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RESEARCH ARTICLE

Documentation of Wild Edible Leafy Vegetable Traditionally Used by Tribal and Rural Communities of North Maharashtra, India

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ABSTRACT

Number of wild edible plants is commonly used in the traditional diets of tribal people in many parts of the world. North Maharashtra is well known for its tribal region and tribes from this region partially or fully dependent on the wild resources for their nutritional requirements. The present study was designed to document specifically the wild leafy vegetables from North Maharashtra. A total of 62 traditionally used wild leafy vegetable species were collected, identified and documented. Out of 62 species, 61 species belong to Angiosperms and 1 belong to pteridophyte. With respect to families Amaranthaceae, Araceae, Asteraceae and Fabaceae were found to be the largest families with 29 species. Herbs are the major source of wild leafy vegetables with 43 species and forest is the home for the majority of wild leafy vegetables. Due to less awareness, loss of vegetation and fast erosion of traditional knowledge many species are on the line of rarity. The study helps to conserve those wild food species and cultivate them on large scales, to uplift their economic status and sustainable management in near future.

Keywords: Wild Edible Plants, Wild Leafy Vegetables, Traditional Knowledge, Nutritional Values, North Maharashtra

INTRODUCTION

Wild edible plants (WEPs) refer to species that are neither cultivated nor domesticated, but are available from their wild natural habitat and used as the source of food (Kiran *et al*., 2019; Chakravarty *et al*., 2016). There are more than 8000 plants in the wild are edible and we are still using only a fraction of them. We are forgetting about all those nutritious plants which help us to survive on this planet thousands of years ago. The reason behind this is we are no longer giving value to our traditional knowledge and even most of the knowledge is undocumented (Shaheen *et al*., 2017). Still in this modern era in some tribal and rural parts of the world utilizing WEPs traditionally as a major source of food (Shaheen *et al*., 2017, Thakur *et al*, 2017). Tribals and rural communities have accurate knowledge of wild food resources due to their long association with nature (Kulkarni *et al*, 2015).

They are partially or fully dependent on the wild food resources for their nutritional requirements. (sasi *et al*., 2011). Wild edible plants not only provide quantity but also make a significant contribution to the population's nutrition throughout the year. WEPs may help to meet the increasing demands of the growing population (Sasi *et al*., 2011, Shaheen *et al*., 2017). Increased use of traditional vegetables can contribute to enhancing people's health and standard living as well as the economic and social status of the food producers themselves (Bhogaonkar *et al*., 2010). The amorphous nature of this traditional knowledge about WEPs renders it difficult to capture and conserve (Vasundharan *et al*.,2015). (WEPs) sustaining the life of tribal and rural communities by providing the food and nutrition such as essential amino acids, vitamins, and minerals to stay healthy. Unfortunately, the traditional knowledge on the use of WEPs is vanishing due to the modernization, and there is a need to document the traditional knowledge associated with a particular tribe (Thakur *et al*., 2020). Unless efforts are made to educate the younger generations about their importance, this valuable knowledge may be lost in the near future. (Bhogaonkar *et al* 2010). It is the prime goal of modern ethnobotany to document and preserve that traditional knowledge on the use of WEPs (Shaheen *et al*., 2017).

The tribal and rural population of North Maharashtra has a very long tradition of the close relationships with wild plants. The number of wild edible plants is used by them to meet their nutritional, medicinal and economical demand. Various parts of these plants such as leaves, shoots, tubers, fruits, seeds, etc. are consumed safely by them. Among various part leaves are the most widely consumed part. In the rainy season tribal population is partially or fully dependent on wild leafy vegetables (WLVs) available in their environment to make many popular traditional dishes.

Several studies have been done on exploring the consumption of WEPs by local people in the North Maharashtra. Patil and Patil (2000) reported WEP species from Nashik district. Borse and Patwardhan (2011) enumerated WEP species from Thane and Nashik district of Maharashtra. Jadhav *et al*., (2015) presented a comprehensive checklist of WEP species from Northern Western Ghats of Maharashtra. Kuvar and Shinde (2019) documented the WEP species used by the Kokni tribal of the Nashik district of Maharashtra. Kshirsagar *et al*., (2012) documented wild fruits of North Maharashtra. Literature survey shows less work has been done specifically on wild leafy vegetables from Nashik, Dhule, Nadhurbar district of North Maharashtra.

Hence the present study was made to explore, identification and documentation of wild edible leafy vegetables (WLVs) used by the tribal and rural communities of North Maharashtra, particularly from Nashik, Dhule, Nadhurbar district of North Maharashtra, which will help to conserve those plants for future generations and traditional knowledge before whipping out.

STUDY AREA

This study is carried out in the North Maharashtra region, specifically Nashik, Nandurbar, Dhule district. This region is situated on the northern side of the Indian state of Maharashtra. It occupies 18.65% of the total area and holds 16.53% of the total population of Maharashtra. The region contains the largest 41.24% tribal population of the total tribal population of Maharashtra Aborigines are inhabited in this region such as *Bhil*, *Bhil Garsia*, *Kokna*, *Kokni*, *Kukna*, *Dongar Koli*, *Gamit*, *Gamta*, *Gavit*, *Pardi*, *Warli*, *Tadvi*, *Advichincher*, etc.. Most of the forest area is located in two main mountain ranges of North Maharashtra. the range of Western Ghats stretches from north to south across the western portion while the Satpura range stretches from east to west across the northern portion of North Maharashtra. The total forest area is 9.23 lakh hectares which is 16.07% of the total geographical area of the region. It consists of tropical dry deciduous forest. Temperature varies between 12°C to 46°C. Rainfall is not uniform all over the region. Western hilly regions receive very high rainfall (2600 mm) as compared to other parts of the region (700 mm). North Maharashtra has a tropical climate, with three distinct seasons: very hot and dry summer (March-May), Monsoon (June-September), cool and dry winter (October-February). It is rich in biodiversity and varying geographical conditions have ideal for the growth of a

variety of plants. Many WLV species existing naturally in forest, cultivated, and wastelands of the region.

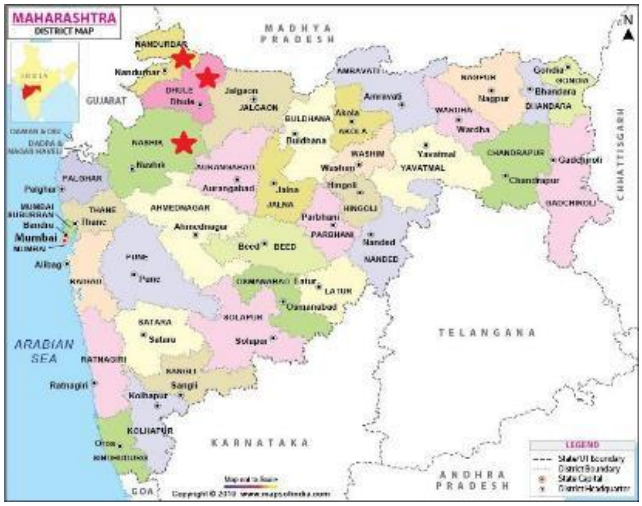

Figure 1: Map of Maharashtra showing study sites.

METHODOLOGY

Field survey was conducted in the forest, tribal and rural areas of North Maharashtra for the period of 2017-2020. The data was collected through discussions and interviews with tribal and rural peoples. The plant specimens were collected and identified with the help of Flora of Maharashtra, Flora of Nashik District, and experts in the field of taxonomy. It was confirmed by repeated inquiries in different seasons. Local food markets where the leaves are sold were also done so that seasonal availability and demand can be assessed. Data were collected about the habit, habitat, local names, method of collection of edible leaves, method of consumption and storage, seasonal availability. Collected data were documented in the tabulated form with respect to their botanical name (according to alphabetical order), habit, edible parts, season of availability, methods of consumption, etc.

STATISTICAL ANALYSIS

Documented information was analyzed using Microsoft Excel.

RESULT AND DISCUSSION

In this present study, 62 species of wild leafy vegetables eaten by tribal and rural peoples across the North Maharashtra have been documented and detailed information regarding scientific name, local names, family, habit, edible parts, seasonal availability, methods of consumption, frequency of use has been elaborated in Table 1. Out of 62 species, 61 species belong to Angiosperms and 1 belong to Pteriodophyte. 62 species belong to 26 families. Among these Asteraceae, Fabaceae, Amaranthaceae and Araceae were found to be the largest families with 29 species of WLV's and the rest are represented 01 to 03 species (Detail information is illustrated in Fig. 3). Herbs are the major source for WLV's with (43 species) followed by trees (07), climbers (07) and shrubs (05) (Fig. 2).

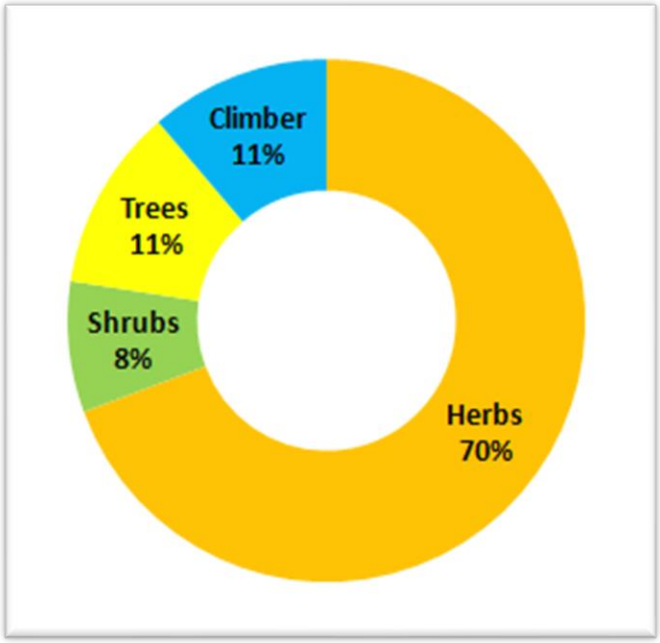

Figure 2: Life forms of WLV species in study region

WLV's are consumed traditionally through appropriate means of collection, preparation and preservation techniques. Different communities have different modes of consumption across North Maharashtra. Generally, young leaves and tender shoots are used. Method of preparation various species to species. Some vegetables are chopped before use while some directly use. Some vegetables need to boil before preparing recipes/ dishes to remove bitterness/antinutrients/poisonous components. Simple ingredients such as onion, garlic, chilies, local oil, salts are only used. Wild spices are generally used as ingredients to bring delicious taste to recipes.

Leaves of *Trachyspermum ammi*, *Begonia crenata*, *Abrus precatoriu*, *Oxalis corniculata*, *Portulaca oleracea*, *Ocinum americanum* are so delicious that they are also eaten as raw. *Celosia argentia*, *Alternanthera sessilis*, *Chenopodium album*, *Basella alba*, *Portulaca oleraceae*, *Rumex vesicarius*, *Colocasia esculenta* are some of the species that occurs in the agricultural field as weed and are widely consumed by rural peoples. Tribes from Trimbakeshwar and Surgana region of Nashik district sundry the leaves of *Sauromatum venosum and Cicer arietinum and stored for their use in off season also.*

Heracleum grande, Celosia *argentia*, *Sauromatum venosum*, *Amorphophallus commutatus*, *Colocasia esculenta*, *Ariopsis peltata*, *Chlorophytum tuberosum*, *Guizotia abyssinic*, *Vernonia anthelmintica*, *Clerodendrum serratum*, etc. are some of the widely consumed leafy vegetables in the tribal regions. So, they are in great demand in the local markets. Above species are occurs only in forest and not cultivated. As a result, these species are exploiting on large scale for commercial purposes. Therefore, the number of these species is decreasing day by day. The wild edible plants are the plants that grow spontaneously in self-maintaining populations in the natural or semi-natural ecosystem and exist independently of direct human action (FAO, 1999). So, there is an urgent need to reduce exploitation on large scale and aware to increase the number of these species to keep the traditional source of healthy food alive.

The peak season of availability of WLV's is the rainy season (June to October) (Table 1 and Fig. 4). Wild leafy vegetables grow in different localities (Detail information is illustrated in Fig.5). Forest is the home for the majority of WLV's. Most of the species of WLV's occurs and consumed in tribal regions than the rural region across North Maharashtra. Species that occur in tribal regions are different from species that occur in rural regions in the study area. *Colocassia esculenta and Chlorophytum tuberosum* for leaves and rhizomes, *Ocimum tenuiflorum*, *Trachyspermum ammi*, *Hibiscus cannabanis*, *Asparagus racemosa*, *Abrus precatorius*, *Rumex vesicarius for leaves*, *Sesbania grandiflora*, *Basella alba*, *Moringa oleferia* for leaves and fruits, are some species that have been growing by some tribal and rural peoples in their kitchen garden and on boundaries of agricultural field. *Carthamus tinctorius*, *Rumex vesicarius*, *Chenopodium album and Colocasia esculenta* are cultivated on small scale by rural peoples in some parts of the study region and commercially sale in local and urban food markets. The introduction of WLV's into the agricultural system can boost tribal and rural employment and generate income.

Despite the nutritional and medicinal importance, most of the WLV's are underutilized due to a lack of awareness and bioprocessing techniques. The need is to increase the awareness towards the the nutritional potential of wild leafy vegetables for sustainable development and empowerment of tribal region. The survey revealed several threats to wild plant species. The rapid erosion of traditional knowledge is one of the major threat, as this knowledge is considered to be the basis for their utilization (Shaheen *et al*., 2017). Due to socio-economical changes younger generations are not showing interest to carry out this knowledge practically. Another threat is loss of vegetation and utilization of land for cash crops which causes loss of these valuable food resources from their natural habitat (Yadav *et al*., 2012). The biggest challenges are to acquire and conserve the amorphous nature of this traditional knowledge (Vasundharan *et al*., 2015). Lack of traditional knowledge and scientific information is depriving these plants from using completely.

CONCLUSION

Present work defines the diversity of wild edible leafy vegetables used as food by tribal and rural communities of North Maharashtra in order to sustain their life. These edible plants provide food and nutrition such as vitamins, essential amino acids, minerals to stay healthy. Unfortunately, due to the modernization the traditional knowledge on the use of wild edible plants is vanishing. Present data helps in the conservation and management of these species. Wild leafy vegetables will help to screen out alternative healthy food resources to reduce the food insecurity and malnutrition problem throughout the world. In the future, it may play an important role in increasing global food diversity sustainably. Study suggests that efforts are needed to create awareness towards the use of WLV's to enhance the demand. Increase demand will encourage people to increase the area under cultivation for sustainable development and empowerment of local communities.

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REFERENCES

Bhogaonkar et al, (2010). Documentation of Wild Edible Plants of Melghat Forest, Dist. Amravati, Maharashtra State, India. Ethnobotanical Leaflets.14:751-758.

Borse, S. G. and Patwardhan, K.V. (2011). Contribution of less known plants to meet nutritional demand of 21st century. Journal of Ressearch Swayamprakash, 1: 64.

Chakravarty et al, (2016). A review on diversity, conservation and nutrition of wild edible fruits, Journal of Applied and Natural Science, 8 (4): 2346-2353.

Heywood, V. (1999). Use and Potential of Wild Plants in Farm Households. FAO Farm Systems Management Series 15.

Jadhav, R., M. N. Datar, A. S. Upadhye (2015). Forest food of Northern Western Ghats: Mode of consumption, nutrition, availability. Asian Agri-History. 19(4):293-316.

Kiran, K.C. et al, (2019). Diversity and Seasonal Availability of Potential Wild Edible Plants from Vidarbha Region of Maharashtra State, India. Int.J.Curr.Microbiol.App.Sci., 8(2): 1434-1446.

Kshirsagar, P. P., P. Y. Bhogaonkar, V. R. Marathe (2012). Underutilized wild fruits of North Maharashtra. J. of Research in Plant Sci. 1:071-076.

Kulkarni et al, (2015). Nutritious wild food resources of rajgond tribe, vidarbha, maharashtra state, india. Indian Journal of Fundamental and Applied Life Sciences., 5 (1): 15-25.

Kuvar, S .D. and Shinde, R. D. (2019). Wild edible plants used by Kokni tribe of Nashik District, Maharashtra. Journal of Global Biosciences, 8(02): 5936.

Patil, M. V. and D. A. Patil, (2000). Some more wild edible plants of Nashik District. Acient Science of Life, 102-104.

Sasi et al, (2011). Wild edible plant Diversity of Kotagiri Hills - a Part of Nilgiri Biosphere Reserve, Southern India. Journal of research in Biology, 2: 80-87.

Shaheen, S. et al, (2017). Conservation Measures and Sustainable Production of Edible Wild Plants. In: Edible wild plants: An alternative approach to food security, Saheen, Switzerland: Springer International Publishing AG.pg.157.

Sathyavathi R, Janardhanan K (2014). Wild edible fruits used by Badagas of Nilgiri District, Western Ghats, Tamilnadu, India. J. of Medicinal Plants Research. 8(2):128-132.

Thakur, D., A. Sharma and S. K. Uniyal, (2017). Why they eat, what they eat: patterns of wild edible plants consumption in a tribal area of Western Himalaya. Journal of Ethnobiology and Ethnomedicine, 13:70.

Thakur, A., S. Singh and S. Puri (2020). Exploration of wild edible plants used as food by Gaddis- A tribal community of the Western Himalaya. The Scientific World of Journal, 1-6.

Vasundharan, S.K., R. N. Jaishanker, A. Annamalai, N. P. Sooraj (2015). Ethnobotany and distribution status of Ensete superbum (Roxb.) Cheesman in India: A geo-spatial review.
Journal of Ayurvedic and Herbal Medicine, 1(2): 54-58

Yadav et al., (2012). Diversity of use and local knowledge of wild edible plant resources in Nepal. Journal of Ethnobiology and Ethnomedicine, 8:16

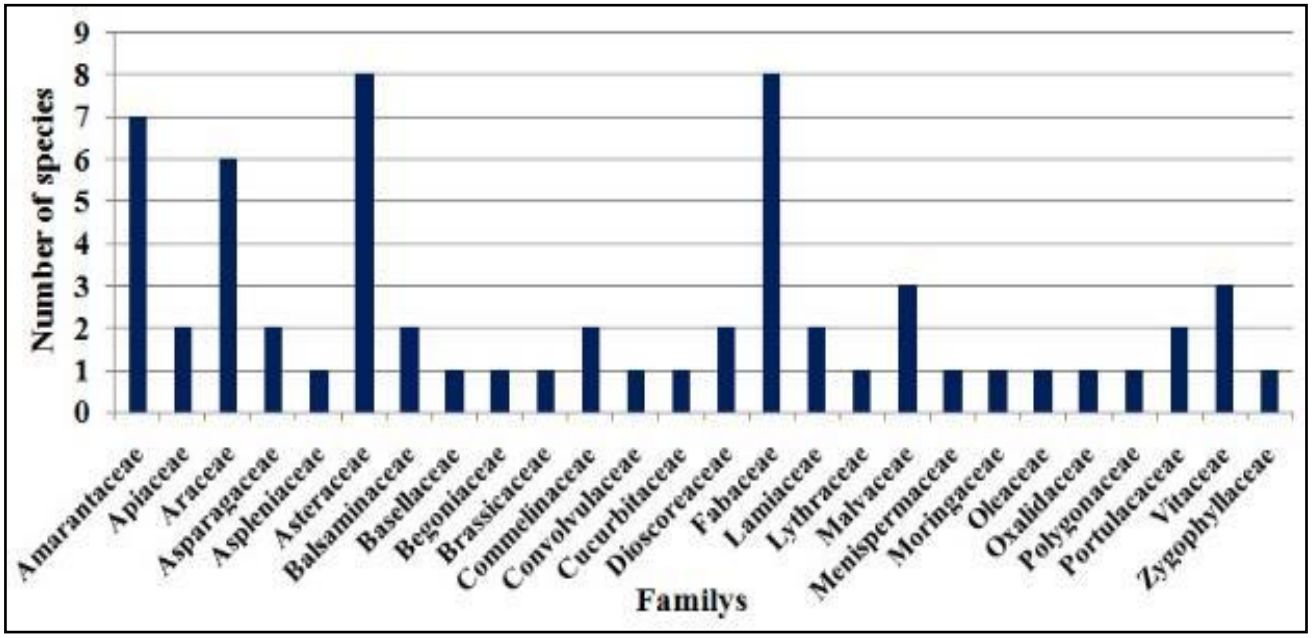

Figure 3: Familywise distribution on WLV species in the study region

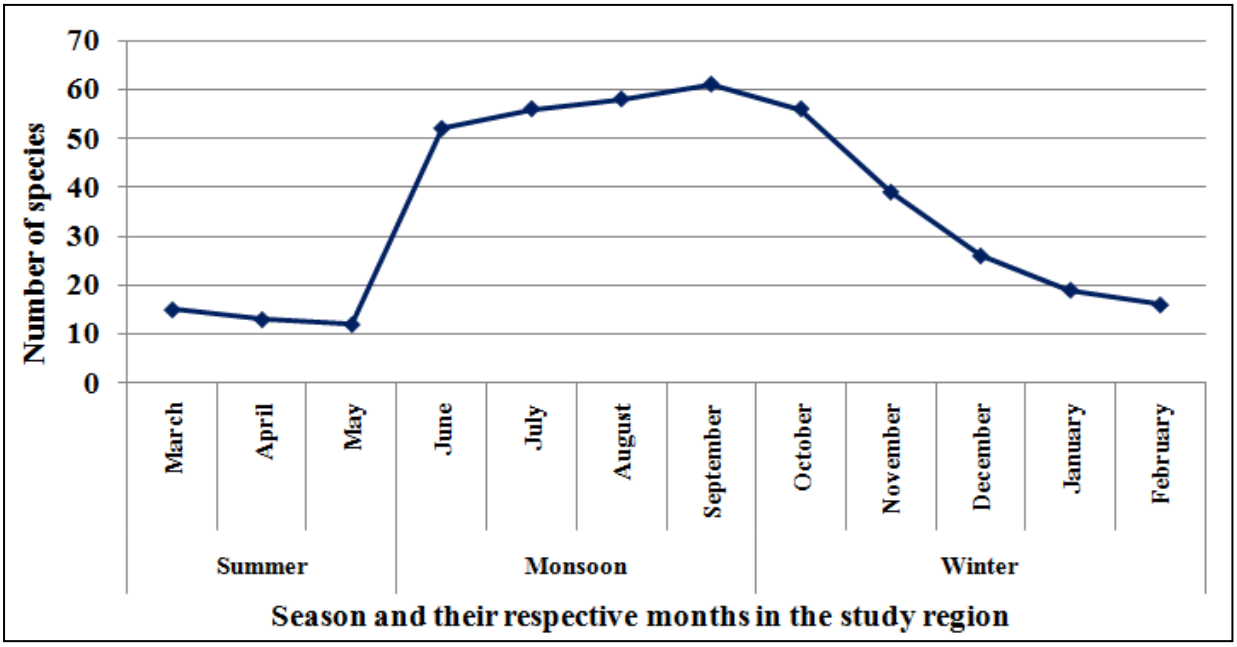

Figure 4: Availability of WLVs in the study region

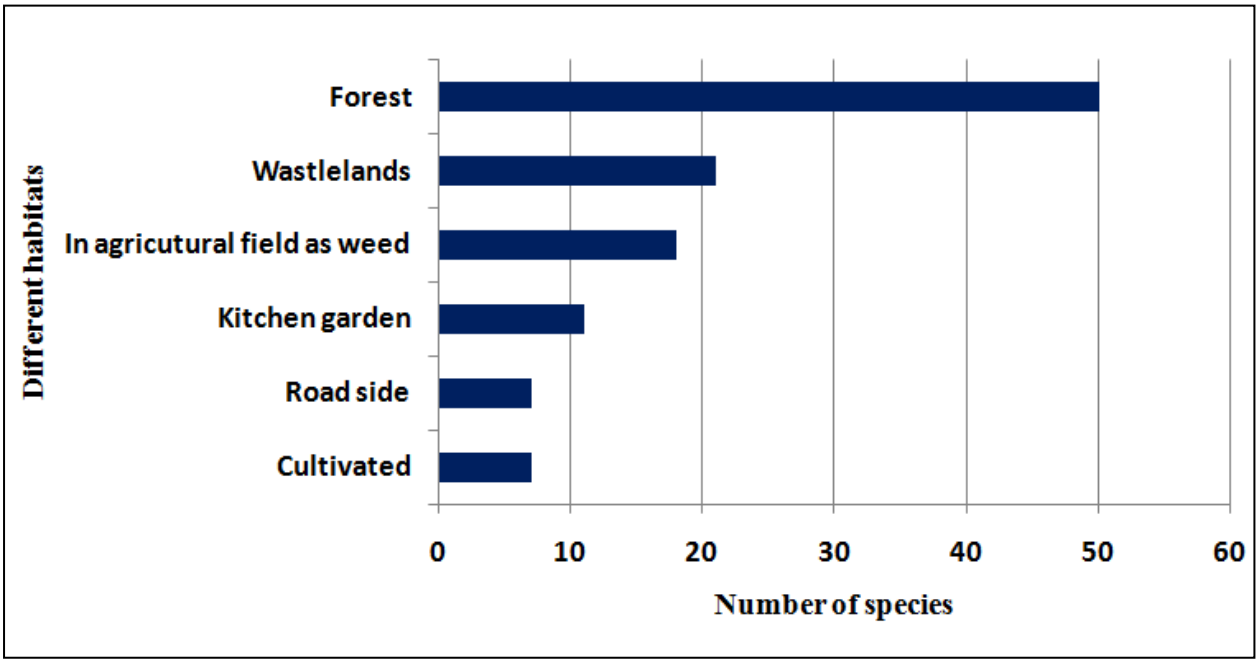

Figure 5: WLVs located in different habitats


Plate 1
Clerodendrum serratum
Oxalis corniculata
Amorphophallus sps.
Athyrium hohenacherianum
Hibiscus sabdariffa
Chenopodium album


Plate 2
Begonia crenata
Heracleum grande
Celosia argentia
Sonchus oleraceus
Commelina diffusa
Launaea procumbens


Plate 3
Smithia conferta
Ipomoea aquatica
Leea asiatica
Physalis minima
Rumex vesicarius
Caralluma adscendens


Plate 4
Asparagus racemosus
Chlorophytum tuberosum
Portulaca quadrifida
Ariopsis peltata

Plate 5

In tribal parts *Colocasia esculenta* is planted in kitchen garden for leaves and rhizomes.

Tribal women collecting leaves of *Hibiscus cannabanis* from kitchen garden

A rural man eating *Portulara oleraceae* as raw

Interview with tribal women for documentation of WLVs. (Giving information about how to prepare *Amorphophallus sps.* for cooking)

Plate 6

In some parts of study region, some local tribes collect wild food on seasonal availability from the forest and sit on the side of the road to sell them.

Collecting information from local tribal women selling wild leafy vegetables

Table 1: Wild leafy vegetables used by tribal and rural communities of North Maharashtra

Sr No.	Botanical Name	Local Names	Family	Edible Parts	Methods of Consumption	Habit	Seasonal availability	Frequency of use
1	*Abrus precatorius* L.	Gunj	Fabaceae	Leaves	Leaves eaten raw or used in Paan	Shrub	Aug.-March	Rarely
2	*Achyranthes aspera* L.	Aagheda	Amaranthaceae	Leaves	as vegetable	Herb	June-Oct.	Rarely
3	*Acmella paniculata (Wall.ex DC.)R.K. Jansen.*	Akkal-kara	Asteraceae	Leaves	as vegetable	Herb	Sept.-Jan.	Rarely
4	*Alternanthera sessilis* L.	Tandulka	Amaranthaceae	Leaves	as vegetable	Herb	June-Oct.	Commonly
5	*Amarantus spinosus* L.	Kate math	Amaranthaceae	Leaves	as vegetable	Herb	June-Dec	Commonly
6	*Amatanthus viridis* L.	Math	Amaranthaceae	Leaves	as vegetable	Herb	June-Dec	Commonly
7	*Amorphophallus commutatus* (Schott) Engl.	Sheval/ Badadya	Araceae	Leaves and Inflorescences	as vegetable	Herb	Leaves:- July-Oct. Flower:- May-June	Commonly
8	*Amorphophallus paeoniifolius* (Dennst.) Nicolson	Suran	Araceae	Leaves and Tubers	as vegetable	Herb	Leaves :- June -Nov. Tubers:- Nov.- March	Commonly
9	*Ariopsis peltata* Nimmo.	Khadak triri	Araceae	Leaves	as vegetable	Herb	June – Nov.	Commonly
10	*Arisaema murrayi* (J.Graham)Hook.	Badade	Araceae	Leaves	as vegetable	Herb	June-Sept.	Commonly
11	*Asparagus racemosus* willd.	Shatavari	Asparagaceae	Leaves	as vegetable	Climber	June-Dec.	Rarely
12	*Athyrium hohenackerianum* (Kze.) T.Moore	Akari	Aspleniaceae (Pteridophytic Plant)	Leaves	as vegetable	Herb	June – Sept.	Commonly
13	*Basella alba* L.	Mayalu	Basellaceae	Leaves	as vegetable	Climber	Throughout the year	Commonly
14	*Bauhinia purpurea* L.	Kuharool	Fabaceae	Leaves and Flowers	as vegetable	Tree	Leaves:- june-Nov. Flowers:- Jan.-April	Commonly
15	*Begonia crenata* Drynad.	Ambada	Begoniaceae	Entire plant	Entire plant eaten as raw and also used as a vegetable.	Herb	June – Oct.	Commonly
16	*Carthamus tinctorius* L.	Kardai	Asteraceae	Leaves and Seeds	Leaves are used as a vegetable while oil is extracted from seeds. Oil is used for cooking purposes.	Herb	Throughout the year	Commonly
17	*Celosia argentia* L.	Kurdu	Amaranth-aceae	Leaves	as vegetable	Herb	June-Oct.	Commonly
18	*Chenopodium album* L.	Chil	Amaranth-aceae	Leaves	as vegetable	Herb	June-March	Commonly
19	*Chlorophytum tuberosum* (Roxb.) Baker.	Kulee	Asparagaceae	Leaves	as vegetable	Herb	June-Oct.	Commonly
20	*Cicer arietinum* L.	Harbara	Fabaceae	Leaves	as vegetable	Herb	Throughout the year	Commonly
21	*Clerodendrum serratum* (L.) Moon	Bharangi	Lamiaceae	Young leaves and Fowers	Young leaves and flowers used as vegetable	Shrub	June – Nov.	Commonly

Sr No.	Botanical Name	Local Names	Family	Edible Parts	Methods of Consumption	Habit	Seasonal availability	Frequency of use
22	*Cocculus hirsutus* (L.)	Vasanvel	Menispermaceae	Leaves and Fruits	as vegetable	climber	Jan.- April	Rarely
23	*Colocasia esculenta* (L.) Schott	Alu cha Khand	Araceae	Leaves and Tubers	as vegetable	Herb	Leaves:- June-Dec. Tubers:- Nov.-Feb.	Commonly
24	*Commelia benghalensis* L.	Kena	Commelinaceae	Leaves	as vegetable	Herb	Junr-Oct.	Rarely
25	*Commelina diffusa* L.	Kena	Commelinaceae	Leaves	as vegetable	Herb	June- Oct.	Rarely
26	*Corchorus olitorius* L.	Chunch	Malvaceae	Leaves	as vegetable	Herb	June-Nov.	Rarely
27	*Crotalaria juncea* L.	Taag	Fabaceae	Leaves	as vegetable	Shrub	June-Oct.	Rarely
28	*Digera muricata* (L.)Mart.	Ran aghada	Amaranthaceae	Leaves	as vegetable	herb	Sept.-Jan.	Rarely
29	*Dioscorea hispida* Denst.	Ulashi	Dioscoreaceae	Tender shoots	As vegetables	Clim-ber	June-Oct.	Commonly
30	*Dioscorea pentaphylla* L.	Chaicha mohar	Dioscoreaceae	Flowers and Tender shoots	Flowers & tender shoot used as vegt.	Climber	Tender shoot:- June-Oct. Flowers:- Aug.- Oct.	Commonly
31	*Diplocyclos palmatus* (L.) C. Jeffrey	Shankar vel/ Shivlingi	Cucurbitaceae	Leaves	as vegetable	Climber	June-Dec.	Rarely
32	*Glossocordia bosvallia* (L.f.)DC.	Jangli shepu	Asteraceae	Leaves	as vegetable	Herb	July-Nov.	Rarely
33	*Guizotia abyssinica* (L.f.) Cass.	Khurasni	Asteraceae	Leaves and Seeds	Leaves used as vegetable. Oil is extracted from seeds.	Herb	June – Nov.	Commonly
34	*Heracleum grande (Dalz& Gibson) Mukhop*	Baphali	Apiaceae	Leaves and Seeds	Leaves used as vegetable & Seeds used as chutney & Spicy condiment	Herb	Leaves:- June-Nov. Seeds:- Oct.-Dec.	Commonly
35	*Hibiscus cannabanis* L.	Ambadi	Malvaceae	Leaves	as vegetable	Herb	June-Dec.	Commonly
36	*Hibiscus sabdariffa*	Lal Ambadi	Malvaceae	Leaves and Flower	Leaves are eaten as a vegetable while flowers are eaten raw	Herb	June-Nov.	Commonly
37	*Impatiens balsamina* L.	Terda	Balsaminaceae	Leaves	as vegetable	Herb	June-Oct.	Rarely
38	*Impatiens inconspicua* Benth. Ex Wight & Arn.	Gulabi Terda	Balsaminaceae	Leaves and Seeds	Leaves are used as vegetable. Seeds are eaten as raw	Herb	July-Oct.	Rarely
39	*Ipomoea aquatica* Forssk.	Naeichi Bhaji	Convolvulaceae	Leaves	as vegetable	Climber	June – Oct.	Commonly
40	*Lagerstroemia parviflora* Roxb.	Bondara	Lythraceae	Young leaves	Added into *Amorphophallus commutatus* vegetable to remove itching.	Tree	Throughout the year	Commonly
41	*Launaea procumbens* (Roxb.)	Pathri	Asteraceae	Leaves	as vegetable	Herb	Throughout the year	Commonly

Sr No.	Botanical Name	Local Names	Family	Edible Parts	Methods of Consumption	Habit	Seasonal availability	Frequency of use
42	*Leea asiatica* (L.) Ridsdale	Dinda	Vitaceae	Leaves and young shoots	as vegetable	Tree	June-Nov.	Commonly
43	*Leea indica* (Burm.f.) Merr.	Dinda	Vitaceae	Leaves and young shoots	as vegetable	Tree	June- Dec.	Commonly
44	*Leea macrophylla* Roxb.	Sapud	Vitaceae	Young leaves and Young flowers	as vegetable	Shrub	June-Oct.	Rarely
45	*Moringa oleferia* Lam.	Shevga	Moringaceae	Leaves, Flowers and Young pod	as vegetable	Tree	Throughout the year	Commonly
46	*Ocimum tenuiflorum*	Ran tulas	Lamiaceae	Leaves and Seeds	Leaves are eaten raw or add in preparation of tea. Seeds are used in preparing sharbat	herb	Throughout the year	Commonly
47	*Oxalis corniculata* L.	Ambushi/ Jharjhura	Oxalidaceae	Leaves	as vegetable	Herb	June - Dec.	Rarely
48	*Portulaca oleraceae* L.	Ghol	Portulacaceae	Leaves	as vegetable	Herb	Throughout the year	Commonly
49	*Portulaca quadrifida* L.	Chigal/ Chiwa	Portulacaceae	Leaves	as vegetable	Herb	Sept.-Jan.	Commonly
50	*Raphanus sativus* L.	Mula	Brassicaceae	Leaves and Roots	Leaves are used as a vegetable. Roots are eaten as raw as salad and also used as a vegetable	Herb	Throughout the year	Commonly
51	*Rumex vesicarius* L.	Chuka/ ambat chukka	Polygonaceae	Leaves	as vegetable	Herb	Aug.-Jan.	Commonly
52	*Sauromatum venosum* (Dryand. Ex Aiton) Kunth	Loth	Araceae	Leaves	as vegetable	Herb	June- Sept.	Commonly
53	*Schrebera swietenioides* Roxb.	Mhoka/ Moki	Oleaceae	Leaves	as vegetable	Tree	June - Nov.	Commonly
54	*Senna occidentalis* (L.) Link.	Ran-takala	Fabaceae	Young leaves and Seeds	Young leaves are used as vegetable. Seeds are roasted and eaten	Shrub	June-Oct.	Rarely
55	*Senna tora* (L.) Roxb.	Torota/ Takala	Fabaceae	Young leaves and seeds	Young leaves are used as vegetable. Seeds are roasted and eaten	Herb	June-Nov.	Rarely
56	*Sesbania grandiflora* (L.) Pers.	Hadga	Fabaceae	Leaves, Flowers and Young pod	as vegetable	Tree	Throughout the year	Leaves rarely Flowers commonly
57	*Smithia conferta* J.E. Smith.	Kaula	Fabaceae	Leaves	as vegetable	Herb	June - Oct.	Commonly

Sr No.	Botanical Name	Local Names	Family	Edible Parts	Methods of Consumption	Habit	Seasonal availability	Frequency of use
58	*Sonchus oleraceus* L.	Mhatara	Asteraceae	Leaves	As vegetable	Herb	June-Sept.	Rarely
59	*Trachyspermum ammi* (L.) Sprague	Ova	Apiaceae	Leaves	Leaves are used to prepare chutney and also eaten as raw	Herb	Throughout the year	Rarely
60	*Tribulus terrestris L.*	Gokhru/ Sarata	Zygophyllaceae	Leaves	as vegetable	Herb	Throughout the year	Rarely
61	*Vernonia anthelmintica* (L.) Willd.	Donger jira	Asteraceae	Leaves	as vegetable	Herb	July.- Nov.	Commonly
62	*Vernonia cinerea* L.	Sahadevi	Asteraceae	Leaves	as vegetable	Herb	June-Oct.	Rarely