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Wild edible plants and rural socio-economic systems in Marathwada, Maharashtra, India.

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Abstract

A total of 23 wild edible plant species belonging to 14 families traditionally used by rural communities of the Marathwada region of Maharashtra, India, were recorded during the present study. Among the documented species, several plants were found to contribute significantly to household nutrition and socio-economic support of rural populations. The highest number of edible species belonged to the family Amaranthaceae (5 species), followed by Fabaceae (4 species) and Cucurbitaceae (2 species), while other families were represented by one species each. The commonly utilized edible parts included leaves and leafy shoots (9 species), followed by fruits (8 species), tubers (2 species), flowers (2 species), and seeds (1 species). It was observed that leafy vegetables and fruits together constituted a major proportion of the diet derived from forest and agro-ecosystems of the region. These wild edible plants not only supplement daily food requirements, but also provide additional income through their sale in local markets. The study emphasizes the nutritional potential of wild edible plant resources and suggests their conservation, domestication, and value addition for enhancing food security and sustainable rural livelihoods in the Marathwada region.

Key words : Wild edible, Amaranthaceae , Rural livelihood, Marathwada

Plants represent one of the most valuable natural resources available to humankind. Both cultivated and wild plant species contribute significantly to human sustenance and health. Wild plants, which are neither cultivated nor domesticated, grow naturally in diverse ecosystems and are utilized for various purposes, including food, vegetables, and medicine. Wild edible plants hold particular importance due to their dual role in providing nutritional supplements and possessing medicinal properties. These plants play a crucial role in enhancing food security, especially for rural communities, and form an integral part of traditional

knowledge systems[1]. Edible wild plant species significantly contribute to food availability and livelihood support for numerous households and communitie's worldwide[2, 4]. Wild edible plants (WEPs) contribute significantly to dietary diversity, traditional healthcare, and livelihood security, while maintaining a close association between local communities and natural ecosystems. Their use as food and medicine is commonly practiced by both tribal and non-tribal communities in rural and semi-urban areas across the globe[6].

The present study was conducted in the **Marathwada**, specifically in Aurangabad (Chhatrapati Sambhajinagar) and Jalna districts. The region is characterized by semi-arid climatic conditions, seasonal rainfall, dry deciduous vegetation, agricultural fields, and forest patches supporting diverse wild edible flora. Seasonal field surveys were carried out across villages, forest margins, wastelands, and local weekly markets to document wild edible plant species. Ethnobotanical data were gathered through structured and semi-structured interviews with local inhabitants and traditional knowledge holders[3]. Information on vernacular names, edible parts, modes of consumption, availability, and market value was recorded. Plant specimens were collected, and identified using standard regional floras such as[5]. Species were categorized family-wise and according to edible parts and consumption type (raw or cooked). The data were systematically tabulated to assess species diversity, utilization patterns, and socio-economic significance. Relevant literature, including[7], was reviewed to document nutritional and medicinal attributes of the recorded taxa.

Table-1. List of Wild Edible Plants and Rural Socio-Economic Systems in Marathwada

Sr.no 1	Scientific Name *Momordica dioica* Roxb.	Local Name फाटवेल / काटवल	Habit Climber	Family Cucurbitaceae	Consumption method Leaves are eaten as vegetable and sold for 150 Rs./Kg.
2	*Cassia tora* L.	ताकळा	Herb	Fabaceae	leaves and tender shoots are used as leafy vegetables and one bunch is sold for 20 Rs.
3	*Oxalis corniculata* L.	चुका / आंबोशी	Herb	Oxalidaceae	Leaves are eaten as vegetable and one bunch is sold for 20 Rs.
4	*Colocasia esculenta* (L.)Schott	अळू	Herb	Araceae	Leaves are eaten as vegetable and one bunch is sold for 20 Rs.
5	*Celosia argentea* L.	कुरडू	Herb	Amarant-haceae	Leaves and young shoots cooked as a vegetable in curries or with grains.

					Seeds are sold in around 400 Rs/ Kg.
6	*Achyranthes aspera* L.	आघाडा	Herb	Amarant-haceae	Young leaves are occa-sionally cooked as a leafy vegetable in rural areas
7	*Portulaca oleracea* L.	घोळ	Herb	Portulacaceae	Leaves and tender stems are consumed as a leafy vegetable and sold 50Rs. / Kg.
8	*Hibiscus sabdariffa* L.	अंबाडी	Shrub	Malvaceae	Young leaves are used as a leafy vegetable (bhaji) and Commonly cooked with pulses and sold 100Rs. / Kg.
9	*Dioscorea bulbifera* L.	मेटाळा / वराहिकंद	Climber	Dioscoreaceae	Aerial bulbils and under-ground tubers are cooked as a vegetable and sold 100Rs. / Kg.
10	*Phyllanthus amarus* Schumach. & Thonn.	भुईआवळा	Herb	Phyllant-haceae	Young shoots are used in chutneys in some rural traditions.
11	*Limonia acidissima* L.	कवठ	Tree	Rutaceae	Ripe pulp is eaten fresh after breaking the hard shell. Used to prepare chutney and sold 100 Rs. / Kg.
12	*Ficus racemosa* L.	उंबर	Tree	Moraceae	Ripe figs are eaten fresh. Unripe fruits are cooked as a vegetable and sold 50-70 Rs. / Kg.
13	*Semecarpus ana-cardium* L.f.	बिब्बा	Tree	Anacardiaceae	The kernel (inside the nut) is edible only after thorough roasting to remove toxic irritants. Processed kernels are

					sold in local market 200 RS / Kg. in Makarsan-kranti festival.
14	*Tamarindus indica* L.	चिंच	Tree	Fabaceae	Fruit Pulp is Used as a souring agent in curries, dal, chutneys, and sam-bar. Prepared into sher-bet, candy, pickles, and sauces. Pods are sold up to 60 Rs/ Kg and Pulp 100 Rs/Kg.
15	*Madhuca longifolia* (J.Koenig ex L.) J.F.Macbr.	मोह	Tree	Sapotaceae	Fleshy, sweet flowers are eaten raw. Dried flowers are fermented to produce a local alco-holic drink and sold up to 300 Rs./Lit.
16	*Carissa carandas* L.	करोंदा	Shrub	Apocynaceae	Ripen fruit are consumed and sold up to 200 Rs./ Kg.
17	*Aegle marmelos* (L.) Corrêa	बेल	Tree	Rutaceae	Fruit pulp is eaten in the form of chutney and sold in 15 Rs.
18	*Cordia dichotoma* G.Forst.	भोकर	Tree	Boraginaceae	Tender young shoots or sprouts of plants, especi-ally newly emerging leaves is used to prepare vegetable bhaji. Ripe fruits eaten fresh which are sold up to 50-100 Rs/Kg.
19	*Amaranthus tricolor* L.	तांदुळजा	Herb	Amaranthaceae	Used as a leafy vegetable and sold for 50 Rs/Kg.
20	*Digera muricata*.	रान तांदुळजा	Herb	Amaranthaceae	Used as a leafy vegetable

	(L.) Mart				Mart(bhaji). 20 – 50 per kg, depending on season.
21	*Cucumis melo* L.	खरबूज	Climber	Cucurbita-ceae	Ripe fruit eaten fresh as dessert. Used in fruit salads and juices. Rich in water content and refreshing during summer.
22	*Launaea procumbens* (Roxb.) Ramayya & Rajagopal	पाथरी भाजी / पानफोडी	Herb	Asteraceae	Used as a leafy vege-table in rural communities and sold 40-50Rs/Kg.
23	*Sesbania grandiflora* (L.) Poir	Hadgaa	Tree	Fabaceae	Flowers (Highly Valued) Cooked as vegetable and sold up to 100-150 Rs./Kg.

During the present investigation carried out in the Marathwada region, particularly in Aurangabad (Chhatrapati Sambhajinagar) and Jalna districts, a total of 23 wild edible plant species belonging to 18 families were documented. The recorded taxa represent diverse growth habits including herbs, shrubs, climbers, and trees, indicating the rich floristic diversity of semi-arid ecosystems in the study area. The highest number of edible species belonged to Amaranthaceae (4 species), followed by Fabaceae (3 species) and Cucurbitaceae (2 species). Other families such as Rutaceae, Anacardiaceae, Apocynaceae, Moraceae, Sapotaceae, Malvaceae, Portulacaceae, Dioscoreaceae, Boraginaceae, Asteraceae, Araceae, Oxalidaceae, Phyllanthaceae, and Oxalidaceae were represented by one species each. The dominance of Amaranthaceae and Fabaceae indicates the importance of herbaceous leafy vegetables and leguminous taxa in rural dietary systems. Members of Amaranthaceae such as *Celosia argentea*, *Amaranthus tricolor*, and *Digera muricata* are commonly available during the monsoon season and contribute significantly to nutritional security. Out of the 23 species recorded: Herbs constituted the largest group (10 species; 43%), Trees accounted for 8 species (35%), Climbers represented 3 species (13%), and Shrubs contributed 2 species (9%). The predominance of herbs reflects their seasonal abundance in cultivated fields, wastelands, and moist habitats, where they often occur as weeds but serve as valuable food resources.

Edible parts utilized : The maximum utilization was observed in leaves and tender shoots 11 species; followed by fruits 8 species, flowers 2 species; and underground parts/

bulbils/seeds 2 species. Leafy vegetables such as *Cassia tora* (L.) Roxb. *Oxalis corniculata* L. *Portulaca oleracea*, *Hibiscus sabdariffa* L. and *Amaranthus tricolor* L. are commonly collected, cooked, and consumed with staple foods like bhakri and rice. Many of these are prepared as curry (bhaji) or chutney. Fruits of species such as *Carissa carandas* L. *Limonia acidissima* L., *Ficus racemosa* L. and *Cucumis melo* L. are consumed in raw or ripe forms and also processed into value-added products like sherbet, pickles, and candies.

Socio-economic importance

Several species were found to have direct market value in local weekly markets. Leafy vegetables are sold in bunches ranging from Rs. 20– Rs. 50, while fruits and processed products fetch higher prices. For example: *Momordica dioica* Roxb. ex Willd. leaves are sold at Rs. 150/ kg, *Celosia argentea* L. seeds are sold up to Rs. 400/kg, *Madhuca longifolia* (J. Conig) J.F. Macbr. flowers are fermented to prepare local beverages sold up to Rs. 300 per liter and *Semecarpus anacardium* L. f kernels are processed and sold during festivals like Makar Sankranti at Rs. 200/kg. This indicates that wild edible plants contribute significantly to supplementary income generation for rural and tribal communities.

The study reveals that wild edible plants play a crucial role in the rural socio-economic system of Marathwada. Leafy vegetables dominate the dietary pattern, especially during the monsoon season when agricultural crops are still immature. Fruits provide seasonal nutrition and hydration during summer months.

8–10 species show strong potential for the establishment of small-scale herbal and food-processing cottage industries, particularly those yielding high-value products such as seeds, flowers, fermented beverages, pickles, and chutneys. Promotion, sustainable harvesting, and value addition of these species can enhance rural livelihoods and support biodiversity conservation in the semi-arid ecosystems of Marathwada.

Overall, the documentation highlights the nutritional, economic, and cultural significance of wild edible plants and underscores the need for conservation strategies, awareness programs, and policy support to integrate these species into sustainable rural development frameworks.

The present study conducted in the Marathwada region documented 23 wild edible plant species belonging to 18 families, reflecting the rich floristic diversity of its semi-arid ecosystems. The dominance of Amaranthaceae and Fabaceae highlights the dietary importance of leafy vegetables and legumes in rural communities. Herbs constituted the major life form, indicating the significant role of seasonal weeds and field-margin species in local nutrition. Leaves and tender shoots were the most frequently utilized plant parts, followed by fruits, demonstrating their contribution to household food security. Several species possess considerable market value, providing supplementary income to rural and tribal populations. Moreover, 8–10 species show strong potential for small-scale herbal and food-processing cottage industries. Overall, wild edible plants represent an important resource for nutritional security, livelihood enhancement, and sustainable rural development, warranting conservation and value-addition strategies.

Conflict of Interest

The authors declare that there is no conflicts of interest regarding the publication of this manuscript.

References :

1. Badave G.N and M.J. Kothari (2024). Ethnobotanical studies on Koyna valley, Maharashtra. *Botanical Survey of India, Kolkata*
2. Bell, J. (1995). The hidden harvest. *Seedling, The Quarterly Newsletter of Genetic Resources International.*
3. Dhole. P. A. (2021). *Int. J. Adv. Res. Biol. Sci. 8(1)*: 51-58. http://dx.doi.org/10.22192/ijarbs.2021.08.01.001
4. Guijt, I., F. Hinchcliffe & M. Melnek. (1995). *The Hidden Harvest: The value of wild resources in agricultural systems - A summary. International Institute of Environment and Development, London,* U.K.
5. Naik, V. N. (1998). *Flora of Marathwada*. Vol. I & II. Amrut Prakashan, Aurangabad, Maharashtra, India.
6. Ray, A., R. Ray, and E. A. Sreevidya, (2020). *How many wild edible plants do we eat—Their diversity, use, and implications for sustainable food system: An exploratory analysis in India. Frontiers in Sustainable Food Systems*, *4:* 56. https://doi.org/10.3389/fsufs.2020.00056
7. Sundriyal, M., and R. C. Sundriyal, (2001). *Economic Botany*, *55*(3): 377–390.