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Some Edible Herbaceous Forest Resources used by Ethenic Group in Manbazar Subdivision of Purlia District

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Abstract – Plant Biodiversity is a vital component which acts as a highly sensitive system to provide the production of various types of plants. Maximum ethnic and rural communities in the developing countries depend upon different wild plants as source of food. Different wild edible herbs will play a vital role in poverty eradication; ensure the availability of food, helps for income generation as well as to emphasizing the economic value. This paper represents some wild herbaceous plant species that are used by different ethnic group dwelling in the adjoining forest area of Manbazar subdivision of Purulia district. A total of 55 herbs belongs to 33 families and 50 genus were reported from our study area. Having great diversity of plants in my study area is a is big resources to tribal and rural people and it is emphasized that the flora should be conserved for the future generations and all rural and tribal people should be encouraged for growing these economic important plants on a large scale for optimizing their economic conditions.

Key Words – Edible herbs, Ethenic group, Forest resources, Manbazar Subdivision, Purulia.

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1. INTRODUCTION

Indian civilization has played a pioneer role from time immemorial for utilizing various plants in different purpose. Although people utilizing different plants for their livelihood for ages, but present day scientist have already recognized the utility such plants that are helpful for rural economy.(1) Maximum indigenous people rely on different wild plants for edible purpose during the period of food crisis and additional food supplements. Wild edible plants having diverse habitats like forests, roadsides. In India, most of the rural people especially tribal people are economically very poor and depends upon various non cultivated wild plants as food resource. Poor inhabitant people spent most of their valuable time for collecting different wild edible plants so it plays an important role in everyday's life of poor people in relation with to remove the scarcity of food ,encourage for cultivation and promote to earn money.(2,3) Different wild plants have greater food value and provide as rich supplement of human diet.(4,5) In India, rich phytodiversity occur due to its topographic variation.(6,7) According to (FAO),(8) maximum people are thought to consume various wild plants as food.(9) Due to poor economical condition as well as only agriculture does not meet out the food security of tribal people, so they are depending on forest based resources. Keeping this in view, the present paper deals with some herbaceous wild edible plants that are consumed by different tribal communities as the chief source of daily food. But in present scenario, migration of rural communities to urban areas, rapid eradication, ignorance among youth communities, lack of interest of different indigenous knowledge among the youth, different useful plant resources get deplete gradually. So documentation of wild food plants through indigenous knowledge that are very much helpful for future nutritional analysis and combat food insecurity.

2. MATERIAL AND METHODS

Manbazar is one of the major subdivision in the south eastern part of Purulia district in West Bengal. Here maximum area get covered with forest. This area forms the lowest step of the Chota Nagpur Plateau. It is a tribal rich subdivision in West Bengal. The tribal people inhibit in forest area and depend on forest resources for their livelihood. Santal, Bhumij, Kharia, Mundas, Oraon, Sabar are the different aboriginal groups present in this subdivision. Data were collected by several field trips surrounding forest area of this subdivision (23.0615°N to 86.6641°E) where maximum ethnic communities are present. In the tenure of investigation (June, 2016 to December, 2017), ethno botanical data for the use of different herbs were collected through informed consent of and semi structured interviews of different aged knowledgeable person, tribal women were carried out. During the field survey, for obtaining more information various tribal rich zone and surrounding market place were selected and surveyed in various season to get valuable information. Field books were maintained and recorded the collected information. Preservation of herbarium were maintained according

to technique made by Jain.[10] Correct names are checked for each of the enlisted plants from Flora of Bankura district.[11] Handbook of Excursion Flora of Gangetic Plains and Adjoining Hills.[12] Medicinal Plant resources of South West Bengal.[13]

3. RESULTS

This paper recorded 55 herbaceous edible plants belong to 33 families. Identification of all investigated plants were done by the help of above mentioned books and different expert members of our department. These wild herbaceous plants were collected from our study area in its flowering seasons. Plant habitat, morphological nature of family, generic name and species were documented in our record book. The enumeration and utilization of these plants are described to their botanical name, local name (Bengali), nature of morphology of the useful part of the plants and uses (**Table 1**). Here all investigated herbaceous plants are documented and their family wise distribution was also mentioned (**Fig. 1**).

Table 1: List of Edible Plant Species Used by Tribes in Manbazar subdivision of Purulia District

Sl. No	Scientific name	Family	Vernacular name	Plant parts used
1	*Alocasia macrorrhiza* (L.) G.Don	Araceae	Man Kachu	Petiole, Leaves & Rhizome used in curry
2	*Alternanthera sessilis* (L.) R Br.ex DC.	Amaranthaceae	Shalincha	Young leaves and shoot are used as vegetable.
3	*Amaranthus spinosus* L.	Amaranthaceae	Kanta-Notey	Tender shoot are used as vegetable.
4	*Amaranthus tricolor* L.	Amaranthaceae	Lal sak	Leaves, Stem are used in vegetable
5	*Amaranthus viridis* L.	Amaranthaceae	Notey sak	Leaves are cooked as vegetable.
6	*Amorphophallus campanulatus*	Araceae	ol	Corm is used in curry.
7	*Argemone mexicana* L.	Papaveraceae	Sial Kanta	Stems is used in curry
8	*Artemisia vulgaris* L.	Asteraceae	Nagdona	Young stems are used as salad, Young leaves, flower & roots are infused as a tea
9	*Bacopa monnieri* (L.) Penn.	Scrophulariaceae	Brahmi	Young leaf and shoot are used as vegetable.
10	*Boerhaavia diffusa* L.	Nyctaginaceae	Kumkum sak	Tender Shoots are used as vegetable
11	*Brassica rapa* L.	Brassicaceae	Salgom	Root & Hypocotyl are used as vegetable.
12	*Cassia sophera* L.	Caesalpiniaceae	Kalkasunda	Leaves are used in curry
13	*Cassia tora* L.	Caesalpiniaceae	Jhitkisak	Young leaves are used as vegetable.
14	*Centella asiatica* (L.) Urban	Apiaceae	Thankuni	Leaves are used as making soup.
15	*Chenopodium album* L.	Chenopodiaceae	Bathua	Young leaves are used as vegetable.
16	*Coccinia grandis* (L.) Voigt.	Cucurbitaceae	Telakucha	Fruits are cooked as vegetable
17	*Colocasia esculenta* (L.) Schott.	Araceae	Kochu	Leaves, Inflorescence and rhizomes are used in curry
18	*Commelina benghalensis* L.	Commelinaceae	Kansira	Young shoot and leaf are used as vegetable.

19	*Curcuma amada* Roxb	Zingiberaceae	Amada	Rhizomes are used as flavouring agent.
20	*Desmodium triflorum* (L.) DC.	Fabaceae	Kudaliya	Leaves are used as vegetable.
21	*Dioscorea alata* L.	Dioscoreaceae	Kham Alu	Tubers are used as vegetable.
22	*Diplezium esculentum* (Retz.) Sw.	Polypodiaceae	Dheki Sak	Fronds are cooked as vegetable.
23	*Eclipta prostrata* Roxb.	Asteraceae	Keshut	Young leaves and shoot are used as vegetable
24	*Enhydra fluctuans* Lour.	Asteraceae	Hingcha sak	Tender shoots are used as vegetable
25	*Euryale ferox* Salisb.	Nymphaeaceae	Makhna	Seeds are cooked as curry.
26	*Glinus oppositifolius* (L.) A. DC.	Brassicaceae	Gimma	Tender shoot cooked as vegetable.
27	*Digera muricata* (L.) Martius	Amaranthaceae	Jamaika sak	Young leaves are used as vegetable.
28	*Hygrophila spinosa* T. Anders	Acanthaceae	Kulekhara	Tender Shoots are used as vegetable.
29	*Ipomoea aquatica* Forsk.	Convolvulaceae	Kalmi sak	Tender Shoots are used as vegetable.
30	*Ipomoea batatas* (L.) Lam.	Convolvulaceae	Ranga Alu	Roots are used as vegetable.
31	*Lathyrus aphaca* L.	Papilionaceae	Jongli motor	Leaves,Young shoots, are used as vegetable and fruits are eaten raw.
32	*Malva verticillata* L.	Malvaceae	Laffa	Leaves are cooked as vegetable.
33	*Marsilea quadrifolia* L.	Marsileaceae	Susni sak	Leaves are used as vegetable.
34	*Mentha viridis* L.	Lamiaceae	Pudina	Young leaves are eaten raw as chutney.
35	*Nasturtium officinale* R Br.	Brassicaceae	Lalpu tiya	Leaves are used as vegetable.
36	*Nelumbo nucifera* Gaertn	Nelumbonaceae	Padda	Roots are used as vegetable and Fleshy seeds are eaten raw.
37	*Nymphaea pubescens* Willd.	Nymphaeaceae	Bhat	Peioles are cooked as vegetable, Fried seeds are used as dry food
38	Nymphaea rubra Roxb. Ex salisb	Nymphaeaceae	Sapla	Petioles are used as vegetable.
39	*Ocimum basilicum* L.	Lamiaceae	Babui tulsi	Seed paste is used for preparation of sarbat
40	*Ottelia alismoides* (L.) Pers	Hydrocharitaceae	Panikola	Seeds are eaten raw by children.
41	*Oxalis corniculata* L.	Oxalidaceae	Amarul	Leaves are used for

				preparation of chutney.
42	*Paederia foetida* L.	Rubiaceae	Gadal	Young leaves are used as vegetable.
43	*Peperomia pellucida* (L.) Kunth	Piperaceae	Luchipata	Tender shoots are used raw in salad.
44	*Physalis minima* L.	Solanaceae	Bon Tepari	Leaves are cooked as vegetable.
45	*Polycarpon prostratum* (Forssk.) Asch. & Sch.	Caryophyllaceae	Bangima	Tender Shoots are cooked as vegetable.
46	*Portulaca oleracea* L.	Portulacaceae	Nona Sak	Young shoots and leaves are used as vegetable.
47	*Rumex maritime* L.	Polygonaceae	Ban Palang	Tender Shoots are used in curry.
48	*Solanum nigrum* L.	Solanaceae	Kakmachi	Tender shoots are used as vegetable.
49	*Trigonella cornicul ata* L.	Papilionaceae	Piring sak	Young leaves are used as vegetable.
50	*Typhonium trilobatum* (L.) Schott.	Araceae	Khammam	Leaves with petioles are cooked as vegetable.
51	*Lasia spinosa* (L.) Thwaiys	Araceae	Kata Kaccu	Are used in curry.
52	*Xanthium strumarium* L.	Asteraceae	Okra	Young leaves and stem are used as vegetable.
53	*Schoenoplectus articulates* (L.) Palla	Cyperaceae	Chirchiri	Seeds are fried and used as dry food.
54	*Asparagus racemosus* Willd.	Asparagaceae	Satamuli	Tender young shoots are used as vegetable .Roots are used for preparation of pickel.
55	*Impatiens balsamina* L.	Balsaminaceae	Dopati	Leaves and young shoots are used as vegetable, Seeds are eaten as raw or used in cooked food.

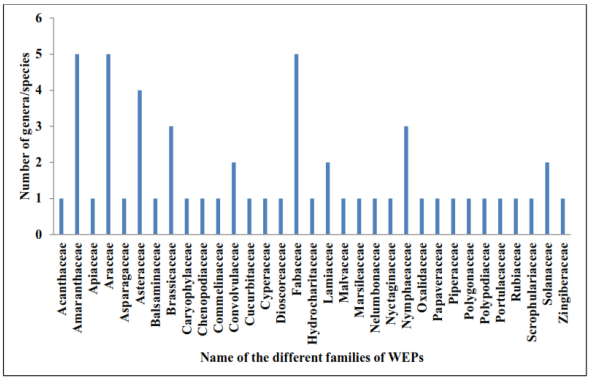

Fig. 1: Family wise distribution of the investigated plants

Maximum tribal population is much more dependent on forest food for their daily life. The present paper depicts only herbaceous edible plants. Harvesting time and distribution frequency varied in different plants. Different parts of plants like leaves, petioles, tender shoot, rhizome, Corm, roots, seeds are selected as vegetable by different tribal communities **(Fig. 2)**. Knowledge about wild vegetables and their recipes was mainly confined to woman folk. Some

plant parts are generally eaten as raw that can play a vital role for providing essential supplements of vitamin and minerals. Here leaves are mainly the edible part followed by tender shoot. It was also recorded that some poor and tribal women also sell various plant parts of different plant species as vegetable in local markets for earning purpose. It was estimated that out of 55 species 20 species are found to be sold in different rural markets (**Fig. 3**).

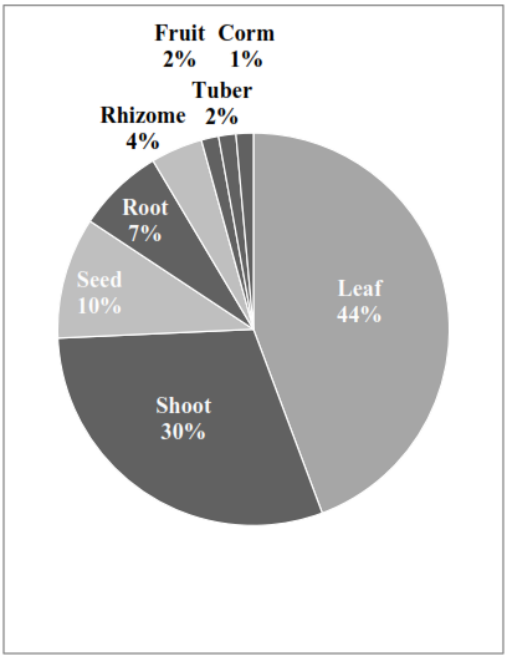

Fig. 2 Plant parts of WEPs used.

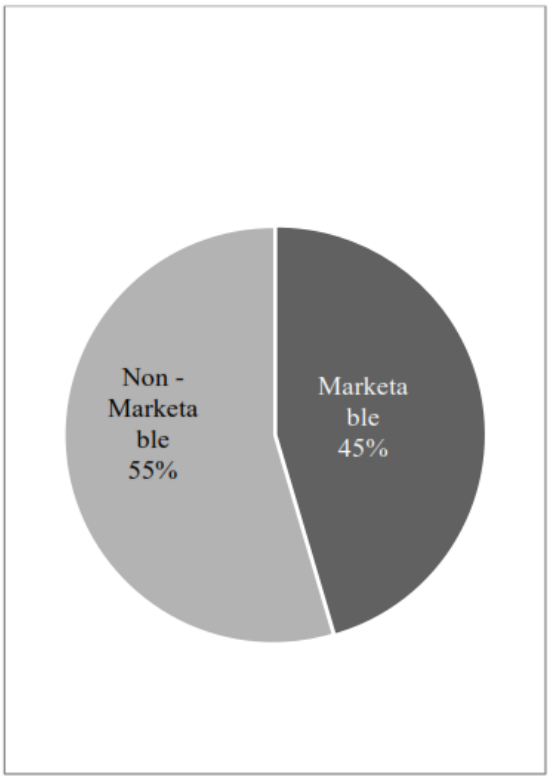

Fig. 3 Marketable and Non-Marketable WEPs.

4. DISCUSSION

Documented plants that are used as edible purpose may play a vital role as a source of food as well as to promote income generation.[14] Plant biodiversity is a vital component which act as a highly sensitive system to provide the production of various types of food plants according to their capacity. Our study area mainly consists of different ethnic groups residing in this district. These groups of people have vast knowledge on different aspects of plants.[15] Traditional knowledge for utilization of different plants and their use by indigenous culture is very much essential for conservation as well as nurturing their cultural tradition.[16] Our study area is also a potential source of various traditional edible plants. The present paper also reveals that in present time these wild edible plants may also include in daily diet for our survival. Nutritive value of these wild edible plants can play as an alternative food supplement for local rural and tribal population to fulfill their basic need as well as during the period of their scarcity of food.[17-19] This is very important way to reduce food security in our country. Plant diversity of Manbazar subdivision of Purulia district is a boon to tribal people so conservation of these plants for future generations as well as encourage for growing such economic important plants on a large scale. Unfortunately such type of traditional knowledge has not been properly identified, standardized and documented for better use by modern society.[20] Present paper emphasized some plants that are used as edible purpose in such type of remote district in West Bengal and maximum leafy vegetable can be incorporated for cultivation as alternative crops.

5. CONCLUSION

In Manbazar subdivision of Purulia, maximum number of ethnic communities and rural people are mainly depend upon wild edible plants. Due to poverty, most people are used these plants in their daily diet as food supplements. They depend on non-cultivated wild plants for food. Apart for food supplements, out of 55 plants only 20 plants are marketable that also helps in income generation. It is also observed that some traditional wild edible plants in that area get gradually deplete. So plantation and protection of such plants should be encouraged with maximum participation of local people. Their fragmented ecological habitat of those plants have to play a vital role for conservation in the socio-economic perception and help to open a new vistas towards the management of plant wealth of this district.

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