DC. and *Lithocarpus dealbata* (Miq.) Rehder are eaten as raw and roasted by ethnic communities of Senapati District, Manipur. Seeds are collected from the forests and sold in the market. Among the wild edible plant species, fruits are mostly consumed as raw, leafy vegetables and spices are either raw or cooked, boiled and fried as much as desired items.

Among the families of wild food plants, Moraceae (4 species) exhibited maximum plant species followed by Lauraceae

(3 species) and Agaricaceae, Apiaceae, Dioscoreaceae, Euphorbiaceae, Fagaceae, Poaceae, Ternstroemiaceae, Verbenaceae and Zingiberaceae (2 species each). The monogeneric families are counted as 27 species (Table 2).

Table 2: Family wise distribution of wild edible plants of Kangchup hills, Senapati district, Manipur

Sl. no.	Family	Genus	Species
1.	Agaricaceae	2	2
2.	Anacardiaceae	1	1
3.	Apiaceae	2	2
4.	Aquilariaceae	1	1
5.	Araliaceae	1	1
6.	Asteraceae	1	1
7.	Auriculariaceae	1	1
8.	Betulaceae	1	1
9.	Bignoniaceae	1	1
10.	Cucurbitaceae	1	1
11.	Cycadaceae	1	1
12.	Dioscoreaceae	1	2
13.	Elaeocarpaceae	1	1
14.	Euphorbiaceae	2	2
15.	Fagaceae	2	2
16.	Gesneraceae	1	1
17.	Juglandaceae	1	1
18.	Lamiaceae	1	1
19.	Lauraceae	2	3
20.	Lentinulaceae	1	1
21.	Mimosaceae	1	1
22.	Moraceae	2	4
23.	Myricaceae	1	1
24.	Myrtaceae	1	1
25.	Olacaceae	1	1
26.	Plantaginaceae	1	1
27.	Poaceae	2	2
28.	Rosaceae	1	1
29.	Rubiaceae	1	1
30.	Rutaceae	1	1
31.	Saururaceae	1	1
32.	Smilaceae	1	1
33.	Ternstroemiaceae	2	2
34.	Urticaceae	1	1
35.	Verbenaceae	1	2
36.	Violaceae	1	1
37.	Vitaceae	1	1
38.	Zingiberaceae	2	2

Precentage of plant habit contribution is given in the Pie-Chart (Figure 1). Among the wild edible plants maximum percentage contributed by trees (48%) followed by Shrubs (17.3%), Herbs (15.4%), Climbers and Mushrooms (7.7% each) and then Bamboo (3.9%) species respectively.

The present study revealed that the ethnic group of tribal communities mostly residing in Senapati District of Manipur used different wild growing food plants for their livelihood. Out of 52 plants species, 36 plant species (69.2%) are available in the market (marketable) having economic value and 16 plant species (30.8%) are not available in the market.

Table 3: Selected plant species as priority for commercialization

Sl. no.	Plant species	Wild	Cultivated	Demand
1.	*Agaricus campestris* L.	+	-	Very high
2.	*Aguilaria agallocha* Roxb.	+	-	Very high
3.	*Aralia armata* (Wall). Seem.	+	-	High
4.	*Auricularia delicate* (Fr.) P. Henn	+	-	Very high
5.	*Cinnamomum tamala* Buch.-Ham.	+	+	High
6.	*Cinnamomum zeylanicum* Bryn.	+	-	High
7.	*Centella asiatica* L.	+	-	Very high
8.	*Curcuma anguistifolia* Roxb.	+	-	Very high
9.	*Cycas pectinata* D. Don.	+	-	Vey high
10.	*Docynia indica* Decne.	+	-	High
11.	*Elaeocarpus floribundus* Blume	+	+	High
12.	*Phyllanthus emblica* L.	+	+	Very high
13.	*Hodgsonia heteroctita* Hk.f. and Th.	+	-	High
14.	*Juglans regia* L.	+	-	High
15.	*Myrica esculenta* Buch.-Ham.	+	+	High
16.	*Rhus semialata* Murray.	+	-	High
17.	*Scheyzophyllum commune* Fr.	+	-	Very high
18.	*Tricholoma giganteum* Var.	+	-	Very high
19.	*Houttuynia cordata* Thunb.	+	+	Very high

Among them, 19 plant species were selected on priority basis for commercialization to uplift economy of the rural areas (Table 3). About 50% of the total species are highly demand for commercial purposes such as health care and daily consumable food items.

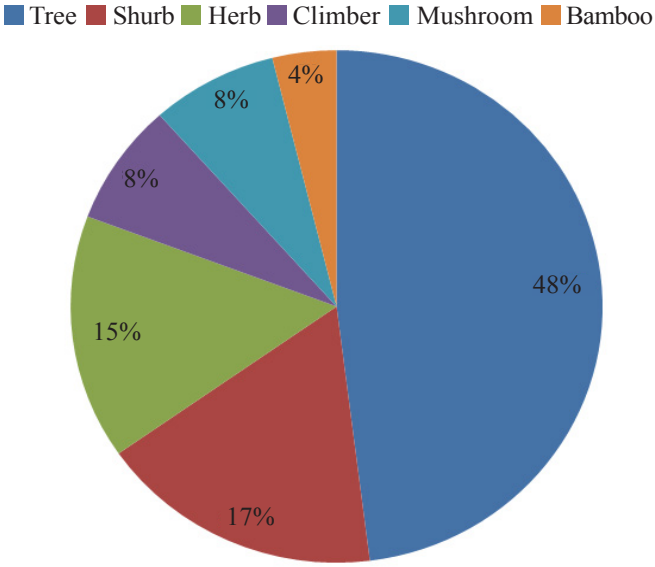

Figure 1: Percentage of plant type contribution

Edible leaves: 1: *Centella asiatica*; 2: *Viola serpens*; 3: *Clerodendrum serratum*; 4: *Curcuma anguistifolia*; 5: *Aralia armata*; 6: *Agaricus campestris*

7: *Tricholoma giganteum*; 8: *Auricularia delicate*
Aromatic Plant : 9: *Elsholtzia blande*; 10: *Houttuynia cordata*
Edible Fruit : 11: *Oroxylum indicum*; 12: *Lithocarpus dealbata*

Most of the wild edible plants such as vegetables, fruits and spices/aromatic items which are harvested mostly from the forests. Due to lack of proper storage facilities in the region, the harvesters are bound to sell their edible products in fresh conditions. However bamboo shoots are preserved by traditional methods (fermentation process).

4. Conclusion

Wild plants are closely linked with socio-economic conditions of rural tribes of Manipur for their day to day requirements. Documentation of such wild edible plants forms from ethno-botanical approach is important; however increased in population and over exploitation of wild edibles may cause threat to certain species. Therefore, there is an obvious need to explore wild edibles for traditional management and conservation of plant wealth of the region and need to restore it.

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