A Review of wild edible plants in Manipur: Enhancing sustainable livelihoods and economic development in the Indo-Myanmar Hotspot Region

Maisnam Milochka Leisembi, Robert Panmei, Pinaki Adhikary, Salam Dilip and RS Loushambam

Correspondence

Maisnam Milochka Leisembi[1], Robert Panmei[1*] Pinaki Adhikary[2] Salam Dilip[1] and RS Loushambam[1]

[1]Laboratory for Ethnoforestry and Tree Systematics, Department of Forestry, Manipur University, Indo-Myanmar Road, Canchipur, Imphal – 795003, Manipur, India
[2]Forest Systematic and Ethnobiology Laboratory, Department of Forestry, Northeastern Regional Institute of Science and Technology, Nirjuli 791109, Arunachal Pradesh, India

*Corresponding Author: rpanmei4@gmail.com

Ethnobotany Research and Applications 29:59 (2024) - http://dx.doi.org/10.32859/era.29.59.1-50
Manuscript received: 09/09/2024 – Revised manuscript received: 12/11/2024 - Published: 12/11/2024

Review

Abstract

Background: Wild edible plants immensely benefit the livelihood, culture, and the economy of people mostly residing near forests and remote areas. The study aims to present taxonomic diversity and utilization patterns of the WEPs in Manipur state as well as to identify the commonly used WEPs among different ethnic groups, that could be prioritized for enhancing economic and livelihoods.

Methods: A total of 44 research articles of primary field studies emphasizing on wild edible plants are scrutinized. Market surveys are conducted to gain insight into the market values of the WEPs. Relative Frequency of Citation and market value are determined to identify potential species for economic and sustainable livelihood ventures.

Results: The study identified 408 WEPs distributed across 93 families and 248 genera. Among the various edible categories, the use of leaves in cooked vegetable form is the most prevalent. The inflorescence of *Wendlandia glabrata* (120-150 INR/kg), dried fruits of *Rhus chinensis* (100-150 INR/kg), fruits of *Litsea cubeba* (100-120 INR/kg), shoot of *Cycas pectinata* (80-100 INR/kg), and leaves of *Zanthoxylum acanthopodium* (40-50 INR/kg) shows higher RFCs and market value, indicating higher market potential that could significantly improve the livelihood of local communities.

Conclusion: The study present opportunities for future bioprospecting and domestication of these promising species for livelihood and economic enhancement. By promoting and valuing WEPs, we can diversify our food sources, alleviate pressure on agriculture, improve socio-economic conditions, understand local ecosystems, and preserve cultural heritage.

Keywords: Wild edibles, economic plants, livelihood, Ethnobotany, Indo-Myanmar biodiversity hotspot

Background

Wild edible plants (WEPs) are native or naturalised non-domesticated plants that grow in their natural habitats like forests, wetlands, and other non-agricultural areas without the intervention of humans. WEPs offer us a connection to the land, a taste of the wild, and a sustainable source of nourishment and livelihood. The culture of consumption of wild edible plants as food and medicine has been widely exercised by the tribal and non-tribal communities living in rural and semi-urban settings across the world (Ray *et al.* 2020). For centuries, indigenous communities worldwide have embraced wild edible plants as an integral part of their diet (Tardio *et al.* 2006). Only nearly thirty domesticated plant species contribute significantly to the diets of humans worldwide, while only three principal cereal grains - rice, wheat, and maize - account for over half of the world's calorie intake (FAO 2010). This highlights the importance of exploring and utilizing the vast array of WEPs available to us for a more diverse and sustainable food system.

The FAO (2017) reported that the number of people suffering from chronic undernourishment worldwide increased from 777 million in 2015 to 815 million in 2016. The report indicates that the cultivation and consumption of WEPs may offer a viable solution to mitigate this undernourishment crisis. WEPs also play a vital role in reducing poverty, improving food security, diversifying agriculture, generating income, and combating malnutrition (Doni & Gajurel 2020). Some studies further highlight the nutritional benefits of WEPs, showcasing their richness in minerals, vitamins, carbohydrates, proteins, fats, and fiber. Studies also proven that the nutritional value of some wild edible plants surpasses to that of domesticated varieties, emphasizing their potential contribution to combating malnutrition and related health issues (Deshmukh & Waghmode 2011; Gogoi *et al.* 2023; Afolayan & Jimoh, 2009; Grivetti & Ogle 2000; Panmei *et al.* 2016; Shad *et al.* 2013).

The Indian sub-continent is one of the world's 12 mega diversity centers and harbors about 22214 species of Angiosperms and 83 species of Gymnosperm (Mao *et al.* 2024). The forest of India provides a source of edible plants whose leaves, fruits, seeds, roots, etc. still make an important contribution to the dietary habits of the poor particularly those living near the forest (Krishnamurthy 1993). Manipur, a northeastern state of India, features a diverse topography comprising valleys and hill ranges. With a total geographical area of 22327 km^2, the state predominantly consists of hilly terrain, encompassing 91.85% of the landmass (Guite 2016). The forest covers about 74% of the state's total geographical area (FSI 2021) and is a part of the Himalaya and Indo-Burma Global Biodiversity Hotspots (Mittermeier *et al.* 2011). The state also serves as a gene bank for many domestic crops and a habitat for several species of economically important plants and animals (Chatterjee *et al.* 2006). Besides, the state is home to numerous ethnic communities, each of which has a unique culture and heritage. In addition to the predominant indigenous group, the Meiteis, there are 32 recognized scheduled tribes and numerous unscheduled tribes that cohabit in the hilly and forested regions of the state (Zou 2018).

The diverse ethnic groups in the state have a long history of utilizing plants in their traditional practices, consuming various plant parts based on knowledge passed down through generations. These diverse communities, along with the rich forest resources and associated knowledge provide a captivating backdrop for ethnobotanical studies. Various ethnobotanical works have been published across different districts of Manipur, focusing on ethnobotany and related disciplines, particularly the traditional ecological knowledge and practices of these communities. The first botanical exploration of Manipur was made by G. Watt. who served as a botanist during the boundary survey of 1881-1882 (Singh *et al.* 2000). In Manipur state, prominent ethnobotanical work was believed to be pioneered by Singh and Singh (1985). Thereafter, numerous ethnobotanical studies have been prompted by the growing interest in foraging for wild food plants, even in contemporary communities (Devi and Salam 2016; Konsam *et al.* 2016; Lokho & Narashimhan 2013; Panmei *et al.* 2019; Rajkumari *et al.* 2013; Yaipharembi *et al.* 2023). The present study focuses on addressing the challenge of widely dispersed information on WEPs by creating a comprehensive checklist based on published the articles from the year 2000 to 2024. The study aims to i) present taxonomic diversity of WEPs, ii) various preparation, and consumption methods of the WEPs, iii) identify the most widely used WEPs among different ethnic groups, that could be prioritized for improving livelihoods and economic enhancement.

Materials and Methods

Study area and the communities

The state Manipur situated between 23.83°N to 25.68°N latitudes and 93.03°E to 94.78°E longitudes with 1820 km^2 of the flat plateau of the alluvial valley and 20507 km^2 of hill areas is one of the northeastern states of India (Figure 1). The state borders Nagaland to the North, South of Manipur is Mizoram, East of Manipur is upper Myanmar, and West of Manipur is the Cachar district of Assam. The major forest types of the state range from tropical to sub-tropical and temperate deciduous forests (FSI 2021). The state Manipur is known for its diverse ethnic communities, boasting more than 32 distinct groups that

contribute to its rich culture and heritage. The dominant ethnic groups in Manipur include the Meitei/Meetei, Naga, Kuki-Chin-Mizo (also known as Kuki-Chin or simply Kuki), the Intermediate group, and the Meitei Pangal constituting a total population of about 2855794 (Census 2011). Intermediate groups have identity linkages with the major groups, i.e., the Naga and Kuki (Zehol 1998). The major ethnic groups with their population as per Census 2011 and dominant district are presented in Table 1.

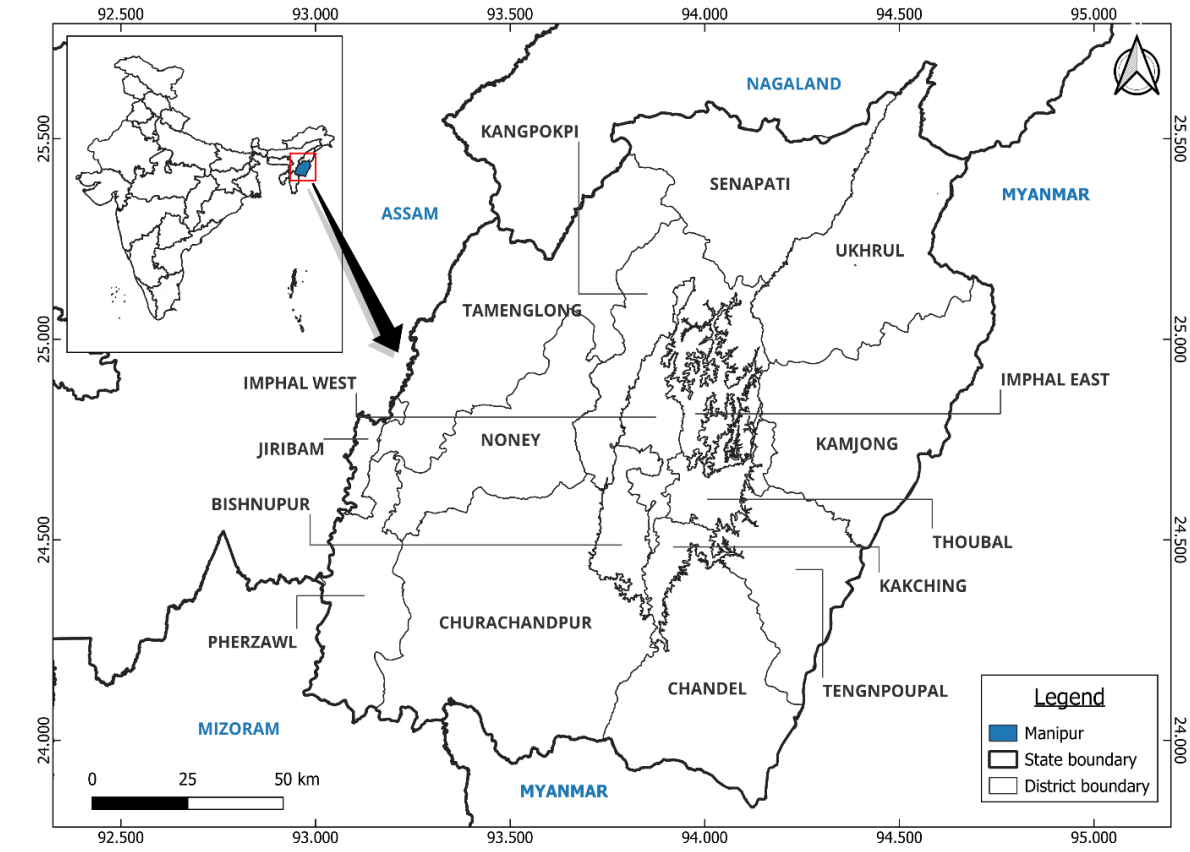

Figure 1. Study sites- Map of Manipur showing different administrative district

Table 1. Major ethnic groups with their tribes, dominant district, and population.

Major ethnic group	**Tribal groups**	**Dominant district**	**Total population (in million as per Census 2011)**
Meitei/Meetei and Meitei Pangal	Meitei/Meetei and Meitei Pangal	***Valley region***: Imphal east, Imphal west, Bishnupur, Jiribam, Thoubal and Kakching	1.49 (52.22 %)
Naga	*Tangkhul, Mao, Maram, Zeme, Liangmei, Kabui (Rongmei), Inpui,* and *Thangal*	***Hill region***: Tamenglong, Noney, Ukhrul, Kamjong, Senapati, Kangpokpi	0.67 (23.59%)
Kuki	*Thadou, Paite, Hmar, Vaiphei, Simte, Gangte, Sukte, Mizo/Guite, Lushai,* and *Zou*	***Hill region***: Kangpokpi, Chandel, Tengnoupal, Pherzawl, and Churachandpur	0.45 (15.69%)
Intermediate groups	*Aimol, Chiru, Koireng, Kom, Anal, Chothe, Lamkang, Koirao, Purum, Maring, Monsang,* and *Moyon*	***Hill region:*** Chandel, Tengnoupal, Churachandpur	0.045 (1.59%)
Others	*Nepalis, Biharis, and other communities of India*	***Valley region:*** Imphal east, Imphal west, Bishnupur, Jiribam,	0.197 (6.91%)

Each of these groups has unique customs, traditions, languages, dietary practices, and festivals deeply rooted in their respective cultures. It is worth noting that many of these communities rely on forest resources for their livelihoods ((Devi *et al.* 2010; Panmei *et al.* 2019).

Data Collection

The information was gathered from scientific research articles and book chapters that were published in repute journals. Both online repositories and offline journals were scrutinized except for revisions, abstracts, conference proceedings, and seminar or symposium reports. Systematic online databases such as SCOPUS, PubMed, Researchgate, JSTOR, NISCAIR and Google Scholar are accessed by incorporating specific keywords like 'Wild edible plants,' 'Wild fruits,' 'Wild vegetables,' 'Ethnobotany,' 'Ethnomedicine,' 'Non-timber forest products (NTFPs),' 'Indigenous knowledge,' 'Spices and condiments,' 'Traditional food,' etc. Subsequently, 44 research articles were gathered for analysis, comprising 42 research articles from reputable journals and 2 book chapters published during the year 2000 to 2024. These selected works prioritize primary field studies and serve as essential references for the study at hand. The comprehensive list of consulted literature sources, including their respective reference numbers and species count, is meticulously documented in supplementary file 1 for easy reference and verification purposes.

Data analysis and botanical nomenclature updates

All the species cited in the articles are sorted out alphabetically in MS Excel along with the number of citations, families, and utilization patterns. The plant botanical names without species epithets are excluded in data analysis, as it may persist ambiguity in the selection for prioritization. In the initial stages of our compilation, we identified approximately 70 widely cultivated species, such as *Oryza sativa* (paddy), *Pisum sativum* (garden pea), *Zea mays* (maize), *Zingiber officinalis* (ginger), *Solanum tuberosum* (potato), and others. However, these species have been excluded from the current study as they do not align with the criteria of wild edibles and the objectives of our research.

For updated botanical nomenclature, authority, and families delimitation, www.plantsoftheworldonline.org, www.worlfloraonline.org, and APG IV (2016) classification are referred. Market surveys are also conducted in Noney, Kakching, and Imphal districts to gain insight into the market values of the WEPs. A standardized weight unit (in kilogram) was established for all edible plant and their parts sold in the markets, whether in bundles, heaps, or other forms, using a portable digital weighing device and their average values are calculated accordingly. For some species with taxonomic uncertainty, plants were collected from Langol and Nongmaiching Reserve Forest Imphal, Chandel, Tamenglong. Accordingly, herbarium specimens of these species were also prepared following standard methodology (Das 2021). The voucher specimens' number of some collected species are presented in supplementary file 1. These specimens were deposited in the herbarium of the Department of Forestry, Manipur University for further study and reference.

Categorization of utilization pattern

To comprehend the usage pattern and mode of consumption, the WEPs were classified into 7 (seven) categories viz. 1. Vegetable Raw (Veg-R), 2. Vegetable Cooked (Veg-C), 3. Vegetable Processed (Veg-P), 4. Fruits Raw (Fr-R), 5. Fruit Processed (Fr-P), 6. Spice and Condiment (Sp-C), 7. Food Medicine (F-Med) (Haokip and Panmei 2022). Plant parts such as leaves, stems, flowers, etc., that are chewed directly or used in salads or chutneys fall under the Veg-R category; vegetables that are consumed after cooking, boiling, frying, roasting, or used in soups and porridges are categorized as Veg-C; while vegetables preserved in fermented or dried form are classified as Veg-P. Fruits that are eaten directly when ripe or unripe are categorized as Fr-R, dried fruits, pickles, and roasted fruits fall under Fr-P, and wild edible plants of the same part(s) that are also used as medicine are placed under F-Med. Nevertheless, plants that are specifically cultivated for medicinal purposes and consumed orally do not fall under the F-med classification.

Selection of potential species for sustainable livelihood

For the selection of potential species, we use two criteria viz., Relative Frequency of Citation (RFC) and Marketing Values of the WEPs. Species with high RFC values and higher marketing values were considered potential for economic and sustainable livelihood ventures. The RFCs of each recorded species were determined following Tardio and Pardode-Santayana (2008) where RFCs= FCs/N, such that FCs is the number of literature sources mentioning the species and N is the total number of literature sources consulted (here N=44). Species that exhibit higher RFCs are also those commonly utilized by various ethnic groups.

Results and Discussion

Our study compiles and present a checklist of WEPs consumed by various ethnic communities in Manipur state, which are regularly collected from the natural habitats like forests, trees outside the forests and wetlands. These WEPs are seasonal, and consumption patterns vary among tribal people due to diverse cultures and traditions. The 6 valley districts viz., Imphal east, Imphal west, Bishnupur, Jiribam, Thoubal and Kakching are more explored in terms of WEPs and ethnobotany compared to the hill districts (Fig. 2). However, the rate of consumption and dependency could be higher in the hilly regions due to its varied vegetations. In supplementary file 2, all the WEPs are arranged alphabetically with their local names, parts used, and utilization patterns.

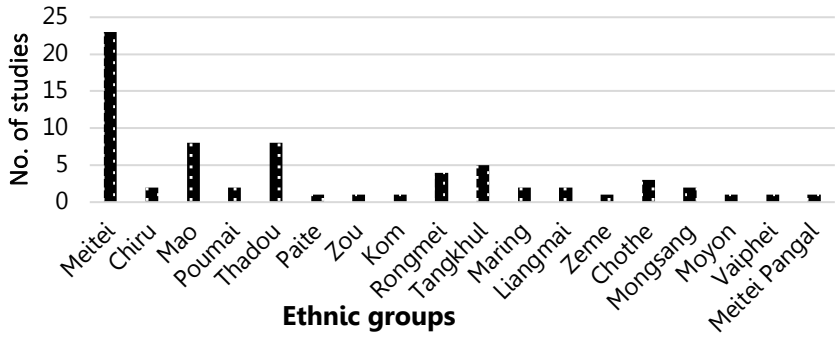

Figure 2. Number of studies on WEPs among various ethnic groups

Taxonomic diversity of the WEPs

The comprehensive analysis from 44 research articles (Supplementary file 1), reveals ethnobotanical and taxonomic insights into a total of 408 WEPs distributed across 93 families and 248 genera. Angiosperms with 397 species represent the highest number of edible plants followed by pteridophytes (9 species) and gymnosperm (2 species).

When the recorded angiosperm groups are treated with APG IV, it is observed that almost all the major clades are represented by the species. Within the early and basal angiosperms, order Nymphaeales has the maximum species (8 species), followed by Laurales and Piperales with 4 and 3 species respectively under the clade Magnoliids. Among the monocots, the majority are represented under Commelinids (58 species) where the order Poales is the dominant one contributing 24 edible species. Additionally, more than 75 % (314 species) of species fall under Eudicots, where the clade Rosids represent the highest with 155 species, followed by Asterids with 105 species. Among the Rosids, orders Rosales, Malpighiales and Fabales contribute the highest number of edible species with 41, 28 and 23 species respectively. The species represented in different orders under APG IV is shown in Figure 3.

Among the Angiosperms, the family Asteraceae has the highest number of edible plants with 24 spp. followed by Fabaceae with 23 spp., Poaceae with 21 spp. and the remaining families with 1-20 species. In terms of Angiosperms genera, *Ficus* is the dominant one with 13 spp. followed by *Persicaria* with 11 spp., *Dendrocalamus* (8 spp.), *Solanum* (6 spp.) while the remaining genera are represented by 1-5 species. On the other hand, 9 species of Pteridophytes are represented by 5 families and 7 genera while Gymnosperm is represented by 2 families with genus each. The significant contribution of the Asteraceae and Fabaceae families to the availability of wild edibles may be attributed to the widespread distribution of their species across the state. These two families are recognized as one of the largest families in the flora of Manipur (Singh *et al.* 2000), making it convenient for locals to gather and utilize their species. Additionally, Manipur boasts a rich diversity of bamboo, with nearly all tender shoots being edible, except for a few species like *Bambusa tulda*. Among the 136 bamboo species documented in India, Manipur accounts for 53 species under 9 genera (Devi and Sharma 1993). Bamboo brakes cover an extensive area of 8377 km^2, which constitutes approximately 48% of the state's Recorded Forest Area (FSI 2021). This likely explains the prevalence of Poaceae as one of the prominent families among the various wild edible families. The graphical representations of the 10 highest families and genera are presented in Fig. 4 & 5. It is worth noting that out of the total 22214 angiosperm species recorded from India (Mao *et al.* 2024), the present compilation of 408 WEPs from the Manipur state contributed about 1.83 % of the country's angiosperm floras. From the approximately 2500 flowering plants found in Manipur state (Chatterjee *et al.* 2006), the domain of wild edible plants makes up about 16.32 % of the state's flora, making it a noteworthy record due to the significant contribution made solely by wild edibles.

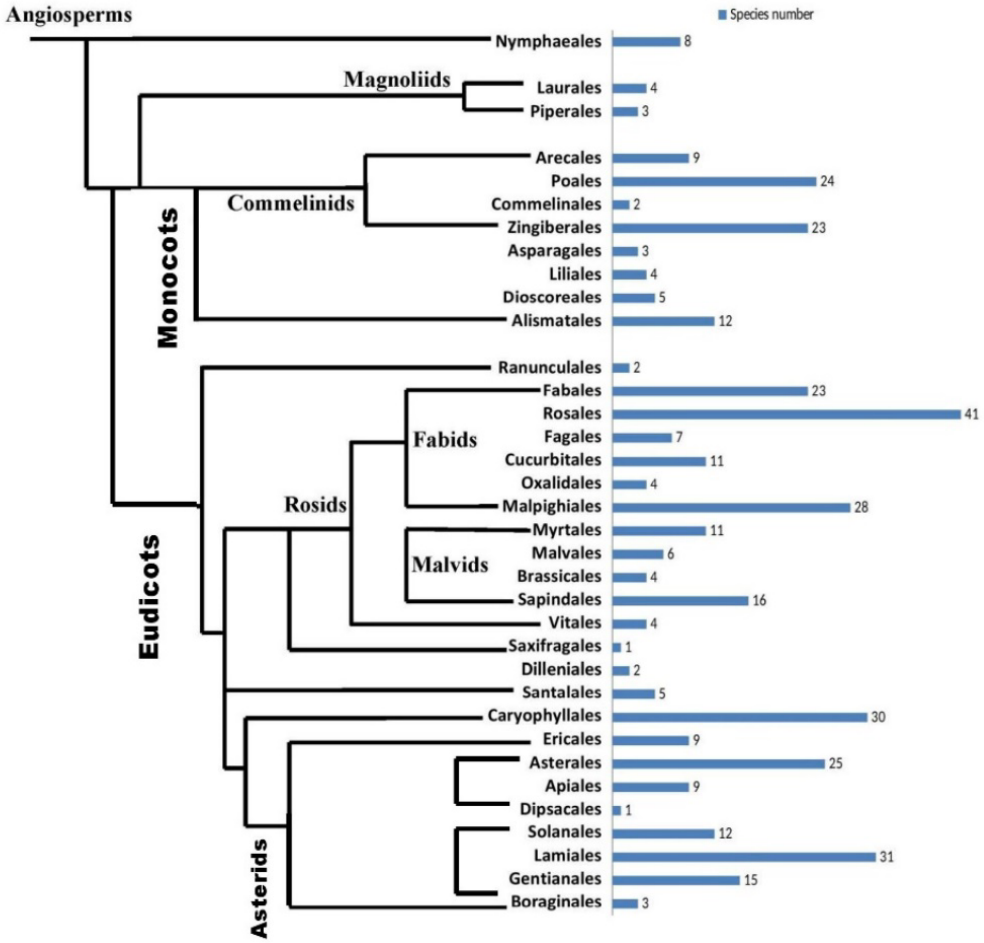

Figure 3. Number of wild edible species in different Orders and Clades as per APG IV classification

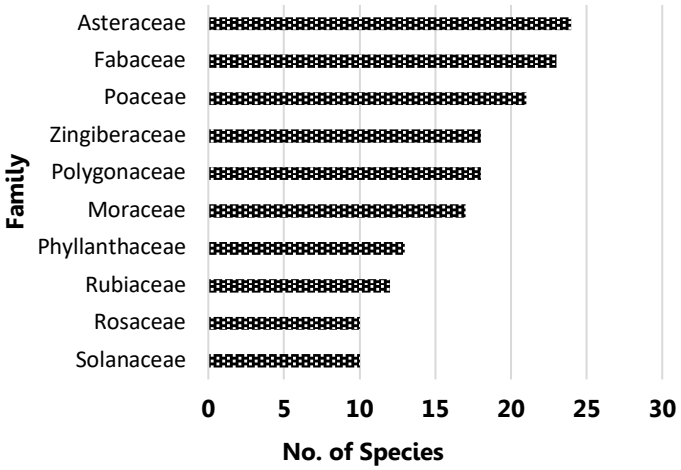

Figure 4. Species in most important families

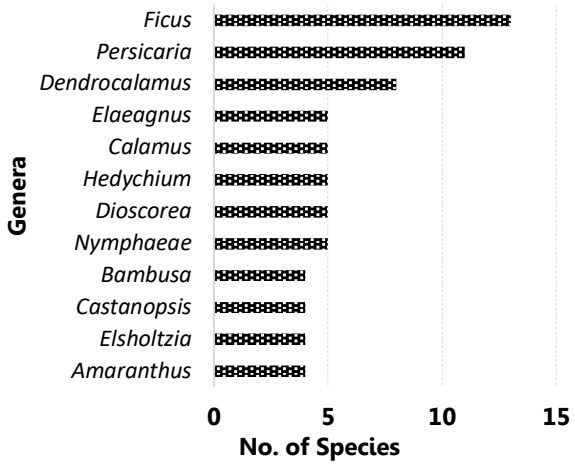

Figure 4. Species in most important genera

In comparison to Arunachal Pradesh, a northeastern state of India, which boasts the highest flowering plant diversity of approximately 5000 species (Chatterjee *et al.* 2006) with 632 angiosperms identified as WEPs (Gajurel *et al.* 2022), the Manipur state exhibits a higher proportion of wild edibles within its state floras. The number of WEPs of Manipur is also comparable to those of Ethiopia which harbors about 413 species (Lukelal *et al.* 2011). This can be attributed to the abundance of wetland ecosystems, including the famous Loktak Lake (a Ramsar site), and 15 other wetlands in valley districts (ENVIS 2024). These ecosystems provide a thriving habitat for a diverse array of wild aquatic herbs like *Euryale ferox*, *Ipomoea aquatica*, *Nelumbo nucifera*, *Neptunia oleracea*, *Sagittaria sagittifolia*, *Trapa natans,* etc. that are utilized in various culinary, either cooked or consumed raw. Moreover, a significant portion of Manipur's forests (around 75%) are categorized as Unclassed Forest types, i.e. neither Reserved nor Protected (FSI 2021), thereby enabling locals to harvest WEPs for their sustenance and income generation.

Plants part(s) use and utilization pattern

The consumption of plant parts varies, with above-ground parts being utilized more frequently (94.58%) compared to underground parts (5.42%). Above-ground parts consist of inflorescences (flower, flower buds), fruits (mesocarp, acorn, legume or pod, seeds), leaves (leaf buds, young leaves, frond), stem (pseudostem, pith), barks, young shoots (sprout, young twig), and whole plants, while underground edible parts include tuber, rhizome, root, bulb, and corm. Some species such as *Aegle marmelos*, *Alpinia nigra, Hedychium marginatum, Alpinia galanga, Curcumis anguira, Citrus medica*, etc., exhibit multiple edible parts, showcasing the versatility and significance of these plants locally.

For better understanding, all the recorded species have been grouped into 7 categories, Vegetable Raw (Veg-R), Vegetable Cooked (Veg-C), Vegetable Processed (Veg-P), Fruits Raw (Fr-R), Fruit Processed (Fr-P), Spice and Condiment (Sp-C), Food Medicine (Med). Many of the species overlap in the categorization of utilization patterns. For example, the whole plant of *Achyranthes aspera* and rhizome of *Amomum aromaticum* are used as both Veg-C and F-Med, fruits of *Zanthoxylum armatum* are used as spices and their leaves are used as Veg-C and Veg-R, young shoots of *Dendrocalamus hamiltonii* and *Bambusa nutans* are used in both Veg-C and Veg-P and leaves of *Meyna spinosa* are eaten as Veg-R and its fruits are either used as Fr-R and Fr-P signifying the versatile uses of the species.

Among the various mode of consumptions of the different plant parts, leaves in Veg-C form represent the highest mode of consumption where 128 species were used followed by Fr-R (92 species), Veg-C of young shoots with 65 species, etc. Ttable 2). The maximum use of leaves in Veg-C leaves may be attributed to the rich traditional knowledge in preparation of varieties of cuisines among various communities. *Eronba*- a mashed vegetable dish, usually prepared with boiled vegetables, *Kangsoi/Chamthong*- stewed Vegetable, *Ooti* and *Chagempomba*- a porridge-style dish cooked with vegetables, *Kangsu*- a spicy dried side dish prepared with boiled vegetables, *Bora*- a fritter-style dish prepared from aromatic herbs, *Kangou* - stir-fry of mixed vegetables in hot oil are various form of Veg-C usually practiced by Meitei (Yaipharembi *et al.* 2023) and other communities of the state.

Table 2. Species distribution among various modes of utilization and plant part use

Mode of Utilization	Above ground							Underground				
	Leaves	Stem	Bark	Young Shoot	Whole Plant	Inflorescence	Fruit	Roots	Tubers	Rhizome	Corms	Bulb
F-Med	24	0	1	6	4	11	10	0	0	0	0	0
Veg-C	128	15	1	65	20	37	25	3	11	12	2	1
Veg-P	0	0	0	8	0	0	0	0	0	0	0	0
Veg-R	35	10	0	23	2	12	6	1	2	2	1	0
Fr-R	0	0	0	0	0	0	92	0	0	0	0	0
Fr-P	0	0	0	0	0	0	25	0	0	0	0	0
Sp-C	7	0	2	0	0	3	6	0	0	1	0	0

The use of 35 species in Veg-R form may be attributed to indigenous dish known as *singju*, which is prepared by mixing all the edible vegetables thoroughly in raw. Almost all the raw vegetables are used in the preparation of *singju*. It can be eaten on its own or also with lunch and dinner as a side dish. Since it contains many vegetables, it has high nutrient potential and is very healthy to a certain amount regularly (Singh and Devi 2015; Yumnam and Tripathi 2012). Some of the species used in the preparation of *singju* includes *Meyna laxiflora, Centella asiatica, Cycas pectinata, Elsholtzia stachyodes,* etc. In addition to their diverse uses, the fruits of *Baccaurea ramiflora, Docynia indica, Elaeocarpus floribundus, Ficus semicordata, Phyllanthus acidus, Prunus napaulensis, Rhus semialata, Spondias pinnata*, and *Ziziphus mauritiana* have been processed into various products such as candies, pickles, jams, and beverages. These processed items are sold in the market in Imphal at significantly higher prices compared to their unprocessed counterparts. This not only empowers women but also contributes to income generation, skill development, and the overall economic status of the society (Romabai *et al.* 2022).

Wild edible plants in the local healthcare system

Numerous wild edible plants not only offer a nutritious diet but are also utilized in treating human ailments or as nutraceuticals. About 56 wild edible species have been recognized for their medicinal properties, serving as food medicine for a variety of illnesses and health improvement. This highlights the rich traditional knowledge system of utilizing wild edible plants as part of the diet by various communities in Manipur. For instance, *Meriandra dianthera* leaves are used to alleviate stomach issues and are also incorporated into local dishes. *Paederia foetida* is employed to combat gastritis and aid in bone setting, in addition to being consumed as food. The use of *Clerodendrum colebrookeanum* leaves for hypertension, *Phlogocanthus thyrsiflorus* leaves decoction for colds and cough, and *Zanthoxylum acanthopodium* leaves decoction for cough are year-long traditional health practices among certain tribes in the state (Haokip and Panmei 2022; Meitei *et al.* 2022; Panmei *et al.* 2019). These examples underscore the medicinal benefits and traditional values of WEPs, in addition to meeting nutritional needs. Similarly, the medicinal uses of numerous wild edible plants have been documented by various researchers from different countries and communities, indicating the significance of these species in ethnomedicine (Bhatia *et al.* 2018; Etkin 2002; Menendez-Baceta *et al.* 2015; Phatlamphu *et al.* 2021; Ojha and Devkota 2021; Silalahi and Nisyawati 2018). The result provides significant opportunities for future research focusing on the pharmacological validation of food and medicinal species.

Potential species for economic and livelihood improvement

Out of the 408 wild edible plants (WEPs) recorded, 176 species are being reported to be sold in various markets, makeshift markets, and vendors in the state. While the marketing status of 232 species is unavailable. To enhance the local livelihood, an analysis was conducted to identify highly potential WEPs. Species with more than 9 citations were selected and their marketing status was examined. Among the 408 edible plants, 42 species were found to be frequently reported in publications and commonly used by different ethnic groups in the state. Table 3 presents the calculated Relative Frequency of Citation (RFC) and market values for each highly cited species. The higher RFC values also indicate that these species are commonly used and preferred among different tribal communities. *Centella asiatica* has the highest RFC value (0.55) followed by *Curcuma angustifolia, Oenanthe* javanica with 0.48. The species which has lower RFC values might be due to lower distribution and inaccessibility to their natural habitat in the state. In terms of market value, *Baccaurea ramiflora* fruits, *Cinnamomum verum* bark, and *Wendlandia glabrata* inflorescences are the highly priced WEPs with an average market value of 225 INR/kg, 175 INR/kg and 135 INR/kg respectively.

Table 3. RFC, Market value and conservation status of the highly cited species

Name of WEP	Edible Part	Mode of Utilization	Growth Habit	No. of studies mentioning the use	RCF	Community use	Price per unit in INR (₹)	Global Red List Category
Centella asiatica (L.) Urb.	Whole Plant	Veg-C and Veg-R	Herb	24	0.55	Moyon, Mao, Meitei, Rongmei, Chothe, Thadou, Maring, Tangkhul, Chiru, Liangmai, Vaiphei, Poumai	50-80/kg	LC
Curcuma angustifolia Roxb.	Inflorenses	Veg-C	Herb	21	0.48	Meitei, Tangkhul, Moyon, Thadou, Vaiphei, Liangmai, Chiru, Monsang, Mao, Maring, Poumai, Rongmei,	40-60/kg	NE
Oenanthe javanica (Blume) DC.	Stem, Leaves	Veg-R	Herb	21	0.48	Meitei, Mao, Thadou, Maring, moyon, Rongmei, tankhul Poumai, Chothe,	50-80/kg	LC
Houttuynia cordata Thunb.	Leaves	Veg-R	Herb	19	0.43	Meitei, Mao, Poumai, Thadou, Zou, Paite, Vaiphei, Chiru, Liangmai, Rongmei, Moyon, Monsang, Meitei Pangal, Tangkhul	70-100/kg	NE
Alpinia nigra (Gaertn.) Burtt	Whole Plant	Veg-C	Shrub	18	0.41	Mao, Poumai, Thadou, Meitei, Meitei Pangal, Moyon, Poumai, Mao, Thadou, Maring, Tangkhul, Rongmei, Monsang	50-70/kg	LC
Eryngium foetidum L.	Leaves	Sp-C	Herb	18	0.41	Mao, Poumai, Thadou, Meitei, Meitei Pangal, Moyon, Poumai, Mao, Thadou, Maring, Tangkhul, Rongmei, Monsang, Vaiphei	50-70/kg	NE
Cycas pectinata Buch.-Ham	Leaves, Shoots	Veg-C and Veg-R	Tree	17	0.39	Meitei, Rongmei, Thadou, Mao, Monsang, Paite, Zou, Chiru, Liangmai, Vaiphei, Moyon	80-100/kg	VU
Clerodendrum colebrookeanum Walp.	Leaves	Veg-C and F-Med	Shrub	16	0.36	Meitei, Rongmei, Thadou, Mao, Monsang, Paite, Zou, Chiru, Liangmai, Vaiphei, Moyon	80-100/kg	NE
Plantago asiatica subsp. erosa (Wall.) Z. Yu Li	Whole Plant	Veg-C	Herb	16	0.36	Monsang,Thadou, Maring, Meitei, Mao, Meitei, Meitei Pangal, Rongmei, Tangkhul, Vaiphei, Chiru, Liangmai	10-15/kg	NE
Meyna spinosa Roxb. ex Link	Leaves and Fruits	Veg-R, Fr-R and Fr-P	Tree	15	0.34	Meitei, Meitei Pangal, Rongmei, Thadou, Mao, Tangkhul, Moyon, Kom, Monsang, Maring, Chiru, Mao	60-80/kg fruits	NE
Nelumbo nucifera Gaertn.	Stem, Leaves, Rhizomes, Fruits	Fr-R, Veg-C and Veg-R	Shrub	15	0.34	Meitei, Meitei Pangal, Monsang,Kom, Chiru,	20-30/kg fruits; 10-15/bunch of leaves	NE

Phlogacanthus thyrsiformis (Roxb. ex Hardw.) Mabb.	Flowers	Veg-C and F-Med	Shrub	15	0.34	Meitei, Monsang, Thadou, Rongmei, Mao, Tangkhul, Moyon	70-100/kg flowers	NE
Rhus chinensis Mill.	Fruits	Fr-R and Fr-P	Tree	15	0.34	Thadou, Maring, Meitei, Rongmei, Mongsang, Mao, Poumai,	100-150/kg	LC
Chenopodium album L.	Leaves	Veg-C	Herb	14	0.32	Meitei, Meitei Pangal, Moyon, Rongmei, Mao, Poumai, Thadou, Chothe	30-50/kg	NE
Oroxylum indicum (L.) Kurz	Flowers, tender pod	Veg-C	Tree	14	0.32	Thadou, Mao, Moyon, Maring, Meitei, Poumai, Mao, Mongsang, Paite, Zou, Vaiphei, Tangkhul, Rongmei, Chiru, Liangmai	30-50/kg pod	NE
Wendlandia glabrata DC.	Inflorescences	Veg-R	Shrub	14	0.32	Meitei, Mao, Poumai, Thadou, Rongmei, Tangkhul, Maring, Mongsang	120-150/kg	NE
Zanthoxylum acanthopodium DC.	Leaves and Fruits	Sp-C and Veg-C	Tree	14	0.32	Meitei, Mao, Poumai, Thadou, Rongmei, Tangkhul, Maring, Mongsang, Chothe,	100-150/kg	LC
Phyllanthus emblica L.	Fruits	Fr-R and Fr-P	Tree	13	0.30	Meitei, Mao, Poumai, Thadou, Rongmei, Tangkhul, Maring, Mongsang, Chothe, Paite, Moyon, Meitei Pangal, Vaiphei	50-60/kg	LC
Spondias pinnata (L. f.) Kurz	Fruits	Fr-R and Fr-P	Tree	13	0.30	Thadou, Mao, Chiru, Paite, Meitei, Tangkhul, Moyon, Poumai, Chiru, Kom,	40-60/kg	NE
Amaranthus viridis L.	Whole Plant	Veg-C	Herb	12	0.27	Moyon, Zou, Paite,Mao,Thadou, Maring, Meitei, Meitei Pangal, Mongsang, Mao, Poumai	30-50/kg	NE
Elsholtzia blanda (Benth.) Benth.	Leaves and Dried Inflorescences	F-Med, Veg-C	Herb	12	0.27	Meitei, Kuki, Tangkhul, Mao, Moyon, Thadou, Vaiphei, Chiru, Liangmai, Rongmei,	70-80/kg inflorescence	NE
Ficus auriculata Lour.	Fruits, Leaves, Young Shoot	Fr-R, Veg-C, Veg-R	Tree	12	0.27	Moyon, Thadou, Maring, Meitei, Mao, Poumai, Rongmei, Tangkhul, Chiru, Liangmai,Vaiphei, Zou, Paite	30-50/kg	LC
Litsea cubeba (Louv.) Pres	Fruits	Sp-C	Tree	12	0.27	Meitei, Thadou, Maring,Moyon, Rongmei, Tangkhul, Mao, Mongsang, Paite, Zou,	100-120/kg	LC
Rhynchotechum ellipticum (Wallich ex D. Dietr.) A.DC.	Leaves	Veg-C	Shrub	12	0.27	Meitei, Mao, Poumai, Thadou, Rongmei, Liangmai, Zeme, Mongsang, Vaiphei, Chiru	40-60/kg	NE
Schima wallichi Choisy	Young Leaves	Veg-R	Tree	12	0.27	Thadou, Vaiphei, Chiru, Liangmai, Rongmei, Meitei, Chothe, Paite, Maring, Moyon, Zou, Mao, Poumai, Mongsang	N/A	LC

Alpinia galanga (L.) Willd.	Inflorescence, tender shoots, rhizome	Veg-C	Shrub	11	0.25	Thadou, Maring, Meitei, Mongsang, Tangkhul, Chothe, Moyon, Vaiphei, Chiru, Liangmai	20-50/kg inflorescence	NE
Baccaurea ramiflora Lour.	Fruits	Fr-R	Tree	11	0.25	Thadou, Maring, Meitei, Moyon, Mao, Poumai, Tangkhul, Kom, Rongmei	200–250/kg	LC
Elaeocarpus floribundus Blume	Fruits	Fr-R	Tree	11	0.25	Thadou, Maring, Meitei, Moyon, Mao, Poumai, Tangkhul, Kom, Rongmei, Meitei, Pangal, Chiru, Mongsang	40–50/kg	NE
Ficus racemosa L.	Fruits, Leaves, Young Shoots	Fr-R and Veg-C	Tree	11	0.25	Thadou, Maring, Meitei, Moyon, Rongmei, Mao, Tangkhul, Kom,	30-50/kg young shoots	LC
Ipomoea aquatica Forsk.	Stem and Leaves	Veg-C	Herb	11	0.25	Meitei, Meitei Pangal, Rongmei, Tangkhulm Mao	15-20/kg	LC
Ocimum americanum L.	Inflorescences	Veg-C and Sp-C	Herb	11	0.25	Meitei, Zou, Paite, Chiru, Tangkhul, Moyon	20-30/kg	NE
Solanum nigrum L.	Leaves, Fruits	Veg-C	Herb	11	0.25	Thadou, Mongsang, Maring, Moyon, Rongmei, Paite, Zou, Mao, Poumai, Chiru	N/A	NE
Solanum torvum Sw.	Fruits	Veg-C	Shrub	11	0.25	Thadou, Moyon, Maring, Meitei, Rongmei, Poumai, Mao, Zou, Paite, Chiru	30-50/kg	NE
Artocarpus lacucha Buch.-Ham.	Fruits	Fr-R	Tree	10	0.23	Paite, Moyon, Thadou, Maring, Meitei, Kom, Chiru, Liangmai, Vaiphei, Rongmei,	30-50/kg	NE
Cinnamomum tamala (Buch.-Ham.) T.Nees & Eberm.	Leaves	Sp-C	Tree	10	0.23	Paite, Moyon, Thadou, Maring, Meitei, Kom, Chiru, Liangmai, Vaiphei, Rongmei, Zou	80-90/kg	LC
Cinnamomum verum J.Presl	Bark, Leaves	Sp-C	Tree	10	0.23	Paite, Moyon, Thadou, Maring, Meitei, Kom, Chiru, Liangmai, Vaiphei, Rongmei, Zou	150-200/kg bark	NE
Docynia indica (Wall.) Decne.	Fruits	Fr-R and Fr-P	Tree	10	0.23	Meitei, Thadou, Maring, Mao, Poumai, Kom, Vaiphei, Chiru, Tangkhul	50-60/kg	NE
Eurya acuminata DC.	Leaves	Veg-C	Shrub	10	0.23	Meitei, Thadou, Mao, Rongmei, Maring, Poumai, Paite, Zou, Moyon	100-130/kg	NE
Euryale ferox Salisb.	Seeds	Veg-C	Shrub	10	0.23	Meitei, Meitei Pangal, Mongsang,	80-100/kg	NE
Ficus palmata Forssk.	Leaves	F-Med, Veg-R, Veg-C	Tree	10	0.23	Meitei, Mongsang, Moyon, Chiru	40-60/kg	LC
Trapa natans L.	Fruits	Fr-R and Fr-P	Shrub	10	0.23	Meitei, Meitei Pangal, Thadou, Maring, Mongsang	50-70/kg	LC
Zanthoxylum rhetsa (Roxb.) DC.	Fruits, Leaves	Sp-C and Veg-C	Tree	10	0.23	Meitei, Tangkhul, Thadou, Maring, Moyon, Rongmei, Vaiphei, Chiru, Liangmai, Paite	40-50/kg leaves	LC

LC=Least Concerned, NE=Not Evaluated, VU=Vulnerable, ***1 INR (₹) = 0.012 USD ($),**

An attempt has been made to represent potential species for economic and livelihood improvement by comparing both RFC and market value. According to it is found that *Wendlandia glabrata, Rhus chinensis, Zanthoxylum acanthopodium, Litsea cubeba*, and *Cycas pectinata* are the top five species which possessed higher RFC and market value (Figure 6). These species may be considered as the highly potential and profitable wild plants that can improve the livelihood and economy of locals engaged in their collection and sale. Additionally, *Trevesia palmata* inflorescences (500 INR/kg), *Antidesma acidum* leaves (400-500 INR/kg), *Garcinia pedunculata* fruits (500 INR/kg), *Oroxylum indicum* tender pods (250-350 INR/kg) are some of the high priced WEPs (Apshahana and Sharma 2022; Romabai *et al.* 2022) though their RFC values are lower in the present study. By domesticating and properly processing these products, the livelihood of locals and economy can be significantly improved.

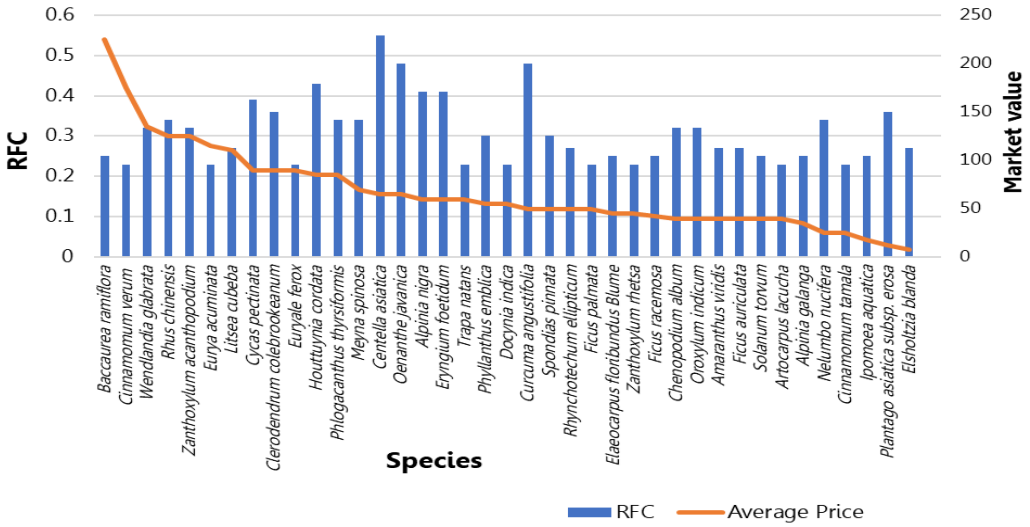

Figure 6. RFCs and market values of frequently reported species

Furthermore, it is essential to carry out nutritional and antinutrient analysis on these species to ensure the food quality and nutritional benefits for both the scientific community and the public. While some species such as Acmella paniculata, Eurya acuminata, Hodgsonia macrocarpa, Oroxylum indicum, Rhynchotechum ellipticum, Sarcochlamys pulcherrima, Wendlandia glabrata, Gnaphalium indicum, Clerodendrum colebrookianum, Stixis suaveolens, Pilea scripta, Ficus palmata, Solanum nigrum, Chenopodium album, Rumex nepalensis, and others have already undergone nutritional analysis (Konsam et al. 2016; Konsam et al. 2018; Panmei et al. 2016; Singh et al. 2020; Swapana et al. 2012). And many are yet to be analyse, that may exhibit promising nutritional values, with some surpassing those of commonly cultivated vegetables. Prioritizing these species is crucial for economic growth, nutritional security, and conservation efforts. A schematic diagram (fig.7) represents a strategy that can be adopted using WEPs for improving the livelihood and food security

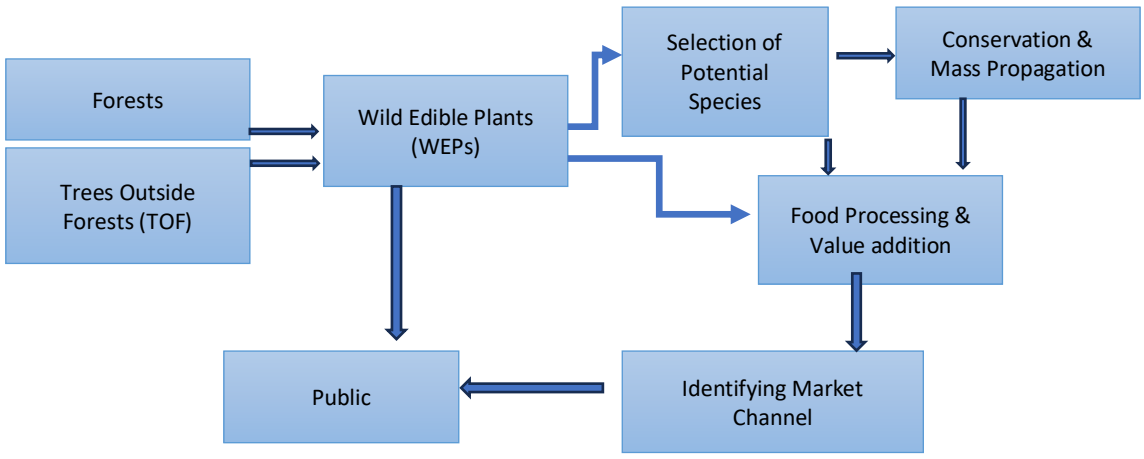

Figure. 7. Schematic representation for improving the livelihood and economy

In Manipur, the livelihoods of the residents in the hill districts heavily rely on wild plants and shifting cultivation. These WEPs are crucial for meeting nutritional needs and generating income for those living near forests and remote areas. During the COVID-19 pandemic, when conventional agricultural food supplies are scarce, people living near the forest depend exclusively on wild food, highlighting the importance of WEPs in food security and as nutraceutical (Chaudhury *et al.* 2021; Patel *et al.* 2021; Haokip and Panmei 2022).

In the ongoing ethnic conflict between the Meiteis and Kukis in Manipur since May 3rd 2023, the utilization of WEPs could potentially serve as a crucial solution to address the nutritional requirements in hill districts such as Churanchandpur, Tengnoupal, and Kangpokpi. These regions face scarcity in conventional food provisions, relying heavily on conventional food distribution from Imphal, the capital city of Manipur. A study by Sulaiman *et al.* 2023 also found that the use of wild edible plants increases when conventional foods are scarce due to emergencies in Syria. Considering these factors, wild edible plants hold promise for future food security as we face challenges such as emergencies, climate change, overpopulation, and sustainable agriculture.

Conservation and domestication of the wild edible plants

The conservation status of highly potential species is determined using GBIF (https://www.gbif.org/) and GeoCAT (https://geocat.iucnredlist.org/editor) and presented in supplementary file 2 and table 3. Among the recorded species, four species (*Aesculus hippocastanum, Antidesma pyrifolium, Cycas pectinata* and *Piper pedicellatum*) are Vulnerable (VU). Additionally, three species (*Aegle marmelos Citrus latipes* and *Sonchus arvensis*) are Near Threatened (NT), while the remaining species are in the categories of Not Evaluated (NE) and Least Concern (LC) of the global IUCN conservation status. Such threatened species need prioritization for conservation with participation of locals. Implementing mass propagation techniques and domestication will be beneficials as the species possess high market potential and will eventually alleviate pressure on their wild population. Public awareness and community-based management for conservation for WEPs may be effective as locals are main user and custodian of the WEPs. It is also crucial to reassess the conservation status and identify possible threats at the state and national levels to prevent these species from reaching endangerment. The rapid depletion of forests and forest resources due to road expansions, developmental projects, wetland contamination, railways, and land acquisition (in hill districts) poses a significant threat to the survival of these species in the state. Distributional study and reassessment of these species can also facilitate mass propagation in suitable habitats, promoting sustainable harvesting and trade of wild edible species. Public awareness about wild edibles must be raised, and conservation efforts should be prioritized to ensure their sustainable utilization.

The domestication of plants came out of food gathering almost imperceptibly leading to the cultivation (FAO 1999). Some of the recorded wild edible species are in various stages of domestication owing to their food and cultural value. For instance, in some valley districts like Imphal, Thoubal and Kakching, *Clerodendrum colebrookeanum, Bambusa nutans, Hedychium flavum, Oroxylum indicum, Parkia timoriana, Zanthoxylum acanthopodium,* are grown in homestead gardens for their food and medicinal values. In some hill districts like Noney, Tamenglong and Tengnoupal, *Baccauria ramiflora*, *Calamus floribundus, Garcinia pedunculata, Juglans sigillata, Myrica esculenta* are a few semi-domesticated plants for its fruits and market values. Fruits of certain species like *Aegle marmelos, Baccaurea ramiflora, Docynia indica*, *Phyllanthus emblica, Spondias pinnata*, *Terminalia chebula*, *Ziziphus mauritiana* are use in preparation of '*Heiram-taret*'. '*Heiram*' meaning different types of fruits and *taret* means 7 (Seven) in the *Meitei* dialect in short, a combination of seven types of fruits that hold significant importance in various ritual ceremonies of the Meitei community. This set of *Heiram taret* fetches a market value of 10 INR and is considered one of the most profitable items in local markets (Romabai *et al.* 2022). The practice of utilizing a diverse range of produce in ritual activities highlights the strong connection between culture and biodiversity (Negi 2010). Such wild plants of cultural importance may have also led to the domestication, when there were concerns for the regular availability of the plants in the wild.

Although most agricultural societies primarily depend on staple crops, the tradition of eating WEP products continues in the present day (Lulekal et al 2011). In recent times, there has been a noticeable shift in dietary preferences towards plant-based, natural, and organic foods, primarily driven by health concerns. As a result, many individuals have chosen wild edible plants (WEPs) as their primary source of nutrition. This growing preference for WEPs can be attributed to their cultivation without the use of pesticides or chemical fertilizers (Borelli *et al.* 2020), making them a popular choice among health-conscious people. Additionally, the market potential for wild edibles has expanded significantly over the past few decades (Biri *et al.* 2024; Yaipharembi et al 2023). This increased demand may have also led to the domestication of certain wild edible plant species, allowing for the diversification of edible items. Species such as *Acmella paniculata, Plantago asiatica,*

Amaranthus spp., Antidesma acidum, Eurya acuminata, Gnetum gnemon, Gynura cusimbua, Leucas aspera, Trichodesma kumareum, and others are examples of wild edible vegetables that are abundantly available in their natural habitats, despite their high culinary value and agro-economic potential. Domesticating such species will eventually benefit the green grocers and livelihoods of people who are involve in collection and trade.

Conclusions

A significant number of WEPs, accounting for about 16% of the state's flora, have been listed in the present study. These plants are vital for the society, culture, and economy of communities in forests and remote areas. Species like *Wendlandia glabrata, Rhus chinensis, Zanthoxylum acanthopodium, Litsea cubeba*, and *Cycas pectinata* are the top five species which possessed higher RFC and market value that can be considered as the highly potential and profitable wild plants for improving the livelihood of locals engaged in their collection and sale.

Our study highlights the future need to reassess their conservation status, distribution, and threats to their survival at state and national level to prevent species from reaching catastrophic levels of endangerment. Facilitating mass propagation and introduction in suitable agroforestry system will also promote sustainable harvesting and trade practices of the potential wild edible species. Future studies on nutritional, pharmacological and value-added aspects of these promising species will lead to sustainable livelihoods of the locals. By promoting and valuing wild edibles, we can diversify our food sources, alleviate pressure on agriculture, improve socio-economic conditions, understand local ecosystems, and preserve cultural heritage

Declarations

List of abbreviations: RFC-Relative Frequency of Citation, WEPs- Wild Edible Plants, GeoCAT- Geospatial Conservation Assessment Tool, GBIF- Global Biodiversity Information Facility
Ethics approval and consent to participate: Not applicable
Consent for publication: Not applicable
Availability of data and materials: Not applicable
Competing interests: We declare that there is no competing interest in the present work
Funding: Not applicable
Author contributions: RP conceptualized the study, designed the objectives. MML, RP, SD, and RSL collaborated to compile and analyze the data. SD, RSL, and RP conducted the market survey. RP and PA verified the taxonomic identity and nomenclature of the species. RP and MML draft the manuscript. All the authors thoroughly read and approved the final manuscripts.

Acknowledgements

We extend our gratitude to the Head of the Department of Forestry Manipur University for the provision of essential facilities. We deeply acknowledged Yengkhom Devajit for his help in preparing map of the study site. We also thank the authors of the various bibliographical sources consulted for their contributions and the reviewers for improving the manuscript.

Literature cited

Afolayan AJ, Jimoh FO. 2009. Nutritional quality of some wild leaf vegetables in South Africa. International Journal of Food Sciences and Nutrition 60(5): 424-431.

APG IV. 2016. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. Botanical Journal of the Linnean Society 181: 1–20.

Apshahana K, Sharma AK. 2021. Trade of wild edible plants in all women market in Manipur, India. Indian Forester 148(1): 88-96.

Bhatia H, Sharma YP. Manhas RK, Kumar K. 2018. Traditionally used wild edible plants of district Udhampur, J&K, India. Journal of Ethnobiology and Ethnomedicine 14: 73.

Borelli T, Hunter D, Powell B, Ulian T, Mattana E, Termote C, Pawera L, Beltrame D, Pena el D, Tan A, Taylor M. 2020. Born to eat wild: An integrated conservation approach to secure wild food plants for food security and nutrition. Plants 9:1299.

Census of India. 2011. https://www.census2011.co.in/census/state/manipur.html (Accessed 20/06/2024)

Chakpram L, Yumkham SD, Singh PK. 2014. Less Known Wild Aroids of Manipur. International Journal of Agriculture and Food Science Technology 5(6):537-544.

Chatterjee S, Saikia A, Dutta P, Ghosh D, Pangging G, Goswami AK. 2006. Biodiversity Significance of Northeast India. Natural Resources, Water and the Environment Nexus for Development and Growth in Northeast India. WWF-India.

Chaudhury G, Basumatari M, Darji CB, Ahmed AF, Borah D, Sah RK, Devi A, Hazarika N, Dutta G. 2021. Economic significance of wild bioresources to rural communities in the Eastern Himalayan state of Assam, Northeast India. Trees, Forests and People 5: 100102

Das AP. 2021. Herbarium Techniques. In: Instrumentation Manual in Biology, eds. J.B. Bhandari, and C. Gurung, 78 – 94. Narosa Publishing House, New Delhi India.

Dedrilkumar S, Binu M. 2016. Wild edible plants used by Meitei community of Eastern Himalayas, India. International Journal of Agricultural Sciences 8 (53): 2699-2702.

Deshmukh BS, Waghmode A. 2011. Role of wild edible fruits as a food resource: Traditional knowledge. International Journal of Pharmacy and Life Sciences 2(7): 919-924.

Devi AKN, Devi YS. 2013. Ethnobotanical studies on fermented food and beverage of Chothe tribe of Manipur. Trend in Biosciences 6(3) :294-297.

Devi KhS, Devi YS, Singh PK. 2009. A census on wild edible flower found in the valley districts of Manipur. Journal of Economic and Taxonomic Botany 33(1): 232-239.

Devi LG, Devi AKN, Devi HC. 2023. Non-Conventional food Plants available in and around Loktak Lake, Bishnupur (Manipur). Journal of Agriculture and Ecology 16: 88-104.

Devi MH, Singh PK, Choudury MD. 2015. Water quality and socio economics status of the Phumdi environment of Keibul Lamjao National Park, Loktak Lake, Manipur, India. Frontier in Environmental Microbiology 1(1): 1-8.

Devi MR, Salam S. 2016. Wild edible plants used by the Monsang Naga tribe of Manipur, India. Pleione 10 (1): 90-96.

Devi MR, Singh PK, Dutta BK. 2011. Traditional knowledge on vegetable treasure of Monsang Naga tribe of Manipur, India. Pleione 5(2): 274-279.

Devi OS, Komor P, Das D. 2010. A checklist of traditional edible bio-resources from Ima market of Imphal valley, Manipur, India. Journal of Threatened Taxa 2(11): 1291-1296

Devi OS, Singh TN, Singh LJ. 2021. Wild edible plants associated with the people of Thoubal Khunou village and its migrated villagers. International Journal of Advanced Research in Biological Sciences 8(9): 72-99.

Devi RS, Kumar S. 2021. Wild food consumed by ethnic and local communities of Imphal, Manipur state of India. In: Thatoi H, Debata PR, (eds.). Biodiversity Conservation and Livelihood Management, Daya Publishing House New Delhi India. Pp.409-418

Devi SG, Abraham S, Priyanka BN, Vasanthi HR. 2022. Traditional Manipuri cuisine and prospect of promoting medicinal plant-based food tourism in Post COVID-19. International Journal of Hospitality and Tourism Systems 114-130.

Devi ST, Sharma GS. 1993. Chromosome numbers in some bamboo species of Manipur. BIC India Bulletin 3(1): 16-21.

Devi TS, Devi MH, Singh SS, Thokchom R, Singh PK. 2022. Studies on the income generating wild edible wetland plants traditionally consumed by the people of Bishnupur district of Manipur. The Pharma Innovation Journal 11(11): 915-920.

Doni T, Gajurel PR. 2020. Diversity of wild edible plants traditionally used by the Galo tribe of Indian Eastern Himalayan state of Arunachal Pradesh. Plant Science Today 7(4):523-533.

ENVIS, 2024. Status of Environment and Related Issues, Directorate of Environment, Govt. of Manipur. (https://manenvis.nic.in/Database/WetlandList_3401.aspx) (Accessed 15/06/2024)

Etkin NL. 2002. Local knowledge of biotic diversity and its conservation in rural Hausaland, Northern Nigeria. Economic Botany 56(1): 73-88

FAO, 1999. FAO Publication, Use and Potential of wild plants (Information Division, Food and Agriculture Organisation of the United Nations. Rome, Italy.

FAO, 2010. The Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture. Rome: Food and Agriculture Organization of the United Nations. Rome, Italy

FAO, 2017. The state of food security and nutrition in the world 2017: building resilience for peace and food security. Rome: Food and Agriculture Organization of the United Nations. Rome, Italy.

FSI, 2021. India State of Forest Report (ISFR). MoEFCC, Dehradun. (http://fsi.nic.in >forest-report-2021-details) (Accessed 12/05/2024)

Gajurel PR, Singh B, Kashung S, Adhikary P, Nopi S, Barman R, Yakang T, Doni T, Gogoi D. 2022. Foods from the wild: A review on the diversity and use pattern of wild edible plants of Arunachal Himalaya for sustainable management. Plant Science Today 10(1): 80-90.

Gangte HE, Thoudam NS, Zomi TG. 2013. Wild edible plants used by the Zou tribe in Manipur, India. International Journals of Scientific and Research Publication 3(5): 1-8.

Gogoi J, Sharma M, Sharma CL, 2023. Nutrient analysis of some selected wild edible plants traditionally consumed by the Wancho tribe of Arunachal Pradesh, India. Vegetos 37: 1329–1335

Grivetti LE, Ogle BM. 2000. Value of Traditional Foods in Meeting Macro and Micronutrient Needs. The Wild Plant Connection. Nutrition Research Reviews 13: 31-46.

Guite C, 2016. Study of WEPs associated with the Paite tribe of Manipur, India. International Journal of Current Research 8(11):40927-40932.

Hajarika TK, Singh TK. 2018. Wild edible fruits of Manipur, India associated traditional knowledge and implication to sustainable livelihood. Genetic Resources and Crop Evolution 65: 319-332

Haokip LL, Panmei R. 2022. Lesser-known wild edible plants used by Thadou-Kuki tribe of Indo-Myanmar region, Manipur, India. Biodiversitas 23(8): 3991-3998.

Khan MR, Kikim A, Yadava PS. 2015. Conservation of indigenous wild edible plants used by different communities of Kangchup Hills, Senapati, North East India. International Journal of Bio Resource and Stress Management,6(6): 680-689.

Khatoon R, Singh PK, Das AK, Dutta BK. 2012. Indigenous wild edible fruits for Kom tribe in Manipur, India. Pleione 6(2): 268-272.

Konsam S, Handique AK, Thongam B. 2018. Nutritional evaluation of some unexplored wild leafy vegetables (WLVS) of Manipur, an Indo Burma biodiversity hotspot (North East India). International Journal of Food and Nutritional Sciences 7(3): 97-104.

Konsam S, Thongam B, Handique AK. 2016. Assessment of wild leafy vegetables traditionally consumed by the ethnic communities of Manipur, northeast India. Journal of Ethnobiology and Ethnomedicine 12: 9

Konsam S, Thongam B. 2019. Exploring indigenous flora of Manipur (North East India) as potential source of nutrients and dietary antioxidants. In: Singh Th A, Sarangi PK, Sarangthem N. (eds.). Food bioresources and Ethnic foods of Manipur, Northeast India, Empyreal Publishing House, New Delhi India. pp.1-15

Konsam SC, Devi KT, Salam JS, Singh PK. 2016. Biochemical Constituents and Nutritive Evaluation of Some Less Known Wild Edible Plants from Senapati District, Manipur, India. Notulae Scientia Biologicae 8(3) :370-381.

Krishnamurthy T. 1993. Minor Forest Product of India. Oxford & IBH, New Delhi India.

Lokho K, Narasimhan D. 2013. Ethnobotany of Mao-Naga Tribe of Manipur, India. Pleione 7(2): 314-324.

Lulekal E, Asfaw Z, Kelbessa E, Van Damme P. 2011. Wild edible plants in Ethiopia: a review on their potential to combat food insecurity. Africa Focus 24(2):71-121.

Mao A.A, Agrawala DK, Mukherjee S. 2024. Plant Discoveries 2023 (including algae, fungi & microbes). Botanical Survey of India, Ministry of Environment, Forest & Climate Change. India.

Meitei LR, De A, Mao AA. 2022. An ethnobotanical study on the wild edible plants used by forest dweller in Yangoupokpi Lokchao wildlife sanctuary, Manipur, India. Ethnobotany Research and Application 23:100.

Menendez-Baceta G, Aceituno-Mata L, Reyes-García V, Tardío J, Salpeteur M, Pardo-de-Santayana M. 2015. The importance of cultural factors in the distribution of medicinal plant knowledge: a case study in four Basque regions. Journal of Ethnopharmacology 161: 116-127.

Mittermeier RA, Turner WR, Larsen FW, Brooks TM, Gascon C. 2011. Global Biodiversity Conservation: The Critical Role of Hotspots. In: Biodiversity Hotspots, eds. F. E. Zachos and J. C. Habel, 3-22. Springer, Berlin, Heidelberg.

Moyon WA, Chara E, Moyon NgK, Moyon RK. 2021. Ethnobotanicals resources: Edible plants consumed by the Moyon Naga tribe of Manipur (India). International Journal of Botany Sciences 6(6):1-9.

Negi CS. 2010. Traditional culture and biodiversity conservation: examples from Uttarakhand, Central Himalaya. Mountain Research and Development 30(3): 259 – 265.

Ojha R and Devkota. 2021. Edible and Medicinal Pteridophytes of Nepal: A Review. Ethnobotany Research & Applications 22:16

Panmei R, Gajurel PR, Singh B, Rethy P. 2014. Utilisation pattern of non-timber forest products by Rongmei tribe of Manipur, Northeast India. Journal of Non-Timber Forest Products 21(1):9-20.

Panmei R, Gajurel PR, Singh B. 2016. Ethnobotany and nutritional values of some selected wild edible plants used by Rongmei tribe of Manipur northeast India. International Journal of Applied Biology and Pharmaceutical Technology 7 (4): 1-10.

Panmei R, Gajurel PR, Singh B. 2019. Ethnobotany of medicinal plants used by the Zeliangrong ethnic group of Manipur, northeast India. Journal of Ethnopharmacology 235: 164-182.

Patel B, Sharma S, Nair N, Majeed J, Goyal RK, Dhobi M. 2021. Therapeutic opportunities of edible antiviral plants for COVID-19. Molecular and Cellular Biochemistry, 476(6): 2345–2364.

Pfoze NL, Kumar Y, Myrboh B. 2011. Survey and assessment of floral diversity on wild edible plants from Senapati district of Manipur, Northeast India. Journal of Biodiversity and Environmental Sciences 1(6): 56-62.

Pfoze NL, Kumar Y, Seikh N, Myrboh B. 2012. Assessment of local dependency on selected wild edible plants and fruits from Senapati district Manipur, Northeast India. Ethnobotany Research & Applications 10:357-367.

Phatlamphu N, Saensouk S, Saensouk P, Junsongduang A. 2021. Ethnobotany of edible plants in Muang District, Kalasin Province, Thailand. Biodiversitas 22(12): 5432-5444.

Premlata T, Sharma V, Bisht MS, Nirmala C. 2020. Edible bamboo resources of Manipur: consumption pattern of young shoots processing techniques and their commercial status in the local market. Indian Journal of Traditional Knowledge 19(1): 73-82

Rajkumari R, Singh PK, Das AK, Dutta BK. 2013. Ethnobotanical investigation of wild edible and medicinal plants used by Chiru tribe of Manipur, India. Pleione 7(1): 167-174

Ray A, Ray R, Sreevidya EA. 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. doi: 10.3389/fsufs.2020.00056

Romabai W, Pamei T, Pf M, Nevidita L, Panmei R. 2022. Assessment of economically important tree-based NTFPs in Indo-Burma region, Manipur, India. Forests, Trees and Livelihoods 23(1): 1-11.

Rongmei KS, Kapoor S. 2005. 'Zeliangrong' Today: A Naga Tribe of Manipur. Studies of Tribes & Tribals 3(2):105-116.

Salam S, Jamir NS. 2016. Common spices plants used as medicine by the Tangkhul tribe of Ukhrul district, Manipur, India. International Journal of Scientific and Research Publications 6(7): 22-25.

Sanglakpam P, Mathur RR, Pandey AK. 2012. Ethnobotany of Chothe tribe of Bishnupur District (Manipur). Indian Journal of Natural Resources 3(3): 414-425

Sewa NK, Bora A, Das J, Dwivedi S.K. 2020. Ethnobotanicals of Senapati district of Manipur in North East India. World Journal of Pharmaceutical Sciences 8(12): 96-101.

Shad MA, Nawaz H, Rehman T, Ikram N. 2013. Determination of some biochemicals, phytochemicals and antioxidant properties of different parts of *Cichorium intybus* L.: A comparative study. Journal of Animal & Plant Sciences 23(4): 1060-1066.

Silalahi M, Nisyawati. 2018. The ethnobotanical study of edible and medicinal plants in the home garden of Batak Karo sub-ethnic in North Sumatra, Indonesia. Biodiversitas 19: 229-238.

Singh KR, De A, Chintala SR. 2012. Study of non-timber forest products, their utilization and role in the socio-economic status of the local people of Jiribam sub-division, Imphal east district, Manipur, India. NeBIO 3(4) :19-25.

Singh PK, Devi MH. 2015. Plants associated with Singju: a traditional salad delicacy of Meitei community of Manipur, India. Pleione 9(2) :409-418

Singh RS, Singh NI. 1985. A preliminary ethnobotanical studies on wild edible plants in the markets of Manipur-I. Journal of Economic & Taxonomic Botany 6(3): 699-703.

Singh TS, Roy SS, Kshetri P, Ansari MA, Sharma SK, Verma MR, Singh IM, Prakash N, Kandpal B. 2021. Comparative study on phenolic, flavonoids and in vitro antioxidant activity of wild edible plants from Loktak Lake wetland ecosystem under North East Indian Himalayan Region. Natural Product Research 35(24): 6045-6048.

Singh, NP, Chauhan AS, Mondal MS. 2000. Flora of Manipur, series 2. Botanical Survey of India, Kolkata.

Sulaiman N, Verner V, Polesny Z. 2023. Socioeconomic Dimensions of Wild Food Plant Use During the Confict in Syria. Economic Botany 77(3): 267-281.

Swapama N, Jotinkumar Th, Devi ChB, Singh MS, Singh SB, Singh CB. 2012. Total phenolic, total flavonoid content and antioxidant activity of a few indigenous fruits grown in Manipur. The Bioscan 7(1): 73-78.

Tardío J, Pardo-De-Santayana M, Ramón M. 2006. Ethnobotanical review of wild edible plants in Spain. Botanical Journal of the Linnean Society 152: 27–71.

Tardio J, Pardo-de-Santayana, M, Morales R. 2008. Cultural importance indices: A comparative analysis based on the useful wild plants of southern Cantabria (Northern Spain). Economic Botany 62(1):24-39.

Thokchom R, Hanglem A, Zimisai S, Anel TC, Devi YR, Thokchom J, Singh SS. 2016. Documentation and assessment of wild medicinal and edible flowers of valley districts of Manipur. International Journal of Research in Applied Natural and Social Sciences 4(11): 13-20.

Yaipharembi , Huidrom E, Nongalleima K, Singh BK. 2023. An Ethnobotanical Study on the Dietary Use of Wild Trees as Traditional Vegetables by Three Ethnic Communities in Manipur, North East India. Economic Botany 77: 324–339.

Yumnam JY, Tripathi OP. 2012 Traditional knowledge of eating raw plants by the Meitei of Manipur as medicine nutrient supplement in their diet. Indian Journal of Traditional knowledge 11(1): 45-50.

Zehol L. 1998. Ethnicity in Manipur: Experiences, Issues and Perspective. New Delhi: Regency publications.

Zou ST. 2018. Distribution of Ethnic Groups in Manipur Hills. Journal of North East India Studies 8(2): 28-43.

Plate I: Markets and WEPs in: **A.** Longmai (Noney district) market**, B.** *Musa balbisiana* pseudostem from Khoupum market (Noney district), **C.** Street vendor with aquatic herbs in Kakching district**, D.** *Rhynchotecum elliptecum* sold in Imphal street vendor**, E.** *Zanthoxylum acanthopodium*, **F.** *Trichodesma kumareum*, **G.** *Eurya acuminata*, **H.** Street vendor in Imphal with *Oroxylum indicum* pod, **I.** *Rhus chinensis*, **J.** *Myrica esculenta*, **K.** *Curcuma angustifolia*, **L.** *Garcinia pedunculata*, **M.** *Gnetum gnemon*, **N.** *Prasoxylon excelsum*, **O.** *Ficus semicordata*, **P.** *Baccaurea ramiflora*

Supplementary file 1. List of research articles consulted, with their reference number, study area, and number of species from each source included in the database.

Author(s) cited	Community/ tribe	Study area/ District	No. of species scrutinized	Reference
Apshahana & Sharma (2021)	Meitei	IW	28	Apshahana K, Sharma AK. 2021. Trade of wild edible plants in all women market in Manipur, India. Indian Forester 148(1): 88-96. DOI: 10.36808/if/2022/v148i1/164980
Chakpram *et al.* (2014)	Meitei	IE	1	Chakpram L, Yumkham SD, Singh PK. 2014. Less Known Wild Aroids of Manipur. International Journal of Agriculture and Food Science Technology 5(6):537-544.
Dedrilkumar & Binu (2016)	Meitei	IW	57	Dedrilkumar S, Binu M. 2016. Wild edible plants used by Meitei community of Eastern Himalayas, India. International Journal of Agricultural Sciences 8 (53): 2699-2702.
Devi & Devi (2013)	Chothe	Chan	12	Devi AKN, Devi YS. 2013. Ethnobotanical studies on fermented food and beverage of Chothe tribe of Manipur. Trend in Biosciences 6(3) :294-297.
Devi & Kumar. (2021)	Meitei	IE, IW, Bish	18	Devi RS, Kumar S. 2021. Wild food consumed by ethnic and local communities of Imphal, Manipur state of India. In: Thatoi H, Debata PR, (eds.). Biodiversity Conservation and Livelihood Management, Daya Publishing House New Delhi India. Pp.409-418
Devi & Salam (2016)	Mongsang	Chan	51	Devi MR, Salam S. 2016. Wild edible plants used by the Monsang Naga tribe of Manipur, India. Pleione 10(1): 90-96.
Devi *et al.* (2009)	Meitei	IE, IW, Bish, Tbl, Kak	33	Devi KhS, Devi YS, Singh PK. 2009. A census on wild edible flower found in the valley districts of Manipur. Journal of Economic and Taxonomic Botany 33(1): 232-239.
Devi *et al.* (2010)	Meitei	IW	44	Devi OS, Komor P, Das D. 2010. A checklist of traditional edible bio-resources from Ima market of Imphal valley, Manipur, India. Journal of Threatened Taxa 2(11): 1291-1296
Devi *et al.* (2011)	Mongsang	Chan	50	Devi MR, Singh PK, Dutta BK. 2011. Traditional knowledge on vegetable treasure of Monsang Naga tribe of Manipur, India. Pleione 5(2): 274-279.
Devi *et al.* (2015)	Meitei	Bish	7	Devi MH, Singh PK, Choudury MD. 2015. Water quality and socio economics status of the Phumdi environment of Keibul Lamjao National Park, Loktak Lake, Manipur, India. Frontier in Environmental Microbiology 1(1): 1-8.
Devi *et al.* (2021)	Meitei and Meitei Pangal	Tbl	34	Devi OS, Singh TN, Singh LJ. 2021. Wild edible plants associated with the people of Thoubal Khunou village and its migrated villagers. International Journal of Advanced Research in Biological Sciences 8(9): 72-99.
Devi *et al.* (2022)	Meitei	Bish	18	Devi TS, Devi MH, Singh SS, Thokchom R, Singh PK. 2022. Studies on the income generating wild edible wetland plants traditionally consumed by the people of Bishnupur district of Manipur. The Pharma Innovation Journal 11(11): 915-920.
Devi *et al.* (2023)	Meitei	Bish	17	Devi LG, Devi AKN, Devi HC. 2023. Non-Conventional food Plants available in and around Loktak Lake, Bishnupur (Manipur). Journal of Agriculture and Ecology 16: 88-104.
Devi *et al.* (2022)	Not specified	Entire Manipur	14	Devi SG, Abraham S, Priyanka BN, Vasanthi HR. 2022. Traditional Manipuri cuisine and prospect of promoting medicinal plant-based food tourism in Post COVID-19. International Journal of Hospitality and Tourism Systems 114-130.
Gangte *et al.* (2013)	Zou	Chan, CCpur	50	Gangte HE, Thoudam NS, Zomi TG. 2013. Wild edible plants used by the Zou tribe in Manipur, India. International Journals of Scientific and Research Publication 3(5): 1-8.
Guite (2016)	Paite	CCpur	68	Guite C. 2016. Study of wild edible plants associated with the Paite tribe of Manipur, India. International Journal of Current Research 8(11) :40927-41046
Hajarika & Singh (2018)	Meitei	IE, IW	26	Hajarika TK, Singh TK. 2018. Wild edible fruits of Manipur, India associated traditional knowledge and implication to sustainable livelihood. Genetic Resources and Crop Evolution 65: 319-332. https://doi.org/10.1007/s10722-017-0534-0

Haokip & Panmei (2022)	Thadou	Teng	65	Haokip LL, Panmei R. 2022. Lesser-known wild edible plants used by Thadou-Kuki tribe of Indo-Myanmar region, Manipur, India. Biodiversitas 23(8): 3991-3998. https://doi.org/10.13057/biodiv/d230817
Khan *et al.* (2015)	Thadou, Vaiphei, Chiru, Liangmai and Meitei.	Kpi	39	Khan MR, Kikim A, Yadava PS. 2015. Conservation of indigenous wild edible plants used by different communities of Kangchup Hills, Senapati, North East India. International Journal of Bio Resource and Stress Management,6(6): 680-689.
Khatoon *et al.* (2012)	Kom	CCpur, Chan, Spt and IE	25	Khatoon R, Singh PK, Das AK, Dutta BK. 2012. Indigenous wild edible fruits for Kom tribe in Manipur, India. Pleione 6(2): 268-272.
Konsam *et al.* (2016)	Meitei, Rongmei, Thadou, Mao, Tangkhul	IE, IW, Tbl, Kak, Bish, Chan. CCpur, Spt, Kpi Spt, Ukl Tml, Nny	56	Konsam S, Thongam B, Handique AK. 2016. Assessment of wild leafy vegetables traditionally consumed by the ethnic communities of Manipur, Northeast India. Journal of Ethnobiology and Ethnomedicine 12:9. DOI 10.1186/s13002-016-0080-4
Konsam *et al.* (2016)	Thadou, Mao	Spt	10	Konsam SC, Devi KT, Salam JS, Singh PK. 2016. Biochemical Constituents and Nutritive Evaluation of Some Less Known Wild Edible Plants from Senapati District, Manipur, India. Notulae Scientia Biologicae 8(3) :370-381. DOI: 10.15835/nsb.8.3.9871
Konsam *et al.* (2018)	Not specified	Entire Manipur	13	Konsam S, Handique A K, Thongam B. 2018. Nutritional evaluation of some unexplored wild leafy vegetables (WLVS) of Manipur, an Indo Burma biodiversity hotspot (North East India). International Journal of Food and Nutritional Sciences 7(3): 97-104.
Konsam & Thongam (2019)	Not specified	Spt	10	Konsam S, Thongam B. 2019. Exploring indigenous flora of Manipur (North East India) as potential source of nutrients and dietary antioxidants. In: Singh Th A, Sarangi PK, Sarangthem N. (eds.). Food bioresources and Ethnic foods of Manipur, Northeast India, Empyreal Publishing House, New Delhi India. p.1-15
Lokho & Narasimhan (2013)	Mao	Spt	22	Lokho K, Narasimhan D. 2013. Ethnobotany of Mao- Naga tribe of Manipur, India. Pleione 7(2): 314-324
Meitei *et al.* (2022)	Thadou, Maring, Meitei	Teng	106	Meitei LR, De A, Mao A A. 2022. An ethnobotanical study on the wild edible plants used by forest dweller in Yangoupokpi Lokchao wildlife sanctuary, Manipur, India. Ethnobotany Research and Application 23:100. http://dx.doi.org/10.32859/era.23.15.1-25
Moyon *et al.* (2021)	Moyon	CCpur	122	Moyon WA, Chara E, Moyon NgK, Moyon RK. 2021. Ethnobotanicals resources: Edible plants consumed by the Moyon Naga tribe of Manipur (India). International Journal of Botany Sciences 6(6):1-9.
Panmei *et al.* (2014)	Rongmei	Tml, Nny	40	Panmei R, Gajurel PR, Singh B, Rethy P. 2014. Utilisation pattern of non-timber forest products by Rongmei tribe of Manipur, Northeast India. Journal of Non-Timber Forest Products 21(1):9-20.
Panmei *et al.* (2016)	Rongmei, Liangmai, Zeme	Tml, Nny	5	Panmei R, Gajurel PR, Singh B. 2016. Ethnobotany and nutritional values of some selected wild edible plants used by Rongmei tribe of Manipur, Northeast India. International journal of applied biology and Pharmaceutical Technology 7(40):1-9.
Pfoze *et al.* (2011)	Mao, Poumai, Thadou	Spt	69	Pfoze NL, Kumar Y, Myrboh B. 2011. Survey and assessment of floral diversity on wild edible plants from Senapati district of Manipur, Northeast India. Journal of Biodiversity and Environmental Sciences 1(6): 56-62.
Pfoze *et al.* (2012)	Mao, Poumai, Thadou	Spt	23	Pfoze NL, Kumar Y, Seikh N, Myrboh B. 2012. Assessment of local dependency on selected wild edible plants and fruits from Senapati district Manipur, Northeast India. Ethnobotany Research & Applications 10:357-367. DOI:10.17348/ERA.10.0.357-367
Premlata *et al.* (2020)	Meitei, Thadou, Mao, Tangkhul, Maring, Chothe, Rongmei	IE, IW, Bish, Tbl, Kak, Jir, Chan, Teng, CCpur, Pher, Spt, Kpi, Tml, Nny, Ukl and Kam	14	Premlata T, Sharma V, Bisht MS, Nirmala C. 2020. Edible bamboo resources of Manipur: consumption pattern of young shoots processing techniques and their commercial status in the local market. Indian Journal of Traditional Knowledge 19(1): 73-82
Rajkumari *et al.* (2013)	Chiru	Bish	41	Rajkumari R, Singh PK, Das AK, Dutta BK. 2013. Ethnobotanical investigation of wild edible and medicinal plants used by the Chiru tribe of Manipur, India. Pleione 7(1): 167-174.

Romabai *et al.* (2022)	Meitei, Mao, Tangkhul	IE, IW, Bish, Tbl, Kak, Spt, Ukl	27	Romabai W, Pamei T, Pf M, Nevita L, Panmei R. 2022. Assessment of economically important tree-based NTFPs in Indo-Burma region, Manipur, India. Forests, Trees and Livelihoods 23(1): 1-11. https://doi.org/10.1080/14728028.2022.2146606.
Salam & Jamir (2016)	Tangkhul	Ukl	15	Salam S, Jamir NS. 2016. Common spices plants used as medicine by the Tangkhul tribe of Ukhrul district, Manipur, India. International Journal of Scientific and Research Publications 6(7): 22-25
Sanglakpam *et al.* (2012)	Chothe	Bish	13	Sanglakpam P, Mathur RR, Pandey AK. 2012. Ethnobotany of Chothe tribe of Bishnupur District (Manipur). Indian Journal of Natural Resources 3(3): 414-425
Sewa *et al.* (2020)	Mao	Spt	43	Sewa NK, Bora A, Das J, Dwivedi S.K. 2020. Ethnobotanicals of Senapati district of Manipur in North East India. World Journal of Pharmaceutical Sciences 8(12): 96-101.
Singh & Devi (2015)	Meitei	IE, IW, Tbl and Bish	43	Singh, PK, Devi. MH. 2015. Plants associated with Singju: a traditional salad delicacy of Meitei community of Manipur, India. Pleione 9(2) :409-418
Singh *et al.* (2012)	Meitei	Jir	34	Singh KR, De A, Chintala SR. 2012. Study of non-timber forest products, their utilization and role in the socio-economic status of the local people of Jiribam sub-division, Imphal east district, Manipur, India. NeBIO 3(4) :19-25.
Singh *et al.* (2020)	Meitei	Bish	20	Singh TS, Roy SS, Kshetri P, Ansari MA, Sharma SK, Verma MR, Singh IM, Prakash N, Kandpal B. 2021. Comparative study on phenolic, flavonoids and in vitro antioxidant activity of wild edible plants from Loktak Lake wetland ecosystem under North East Indian Himalayan Region. Natural Product Research 35(24): 6045-6048. DOI: 10.1080/14786419.2020.1817014
Swapana *et al.* (2012)	Meitei	Kak	2	Swapama N, Jotinkumar Th, Devi ChB, Singh MS, Singh SB, Singh CB. 2012. Total phenolic, total flavonoid content and antioxidant activity of a few indigenous fruits grown in Manipur. The Bioscan 7(1): 73-78.
Thokchom *et al.* (2016)	Meitei	IE, IW, Tbl, Bish, Kak	31	Thokchom R, Hanglem A, Zimisai S, Anel TC, Devi YR, Thokchom J, Singh SS. 2016. Documentation and assessment of wild medicinal and edible flowers of valley districts of Manipur. International Journal of Research in Applied Natural and Social Sciences 4(11): 13-20.
Yaipharembi et al.2023	Meitei, Kuki, Tangkhul,	IE, IW, CCpur, Ukl	25	Yaipharembi N, Huidrom E, Nongalleima K, Singh BK. 2023. An Ethnobotanical Study on the Dietary Use of Wild Trees as Traditional Vegetables by Three Ethnic Communities in Manipur, North East India. Economic Botany 77: 324–339. https://doi.org/10.1007/s12231-023-09582-x
Yumnam & Tripathi (2012)	Meitei	IW, Bish, Tbl, Kak	40	Yumnam JY, Tripathi OP. 2012 Traditional knowledge of eating raw plants by the Meitei of Manipur as medicine nutrient supplement in their diet. Indian Journal of Traditional knowledge 11(1): 45-50.

(**Legend**: IE= Imphal East, IW=Imphal West, CCpur= Churachandpur, Ukl= Ukhrul, Tml=Tamenglong, Bish=Bishnupur, Tbl=Thoubal, Kak=Kakching, Kpi=Kangpokpi, Nny=Noney, Jir=Jiribam, Teng=Tengnopal, Spt= Senapati, Kam=Kamjong, Chan=Chandel, Pher=Pherzawl**)**

Supplementary file 2. List of the wild edible plants of Manipur

Botanical name; [Voucher specimen]	Family	Local name	Edible part	Mode of consumption	Reference No.	Number of studies mentioning the use	RFC	Marketing Status	IUCN conservation status
Achyranthes aspera L.	Amaranthaceae	Khujumpere (Chiru, Meitei), Jangkinlaba (Chothe)	Whole plant	Veg-C and F-Med	33	1	0.02	N/A	NE
Acilepis saligna (DC.) H.Rob.	Asteraceae	Gandean (Rongmei)	Leaves	Veg-C	28	1	0.02	Yes	DD
Acmella ciliata (Kunth) Cass.	Asteraceae	Shaapa (Moyon) Manjareng (meitei)	Young shoot	Veg-C	21,27	2	0.05	N/A	DD
Acmella paniculata (Wall. ex DC.) R.K. Jansen	Asteraceae	Shaapaidii (Moyon), Anshache (Thadou), Ansah (Meitei), chiiviwo (Mao)	Leaves, inflorescence	Veg-C	4,18,21,30,28,26,25	7	0.16	N/A	LC
Acmella uliginosa (Sw.) Cass	Asteraceae	Ansateh (Paite)	Shoot	Veg-C	16	1	0.02	N/A	LC
Aegle marmelos (L.) Corr.	Rutaceae	Heikhakok (Monsang), Heiri-khagok (Meitei)	Fruit	Fr-R, F-Med	17,6,39,34,3	5	0.11	Yes	NT
Aeschynomene aspera L.	Fabaceae	Chingonglei (Meitei)	Tender pods	F-Med, Veg-R	44	1	0.02	Yes	LC
Aesculus hippocastanum L.	Sapindaceae	Segah (Paite)	Seeds	Veg-C	16	1	0.02	N/A	VU
Aganope thyrsiflora (Benth.) Polhill	Fabaceae	Huihu (Zou)	Tender shoots	Veg-C	16,15,21	3	0.07	N/A	DD
Albizia kalkora (Roxb.) Prain	Fabaceae	Yangli (Chothe)	Tender pods	Veg-C	4	1	0.02	N/A	DD
Alisma plantago- aquatica L.	Alismataceae	Kaothum (Meitei)	Rhizome	Veg-C	11,3,26,8	4	0.09	Yes	LC
Alkekengi officinarum Moench	Solanaceae	Pohkol (Thadou)	Fruits	Fr-R	18	1	0.02	Yes	DD
Allium monanthum Maxim.	Amaryllidaceae	Mashar sham (Moyon)	Leaves	Veg-R	27	1	0.02	N/A	NE
Allium stracheyi Baker	Amaryllidaceae	Cholang (Meitei)	Whole plants	Veg-R	38	1	0.02	Yes	NE
Alocasia macrorrhiza (Linn.) G.Don.	Araceae	Hongngu (Meitei	Corm	Veg-C	14,5,44,11,6,37,27,26	8	0.18	Yes	NE
Alpinia caerulea (R.Br.) Benth.	Zingiberaceae	Aigidon (Thadou)	Young stem	Veg-C	18	1	0.02	Yes	NE
**Alpinia galanga* (L.) Willd.	Zingiberaceae	Kanghu (Meitei), Brou (Chothe)	Whole plant, Rhizome	Veg-C	26, 3,9, 38, 35, 6,44, 27,19,33,7	11	0.25	Yes	NE
**Alpinia nigra* (Gaertn.) Burtt	Zingiberaceae	Kashapro (Mao) Shiraprou (Poumai), Pullei (Meitei)	Whole plant	Veg-C	30,10,11,8,14, 40, 27, 31, 26, 35, 1,12, 21, 3, 6, 13, 9,11	18	0.41	Yes	LC

Alpinia officinarum Hance	Zingiberaceae	Samchagu(Rongmei), Bunglamsiingchan gvei (Moyon), Puleimanbi (Monsang), Pulleimanbi (Meitei)	Rhizome	Sp-C	28,27,6,40,3	5	0.11	Yes	NE
Alstonia scholaris (L.) R. Br.	Apocynaceae	Laikhut (Monsang)	leaves, bark	Veg-C	6	1	0.02	N/A	LC
Alternanthera philoxeroides (Mart.) Griseb.	Amaranthaceae	Kabo-napi (Meitei)	leaves, stem	Veg-C	26,3	2	0.05	N/A	NE
Alternanthera sessilis (L.) R.Br. ex DC.	Amaranthaceae	Phakchet (Meitei)	Young shoot	Veg-C	26,6,44,3	4	0.09	N/A	LC
Amaranthus cruentus L.	Amaranthaceae	Voh enchamIshen (Moyon)	Leaves	Veg-C	27	1	0.02	Yes	NE
Amaranthus spinosus L.	Amaranthaceae	Voh encham (Moyon), Chengkruk (Meitei), Bawngeh tehlian (Zou), Bawngektehlian (Paite), Arintuipa (Chothe)	leaves, young shoot	Veg-C	26,27,15,16, 36	6	0.14	Yes	NE
Amaranthus tricolor L.	Amaranthaceae	Chengkruk-angangba (Meitei)	Flower with tender leaves	Veg-C	7	1	0.02	Yes	NE
**Amaranthus viridis* L.	Amaranthaceae	Voh encham (Moyon)	Whole plants	Veg-C	27,15,16,37, 8,26,14,40,1 1,1,30,6	12	0.27	Yes	NE
Amomum dealbatum Roxb.	Zingiberaceae	Aigitil (Thadou), Aigia (Zou, Paite), Leribu (Mao), Reivii (Poumai), Reenathai (Rongmei)	Flower bud, young shoot	Veg-C	26,30,4,15,1 6,18,27,28,4 2	9	0.18	Yes	DD
Amorphophallus bulbifer (Roxb.) Blume	Araceae	N/R	Tubers	Veg-C	2	1	0.02	N/A	NE
Amorphophallus paeoniifolius (Dennst.) Nicolson	Araceae	N/R	Whole Plant	Veg-C	37	1	0.02	Yes	LC
Anaphalis contorta (D.Don) Hook.f.	Asteraceae	Phunil (Meitei)	Whole plant	Veg-C	11	1	0.02	Yes	NE
Andrographis paniculata (Burm.f.) Nees	Acanthaceae	Bhubati (Meitei, Monsang, Chiru)	leaves	Veg-R	6,33	2	0.05	N/A	NE
Anisomeles indica (L) Kuntze	Lamiaceae	Sii (Zou)	Seeds	Veg-P	15,16	2	0.05	N/A	NE

Antidesma acidum Retz. ;[CH-04 dated 25/05/2024]	Phyllanthaceae	Ching yensil (Meitei), Kathurhan (Tangkhul), Toiki (Thadou), Tisii (Moyon)	Fruits., Leaves	Fr-R, Veg-C	26,27,34,19, 6,9,33,43	8	0.18	Yes	LC
Antidesma ghaesembilla Gaertn.	Phyllanthaceae	Ching yensil (Meitei)	Fruits	Fr-R	37	1	0.02	N/A	LC
Antidesma japonicum Siebold & Zucc.	Phyllanthaceae	Toiki (Thadou)	tender leaves	Veg-C	18	1	0.02	Yes	LC
Antidesma nigricans Tul.	Phyllanthaceae	Siiraar (Moyon), Chipiga (Thadou)	Fruits	Fr-R	17,18,27,20, 6	5	0.11	Yes	NE
Antidesma pyrifolium Müll. Arg.	Phyllanthaceae	Lampaatisii (Moyon)	Leaves	Veg-C	27	1	0.02	N/A	VU
Aphanamixis polystachya (Wall.) R Parker.	Meliaceae	Heirankhoi (Meitei; wrongly recorded)	Fruits	Fr-R	3,20,8	3	0.07	N/A	LC
Aponogeton natans (L.) Engl. &K.Krause	Aponogetonaceae	Koudrangol (Monsang)	Whole plant	Veg-C	6	1	0.02	Yes	LC
Aporosa octandra (Buch.-Ham. Ex D Don.)	Phyllanthaceae	Sawntuol (Zou)	Tender shoots, leaves	Veg-C	15	1	0.02	N/A	LC
Aralia armata (Wall).ex G Don) Seem.	Araliaceae	Naosek Nambi, Chom pambi(Meitei)	Fruit, leaves	Veg-R and Veg-C	26,19,38,3,	4	0.09	Yes	LC
Ardisia complanata Wall.	Primulaceae	Khuwhmuw, Uthum (Monsang)	Tender shoot	Veg-C	6,9	2	0.05	Yes	NE
Argemone mexicana L.	Papaveraceae	Khomthokpi (Monsang)	Leaves	Veg-C	9	1	0.02	N/A	NE
Argyreia nervosa (Burm. f.) Bojer	Convolvulaceae	Uisul (Zou, Paite)	Pods	Veg-C	15,16	2	0.05	N/A	NE
Arisaema leschenaultii Blume	Araceae	Telong (Zou, Paite)	Tuber	Veg-C	15,16	2	0.05	N/A	NE
Arisaema tortuosum (Wall.) Schott	Araceae	N/R	Tuber,young shoot	Veg-C	26	1	0.02	N/A	NE
Artemisia nilagirica (C B.Clarke) Pamp.	Asteraceae	Laibakngou (Meitei)	Young shoot	Veg-C	3,9,6	3	0.07	N/A	NE
Artemisia vulgaris L.	Asteraceae	Leibakngou (Meitei), Shiipriipriijii	Tender shoot	Veg-C	1	3	0.07	N/A	NE
Artocarpus chama Buch.-Ham.	Moraceae	Cham (Meitei)	Fruits	Fr-R	39	1	0.02	N/A	NE
**Artocarpus lacucha* Buch.-Ham.	Moraceae	Heirikok thong (Meitei), Tat thei (Paite), Itaeh (Moyon), Keitaat (Kom)	Fruits	Fr-R	16,27,39,18, 26,20,6,17,1 9,33,	10	0.23	Yes	NE
Arundo donax L.	Poaceae	Berier (Monsang)	Tender shoot	Veg-R	6	1	0.02	N/A	LC
Asclepias longifolia subsp.hirtella (Pennel) J.Farmer & C.R.Bell	Apocynaceae	Lamkuurthingsuwna (Moyon)	Leaves	Veg-C	27	1	0.02	N/A	NE

Asparagus racemosus Willd.	Asparagaceae	Nungarei (Meitei)	Inflorescence, Young Shoot, Inflorescence, tuber	Veg-C, Veg-R and F-Med	15,16,26,42	4	0.09	Yes	NE
Azadirachta indica A. Juss.	Meliaceae	Neem (Meitei, Monsang)w	leaves	Veg-C	6,3	2	0.05	N/A	LC
**Baccaurea ramiflora* Lour.	Phyllanthaceae	Motok Hei (Meitei), Pheh (Moyon), Heipan (Thadou), Moto-khei (Kom), Tapeakthai (Rongmei)	Fruit	Fr-R	26,27,39,37,8,17,31,30,34,20,3	10	0.25	Yes	LC
Bambusa balcooa Roxb.	Poaceae	Leewa (Meitei)	Shoots	Veg-C and Veg-R	32	1	0.02	Yes	NE
Bambusa bambos (L.) Voss	Poaceae	Gokhatuoi (Zou)	Tender shoot	Veg-C	15	1	0.02	Yes	NE
Bambusa cacharensis R.B. Majumdar	Poaceae	Moirang-wa (Meitei)	Shoots	Veg-C and Veg-R	32	1	0.02	Yes	NE
Bambusa nutans Wall. ex Munro	Poaceae	Saneibi (Manipuri),	Shoots	Veg-C and Veg-R	32,11	2	0.05	Yes	NE
Bambusa tuldoides Munro	Poaceae	Utang (Meitei), Liangpai (Rongmei), Govatuoi (Zou), Gotang (Thadou), Ching Saneipi (Chothe)	Shoots	Veg-C and Veg-R	32,15,18,5,16,26,36,	7	0.16	Yes	NE
Bauhinia purpurea L.	Fabaceae	Envae (Moyon), Chingkhraoangangba (Meitei), Levosii (Mao), Shivapa (Poumai), Vaibeh (Thadou)	Flower	Veg-C	27,7,42,4,30,37,43	7	0.16	N/A	LC
Bauhinia variegata L.	Fabaceae	Chingkhraoangouba (Meitei), Angbaak (Chothe), Chaga (Rongmei)	Flower	Veg-C	18,25,42,6,26,27	6	0.14	N/A	LC
Begonia picta Sm.	Begoniaceae	Makhrabi (Mao), Koltheidon (Thadou)	Leaves petiole	Veg-C	30	1	0.02	N/A	NE
Begonia palmata D.Don	Begoniaceae	N/R	Leaves, Stem	Veg-C	37	1	0.02	N/A	NE
Begonia roxburghii (Miq) *A.*DC	Begoniaceae	Joukibarut (Rongmei)	Whole plant	Veg-C	28	1	0.02	N/A	NE
Bidens biternata (Lour.) Merr. and Sherff	Asteraceae	Sampakpi (Meitei)	Tender shoot with flower	Veg-R	7,38	2	0.05	N/A	NE
Bidens pilosa L.	Asteraceae	Shampakpi (Meitei)	Young shoots	Veg-R	6,9,25	3	0.07	N/A	NE
Bischofia javanica Blume	Phyllanthaceae	Bungupthai (Rongmei)	Fruit, leaves, young shoot	Veg-C and Fr-R	28,26,43	3	0.07	N/A	LC
Blumealanceolaria (Roxb.) Druce	Asteraceae	Bualze (Paite)	Leaves, roots	Veg-C	16	1	0.02	N/A	NE

Blumea sinuata (Lour.) Merr.	Asteraceae	Duungfuw (Moyon)	Leaves	Veg-C	27	1	0.02	N/A	NE
Bombax ceiba L.	Malvaceae	Tera (Meitei)	Flower	Veg-C	6,9,7	3	0.07	N/A	LC
Brassaiopsis glomerulata (Blume) Regel	Araliaceae	Chonbeh (Thadou)	Fruits	Veg-C	18	1	0.02	Yes	LC
Brassaiopsis hainla (Buch.-Ham.) Seem.	Araliaceae	Lainong (Rongmei)	Leaves, young shoot	Veg-C	26,28,29,43	4	0.09	Yes	NE
Brucea javanica (L.) Merr.	Simaroubaceae	Toilheng (Paite), Heining (Meitei)	Fruits	Fr-R	16,41	2	0.05	N/A	LC
Calamus caesius Blume	Arecaceae	Ichiing (Moyon),Tengga (Thadou)	Fruit	Fr-R and Fr-P	18,27	2	0.05	Yes	NE
Calamus erectus Roxb.	Arecaceae	Lee (Meitei), Chingpi ngeh (Zou), Chingpingek (Paite)	Stem	Veg-C and Fr-R	1,15,37,16	4	0.09	Yes	NE
Calamus floribundus Griff.	Arecaceae	Thehii (Monsang), Leehei (Meitei), Ruithai (Rongmei), Okhrashi (Mao), Tingpi (Thadou)	Fruit	Fr-R and Fr-P	28,6,9,4,26, 39,30,1,31	9	0.20	Yes	NE
Calamus latifolius Roxb.	Arecaceae	Lee-ren (Meitei), Taichiing (Zou), Chiingmalngat (Paite)	Fruit, stem pith, young shoot	Fr-R and Veg-C	26,16,15,38	4	0.09	Yes	NE
Calamus tenuis Roxb.	Arecaceae	Heiri (Meitei), Teengpira (Kom),	Fruits	Fr-R	3,20,17	3	0.07	Yes	LC
Callicarpa arborea Roxb.	Lamiaceae	Mandol (Moyon)	Leaves	Veg-C	6	1	0.02	N/A	LC
Canthium coromandelicum (Burm.f.) Alston	Rubiaceae	Rampa thepii (Moyon)	Fruits	Fr-R	6	1	0.02	N/A	NE
Capsella bursa-pastoris (L.) Medik.	Brassicaceae	Chamtruk (Meitei)	Inflorescences with tender shoot	Veg-R	7,38	2	0.05	Yes	NE
Carallia brachiata (Lour.) Merr.	Rhizophoraceae	Theihe (Thadou)	Fruits	Fr-R	18	1	0.02	Yes	NE
Cardamine flexuosa With.	Brassicaceae	Sheshe sho (Mao)	Leaves	Veg-C	25	1	0.02	N/A	NE
Cardamine hirsuta L.	Brassicaceae	Chantrukmaan (Meitei), Tosanini vu (Poumai)	Inflorescences	Veg-C	7,21,22,30,4 4,6,25	7	0.16	Yes	NE
Caryota urens L.	Arecaceae	Tuum, Paite (Zou),	Stem pith	Veg-C	26,6,15,16	4	0.09	No	LC
Castanopsis armata (Roxb.) Spach	Fagaceae	Rohsii (Monsang), U-Thangjing (Kom), Rusii (Moyon)	Fruits	Fr-R	27,6,20	3	0.07	Yes	NE

Castanopsis hystrix Hook. f. & Thomson ex A. DC.	Fagaceae	Thadziisii (Mao), Mabashi (Poumai), Sega (Thadou)	Fruit	Fr-P	30,37,	2	0.05	Yes	NE
Castanopsis indica (Roxb. Ex Lindl.) A.DC.	Fagaceae	Thangji (Meitei)	seeds	Fr-R	37	1	0.02	Yes	LC
Castanopsis tribuloides (Sm.) A.DC	Fagaceae	U-Thangji (Meitei), Siga (Thadou), Shething (Vaiphei)	Fruits(Nut)	Fr-R	26,18,34,19	4	0.09	Yes	NE
Catunaregam spinosa (Thunb.) Tirveng.	Rubiaceae	Sazukthei (Paite)	Shrub	Fr-R	16	1	0.02	N/A	LC
Celosia argentea L.	Amaranthaceae	Haorei (Moyon)	leaves/ young twigs	Veg-C	6	1	0.02	N/A	LC
Celtis australis L.	Cannabaceae	Heikreng (Meitei)	Fruits	Fr-R	3	1	0.02	N/A	LC
**Centella asiatica* (L.) Urb.	Apiaceae	Peeruk (Meitei), Koklei (Rongmei), Arifon (Chothe), Changkongche (Thadou)	Whole plant	Veg-C and Veg-R	27,8,37,1,14 ,12,26,18,13 ,7,33,38,44, 31,5,16,9,15 ,40,19,39,28 ,11,30	24	0.55	Yes	LC
Cephalostachyum capitatum Munro	Poaceae	Naatwa (Meitei), Nagatheo (Tangkhul), Nhu (Rongmei)	Shoots	Veg-C and Veg-R	32,21	2	0.05	Yes	NE
Ceratopteris thalictroides (L.) Brongn.	Pteridaceae	Lukhoibi (Monsang)	Leaves	Veg-C	9	1	0.02	N/A	NE
**Chenopodium album* L.	Amaranthaceae	Monshaobi (Meitei), Oruo (Mao), Houche (Thadou), Ramnong (Rongmei), Haba-vu (Poumai), Monsaopi (Chothe)	Leaves	Veg-C	11,31,27,28, 40,7,12,21,8 ,1,30,36	14	0.32	Yes	NE
Chimonobambusa callosa (Munro) Nakia	Poaceae	Chiteiba (Poumai), Teiba (Thadou), Leiwa (Meitei)	Tender shoot	Veg-C	30,1,36,31,3 2,11,21	7	0.16	Yes	NE
Choerospondias axillaris (Roxb.) B.L.Burtt & A.W.Hill	Anacardiaceae	Ching-heining (Meitei)	Fruits	Fr-R and Fr-P	34	1	0.02	Yes	LC
**Cinnamomum tamala* (Buch.-Ham.) T.Nees&Eberm. ;[L-49 dated 13/07/2022]	Lauraceae	Tejpatta (Meitei), Kokheisii (Poumai), Siisitou (Thadou)	Leaves	Sp-C	27,5,1,19,30 ,18,39,28,35 ,34	10	0.23	Yes	LC
**Cinnamomum verum* J.Presl	Lauraceae	Singguithak (Paite), Usingsha (Meitei), Maansu (Rongmei), Sakomthing (Tangkhul)	Bark, leaves	Sp-C	26,16,15,18, 39,19,35,28, 3,34	10	0.23	Yes	NE

Cissus adnata Roxb.	Vitaceae	JangkimI (Monsang), Kanghuyen (Meitei), Lauirop (Rongmei), Jangkin (Moyon)	Leaves	Veg-C	11,23,9,6,27 ,19,24	7	0.16	Yes	NE
Cissus discolor Blume	Vitaceae	Jangkin-laba (Monsang), Jangkinlaba (Moyon), Kongngouyen Laba (Meitei)	leaves, young shoot	Veg-C	26,9,6,27,21	5	0.11	Yes	NE
Cissus repanda (Wight &Arn.)	Vitaceae	Khaupuang, Lenpuang kung (Paite), Lenpuong the (Zou)	Tender shoots, Leaves	Veg-C	15,16	2	0.05	Yes	NE
Citrus latipes (Swingle) Yu.Tanaka	Rutaceae	Haribob (Meitei), Hailipop (Thadou)	Rind of fruits	Sp-C	3, 4,14,27,39,1 8,15,16,43	9	0.20	Yes	NT
Citrus medica L.	Rutaceae	Heijaang (Meitei), Basheer (Moyon, Kom)	Fruits	Fr-R	20,27,17	3	0.07	Yes	LC
**Clerodendrum colebrookeanum* Walp.	Lamiaceae	Enphuw (Monsang), Pejii-o (Mao), Piduvu (Poumai), Anphui(Thadou), Kuthaap (Meitei)	leaves	Veg-C, F-Med	18,27,6,26,3 0,37,1,21,16 ,23,28,24,19 ,9,33,43	16	0.36	Yes	NE
Coix lacryma-jobi L.	Poaceae	Miimtang (Paite), Oshiito (Mao)	Fruits	Veg-C	16,25	2	0.05	No	NE
Colocasia fallax Schott	Araceae	Chiidor (Moyon)	Petiole	Veg-C	27	1	0.02	Yes	LC
Leucocasia gigantea (Blume) Schott. Syn. *Colocasia gigantea* (Blume) Hooker f.	Araceae	Yendem (Meitei)	Long petiole, corms	Veg-C	38,11	2	0.05	Yes	NE
Commelina benghalensis L.	Commelinaceae	Aardang (Moyon)	Whole plant	Veg-C	27	1	0.02	N/A	LC
Corchorus olitorius L.	Malvaceae	Lautsi (Rongmei)	leaves	Veg-C	28	1	0.02	N/A	NE
Cordia trichoclada A.DC.	Boraginaceae	Tamuk (Chothe)	Leaves,fruits	Veg-C and Fr-R	36	1	0.02	N/A	NE
Corymbia citriodora (Hook.) K.D.Hill & L.A.S.Johnson	Myrtaceae	Nasik (Meitei)	Leaves	Veg-C	3	1	0.02	N/A	LC
Crassocephalum crepidioides (Benth.) S. Moore	Asteraceae	Tera paibi (Meitei), Antharloihar (Chiru), Tuungnu (Moyon)	Inflorencences , Leaves	F-Med, Veg-C, Veg-R	42,26,33,27	4	0.09	N/A	NE
Crotalaria juncea L.	Papilionaceae	O Hawaimatol (Meitei, Monsang)	Stem with young tender leaves	Veg-R	11,42,44,6,9 ,	5	0.11	N/A	NE

Cucumis anguria L.	Cucurbitaceae	Kelchangmai (Thadou), Aar shaemae (Monsang)	Fruit, leaves and vine	Fr-R and Veg-C	18,27	2	0.05	N/A	NE
Cucumis maderaspatanus L.	Cucurbitaceae	Ram Machangei (Maring), Lam-thabi (Meitei)	Fruit, leaves, young shoot	Veg-C and Veg-R	26	1	0.02	N/A	NE
Curcuma amada Roxb.	Zingiberaceae	Chuhae (Moyon)	Rhizome	Veg-C	27	1	0.02	N/A	NE
**Curcuma angustifolia* Roxb.	Zingiberaceae	Yaipal (Monsang, Meitei), Gahpaung (Rongmei)	Inflorensences	Veg-C	5,7,35,8,27, 13,19,9,3,37 ,26,1,18,31, 36,11,30,42, 21,6,33	21	0.48	Yes	NE
Curcuma montana Roxb.	Zingiberaceae	Tekhao-yaikhu (Meitei)	Inflorescence	Veg-C	22	1	0.02	N/A	NE
**Cycas pectinata* Buch.-Ham	Cycadaceae	Yendang (Monsang, Meitei), Changlu (Thadou, Paite), Entang (Moyon)	leaves, shoot	Veg-C and Veg-R	21,9,23,24,1 8,44,8,11,16 ,6,15,1,14,1 9,27,38,43	17	0.39	Yes	VU
Cyclanthera pedata (L.) Schrad	Cucurbitaceae	Lamthabi (Meitei)	Fruit	Veg-C	21	1	0.02	N/A	NE
Cyperus esculentus L.	Cyperaceae	Kaothum (Meitei)	Tuber	Veg-C and Veg-R	26,8,3	3	0.07	N/A	LC
Cyperus rotundus L.	Cyperaceae	SembangKaothum (Meitei)	Tuber	Veg-C and Veg-R	26	1	0.02	N/A	LC
Debregeasia longifolia (Burm.f.) Wedd.	Urticaceae	Shanthak (Monsang), U-khajing (Meitei), Harongthing/Rachate (Tangkhul)	Fruit	Fr-R	30,9,43	3	0.07	Yes	LC
Dendrocalamus giganteus Munro	Poaceae	Maribob (Meitei), Mauru (Chothe)	Shoots	Veg-C and Veg-P	4,36,16	3	0.07	Yes	LC
Dendrocalamus hamiltonii Nees &Arn. Ex Munro	Poaceae	Gova (Thadou, Paite), Unap/Wanap (Meitei), Kongha, Ramkaha (Tangkhul),	Young shoots	Veg-C and Veg-P	18,32,16,37, 4	5	0.11	Yes	NE
Dendrocalamus hookeri Munro	Poaceae	Watankhoi (Meitei), Rapi (Chothe)	Young shoot	Veg-C and Veg-P	26,32	2	0.05	Yes	NE
Dendrocalamus latiflorus Munro	Poaceae	Maribob (Manipuri), Hava, Kaha (Tangkhul), Gomi (Thadou, Paite)	Shoots	Veg-C and Veg-P	32,16,18	3	0.07	Yes	NE
Dendrocalamus longispathus (Kurz) Kurz	Poaceae	Unan (Meitei), Gothi (Paite), Dujangpai (Rongmei)	Shoots	Veg-C and Veg-P	32	1	0.02	Yes	NE

Dendrocalamus manipureanus H.B.Naithani & N.S.Bisht	Poaceae	Gopi (Paite), Ui (Manipuri), Ooe, Ruv (Maring), Nango (Thadou)	Shoots	Veg-C and Veg-P	32,16,18	3	0.07	Yes	NE
Dendrocalamus sikkimensis Gamble ex Oliv	Poaceae	Maribobamuba (Meitei)	Shoots	Veg-C and Veg-P	32	1	0.02	Yes	NE
Dendrocalamus strictus (Roxb.) Nees	Poaceae	Thun (Rongmei)	Shoots	Veg-C and Veg-P	4,28	2	0.05	N/A	NE
Dichrocephala integrifolia (L.f.) Kuntze	Asteraceae	Lalukok (Monsang)	Shoots	Veg-C	9	1	0.02	N/A	NE
Dillenia indica L.	Dilleniaceae	Heigree (Meitei, Kom, Chiru)	Fruits, Flowers	F-Med, Veg-C	17,7,39,8,20,33,3	7	0.16	Yes	LC
Dillenia pentagyna Roxb.	Dilleniaceae	Larong (Meitei)	Flower bud, fruit	Veg-C and Veg-R	26	1	0.02	Yes	NE
Dioscorea alata L.	Dioscoreaceae	Hakaisan (Zou), Hakaisante (Paite), Ha (Meitei), Ruh (Rongmei), Bra (Moyon)	Tuber	Veg-C	26,27,28,19,16,15	6	0.14	Yes	NE
Dioscorea bulbifera L.	Dioscoreaceae	Jingkher (Moyon), Ha (Thadou), Behra (Chothe), Haa (Meitei)	Tuber	Veg-C	18,27,9,26,36	5	0.11	Yes	NE
Dioscorea glabra Roxb.	Dioscoreaceae	Ha (Meitei), Hakaingou (Zou, Paite), Phin (Thadou)	Tuber	Veg-C	15,18,1,16	4	0.09	N/A	NE
Dioscorea pentaphylla L.	Dioscoreaceae	Ha Angangba (Meitei), Lampaa Bra (Moyon), Kophrehro (Mao)	Tuber	Veg-C	4,19,26,27,30	5	0.11	Yes	NE
Dioscorea villosa L.	Dioscoreaceae	Gam hakai (Paite, Zou))	Tuberous root	Veg-C	15,16	2	0.05	Yes	NE
Diospyros lanceifolia Roxb.	Ebenaceae	Shiteishi (Mao), Siiteishi (Poumai)	Ripe fruit	Fr-R	30	1	0.02	N/A	NE
Diplazium esculentum (Retz.) Sw.	Aspleniaceae	Gamchekoh (Meitei), Kokodo (Rongmei), Pfochouchoj (Mao), Machuovu (Poumai), Gamchekoh (Thadou), Chokoruwbuw (Moyon)	Tender leaves, Leaves	Veg-C	1,28,30,21,27,18,31,37	8	0.18	Yes	LC
**Docynia indica* (Wall.) Decne.	Rosaceae	Chipfoshi (Mao), Phoshi (Poumai), Theithup (Thadou), Heitup (Meitei), Phakthai (Rongmei)	Fruit	Fr-R and Fr-P	17,26,37,31,18,20,1,30,19,34	10	0.23	Yes	NE

Dryopteris marginata (C.B. Claeke) Christ	Polypodiaceae	Aarkheebasham (Moyon), Tekoh (Zou),Takok (Paite)	Tender leaves	Veg-C	27,15,16	3	0.07	N/A	NE
Ecbolium ligustrinum var. ligustrinum	Acanthaceae	Nongmangkhaangouba (Meitei), Paarchiipivaar (Moyon), Paarchiipivaar (Chothe), Chiipar (Monsang)	Flower	Veg-R and Veg-C	27,36,7,42,9 ,33,44	7	0.16	N/A	NE
Ehretia acuminata R.Br. ;[RP-102 dated 10/04/2023]	Boraginaceae	Uthum (Meitei),Shimukhan, Panduwon (Tangkhul)	Leaves	Veg-C	34,43	2	0.05	Yes	LC
Eichhornia crassipes (Mart.) Solms	Pontederiaceae	Kabo Kang (Meitei)	Shoots	Veg-C	3	1	0.02	N/A	NE
Elaeagnus conferta (Rox.)	Elaeagnaceae	Heiyei (Kom)	Fruits	Fr-R	20	1	0.02	Yes	LC
Elaeagnus latifolia Linn.	Elaeagnaceae	Chishoshikajii (Mao), Shoushi-ajii (Poumai), Buiehthei (Thadou)	Fruits	Fr-R	30	1	0.02	Yes	NE
Elaeagnus pyriformis Hook. f	Elaeagnaceae	Bachae (Moyon)	Fruits	Fr-R	37,31,27,	3	0.07	N/A	NE
Elaeagnus umbellata Thunb.	Elaeagnaceae	Heiyai (Meitei)	Fruits	Fr-R and Fr-P	5,17,8,42	4	0.09	Yes	LC
Elaeagnus caudata Schltdl. ex Momiy.	Elaeagnaceae	Sarzu kung (Paite)	Fruits	Fr-R	16	1	0.02	N/A	NE
**Elaeocarpus floribundus* Blume; [D-28 dated 20/02/2021]	Elaeocarpaceae	Chorphon (Meitei), Zorphon (Kom),Jonmot (Thadou), Shikishi (Mao)	Fruits	Fr-R	8,5,19,30,39 ,18,26,31,34 ,20,27	11	0.25	Yes	NE
Elaeocarpus serratus L.	Elaeocarpaceae	Chorphon (Meitei)	Fruits	Fr-R	41	1	0.02	Yes	NE
Elatostema dissectum Wedd.	Urticaceae	Lhunganche (Vaiphei, Thadou)	Whole plant	Veg-C	19	1	0.02	N/A	NE
Elatostema lineolatum Wight	Urticaceae	Ching Sougri (Meitei), Solunche (Thadou), Edeio (Mao), Dai-vu (Poumai)	Young shoot	Veg-C	21,22,23,24, 30,37	6	0.14	Yes	NE
Elatostema sessile J.R. Forst. & G. Forst	Urticaceae	Edeiovu (Mao), Solunche (Thadou)	leaves, Stem	Veg-C	37,31,	2	0.05	Yes	NE
Eleocharis dulcis (Burm f.) Trin.ex Hensch	Cyperaceae	Kakthum (Meitei)	Root	Veg-C and Veg-R	21,40,	2	0.05	Yes	LC
**Elsholtzia blanda* (Benth.) Benth.	Lamiaceae	Lomba (Meitei), Kholo (Mao), Rikniingjaat (Moyon), Ngarikna (Tangkhul), Lengmusel (Thadou), Lingtu (Rongmei)	Leaves and dried inflorescences	F-Med, Veg-C	44,25,5,27,3 5,42,18,7,12 ,28,38.19	12	0.27	Yes	NE

Elsholtzia communis (Collett &Hemsl.) Diels	Lamiaceae	Thallou (Thadou), Yongpa (Tangkhul), Lomba (Meitei), Lengmasel (Paite)	Young shoot, leaves, inflorescence	F-Med, Veg-C	35,18,38,16	4	0.09	N/A	NE
Elsholtzia stachyodes (Link) Raizada & H.O. Saxena	Lamiaceae	Tekta (Meitei)	Leaves, young inflorescence	Veg-R	38	1	0.02	Yes	NE
Elsholtzia strobilifera Benth.	Lamiaceae	Lomba (Meitei)	Inflorescences	Sp-C	7	1	0.02	Yes	NE
Ensete glaucum (Roxb.) Cheesman	Musaceae	Changkeer (Moyon)	Pseudostem, Inflorescence	Veg-C,	26,27	2	0.05	Yes	LC
Entada gigas (L.) Fawc. & Rendle	Fabaceae	Kaang (Zou)	Tender shoot	Veg-C	15	1	0.02	N/A	NE
Entada phaseoloides (L.) Meer.	Fabaceae	Kongkraeh (Moyon), Ling (Paite), Kaang (Zou), Khangkhil (Meitei)	Tender leaves	Veg-C	22,15,16,27	4	0.09	N/A	NE
Entada rheedei Spreng.	Fabaceae	Kang (Thadou)	Seeds and leaves	Veg-C	18	1	0.02	Yes	NE
Enydra fluctuans DC.	Asteraceae	KomprekTujombi (Meitei)	Leaves	Veg-C and Veg-R	8,3,12,33	4	0.09	N/A	LC
Erigeron canadensis L.	Asteraceae	Loudong (Thadou)	leaves and young stem	Veg-C	18	1	0.02	N/A	NE
Erigeron sumatrensis Retz.	Asteraceae	Buzuwencham (Moyon)	Whole plant	Veg-C	27	1	0.02	N/A	NE
Eschenbachia japonica (Thunb.) J.Kost.	Asteraceae	Mualdap (Paite)	Tender shoots, Leaves, rhizome	Veg-C	16	1	0.02	N/A	NE
**Eryngium foetidum* L.	Apiaceae	Awaphadigom (Meitei), Somey (Chothe), Bangmaroi (Rongmei)	Leaves	Sp-C	5,7,21,1,11, 14,18,19,27, 28,35,30,44, 33,38,3,16,1 5	18	0.41	Yes	NE
Etlingera linguiformis (Roxb.) R.M.Sm.	Zingiberaceae	Bunglamsiing (Moyon), Pulleimanbi (Meitei)	Tender shoot	Veg-C	27,21	2	0.05	N/A	LC
Euphorbia hirta L.	Euphorbiaceae	Pakhangleiton (Meitei)	Inflorescences, tender stem	Veg-R	7,26,36,42,4 4,9,38	7	0.16	N/A	NE
**Eurya acuminata* DC.; [RP-31 dated 21/06/2022]	Pentaphylacaceae	Sijou (Thadou, Monsang), Moriisii (Mao)	Leaves	Veg-C	22,21,31,1,1 8,26,9,15,30 ,43	10	0.23	Yes	NE
**Euryale ferox* Salisb.	Nymphaeaceae	Thangjing (Meitei)	Seeds	Veg-C	5,13,21,8,12 ,44,9,38,11, 3	10	0.23	Yes	LC
Exallage auricularia (L.) Bremek.	Rubiaceae	LangbanKoukha (Meitei)	Young shoot	Veg-R and Veg-C	26	1	0.02	Yes	NE

Exbucklandia populnea (R.Br.ex Griff.) R.W.Br.	Hamamelidaceae	Heiba mana (Meitei), Ichiipakna (Moyon)	Leaves	Veg-C	11,21,23, 27,	4	0.09	Yes	LC
Fagopyrum cymosum (Trevir.) Meisn.	Polygonaceae	Enbreekur (Moyon)	Leaves	Veg-C	27	1	0.02	N/A	NE
**Ficus auriculata* (Lour.)	Moraceae	Heibong, Heiba (Meitei), Chidoshi (Mao), Theichong (Thadou), Buthai (Rongmei), Kaphorna (Tangkhul)	Fruit, leaf, young shoot	Fr-R, Veg-C and Veg-R	27,26,31,28, 34,19,38,37, 30,15,16,43	12	0.27	Yes	LC
Ficus benghalensis L.	Moraceae	Khongnang (Meitei)	Buds	Veg-C	23,24,37	3	0.07	N/A	NE
Ficus carica L.	Moraceae	Heibong (Meitei), Theibache (Thadou)	Fruits, Tender leaves	Fr-R, Veg-C	3,17,18,	3	0.07	N/A	LC
Ficus geniculata Kurz	Moraceae	Khongnangtaru (Meitei), Surima/Leiwena (Tangkhul), Mong (Thadou), Mumuwng (Moyon)	Leaves (tender shoots)	Veg-C and Veg-R	27,43	2	0.05	N/A	NE
Ficus hispida L.f.	Moraceae	Ashi-heibong (Meitei), Ovachidoshi (Mao), Radoshi (Poumai), Meikebo (Chiru)	Fruit	Fr-R	39,26,17,30, 33	5	0.11	N/A	LC
Ficus lacor Buch.-Ham.	Moraceae	HavikhoMumuwng (Moyon)	Leaves (tender shoots)	Veg-C and Veg-R	27	1	0.02	N/A	NE
**Ficus palmata* Forssk.; [LH-28 dated 22/04/2024]	Moraceae	Heiba (Meitei)	Leaves	F-Med, Veg-C, Veg-R	17,41,6,24,2 7,38,9,33,1, 8	10	0.23	Yes	LC
Ficus punctata Thunb.	Moraceae	Bajil (Kom)	Ripe Fruit	Fr-R	20	1	0.02	N/A	NE
**Ficus racemosa* L. ; [RP-137 dated 28/03/2023]	Moraceae	Heibong (Meitei), Chii Khaamba (Moyon), Palanong (Rongmei), Theichang (Thadou)	Fruit, leaves, young shoot	Fr-R,Veg-C	26,27,28,34, 39,38,3,8,17 ,20,43	11	0.25	Yes	LC
Ficus rumphii Blume.	Moraceae	Mawnglae (Zou), Mawnglok (Paite)	Inflorencences	Veg-C	42,16,15,	3	0.07	N/A	NE
Ficus semicordata Buch. -Ham. ex Sm.	Moraceae	Heirit (Meitei),Thei (Thadou), Thachang (Moyon)	Fruits	Fr-R	1,34,18,27,2 6	5	0.11	Yes	LC
Ficus tsjakela Burm.f	Moraceae	Tarung (Monsang), Tarung Khongnang (Meitei)	Leaves	Veg-C	1,6	2	0.05	Yes	NE

Ficus virens Aiton	Moraceae	Khongnangtarung (Meitei)	Leaves	Veg-C	34	1	0.02	Yes	LC
Flacourtia jangomas (Lour.) Raeusch. ;[RP-61 dated 30/04/2024]	Salicaceae	Heitroi (Meitei),Theitung (Kom)	Fruits	Fr-R	8,17,26,20,39,5	6	0.14	Yes	NE
Flueggea virosa (Roxb. ex Willd.) Royle	Euphorbiaceae	Sai-sek (Paite)	Fruits	Fr-R	16	1	0.02	N/A	LC
Garcinia cowa Roxb. ex Choisy	Clusiaceae	Heibung (Meitei)	Fruit	Fr-R	26	1	0.02	N/A	NE
Garcinia pedunculata Roxb.	Clusiaceae	Heibung (Meitei),Thuhpi (Thadou), Changnaeh (Moyon), Pongthai (Rongmei)	Fruits	Fr-R	1,8,17,18,20,26,27,28,34	9	0.20	Yes	NE
Garcinia xanthochymus Hook.f. ex J Anderson	Clusiaceae	Heirangkhoi (Meitei),Thaeshavor (Moyon)	Fruits	Fr-R and Fr-P	39,26,27	3	0.07	Yes	NE
Gliricidia sepium (Jacq.) Walp.	Fabaceae	Paarshaen (Moyon)	Young leaves and flowers	Veg-C	27	1	0.02	N/A	NE
Globba clarkei Baker	Zingiberaceae	Rapro (Mao), Raprou (Poumai)	Tender shoot	Veg-C	30	1	0.02	N/A	NE
Glochidion multiloculare (Rottler ex Willd.) Voigt	Euphorbiaceae	Kamrisi (Chiru)	Young leaves	F-Med, Veg-C	33	1	0.02	N/A	NE
Gnetum gnemon L.	Gnetaceae	Ganmakhen (Rongmei)	Leaves	Veg-C	27,28,29,34,	4	0.09	Yes	LC
Grewia abutilifolia Ventenat ex Jussieu	Malvaceae	Ching-boroi (Kom)	Fruits	Fr-R	20	1	0.02	N/A	LC
Grewia asiatica L.	Malvaceae	Sanjelhei (meitei)	Fruit	Fr-R	26	1	0.02	N/A	LC
Gynura cusimbua (D. Don) S.Moore	Asteraceae	Tera Paibi (Meitei), Mulunlou (Chothe), Jadonangpu (Rongmei)	Leaves, shoots	Veg-C	40,11,3,	3	0.07	N/A	NE
Gynura nepalensis DC.	Asteraceae	Terapaibi (Meitei), Tobow (Mao)	Leaves	Veg-C and Veg-R	25,44	2	0.05	N/A	NE
Hedychium coronarium J.Koening.	Zingiberaceae	Takhellei-angouba, Loklei (Meitei), Lokriiae (Moyon), Shekrabu (Mao)	Rhizome	Veg-C	10,5,40,21,26,27,30,8	8	0.18	Yes	DD
Hedychium ellipticum Buch.-Ham. ex Sm.	Zingiberaceae	Dosu pa (Mao)	Rhizome, young shoot	Veg-C	26,25,	2	0.05	N/A	NE
Hedychium flavum Roxb.	Zingiberaceae	Loklei (Meitei)	Rhizome	Veg-C	5,1,40,3	4	0.09	Yes	NE
Hedychium marginatum C.B Clarke	Zingiberaceae	Tontairuikahunga (Tangkhul),Takhelei angangba (Meitei)	Rhizome and soft stem	Veg-C	40,35	2	0.05	Yes	NE

Hedychium spicatum Sm.	Zingiberaceae	TakhelleiHangampal, Loklei (Meitei)	Rhizome, young shoot	Veg-C	26,3,14	3	0.07	Yes	NE
Helichrysum indicum (L.) Grierson	Asteraceae		Whole plants	Veg-C	13,23,24,40, 21,	5	0.11	N/A	NE
Hellenia speciosa (J.Koenig) S.R.Dutta	Costaceae	Shabating (Moyon)	Leaves	Veg-C	27	1	0.02	N/A	LC
Hibiscus heterophyllus Vent.	Malvaceae	Mehnal (Paite, Zou)	Fruits	Veg-C	16,15	2	0.05	N/A	LC
*Hodgsonia macrocarpa (*Blume) Cogn.	Cucurbitaceae	Lam-mairel (Meitei), Tasuthai (Rongmei)	Seeds	Veg-C	22,28	2	0.05	N/A	NE
Homonoia riparia Lour.	Euphorbiaceae	Ganmajung (Rongmei)	leaves	Veg-C	28	1	0.02	N/A	LC
**Houttuynia cordata* Thunb. ;[RP-24 dated 01/07/2024]	Saururaceae	Topanhengkung (Monsang), Tuningkok (Meitei), Ganplu (Rongmei)	Leaves	Veg-R	1,5,30,8,12, 15,16,18,19, 27,28,38,21, 31,9,7,11,35 ,44	19	0.43	Yes	NE
Impatiens pulchra Hook.f. & Thomson	Balsaminaceae	Eshou-vu (Mao), Shou-vu (Poumai)	Leaves	Veg-C	30	1	0.02	N/A	NE
**Ipomoea aquatica* Forsk.	Convolvulaceae	Kollamni (Meitei)	stem and leaves	Veg-C	8,14,44,40,1 1,10,13,21,1 2,38,3	11	0.25	Yes	LC
Isoetes coromandelina L.fil.	Isoetaceae	Sorbon (Meitei)	Aquatic Herb	Veg-C	3	1	0.02	N/A	LC
Isoetes coromandelina subsp. coromandeli na	Isoetaceae	Shorbon (Meitei)	Whole plants	Veg-R	38	1	0.02	N/A	LC
Juglans sigillata Dode ;[RP-40 dated 06/08/2022]	Juglandaceae	Okhusii (Mao), Khushi (Poumai), Makha (Thadou),Heijuga (Meitei), Joukunathai (Rongmei)	Fruit	Fr-P	28,31,26,19, 1,30,18	7	0.16	Yes	LC
Knoxia roxburghii (Spreng.) M.A.Rau	Rubiaceae	Meitei Lembum (Meitei)	leaves, young shoot	Veg-C	26	1	0.02	N/A	NE
Knoxia sumatrensis (Retz.) DC.	Rubiaceae	Meitei lebum (Meitei)	Young shoot	Veg-C	3	1	0.02	N/A	NE
Koenigia mollis var. frondosa (Meisn.) T.M.Schust. & Reveal	Polygonaceae	Evau (Mao),Vah-vu (Poumai), Anbongalenpa (Thadou)	leaves, stem	Veg-R	37,30,21,8	4	0.09	N/A	NE
Koenigia polystachya (Wall. ex Meisn.) T.M.Schust. & Reveal	Polygonaceae	Enbree (Moyon)	Leaves	Veg-C	27	1	0.02	Yes	NE
Lansium parasiticum (Osbeck) K.C.Sahni& Bennet	Meliaceae	Theipangkai (Thadou)	Fruits	Fr-R	18	1	0.02	Yes	NE

Lantana camara L.	Verbenaceae	Bakha so (Mao)	Fruits	Fr-R	25	1	0.02	N/A	NE
Laserpitium siler L.	Apiaceae	Shamshaang (Moyon)	Leaves	Veg-C	27	1	0.02	N/A	NE
Lasia spinosa (L.) Thwaites	Araceae	Muwmuwbree (Moyon)	Leaves	Veg-C	27	1	0.02	N/A	LC
Lepionurus sylvestris Blume	Olacaceae	Anapangthuam, Anmang (Paite, Zou)	Leaves	Veg-C	15,16,	2	0.05	N/A	NE
Leucaena leucocephala (Lam.) de Wit	Fabaceae	Chigonglei (Meitei), Zongtasialnek (Paite, Zou)	Pods	Veg-R	1,21,26,15,16,6,44,43	8	0.18	Yes	NE
Leucas aspera (Willd.) Link	Lamiaceae	Mayang-lembum (Monsang, Meitei)	Leaves	Veg-C, F-Med and Veg-R	5,26,6,9,42, 3, 39	6	0.14	Yes	NE
Lilium longiflorum Thunb.	Liliaceae	Kuroh (Moyon)	Bulb	Veg-C	27	1	0.02	N/A	NE
Lithocarpus dealbatus (Hook.f. ex Miq.) Rehder	Fagaceae	Kuhi (Meitei), Thingithing (Vaiphei, Thadou)	Seed	Fr-P	19	1	0.02	N/A	NE
**Litsea cubeba* (Lour.) Pres	Lauraceae	Oosingshamapaan (Meitei)	Fruits	Sp-C	1,18,26,27,21,6,9,16,15, 28,34,34,43	12	0.27	Yes	LC
Ludwigia adscendens (L.) H.Hara	Onagraceae	EsingKundo (Meitei),	Young shoot	Veg-C and Veg-R	26,13,40,12, 3	5	0.11	N/A	LC
Lycianthes laevis (Dunal) Bitter	Solanaceae	Ansingteh (Zou, Paite)	Leaves, soft stem	Veg-C	21,16,	2	0.05	N/A	NE
Lysimachia candida Lindl.	Primulaceae	Kengoi (Meitei)	Young shoot	Veg-C	26	1	0.02	N/A	NE
Lysimachia ruhmeriana Vatke	Primulaceae	Kengoi (Meitei, Chiru)	Whole plants	Veg-C	9,33,	2	0.05	N/A	NE
Maesa chisia Buch.-Ham. ex D. Don	Primulaceae	Kohra-o (Mao), Hra-vu (Poumai)	Tender leaves	Veg-C	30	1	0.02	N/A	NE
Mallotus japonicus (L.f.) Müll.Arg.	Euphorbiaceae	Beengkhii (Moyon)	Leaves	Veg-C	27	1	0.02	N/A	NE
Mangifera sylvatica Roxb.	Anacardiaceae	Sharik Heinou (Meitei)	Fruit	Fr-R	39	1	0.02	N/A	LC
Marsilea mutica Mett.	Marsileaceae	Ishingyensang (Meitei)	Young shoot	Veg-C	3	1	0.02	N/A	NE
Marsilea vestita Hook. & Grev.	Marsileaceae	Ishingyensang (Meitei)	Whole plant	Veg-C	3	2	0.05	N/A	NE
Melastoma malabathricum L. ;[CH-44 dated 06/05/2024]	Melastomataceae	Naolukop (Thadou)	Fruits	Fr-R	18	1	0.02	N/A	NE
Melientha suavis Pierre	Opiliaceae	Tungkenglakjaar (Moyon)	Leaves and tender flowers	Veg-C	27	1	0.02	N/A	NE
Melocanna baccifera (Roxb.) Kurz	Poaceae	Moubi-wa (Meitei), Amao (Chothe), Reang thun (Rongmei)	Young shoot	Veg-C	26,32,36,4,19,28	6	0.14	Yes	NE
Meyna laxiflora Robyns	Rubiaceae	Heibi (Meitei)	Fruits	Veg-R, Fr-R and Fr-P	17,38	2	0.05	Yes	NE

**Meyna spinosa* Roxb. ex Link	Rubiaceae	Heibi (Meitei), Haeppy (Moyon), Theipui (Kom), Theipi (Thadou), Theichut (Chiru), Chanunthai (Rongmei)	Leaves and fruit	Veg-R, Fr-R and Fr-P	3,11,21,27,9,20,44,8,1,39,18,26,34,33,43	15	0.34	Yes	NE
Microcos paniculata Linn.	Tiliaceae	Haetuk (Moyon), Heitup (Meitei)	Fruits	Fr-R	8,27	2	0.05	Yes	LC
Mimosa rubicaulis subsp. himalayana (Gamble) H.Ohashi	Fabaceae	Linguih, Khangkhuh (Zou, Paite)	Tender shoot	Veg-C	15,16,	2	0.05	N/A	NE
Momordica cochinchinensis (Lour.) Spreng	Cucurbitaceae	Tangkhawt (Zou), Tangkhapi (Paite)	Fruits	Veg-C	15,16	2	0.05	N/A	NE
Momordica dioica Roxb. Ex Willd.	Cucurbitaceae	Karot (Moyon)	Tender leaves	Veg-C	21,27,30,	3	0.07	N/A	NE
Momordica subangulata Blume	Cucurbitaceae	Shakmuw (Moyon)	Fruits	Veg-C	27	1	0.02	N/A	NE
Morus alba L.	Moraceae	Aar-thuwr (Moyon), Huhreshiibu (Mao), Thingteimi (Thadou)	Fruits	Fr-R	27,30,3,	3	0.07	N/A	NE
Morus indica L.	Moraceae	Kabrangchak (Meitei)	Young leaves	Fr-R	3	1	0.02	N/A	NE
Murraya koenigii (L.) Spreng	Rutaceae	U-maroi (Meitei), Nim (Moyon)	Leaves	Sp-C	27,3,37	3	0.07	Yes	LC
Musa accuminata Colla	Musaceae	Naachang (Moyon)	Inner stem and flower	Veg-C	27	1	0.02	Yes	LC
Musa balbisiana Colla	Musaceae	Laphu (Meitei), Lampa naachang (Moyon), Changlong (Thadou)	Stem	Veg-C and raw	1,26,27,42	4	0.09	Yes	LC
Myrica esculenta Buch.-Ham. ex D.Don	Myricaceae	Makei (Thadou, Vaiphei),Nonganghei (Meitei)	Fruits	Fr-R, Fr-P	37,26,18,19, 34,20	6	0.14	Yes	NE
Narenga porphyrocoma (Hance) Bor	Poaceae	ShingutKambong (Meitei)	Infected column of the stem.	Veg-C	3	1	0.02	Yes	NE
**Nelumbo nucifera* Gaertn.	Nymphaeaceae	Thambal (Meitei)	Stem,leaves,Rhizomes,fruits	Fr-R, Veg-C and Veg-R	11,8,14,40,5,7,12,21,42, 38,33,44,3,13,3	15	0.34	Yes	NE
Neolitsea cassia (L.) Kosterm.	Lauraceae	Jerhing (Moyon)	Bark	Sp-C	27	1	0.02	Yes	NE
Neptunia oleracea Lour.	Fabaceae	EshingIkaithabi (Meitei)	Young shoots	Veg-C and Veg-R	13,27,5,12,21,3,44,8,11, 38	9	0.20	Yes	LC

Nyctanthes arbor-tristis L.	Oleaceae	Singarei (Meitei)	Flower	Sp-C	7	1	0.02	Yes	LC
Nymphaea alba L.	Nymphaeaceae	Tharo- Angouba	Fruits, Young stalk	Fr-R	13,12,44,3	4	0.09	N/A	LC
Nymphaea lotus L.	Nymphaeaceae	Tharoangouba (Meitei)	Fruits, Young stem	Fr-R and Veg-R	3	1	0.02	Yes	LC
Nymphaea nouchali Burm. F.	Nymphaeaceae	Thariktha (Meitei)	Young stalk and flower	F-Med, Veg-R	44,8,21,12,38,42,38,9,13	9	0.20	Yes	LC
Nymphaea pubescens Willd.	Nymphaeaceae	Tharo (Meitei)	Flower,youngPetiole	F-Med, Veg-R	42,44,7,38,	4	0.09	Yes	LC
Nymphaea rubra Roxb. ex Andrews	Nymphaeaceae	Lemphu (Meitei)	Fruits, Tender stem	Fr-R and Veg-R	3,8	2	0.05	Yes	LC
Nymphoides indica (L.) Kuntze	Nymphaeaceae	Thrikthamacha (Meitei), Ngachak Komol (Chiru)	Flower,young stalk	F-Med, Veg-R	42,33,44	3	0.07	Yes	LC
**Ocimum americanum* L.	Lamiaceae	Mayangba (Meitei)	Inflorescences	Veg-C and Sp-C	7,35,33,38,15,16,27,42,44,14,3	11	0.25	Yes	NE
Ocimum basilicum L.	Lamiaceae	Naoseklei (Meitei)	leaves, Inflorescence	Veg-C and Veg-R	37,7,33,38,44,11	6	0.14	N/A	NE
Ocimum tenuiflorum L.	Lamiaceae	Tulsi (Meitei)	Inflorescences	Veg-R	7	1	0.02	N/A	NE
**Oenanthe javanica* (Blume) DC.	Apiaceae	Ko,prek (Meitei)	Stem,leaves	Veg-R	10,37,11,26,27,38,1,21,25,30,7,35,44,13,3,8,14,31,4,30,	21	0.48	Yes	LC
Olea ferruginea Wall. ex Aitch.	Oleaceae	Chorphon (Meitei)	Fruits	Fr-R and Fr-P	17	1	0.02	Yes	NE
**Oroxylum indicum* (L.) Kurz	Bignonaceae	Wachambwer (Monsang), Ra-tamben (Rongmei), Shamba (Meitei)	Flower, tender pods	Veg-C	22,37,27,26,1,30,6,38,16,15,19,39,9,43	14	0.32	Yes	NE
Oxalis corniculata L.	Oxalidaceae	Yensin (Meitei, Chiru), ozhepito (Mao), Titra (Monsang)	Leaves	Veg-C	37,3,26,39,8,9,33,25	8	0.18	Yes	NE
Oxalis latifolia Kunth	Oxalidaceae	Pukcheeng (Moyon)	Fruits	Fr-R	27	1	0.02	N/A	NE
Paederia foetida L.	Rubiaceae	Veinamgui (Thadou), Oinam (Meitei), Banamloi (Rongmei)	leaves	Veg-C	37,7,18,26,30,	5	0.11	N/A	NE
Panicum miliaceum L.	Poaceae	Taang (Paite, Zou)	Seeds	Veg-C	15,16	2	0.05	N/A	NE

Parkia timoriana (DC.) Merr.	Fabaceae	Zongta (Paite), Yongchak (Meitei, Chothe),Juungchah (Moyon), Kampai (Rongmei)	Inflorescences, Pods	Veg-R and Veg-C	7,36,44,38,15,16,39,28,3	9	0.20	Yes	NE
Pavetta indica L.	Rubiaceae	Chikpa-thur (Chiru)	Leaves	F-Med, Veg-C	33	1	0.02	N/A	NE
Perilla frutescens (L.) Britton	Lamiaceae	ThoidingAngouba (Meitei), Rikniing (Moyon)	Leaves and flower	Veg-R and Veg-C	27,38	2	0.05	N/A	LC
Persicaria barbata (L.) H.Hara ;[RP-06 dated 09/052024]	Polygonaceae	Yelang (Monsang, Meitei)	leaves, young shoot	Veg-C	26,10,9,38	4	0.09	Yes	LC
Persicaria capitata (Buch.- Ham. ex D.Don) H.Gross	Polygonaceae	Phak-pai (Meitei), Tokhu pro (Mao), Kekungsham (Monsang)	Inflorescences	Veg-C	9,42	2	0.05	N/A	NE
Persicaria chinensis (L.) H.Gross	Polygonaceae	Angom Yensil (Meitei), Ahmutan (Thadou),Obei-o kati(Mao), Enpum (Moyon), Bai-vu (Poumai)	Leaves, young shoot	Veg-C	26,18,25,27,8,13,30,1	8	0.18	N/A	NE
Persicaria hydropiper (L.) Delarbre	Polygonaceae	Lilhar (Monsang), Chaokhong (Meitei)	Leaves	Veg-C	26,9	2	0.05	N/A	LC
Persicaria maculosa Gray	Polygonaceae	Kaekuwngsham (Moyon)	Tender leaves	Veg-R	27	1	0.02	N/A	LC
Persicaria microcephala (D.Don) H.Gross	Polygonaceae	N/R	leaves	Veg-R	37	1	0.02	N/A	NE
Persicaria orientalis (L.) Spach	Polygonaceae	Yellang (Meitei)	Tender leaves and shoots	F-Med, Veg-R	44	1	0.02	N/A	NE
Persicaria perfoliata (L.) H.Gross	Polygonaceae	Lingthuh (Thadou)	leaves and fruits	Veg-C and Fr-P	37, 30	2	0.05	N/A	NE
Persicaria posumbu (Buch.-Ham. ex D.Don) H.Gross	Polygonaceae	Phak-pai (Meitei), Kamsa (Tangkhul)	leaves, young shoot	Veg-R	26,13,35,3,44	5	0.11	Yes	NE
Persicaria runcinata (Buch.-Ham. ex D.Don) H.Gross	Polygonaceae	Nobito (Mao), Houpeivu (Poumai)	leaves	Veg-C	37,30,	2	0.05	N/A	NE
Persicaria sagittata (L.) H.Gross	Polygonaceae	Hari (Meitei)	Tender stem and leaves	Veg-C	10,40	2	0.05	N/A	LC
Petroselinum crispum (Mill.) Fuss	Apiaceae	Taatra (Moyon)	Whole plant	Veg-C	27	1	0.02	N/A	NE
Phlogacanthus curviflorus (Wall.) Nees	Acanthaceae	Lamgi Nongmangkha (Meitei), Totsiipa (Mao), Heyavu (Poumai), Kolhou (Thadou)	Flower	Veg-C	42,26,30	3	0.07	Yes	NE

**Phlogacanthus thyrsiformis* (Roxb. ex Hardw.) Mabb.; [RP-34 dated 13/07/2024]	Acanthaceae	Chiipar (Monsang), Khimpui (Rongmei), Nongmangkha (Meitei)	Flower	Veg-C and F-Med	42,1,9,5,33, 6,18,39,28,7 ,14,21,44,36 ,27	15	0.34	Yes	NE
Phoenix dactylifera L.	Arecaceae	Thangtup (Meitei)	Fruits	Fr-R, F-Med	17,3,	2	0.05	N/A	NE
Phoenix loureiroi Kunth	Arecaceae	Thangtup (Meitei), Innu (Moyon), Chaghashi (Mao), Ghashi (Poumai), Lusu (Thadou)	Fruit	Fr-R	26,27,30	3	0.07	N/A	LC
Phoenix sylvestris (L.) Roxb.	Arecaceae	Thangtup (Kom, Chiru)	Fruits	Fr-R	20,33,3,	3	0.07	N/A	NE
Phyllanthus acidus (L.) Skeels	Phyllanthaceae	Gihori (Chiru, Meitei)	Fruits	Fr-R	17,20,	2	0.05	Yes	NE
Phyllanthus amarus Schumach& Thonn.	Phyllanthaceae	Uikeh (Chiru)	Whole plants	F-Med, Veg-C	33	1	0.02	N/A	NE
**Phyllanthus emblica* L.	Phyllanthaceae	Sohlhu (Thadou), Heikru (Meitei), Talouthai (Rongmei)	Fruits	Fr-R and Fr-P	5,8,1,17,27, 18,19,39,20, 34,31,30,28	13	0.30	Yes	LC
Phyllanthus fraternus G.L.Webster	Phyllanthaceae	Chakpa-heikru (Meitei)	Leaves	F-Med, Fr_R	17	1	0.02	N/A	NE
Phyllanthus urinaria L.	Phyllanthaceae	Chakpa-heikru (Meitei) &Sohlhu (Thadou)	Young shoot	Veg-R and Veg-C	26	1	0.02	N/A	NE
Physalis angulata L.	Solanaceae	Pohkol (Thadou)	Fruits	Fr-R	37,26,27,25	4	0.09	N/A	LC
Physalis peruviana L.	Solanaceae	Korelashii (Mao), Khaokhashi (Poumai), Buhkol (Thadou)	Fruits	Fr-R	37,30	2	0.05	N/A	LC
Pilea scripta (Buch.-Ham. ex D. Don) Wedd.	Urticaceae	Mariumarei/ Turingnong (Rongmei), Songche (Thadou)	Leaves	Veg-C, Veg-R and F-Med	18,29	2	0.05	No	NE
Piper longum L.	Piperaceae	Uchithi (Meitei), Singmalta (Paite, Zou),	Fruits	Sp-C	15,16,39,	3	0.07	Yes	NE
Piper pedicellatum C. DC	Piperaceae	Thimnahan (Tangthul), Thareisapou, Teravu (Thadou)	leaves	Veg-C	21,23,24,	3	0.07	N/A	VU
Pistia stratiotes L.	Arecaceae	Kangjao (Meitei)	Leaves	Veg-C	2,3	2	0.05	N/A	LC
**Plantago asiatica* subsp. erosa (Wall.) Z. Yu Li ;[SMK-14 dated 27/04/2024]	Plantaginaceae	Yempat (Meitei),Vohbilche (Thadou), Dziipao (Mao),	Whole plant	Veg-C	9,26,18,6,25 ,11,21,7,12, 19	16	0.36	Yes	NE
Plantago depressa Willd.	Plantaginaceae	Vokpibilteh (Paite, Zou)	Leaves	Veg-C and Veg-R	15,16, 30	3	0.07	Yes	NE
Plumbago zeylanica L.	Plumbaginaceae	Kengoi (Meitei)	whole plant	Veg-R	8	1	0.02	Yes	NE

Plumeria rubra L.	Apocynaceae	Khagi-leihao (Meitei)	Young leaves	Veg-R	38	1	0.02	N/A	LC
Pogostemonbenghalensis (Burm.f.) Kuntze	Lamiaceae	Liriiwo (Mao)	Leaves	Veg-C	25	1	0.02	N/A	NE
Pogostemon elsholtzioides Benth.	Lamiaceae	Phiziio (Mao)	Tender leaves	Veg-C	30	1	0.02	N/A	NE
Pogostemon purpurascens Dalzell	Lamiaceae	Tekta (Meitei)	leaves	Sp-C	21,3	2	0.05	N/A	NE
Polygonum barbatum L.	Polygonaceae	Yelang (Meitei), Ganmakong (Rongmei)	whole plant	Veg-R	8,13,28,11,12,21,40	7	0.16	N/A	LC
Pontederia hastata L.	Pontederiaceae	Ooren (Meitei)	Inflorescences	Veg-C	7	1	0.02	Yes	LC
Portulaca oleracea L.	Portulaceae	Leibakkundo (Meitei)	Inflorescences, tender leaves	Veg-C	7,26,39,42,3,33	6	0.14	N/A	LC
Potentilla indica (Andrews) Th.Wolf	Rosaceae	Likhodaphroshi (Mao)	Fruit	Fr-R	30	1	0.02	N/A	NE
Prasoxylon excelsum (Spreng.) Mabb.	Meliaceae	Singthupi (Paite, Zou), Dangdou (Chiru), Ganluak (Rongmei)	Leaves and young shoots	Veg-C	26,16,15,21, 33,43	6	0.14	Yes	NE
Prunus cerasoides Buch.-Ham ex D. Don	Rosaceae	Pfovashi (Mao), Vashi (Poumai), Chumbrei (Meitei)	Fruits	Fr-R	20,30,8	3	0.07	N/A	LC
Prunus cornuta (Wall. ex Royle) Steud.	Rosaceae	Mokhoshi (Mao), Ngourashi (Poumai)	Fruit	Fr-P	30	1	0.02	N/A	NE
Prunus napaulensis (Ser.) Steud.	Rosaceae	Mokhoshi (Mao), Khashi (Poumai), Ruailungthuthai (Rongmei)	Fruits	Fr-R	34,31,30,	3	0.07	Yes	NE
Pseudognaphalium viscosum (Kunth) Anderb.	Asteraceae	Phunin (Meitei)	Inflorescences	Veg-C	7	1	0.02	Yes	NE
Psidium guajava L.	Myrtaceae	Panghaentuur (Moyon), Khaminton (Chiru), Pongdol (Meitei)	Leaves,fruits	Fr-R	25,27,33	3	0.07	Yes	LC
Pteris ensiformis Burm f.	Pteridaceae	Chang khrang (Meitei)	Leaves	Veg-C	3	1	0.02	N/A	NE
Pyrus pashia Buch.-Ham. ex D. Don	Rosaceae	Chitishi (Mao), Taoshi (Poumai), Bulthing (Thadou), Lam Naspati (Meitei)	Fruits	Fr-R	37,26,30	3	0.07	N/A	LC
Ranunculus sceleratus L.	Ranunculaceae	Othukoshi (Meitei)	Root stock	Veg-C	30	1	0.02	N/A	LC
Rhamnus napalensis (Wall.) M.A. Lawson	Rhamnaceae	Ching-boroi (Meitei)	Fruit	Fr-R	26	1	0.02	N/A	LC

Rhodrodendron arboreum Sm. ;[Ph-03 dated 01/04/2024]	Ericaceae	Lidainipa (Mao), Daipa (Poumai), Ngeisoh (Thadou)	Flowers	Veg-C	30,37,42,7	4	0.09	N/A	LC
**Rhus chinensis* Mill. ;[RP-05 dated 30/04/2024]	Anacardiaceae	Khomae (Moyon), Heimang (Meitei), Emoshi (Mao), Moushi (Poumai), Khongma (Thadou), Tamui (Rongmei)	Fruits	Fr-R and Fr-P	18,26,27,6,37,1,5,17,31,34,30,9,43,3,8	15	0.34	Yes	LC
**Rhynchotechum ellipticum* (Wallich ex D. Dietr.) A.DC. ;[RP-145 dated 08/10/2023]	Gesneriaceae	Gankarek (Rongmei), Chelep-che(Thadou), Kosabio (Mao), Theshuvi (Poumai), Yenbum (Meitei)	Leaves	Veg-C	1,30,18,22,23,31,29,27,6,14,19,28,	12	0.27	Yes	NE
Rotala rotundifolia (Buch.-Ham. ex Roxb.) Koehne	Lythraceae	Ishing-Kundo, Labukleiri (Chiru, Meitei),	Young shoot	Veg-C	26,33,38	3	0.07	N/A	LC
Rotheca serrata (L.) Steane & Mabb. ;[RP-33 dated 21/06/2022]	Lamiaceae	Moirangkhanum (Meitei/Monsang), Sok noudo (Chothe)	Inflorescenc e, young shoot	Veg-C	26,6,27,7,21,11,19,33,9	8	0.18	N/A	NE
Rubus alceifolius Poir.	Rosaceae	Somososhii (Mao)	Fruits	Fr-R	25	1	0.02	N/A	NE
Rubus ellipticus Sm. ;[CH-66 dated 06/05/2024]	Rosaceae	Khongma, Theimi (Thadou), Somososhii (Mao), Heijampet Manbi (Meitei), Ngushi(Poumai), Thimuw (Moyon)	Fruits	Fr-R	37,17,18,26,27,25,30	7	0.16	Yes	LC
Rubus niveus Thunb.	Rosaceae	Thimuwynlor (Moyon), Shiingukateishi (Mao), Chomoushushi (Poumai), Theimivom (Thadou)	Fruit	Fr-R	30,27	2	0.05	N/A	NE
Rubus rosifolius Sm.	Rosaceae	N/R	Fruits	Fr-R	37	1	0.02	N/A	NE
Rumex nepalensis Spreng.	Polygonaceae	Torongkhongchak (Meitei)	Young leaves	Veg-C	39,6,9,	3	0.07	N/A	NE
Rumex palustris Sm.	Polygonaceae	TorongKhongchak (Meitei),Shamangnuw encham (Moyon)	leaves	Veg-C	8,27	2	0.05	Yes	LC
Rumex vesicarius L.	Polygonaceae	Hangamasinba (Meitei), Anbongteh (Zou, Paite)	Inflorescences, tender shoot	Veg-C	7,15,16	3	0.07	Yes	NE
Sagittaria sagittifolia L.	Alismataceae	Koukha (Meitei)	tuber	Veg-C	8,39,11,2612,21,13,6,3	9	0.20	Yes	LC

Salvia dianthera Roth	Lamiaceae	Kanghuman (Meitei)	Leaves	F-Med, Veg-C	44	1	0.02	N/A	NE
Salvia strobilifera (Benth.) J.G.González	Lamiaceae	Kanghuman (Meitei), Lengmasel (Paite, Zou)	Leaves, Inflorescence	Veg-C	15,16,42	3	0.07	N/A	NE
Sapindus trifoliatus L.	Sapindaceae	Ponsup mu (Thadou)	Seeds	Fr-R	18	1	0.02	Yes	NE
Sarcochlamys pulcherrima Gaudich.	Urticaceae	Goibalei (Rongmei)	leaves, tender shoot	Veg-C	28, 29	2	0.05	Yes	NE
**Schima wallichi* Choisy	*Theaceae*	Usoi (Meitei, Monsang), Seang (Rongmei)	Young leaves	Veg-R	19,4,38,16,26,27,15,30,6,9,44,43	12	0.27	N/A	NE
Schoepfia fragrans Wall.	Olacaceae	Shipthing (Vaiphei, Thadou), Khachong (Meitei)	Tender Leaves	Veg-C	19	1	0.02	N/A	LC
Scutellaria discolor Colebr.	Lamiaceae	Yenakhat (Meitei)	Inflorescences, leaves	Veg-C	7	1	0.02	Yes	NE
Senegalia pennata (L.) Maslin	Fabaceae	Khangkhu (Paite, Zou), Chingonglei (Meitei)	Tender leaves	Veg-C	42,26,43,18,16	5	0.11	N/A	LC
Senna alata (L.) Roxb.	Fabaceae	Daopata (Monsang)	Leaves	Veg-C	6	1	0.02	N/A	LC
Senna septemtrionalis (Viv.) H.S.Irwin & Barneby	Fabaceae	Thaonum (Monsang)	Fruits	Fr-P	9	1	0.02	N/A	LC
Sesbania cannabina (Retz.) Pers.	Fabaceae	Chuchu rangmei (Meitei)	Flowers and tender legume	Veg-C	27,11	2	0.05	Yes	NE
Sesbania grandiflora (L.)Poir	Fabaceae	Chuchu rangmei (Meitei)	Young pods and tender twigs	F-Med, Veg-R	44	1	0.02	Yes	NE
Sesbania sesban (L.) Merr.	Fabaceae	Chu-chu rangmei (Monsang, Meitei)	Tender leaves,pods	Veg-C and Veg-R	5,8,21,44,38,9,15,16	8	0.18	Yes	LC
Smilax lanceifolia Roxb. ;[RP-60 dated 06/08/2022]	Smilacaceae	Kwa-manbi (Meitei)	Young twigs	Veg-R	38	1	0.02	N/A	NE
Smilax ovalifolia Roxb. ex D.Don	Smilacaceae	Khekhra (Mao), Roushu (Poumai), Kangvah (Thadou)	Tender shoot	Veg-C	30	1	0.02	N/A	NE
Smilax zeylanica L.	Smilacaceae	Keisum (Meitei)	Leaves	Veg-R	38,19	2	0.05	N/A	NE
Solanum americanum Mill.	Solanaceae	Oho phira pro (Mao)	Leaves,fruits	Veg-C	25	1	0.02	N/A	NE
Solanum anguivi Lam.	Solanaceae	Leipung-khanga (Meitei, Monsang), Anjangkha (Thadou), Khunathai (Rongmei)	Fruit	Veg-C	18,9,33	3	0.07	Yes	LC

Solanum betaceum Cav.	Solanaceae	Ookhamen (Meitei)	Fruits	Veg-C	21	1	0.02	N/A	DD
**Solanum nigrum* L.	Solanaceae	Anjou (Thadou, Zou), Aar bros (Moyon), Morokpan (Meitei), Ohuphirapro (Mao), Humarasoupru (Poumai)	Leaves, Fruits	Veg-C	6,18,26,27,39,21,3,16,15,30,33	11	0.25	Yes	NE
**Solanum torvum* Sw. ;[RP-130 dated 27/03/2022]	Solanaceae	Khanga (Monsang, Meitei), Sai-anjang (Thadou), Marumkonbi (Chiru)	Fruit	Veg-C	26,27,18,21, 33,9,16,6,3, 15,30	11	0.25	Yes	NE
Solanum violaceum Ortega	Solanaceae	Leipingkhang (Meitei), Shamchoh (Moyon)	Fruits	Veg-C	5, 27,37	3	0.07	Yes	NE
Sonchus arvensis L.	Asteraceae	Naesuwhbuw (Moyon)	Tender leaves	Veg-C	27	1	0.02	N/A	NT
Sonchus asper (L.) Hill	Asteraceae	Anaeisuwmbuw (Moyon)	Tender leaves	Veg-C	27	1	0.02	N/A	NE
Sonchus wightianus DC.	Asteraceae	Khomthopi (Monsang, Meitei),	Leaves	Veg-C	25,6	2	0.05	N/A	NE
Spilanthes acmella (L.) L.	Asteraceae	Shaapa (Moyon),Ansateh (Paite, Zou), Maanja-lei (Meitei)	Leaves	Veg-C	27,37,42,16, 15	5	0.11	N/A	NE
**Spondias pinnata* (L. f.) Kurz	Anacardiaceae	Heining (Meitei),Toilheng (Thadou), Taettoo (Mao), Taminthai (Rongmei)	Fruit	Fr-R and Fr-P	18,37,33,16, 34,17,27,31, 39,1,20,8,3	13	0.30	Yes	NE
Stachyphrynium placentarium (Lour.) Clausager & Borchs.	Marantaceae	Gangru (Meitei)	Rhizome	Veg-C	21	1	0.02	N/A	NE
Stelaria media (L.) Vill	Caryophyllaceae	Yerumkeirum (Meitei, Mongsang)	whole plant	Veg-C	8,14,39,12,21,7,9,33	9	0.20	Yes	NE
Stixissuaveolens (Roxburgh) Pierre	Capparaceae	Urirei (Meitei)	Epicarp	Fr-R	22,26	2	0.05	N/A	NE
Syzygium cumini (L) Skeels	Myrtaceae	Jam (Meitei), Mui (Thadou), Kamui(Rongmei), Rumi (Moyon)	Fruits	Fr-R	16,8,5,18,27,39,28,17,19	9	0.20	Yes	LC
Syzygium praecox (Roxb.) Rathakr & N.C.Nair	Myrtaceae	Shileima (Meitei,Chiru)	Fruits	F-Med, Fr-R	33,39	2	0.05	N/A	NE
Terminalia chebula Retz.	Combretaceae	Manahi (Meitei)	Fruits	F-Med, Fr-R	17,26,34,	3	0.07	N/A	LC
Terminalia citrina Roxb. ex Fleming	Combretaceae	Manahi (Meitei)	Fruit	Fr-R and Fr-P	26,39,	2	0.05	N/A	NE
Tetrastigma bracteolatum (Wall.) Planch.	Vitaceae	Monjam-hei (Meitei)	Fruits	Fr-R	33,20,9	3	0.07	Yes	NE
Thelypteris prolifera (Retz.) C.F.Reed	Aspleniaceae	ChiikuurChakohruwbuw (Moyon)	Tender leaves	Veg-C	27	1	0.02	N/A	NE

**Trapa natans* L.	Lythraceae	Heikak (Meitei)	FRUIT	Fr-R, Fr-P	8,11,14,26,40,12,44,38,3,9	10	0.23	Yes	LC
Trevesia palmata (Roxb. ex Lindl.) Vis	Araliaceae	Laang (Meitei), Tungkung (Moyon)	Inflorescences	Veg.	34,27,43	3	0.07	Yes	LC
Trichodesma kumareum S. D. Yumkham et al.; [CH-79 dated 06/05/2024]	Boraginaceae	Chiintapaar (Moyon), Tangkharing (Anal)	Flower bud	Veg-R and Veg-C	27	1	0.02	Yes	N/A
Urtica dioica L.	Urticaceae	N/R	leaves	Veg-C	37	1	0.02	N/A	LC
Vachellia nilotica subsp. indica (Benth.) Kyal. & Boatwr.	Fabaceae	Chigonglei (Meitei)	Young pods	Veg-R	38	1	0.02	N/A	N/A
Viburnum foetidum Wall.	Caprifoliaceae	Shikriishi (Mao), Khuashi (Poumai)	Fruit	Fr-R	30	1	0.02	N/A	NE
Vicia sativa L.	Fabaceae	Pikhongjai (Meitei)	Whole plants	Veg-C	11	1	0.02	N/A	LC
Vicia tetrasperma (L.) Schreb.	Fabaceae	Kambong (Monsang, Meitei)	Shoots	Veg-R	9	1	0.02	N/A	NE
Viola betonicifolia Sm.	Violaceae	Manshangynlor (Moyon)	Whole plant	Veg-C	27	1	0.02	N/A	NE
Viola hamiltoniana D.Don	Violaceae	Eveikoreio (Mao)	Tender leaves	Veg-C	30	1	0.02	N/A	NE
Viola pilosa Blume	Violaceae	Huikhong (Meitei), Manshang (Moyon), Siphaipa (Rongmei)	Leaves	Veg-R and Veg-C	11,14,23,26,27,24,21,19	8	0.18	No	NE
Vitex negundo L.	Lamiaceae	Warek-lou (Maring) & Urik Shibi (Meitei)	leaves, young shoot	Veg-C	26	1	0.02	N/A	LC
Vitex trifolia (L)	Lamiaceae	Uriksibi (Meitei)	Leaves	Veg-C	3	1	0.02	N/A	NE
Wendlandia budleioides Wall. ex Wight & Arn.	Rubiaceae	Aakshipak (Vaiphei), Beeting (Chiru), Aakshipah (Thadou)	Young inflorescence	Veg-C	19	1	0.02	Yes	N/A
**Wendlandia glabrata* DC. ;[RP-38 dated 21/06/2024]	Rubiaceae	Athipah (Thadou), Pheija (Meitei)	Inflorensences	Veg-R	1,30,18,31,21,23,26,34,9,38,24,42,44,43	14	0.32	Yes	NE
Wendlandia paniculata (Roxb.) DC	Rubiaceae	Uthum Manna (Meitei)	Leaves	Veg-C	1,21,33,44	4	0.09	Yes	LC
Wendlandia tinctoria (Roxb.) DC.	Rubiaceae	Pheijaammom (Meitei),	Inflorescences	Veg-R & Veg-C	7,42	2	0.05	Yes	LC
Wurfbainia aromatica (Roxb.) Škorničk. & A.D.Poulsen	Zingiberaceae	Namara (Meitei), Aeriijat (Moyon)	Rhizome	Veg-C and F-Med	12,27,1,21	4	0.09	Yes	NE

Zanthoxylum acanthopodium DC. ; [RP-14 dated 03/08/2022]	Rutaceae	Mukhrubi (Meitei),Khemomouhi (Mao), Khaongashi (Poumai) Lingnamse (Thadou), Mangnangthei (Tangkhul), Tangang (Rongmei), Lingnamsia (Paite)	Tender leaves and fruit	Sp-C and Veg-C	30,5,14,26,28,34,38,18,19,21,42,35,44,16	14	0.32	Yes	LC
Zanthoxylum armatum DC. ; [RP-47 dated 21/03/2022]	Rutaceae	Mukthrubi (Meitei), Oramomoshi (Mao),Ahhihlou, Lingnamsia (Zou), Singdi (Maring),	Fruit	Sp-C	1,30,15,27,16,26,44,43	8	0.18	N/A	LC
**Zanthoxylum rhetsa* (Roxb.) DC. ; [CH-81 dated 17/06/2024]	Rutaceae	Ngang (Meitei), Ganmacheng (Rongmei), Buzuwrynlor (Moyon), Singjol (Thadou)	Fruit, leaves	Sp-C and Veg-C	26,23,27,28,19,18,16,1,3,43	10	0.23	Yes	LC
Zehneria scabra (L.fil.) Sond.	Cucurbitaceae	Lamthabi mana (Meitei),	Leaves	Veg-C	11,21	2	0.05	N/A	NE
Zingiber montanum (J. Koenig) Link ex. A. Dietr.	Zingiberaceae	Lamsiing (Moyon), Ching-sing (Monsang)	Rhizome	Veg-R	27,6	2	0.05	N/A	NE
Zingiber zerumbet (L.) Roscoe ex Sm.	Zingiberaceae	Ram hui (Tangkhul)	Rhizome	Sp-C, F-Med	35	1	0.02	N/A	DD
Zizania latifolia (Griseb.) Hance ex F.Muell.	Poaceae	Kambong (Meitei, Monsang)	Inflorescences /culms	Veg-R and Veg-C	26,5,21,6,9,8,13,3,10	9	0.20	N/A	NE

N/R= Not recorded; N/A= Not Available; NE= Not Evaluated; DD= Data Deficient; LC= Least Concerned; NT= Near Threatened; VU= Vulnerable; *= Potential species