

# A REVIEW ON UTILITARIAN PERSPECTIVES OF WILD EDIBLE PLANTS IN JHARKHAND

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## ABSTRACT

Wild edible plants (WEPs) are a staple in the diets of Jharkhand's indigenous peoples. Most of the rural inhabitants in Jharkhand's various regions have gained specialised knowledge about the uses of plants and plant components. The purpose of this research was to collect first-hand accounts of the variety and practical use of wild edible weeds used by the tribal people of Jharkhand. In the current research, data from 118 quadrats in 59 distinct woods revealed a total of 62 unique herbs, shrubs, and small trees belonging to 41 groups, of which 54 are edible as medicine, vegetables, or both. *Hemidesmus indicus* R. Br. (51 quadrats/134 total) and *Cynodon dactylon* (L.) Pers. (47 quadrats/134 total) are two of the most widely distributed wild edible plants in the research region. Similar to how *Clerodendrum viscosum* Vent., nom. superfl. (40) is the most common edible grass, *Lantana camara* L. (35), *Croton oblongifolius* Roxb. (34), and *Flemingia strobilifera* (L.) R.Br. (20) are the most common edible shrubs. Overexploitation and unsustainable harvesting for food and medicine, together with other biotic interferences including grazing, herbivory, and human fire, have been reported to have reduced the variety of WEPs in Jharkhand. Therefore, it is crucial to protect these precious Wild edible plants (WEPs) and put them to good, long-term use. In addition, there is a need for further studies to be conducted on the medicinal possibilities and nutritive benefits of WEPs so that a scientific foundation may be laid for the future development of herbal medicines and traditional cuisines.

**Keywords:-** Wild Edible Plants, Medicine, Utilization, Tribals.

## INTRODUCTION

India's cultural variety may be seen in the country's sizable and varied tribal population. Forest dwellers make up the great bulk of Jharkhand's indigenous population and are characterised by their own unique social order, cultural practises, and dietary preferences. Most of them fall into the category of poor farmers, and because established agriculture is unable to give them with adequate food, they have no choice but to depend on natural food resources. Greens, which are widespread in nature, are a staple food for most humans. They have been eating these plants for centuries as part of their daily diet. Many people in areas where fresh vegetables are in short supply during the summer and monsoon months resort to gathering edible weeds from

their yards and neighbouring fields. Indigenous peoples' diets vary greatly from one region to the next because of differences in the availability of certain items. Even though these edible weeds play a crucial role in the tribal people's ability to provide for their nutritional needs, there is a lack of comprehensive data on them. Researchers set out to create a catalogue of the most popular edible weeds among the tribal people in an effort to increase the stability of their food supply.

Ethnobotany is the scientific study of the cultural connections that people from all over the world have with the plants and animals native to their regions. As one of India's most tribally populated states, Jharkhand (the land of forests) is home to people who practise a wide variety of customs, cults, religious rites, rituals, taboos, legends and myths, superstitions, folk tales, folk songs, folk dances, foods, beverages, fodder, and medical systems unique to their communities. This district has the highest percentage of tribal residents in all of Jharkhand, at around 26.8 percent. The region's varied geography of hills, valleys, plateaus, and plains is home to a rich diversity of plant and animal life, as well as human inhabitants. Hills and woods of Jharkhand are home to several tribal groups, including the Santhal, Kharwar, Munda, Oraon, Assur, Ho, etc., whereas most of the district's non-tribal population live in the plains. The Santhal make up almost half of all tribal people. Native Jharkhandians have an in-depth knowledge of the health benefits of flora found in the environment. Medicinal and edible plants are also grown commercially. Wild edible plants are a major source of nutrition for the Jharkhandi tribes. There is evidence that native people in both alpine and lowland regions use them. These creatures consume the whole plant, from the ground up, including the roots, tubers, leaves, flowers, inflorescence, peduncles, and seeds. It is common practise to gather and consume wild edible plants in their prime of maturity or flowering. Edible wild plants that humans depend on may be found in a broad range of environments, from forests to fields to roadside ditches to garbage dumps. Herbs, shrubs, whole trees, and everything in between fall under this category, all of which may be used fresh or after being cooked and processed. Many different kinds of plants can be found in subtropical deciduous forests. For this reason, edible woody plants are greatly sought after all around the area. Agriculture and forest products provide a significant portion of Jharkhand's native population's income. Indigenous communities have developed and maintained a symbiotic connection with the natural environment. The nutritional and medicinal benefits of wild edible plants, especially vegetables, are highly valued by indigenous societies. The vitamins, minerals, and other essential ingredients for good health may be easily obtained by eating wild edible plants. This study set out to document the indigenous people of Jharkhand's familiarity with edible weeds and their many practical uses.

## **MATERIALS AND METHODS**

Jharkhand tribal tribes hosted many field visits from May 2015 to November 2019. A tertiary-educated translator led focus group interviews and field walks in Jharkhand. Jharkhand tribal communities hosted field tours. Field trips and discussions with locals provided the paper's data and information. Mountain locations, gardens, sewers, wastelands, and event sites were sampled. Unidentified samples were brought to the department for identification. This research found 62 herbs, shrubs, and small trees from 41 families, 54 of which are edible as medicine or food, in 118 quadrats of 59 woodlands. *Hemidesmus indicus* R. Br. (51

quadrats) and *Cynodon dactylon* (L.) Pers. (47 quadrats) are common wild edible plants in the research region. The most common edible bushes are *Clerodendrum viscosum* Vent., nom. superfl. (40), *Lantana camara* L. (35), *Croton oblongifolius* Roxb. (34), and *Flemingia strobilifera* (L.) R.Br. (20).

## RESULT AND DISCUSSION

Most Jharkhand tribal families work in daily wage, handicraft, and small-scale businesses like selling vegetables and commodities in local markets due to poor landholding and profitability. Forests aid Jharkhand's impoverished indigenous people after agriculture. Socioeconomic circumstances favour forest-dependent livelihoods. Tribal women collect food, rope, honey, therapeutic plants, bamboo and rattan containers, fishing, and hunting. Tribal Indians labour in jungles. 54 edible or medicinal plants were found in 118 quadrats of 59 woods.

**Table 1** — List of WEPS used by tribal of Jharkhand

S. No	Species Name	Local Name	Family	Habit	IUCN Red Listed category
<b>Edible Entire plants(AP)</b>					
1.	<i>Agaricus bisporus</i> (J. E. Lange) Imbach, 1946	Mushroom	Agaricaceae	F	
2.	<i>Ageratum conyzoides</i> L.	Gandhari, Puru	Asteraceae	S	LC
3.	<i>Andrographis paniculata</i> (Burm. fil.) Nees	Kaalmedh	Acanthaceae	H	
4.	<i>Baccharoides anthelmintica</i> (L.) Moench	Ironweed	Asteraceae	H	
5.	<i>Cissus quadrangularis</i> L.	Hadjod	Vitaceae	C	
6.	<i>Coccinia grandis</i> (L.) Voigt	Kundri	Cucurbitaceae	C	
7.	<i>Croton oblongifolius</i> Roxb.	Croton	Euphorbiaceae	S	
8.	<i>Dolichos trilobus</i> L.	Van Kurthi	Papilionaceae	H	
9.	<i>Elephantopus scaber</i> L.	Mayur Jhanti	Asteraceae	H	
10.	<i>Eleusine indica</i> (L.) Gaertn.	Goosegrass	Poaceae	H	
11.	<i>Emilia sonchifolia</i> (L.) DC. ex Wight	Tasse Flower	Asteraceae	H	
12.	<i>Euphorbia hirta</i> L.	Dudhi	Euphorbiaceae	H	
13.	<i>Flacourtia indica</i> (Burm. f.) Merr.	Ramontchi	Salicaceae	S	LC
14.	<i>Geastrum saccatum</i> Fr. 1829	Rugra	Geastraceae	F	
15.	<i>Ichnocarpus frutescens</i> L.	Dudhi Latar	Apocynaceae	H	
16.	<i>Leucostegia immersa</i> Wall. ex C. Presl	Davallia	Hypodematiaceae	H	
17.	<i>Oldenlandia diffusa</i> (Willd.) Roxb	Pitpapra	Rubiaceae	H	LC
18.	<i>Panicum maximum</i> Jacq.	Guinea Grass	Poaceae	S	
19.	<i>Spermacoce ocymoides</i> Burm.f.	Button weed	Rubiaceae	H	
20.	<i>Thespesia lampas</i> (Cav.) Dalzell & A. Gibson	Ban Kapas	Malvaceae	H	
<b>Edible leaves or leafy shoots(EL)</b>					
21.	<i>Amaranthus viridis</i> L.	Jungali Chaulayi	Amaranthaceous	H	
22.	<i>Barleria cristata</i> L.	Philippine Violet	Acanthaceae	S	

23.	<i>Chenopodium album</i> L.	Bathuwa	Amaranthaceae	S	
24.	<i>Flemingia strobilifera</i> (L.) R.Br.	Kanphuta	Papilionaceae	S	
25.	<i>Lantana camara</i> L.	Putus	Verbinaceae	S	
26.	<i>Lygodium japonicum</i> (Thunb.) Sw		Lygodiaceae	F	
27.	<i>Marsilea minuta</i> L.	European water Clover.	Marsileaceae	F	LC
28.	<i>Oxalis corniculata</i> L.	Netho sag	Oxalidaceae	H	
29.	<i>Scoparia dulcis</i> L.	Ban Dhania	Scrophulariaceae	S	
30.	<i>Senna tora</i> (L.) Roxb.	Chakor	Fabaceae	S	
<b>Plants bearing edible root or tubers (RT)</b>					
31.	<i>Arisaema heterophyllum</i> Blume	Dancing Crane Cobra Lily	Araceae	H	LC
32.	<i>Curculigo orchioides</i> Gaertn.	Kaki Musli	Hypoxidaceae	H	
33.	<i>Elaeodendron glaucum</i> (Rottb.) pers	Ratangaura	Celastraceae	T	DD
34.	<i>Evolvulus nummularius</i> L.	Dwarf Morning Glories.	Convolvulaceae	H	
35.	<i>Hemidesmus indicus</i> R. Br.	Anantmul	Asclepidaceae	H	
36.	<i>Ventilago maderaspatana</i> Gaertner f.	Pitti	Rhamnaceae	S	
<b>Plants bearing edibles leaves and seeds (LS)</b>					
37.	<i>Agave americana</i> L.	Moraba	Agavaceae	S	
38.	<i>Senna sophera</i> (L.) Roxb.	Chakara	Caesalpinaceae	S	
39.	<i>Senna obtusifolia</i> (L.) H.S.Irwin & Barneby	Sicklepod	Fabaceae	S	LC
40.	<i>Shorea robusta</i> Gaertner f.	Sakhua	Dipterocarpaceae	T	LC
41.	<i>Spermacoce articularis</i> L.f.	Button Weed	Rubiaceae	H	
<b>Plants bearing miscellaneous edible parts (M)</b>					
42.	<i>Asparagus densiflorus</i> (Kunth) Jessop	Satawari	Asperagaceae	H	
43.	<i>Curcuma aromatic</i> Salisb	Jangli Haldi	Zingiberaceae	H	
44.	<i>Drimia indica</i> (Roxb.) Jessop	Ban Piaz	Asparagaceae	H	
45.	<i>Holarrhena pubescens</i> Wall. ex G.Don	Koriya	Apocynaceae	T	LC
46.	<i>Madhuca longifolia</i> (J. Koenig ex L.) J.F.Macbr.	Mahua	Sapotaceae	T	
47.	<i>Randia aculeata</i> L.	Mona Kata	Apocynaceae	S	LC
48.	<i>Urena lobata</i> L.	Bherlattha	Malvaceae	S	
49.	<i>Wendlandia heynei</i> (Schult.) Santapau & Merchant	Tilai		T	
<b>Plants bearing edible fruits and leaves (FL)</b>					
50.	<i>Carissa spinarum</i> L.	Karanda	Apocynaceae	S	
51.	<i>Meyna laxiflora</i> Robyns.	Katai	Rubiaceae	T	
52.	<i>Phyllanthus niruri</i> L.	Bhumi Amla	Euphorbiaceae	H	
53.	<i>Vitis repanda</i> (Vahl.) Wight & Arn.	Pani Bel	Vitaceae	C	
54.	<i>Woodfordia fruticosa</i> (L.) Kurz	Dhawai	Lythraceae	T	LC
T= Tree, S= Shrubs, H= Herbs, F= Fern and Fungi, C= Climber, LC= Least concern, DD= Data deficient					

Overharvesting by local tribal for vegetable, medicine, and to sell in the local market, occasional grazing (almost all study sites and cow, goat, buffalo, and sheep are the common grazers), occasional fire (both natural and manmade), rock mining (in some places), forage and fuelwood collection, and insect herbivory are the main threats to WEPs. Fuelwood gathering threatens tree seedlings and saplings<sup>30</sup> and WEPs in

Jharkhand's natural forests. 57% of Jharkhand homes use fuelwood for cooking and heating, ranking 11th. Forest conservation and management strategies should address the livelihood reliance of completely and partly dependent populations in different locations. All agencies that provide food and improve nutrition have prioritised the discovery of new, high-quality, low-cost sources. Because of their economic importance, indigenous, cost-effective, nutritious tribal foods will help ensure national food and nutritional security. Communities' engagement in forest management and transfer of authority via access and ownership rights improves security and conservation<sup>32</sup>. Forest inhabitants relied on trees for food, fuel, building materials, medicine, leisure, social, religious, and cultural identity. Forest people and woods had a mutualistic connection that met their daily needs and protected the ecosystem.

## CONCLUSION

Local tribal people depend on forests for a variety of goods and services (including WEPs such as fruits, vegetables, medicines, and more) that are critical to their existence. The recent study indicated that the neighborhoods of Jharkhand have a rich diversity of WEPs (54 different species). Along with overexploitation and unsustainable harvesting of food and medicine, the collection of *M. longifolia* flowers during the summers (March to May) for the preparation of traditional alcoholic beverages is a major contributor to the decline in WEP diversity in Jharkhand. Therefore, immediate action is required to preserve these invaluable WEPs through responsible use in order to ensure future demand. On the one hand, these findings might persuade governments to support these indigenous plants, which would boost food and nutritional security. Further research into the WEPs' medicinal and nutritional potentials is also required; this will lay a solid scientific groundwork for the development of traditional herbal medicines and cuisines.

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