

ORIGINAL ARTICLE

**AVAILABILITY OF WILD EDIBLE PLANTS (WEPs) IN URBAN, SUBURBAN
AND RURAL MARKET AREAS IN RAINY SEASON**

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Abstract: *Wild edible plants (WEPs) are widely consumed in the daily diet of the rural people. These plants are normally more common in rural areas. These are generally neglected and not considered as much useful for common people. Recently WEPs have attract the interest, due to their potential of various dimensions in terms of nutritional grade, edibility, medicinal use, potential to generate financial benefit for marginal communities and their availability in large scale in nearby area. Some WEPs are reported to have strong medicinal potential hence great economic value and are linked with the socio-economic development of the rural people. Access to affordable and nutritious food is complex and depends on supply (availability) and consumer demand. Local markets are important for large settlements and cities in terms of making the WEPs, which are usually found in suburbs and rural areas, available for the consumption by urban population. In the present investigation local markets were surveyed for WEPs in an urban area of Kolkata city, suburban market of Sealdah railway station and rural market of Bantala area of southern part of West Bengal, in rainy season, with special emphasis to plants with medicinal value. A total of 20 wild edible plant species belonging to 13 families were enumerated. Based on their potential nutritional and medicinal value, WEPs could contribute in a major way to food security, basic primary health care and balanced diets of rural households and possibly urban households as well. Inventory of wild food resources, ethno-botanical information on their diversity, usage, status, etc. coupled with nutritional evaluation can establish these wild edible species as an alternative to achieve food and nutritional security.*

Keywords: *Wild edible plants (WEPs), medicinal value, urban, suburban and rural market, West Bengal.*

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1. INTRODUCTION

Increase in diet-related disorders and rise in body mass index level are major public health issues in modern time. Limited access to nutritious food and relatively easier access to less nutritious food may be linked to poor diets and, ultimately, to obesity and diet-related diseases. Across the globe, the food types offered in the market are determined by the preferential behaviour of the consumers and other factors. The pressure of globalization has driven the dietary habit of common people towards simplification, which made them dependent on a limited number of staple crops (viz., rice, wheat and maize) for their calorific demand.

Basically, the wild edible plants (WEPs) are mostly included in the regular diet of the people, living villages. These plants are naturally grown in the landscape of rural areas and failed to attract the interest of people. Hence, WEPs are less utilized and considered to be less important. However, these group of plant species are started to be considered as useful for their multiple positive sides, seems to be beneficial in terms of nutritional level and security of food, medicinal value, availability in large quantities and commercial importance at marginal environments. Research shows that the local food crop production can fulfil the demand for less than one-third of the population [1-2]. According to Jaenicke and Hoschle-Zeledon [3], over 50 percent of the daily requirement of proteins and calories of the world is obtained from only three crops: wheat, maize and rice. Ethnobotanical investigations on WEPs suggest that more than 7,000 species have been used for food in human history [4]. Nowadays, the documentation of ethnobotanically important plants, which were neglected have drawn attention for reconsideration as naturally growing edible food sources [5].

In the last decade, many countries have given priority to the documenting of WEPs and the associated indigenous knowledge. In countries like Spain or Vietnam ethnobotanical information on WEPs is available [6-7]. In the present investigation, survey was conducted in markets of urban (Kolkata city), suburban (Sealdah Railway station) and Rural (Bhojerhat, Bantala) area of southern West Bengal, with emphasis on their medicinal importance during the season of monsoon, 2023.

2. MATERIALS AND METHODS

Study area

In the present investigation local markets were surveyed for WEPs in urban, suburban and rural market areas. Firstly, the urban market at Rashmoni Bazar (22°56'32.51"N and 88°39'41.50"E) was surveyed for wild edible plants (WEPs). This market was, located at the urban area at Belegghata area, Kolkata, West Bengal (Figure 1). In these areas many of the WEPs are collected by the local people from the villages in the districts and brought to urban markets for sale. As the Sealdah Railway station of central Kolkata is not very far away from this market, it is easily accessible for people bringing commodities and vegetables, fruits for sale from the districts. The local market was surveyed for the WEPs sale.

The vegetable and fruit market near the Sealdah Railway station was also surveyed for WEPs. This Railway station connects the districts of both 24 Parganas North and 24 Parganas South. This market was

taken as a representative of suburban market ($22.567455^{\circ}\text{N}$ and $88.369765^{\circ}\text{E}$). The market near Sealdah station is situated nearby Vidyapati Setu (Figure 2).

The rural market surveyed was at Bhojerhat Bazar near Bantala in West Bengal 743502. The coordinates of Bhojerhat Bazar are $22.505828^{\circ}\text{N}$ and 88.5395°E . Special emphasis was given to plants with established medicinal value.

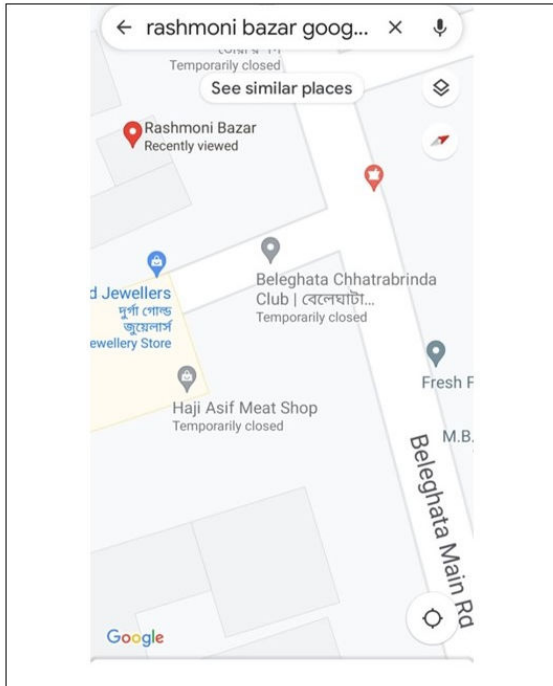


Figure 1. Location of Rashmoni Bazar, Belehata.



Figure 2. Vegetables sold at Rashmoni Bazar, Belehata

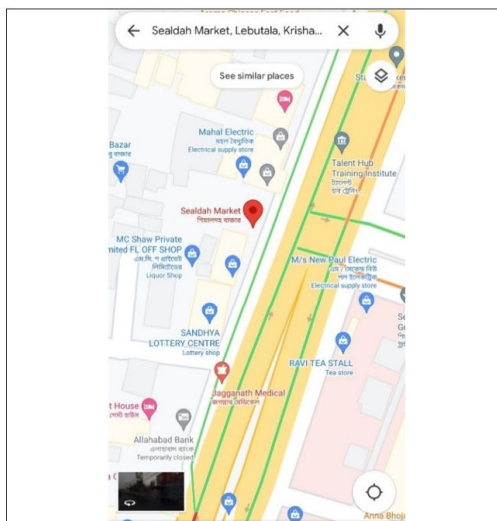


Figure 3. Location of Sealdah market



Figure 4. WEP sold as fruit in Sealdah market

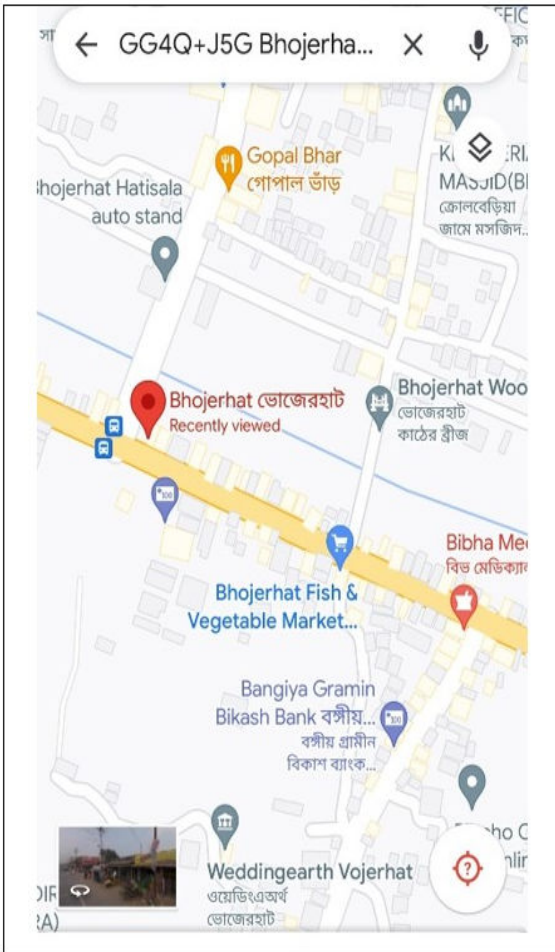


Figure 5. Location of Bhojerhat Bazar market, Bantala, South 24 Parganas.

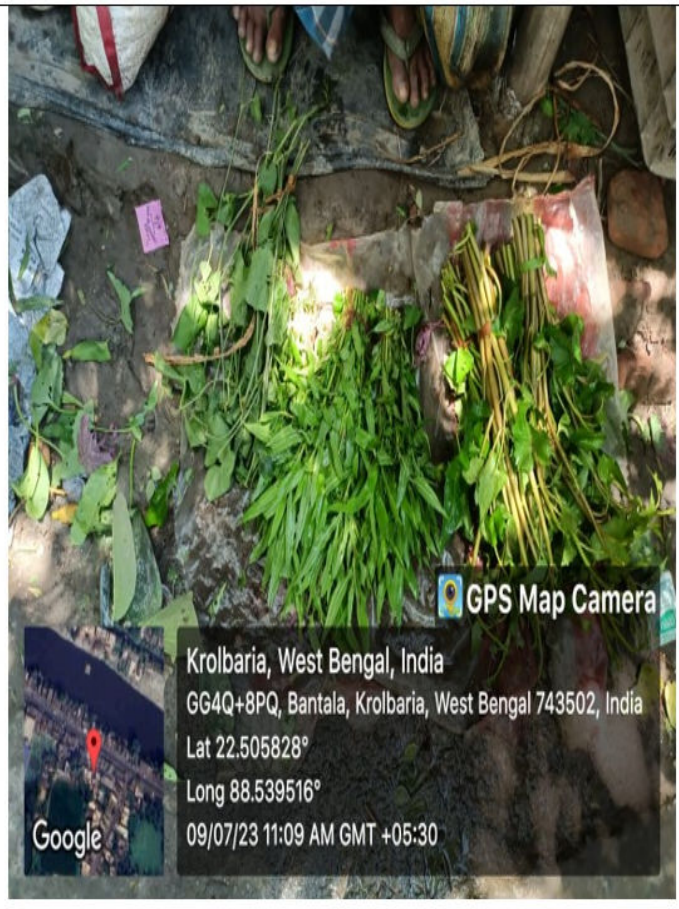


Figure 6. Leafy WEPs being sold on Bhojerhat Bazar

3. RESULTS AND DISCUSSION

In India there are several reports of the use of WEPs from different areas of the country [8-12]. WEPs are important in local food systems and make significant contributions to the food and nutrition security of the poor [13-14]. In addition, these plants provide the sources of medicine, fuel and materials for construction for local people, which is an important part of urban and rural socioeconomical status.

The survey was conducted in the local markets in the mentioned urban, suburban and rural areas for WEPs. The plant list is given in Table I along with the reported medicinal value of the WEPs in scientific reports. The pictures of wild edible plants (vegetables and fruits) found in different study areas are depicted as Figures 2, 4 and 6.

Table I. List of wild edible plants with medicinal value found in local markets of urban, suburban and rural areas of West Bengal.

Sl. No.	Name of the WEP	Common Name (in Bengali) And parts used	Family	Availability	Reported medicinal value (traditional)
1	<i>Adhatoda vasica</i> Nees	Basak (Leaves)	Acanthaceae	Urban Suburban	Antispasmodic and expectorant
2	<i>Alocasia indica</i> (Lour.) Koch.	Dudh Man kochu (Tuber)	Araceae	Rural, Suburban, Urban	Relieves constipation
3	<i>Amaranthus viridis</i> L.	Bon Notay (Shoot)	Amaranthaceae	Suburban, Urban	Relieves constipation to cure stomach ailments.
4	<i>Bacopa monnieri</i> (L.) Pennell	Brahmi (Shoot)	Scrophulariaceae	Suburban, Urban	Used as brain tonic
5	<i>Centella asiatica</i> (L.) Urban	Thankuni (Leaves)	Apiaceae	Suburban, Urban	Used to stop diarrhoea
6	<i>Coccinia grandis</i> (L.) Voigt	Kudri (Fruits)	Cucurbitaceae	Suburban, Urban	Used to treat jaundice
7	<i>Colocasia esculenta</i> (L.) Schott	Kochu Shak (Leaves)	Araceae	Suburban, Urban	Relieves constipation
8	<i>Colocasia esculenta</i> (L.) Schott	Kochu (Tuber)	Araceae	Suburban, Urban, Rural	Lowers blood sugar
9	<i>Cucurbita maxima</i> Duchesne	Kumro Shak (Leaves)	Cucurbitaceae	Suburban, Urban	Relieves constipation
10	<i>Dimocarpus longan</i> Lour	Ashphal (Fruit)	Sapindaceae	Urban, Suburban	To treat fatigue
11	<i>Enhydra fluctuans</i> Lour.	Helencha/ Hinche	Asteraceae	Suburban, Rural	Useful for renal problem, kidney stone, ascites, dropsy and anasarca
12	<i>Ficus racemosa</i> L.	Dumur (Fruit)	Moraceae	Suburban, Rural	Useful to treat diabetes, liver disorders and anaemia

13	<i>Glinus oppositifolius</i> (L.) Aug. DC.	Gima shak (Leaves)	Molluginaceae	Suburban, Rural	Whole plants are useful to treat skin disease, earache and digestive problem
14	<i>Hygrophila spinosa</i> T Ander	Kulekhara (Leaves and shoot)	Acanthaceae	Urban, Suburban	Renal tonic and improves haemoglobin level
15	<i>Ipomoea aquatica</i> Forssk	Kalmi (Leaves)	Convolvulaceae	Suburban, Urban	Carminative agent, anti-inflammatory
16	<i>Mentha arvensis</i> L.	Pudina (Leaves, shoot)	Lamiaceae	Rural, Suburban Urban	Useful for digestive problem, headache and skin disease
17	<i>Murraya koenigii</i> (L.) Spreng.	Kari pata (Leaves)	Rutaceae	Rural, Suburban Urban	Leaves used to treat constipation, colic and diarrhoea.
18	<i>Nymphaea alba</i> L.	Shaluk (Pedicel)	Nymphaeaceae	Suburban, Urban	Used to treat diarrhea
19	<i>Trichosanthes cucumerina</i> L.	Chichinga (Fruit)	Cucurbitaceae	Rural, Suburban Urban	Used for stomach problem relief
20	<i>Trichosanthes dioica</i> Roxb.	Potol, (Young Leaves)	Cucurbitaceae	Suburban, Urban	Used as tonic and febrifuge

Local markets are important for large settlements and cities in terms of making the WEPs, which are usually found in suburbs and rural areas, available for the consumption by urban population. WEPs play an important role in maintaining livelihood security for many people in developing countries. The result of this study highlighted the significance of wild edible plants (WEPs) as an economically viable source of nutrient and of high medicinal use for the local people. Based on their potential nutritional and medicinal value, WEPs could contribute in a major way to food security, basic primary health care and balanced diets of rural households and possibly urban households as well. With communication between different areas becoming better it is seen that WEPs are quite common in urban markets. It is seen that WEPs are quite popular and are found in urban markets. It was also noticed some plants are sold in urban and suburban markets but not in rural markets. Probably because they are freely available in the rural areas that there is no market value for them there.

4. CONCLUSION

These neglected and underutilized species have begun to attract considerable interest for their multiple underexploited benefits in terms of nutritional value, food security, medicinal and income generation value, availability in large quantities and occupation of marginal environments. Some WEPs are reported to have strong medicinal potential hence great economic value and are linked with the socio-economic development of the rural people in different parts of West Bengal [16-18]. These plants play an important role as a source of energy and micronutrients [19]. Inventory by survey and documentation of wild food resources, ethno-botanical information on their diversity, usage, status, etc. coupled with nutritional evaluation can establish these wild edible species as an alternative to achieve food and nutritional security.

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