



An Ethnobotanical Study on the Use of Wild Edible Plants in Papum Pare and East Siang Districts of Arunachal Pradesh, India- a Market-Based Approach.

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Abstract

Wild edible plants (WEPs) are among the most important non-timber forest products (NTFPs) used in Arunachal Pradesh for ensuring food security, income generation, and cultural practices. The current study identifies and compares the diversity, market dynamics, and socio-economic significance of WEPs in Papum Pare and East Siang districts, both predominantly home to the Nyishi and Adi tribes, respectively. Surveys based on market data were collected from 24 major and roadside markets, including interviews with 293 vendors using semi-structured and open-ended questionnaires. In all, 81 WEP species of 37 families, 60 genera, and one macrofungus were documented. The herbs were found to be the dominating life form, and the leaves, tender shoots, and fruits were the most common parts of the plants being sold. Most species had availability throughout the year, which is indicative of their ecological plasticity and importance in the diet. Women played an important role in market participation, with more than 85–90% female vendors in most markets, signifying their contribution to petty trading and agrobiodiversity-based livelihood. Species distribution indicated a higher percentage of retailers in the market, implying a well-established market chain. The Jaccard similarity index (0.876) indicated a high level of similarity between the two districts in terms of species composition, suggesting similar ecological and traditional knowledge systems in both areas.

Key words: Plant diversity, local markets, women vendors, seasonal availability, rural livelihood.

1. Introduction

Non-Timber Forest Products in Arunachal Pradesh are an essential component of the local economy, biodiversity, and the cultural practices of indigenous communities. NTFPs consist of a large variety of plants and plant products which includes fruits, vegetables, other edible items, medicine, fibre, dye, thatches that can be gathered from forests without causing any serious damage to the trees or ecosystem. The wild edible plants are the important group of NTFPs that are used to fulfil the dietary and nutritional requirements. Besides, these species are now become important resources for income

generation as are highly demanded locally or otherwise. The collection and consumption of wild plants play an important role in the nutritional diet of local tribes, as well as in their economy. Recent studies have underlined the importance of sustainable harvesting practices for these edible plants, which are often harvested from the wild without causing damage to the forest ecosystem.

These NTFPs are also integral to the local culture and rituals, making them not only a source of food but also a part of indigenous heritage. Conservation efforts and promoting sustainable harvesting are vital to ensuring that these resources remain available for

future generations.

The indigenous communities of the state consumed a large number of wild edible plants. The recent review work of Gajurel *et al.* (2023), a total of 662 species belonging to 340 genera and 124 families used mostly in the form of vegetables, fruits, medicines, spices and condiments have been reported. Documentation of NTFPs and edible plants are attempted by different worker for different communities. Singh and Asha (2017) documented various wild edible fruits in some districts of Arunachal Pradesh. Sharma *et al.*, (2015) documented the status, utilization and economic valuation of NTFPs of Arunachal Pradesh covering 8 districts involving 350 households in which 135 plants based and 36 animal based NTFPs were recorded. Use of wild edible plants by indigenous groups of Namsai district of Arunachal Pradesh and documented 35 WEPs used for consumption purposes by Dutta *et al.* (2024). These studies have proven that the consumption and marketing of wild edible plants is common livelihood practices in the state.

A number of wild vegetables are consumed extensively by the tribal communities of the state. The young, curled fronds are widely used as a vegetable which are of ecological and nutritional importance (Das *et al.*, 2022). Poi or lovo (*Basella alba*), a wild, leafy green plant used in curries or soups and are nutrient dense. The recent ethnobotanical studies have shown that wild spinach is one of the significant seasonal vegetables for the tribes of Arunachal Pradesh (Sharma *et al.*, 2023). Several species of wild yams are there in the forests of Arunachal Pradesh. Wild yams are dug out, boiled, and then eaten. New studies show that wild yams are an essential food to the tribesmen, especially in distant places (Tao *et al.*, 2021). In Arunachal Pradesh, young shoots of bamboo are harvested and eaten. The shoots have a special flavour, and they carry an important role in the daily diet. Studies on the traditional use of bamboo by tribal people indicate that bamboo shoots are a part of most diets of the region (Verma *et al.*, 2024). Wild mushrooms including the species of *Russula* and *Lactarius* genera are collected and consumed in the region. Mushrooms are often foraged and sold in local markets, contributing to both the economy and food security of the region (Bhatt *et al.*, 2023). Taro (*Colocasia esculenta*) is widely cultivated but is also found growing in the wild, particularly in the moist areas of the region. Taro roots are the main component in the diet of the

indigenous people of Arunachal Pradesh (Sarma *et al.*, 2023). Bamboo shoots are considered a valuable NTFP in the sustainable livelihoods of the tribal people in Arunachal Pradesh (Basu *et al.*, 2024). So consumption of numerous species as green vegetable is integral part of the livelihood of the community. These vegetables are often commonly found in the local markets indicating their economic values. The diversity, utilization and cultural preference of these vegetable could be documented even through the market survey.

Among the various markets with heavy marketing of the NTFPs, the Itanagar under Papum Pare and the Pasighat under East Siang district are the two leading areas where maximum and diversified species are sold in the market. The Itanagar area is dominated by the Nyshi tribe while the Pasighat area is dominated by the Adi tribe. Both these tribe have their own rich traditional knowledge systems and preferred numerous plant species to be used as vegetable. To understand the diversity and market dynamics of the wild edible plants in the two regions, the present comparative study has been undertaken.

2. Materials and Methods

Study area: The present study was conducted after selection of markets in the two districts of Papum Pare and East Siang (figure 1). The daily markets of Itanagar Akashdeep Complex, Nirjuli, Banderdewa, Naharlagun and the Road side from Naharlagun to Itanagar by the National Highway 415, weekly market of Doimukh in the Itanagar Capital Complex Region (ICR) and daily market of Sagalee were selected from the Papum Pare district for survey and documentation. In the East Siang district daily markets of Pasighat main market and adjacent colonies, Ruksin, Oyan, Mebo, Ranaghat, rani village and APST bus stand area were selected.

Survey and documentation: Survey and documentation was carried out in the selected markets with the help of a pre-texted questionnaire and discussion with the local vendors dealing with the NTFPs. Vegetable vendors in the markets as well as local inhabitants were interacted regarding use of wild vegetables in the selected markets. Prior to conducting interview schedule with the vendors, standard questionnaires were prepared together with semi-structured and open-ended questions (Martin, 1995; Cotton, 1996 and Bruni *et al.*, 1997). Both semi-structured and open-ended interview schedule was

carried out at the individual level to gather information on local names of plants used in the market, habitat of the plants along with their uses, technique of preparation and their life-forms. Plants collected from wild habitat, used as vegetable by these people but not in practice of cultivation, were identified with the help of existing herbarium sheets and literature available. Plants were categorized into herbs, shrubs, trees and climbers using the Raunkiaer’s life form classification system (Raunkiaer, 1934).

3. Results

(i) Local markets, vendors and marketing of WEPs:

The present study revealed that the inhabitants

of the study area predominantly belong to the Nyishi (Papum Pare) and Adi (East Siang) tribes, use large numbers of wild edible plants (WEPs) in various forms in their day to day life. The WEPs play a significant role in their households and are also impactful in income generation. In the present study a total of 293 retail shops across 24 major and road side markets (figure 1, table 1) were surveyed from both the districts. A total of 203 retail shopkeepers were interviewed from the Papum Pare districts including 8 major market establishments of the locality and 9 road side markets. In the East Siang district, 90 retailers were interviewed from 3 major markets of the locality and 4 road side temporary establishments.

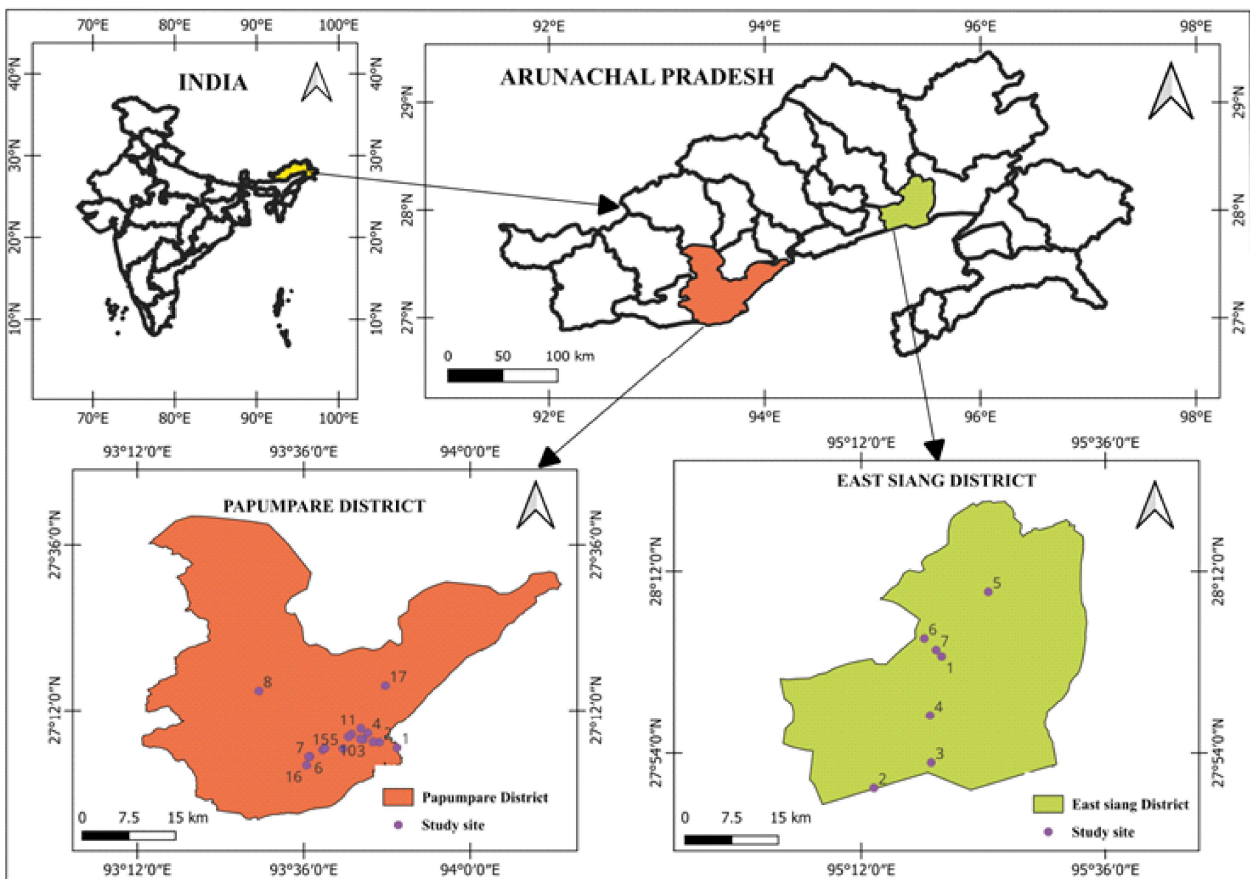


Figure 1: The locations of the markets surveyed in the map.

Table 1: Details of the markets surveyed in the two districts of Arunachal Pradesh

Market type	Papum Pare	Locations	
		Latitude	Longitude
Major market of the locality	Banderdewa	27.10901	93.82398
	Lower Karsingsha	27.12247	93.78181
	Nirjuli daily market	27.12863	93.74293
	Doimukh	27.14421	93.75407
	Naharlagun	27.1067	93.6941
	Itanagar (Akashdeep)	27.08783	93.61445
	Itanagar (Ganga)	27.08713	93.61135
	Sagalee	27.24766	93.49199
Road side establishments	Upper karsingsha (Now not available)	27.12287	93.76666
	Bage tinali	27.12995	93.73637
	Yupia 1	27.15507	93.73711
	Yupia 2	27.1413	93.7148
	Yupia 3	27.13523	93.70679
	Near shiv mandir 1	27.10392	93.64527
	Near shiv mandir 2 (both side of road)	27.10713	93.6507
	Chimpu	27.0668	93.60648
Hoj	27.26052	93.7958	
	East Siang		
Major market of the locality	Pasighat	28.05988	95.3317
	Ruksin	27.84294	95.22064
	Oyan	27.88442	95.31449
Road side temporary establishments	Rani village	27.96232	95.3125
	Mebo	28.16635	95.40816
	Ranaghat	28.08956	95.30306
	Near APST bus stand, Pasighat	28.07048	95.32264

The survey clearly proves that local markets in Papum Pare and East Siang districts are operated mainly by women due to the high level of women's participation in petty trading activities, trading of agricultural produce, and income generation through livelihood systems. The results obtained from the study show that women play an essential role in maintaining the informal market economy in Arunachal Pradesh. As many as 293 vendors were identified in the survey of local markets, which indicates the presence of participation of locals in informal markets (figure 2). Women accounted for more than 85–90% of the total vendors in markets across all the two districts. In a few of the markets, viz. Lower Karsingsha, Nirjuli Daily Market, Nirjuli, Naharlagun, Itanagar (Ganga), Sagalee, Upper Karsingsha, Bage Tinali, Yupia (1–3), Chimpu, Hoj, Oyan, Rani Village, Ranaghat, and Near

APST Bus Stand; the presence of women was 100%, without any male vendor. This signifies that women played a major role in trading activities carried out in the markets. Markets that had comparatively a higher number of total vendors include Itanagar (Ganga) (32 vendors), Naharlagun (28 vendors), Near Shiv Mandir-2 (23 vendors), and Pasighat (33 vendors). Although there were more vendors in the above-mentioned markets, still, the percentage of male vendors was very low in comparison to females. For example, in Pasighat market, out of 33 vendors, only 6 were male vendors, while 2 out of the 23 total vendors were male in Near Shiv Mandir-2. Male vendors were only found in some specific markets, including Banderdewa, Doimukh, Itanagar (Akashdeep), Near Shiv Mandir-1 & 2, Pasighat, Ruksin, and Mebo; but, the numbers of males were comparatively very low. Out of the total vendors

in all the listed markets, males accounted for only 5 in Near Shiv Mandir-2 and 6 in Pasighat.

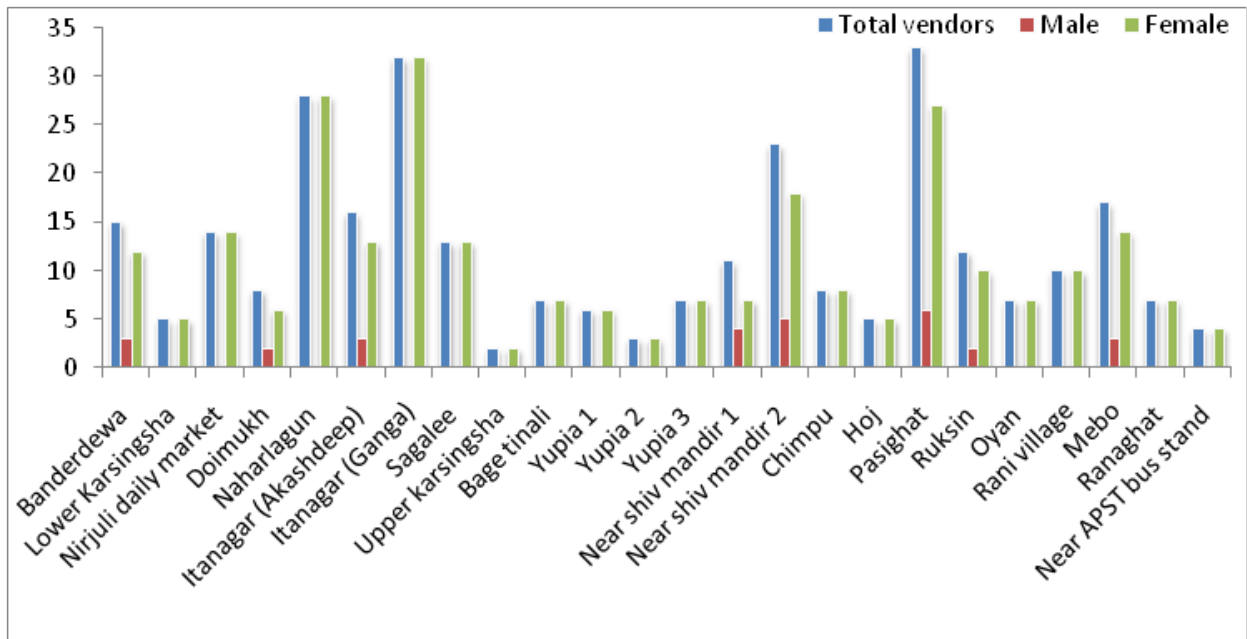


Figure 2: The details of vendors interviewed from the two districts

The distribution of vendors according to age groups in the districts of Papum Pare and East Siang is illustrated in figure 3 below. From the graph, it is clear that in both districts, vendors belonging to the age range of 31–45 years constituted the highest percentage, meaning that commercial activity in the markets is dominated by people who are in their most

active economic period. There were 93 vendors in the 31–45 age group in Papum Pare district and 43 vendors in the same group in East Siang. The 15–30 years age group also had relatively high vendor representation, especially in the Papum Pare district where there were 54 vendors. However, the number of vendors reduced as the age increased (figure 3).

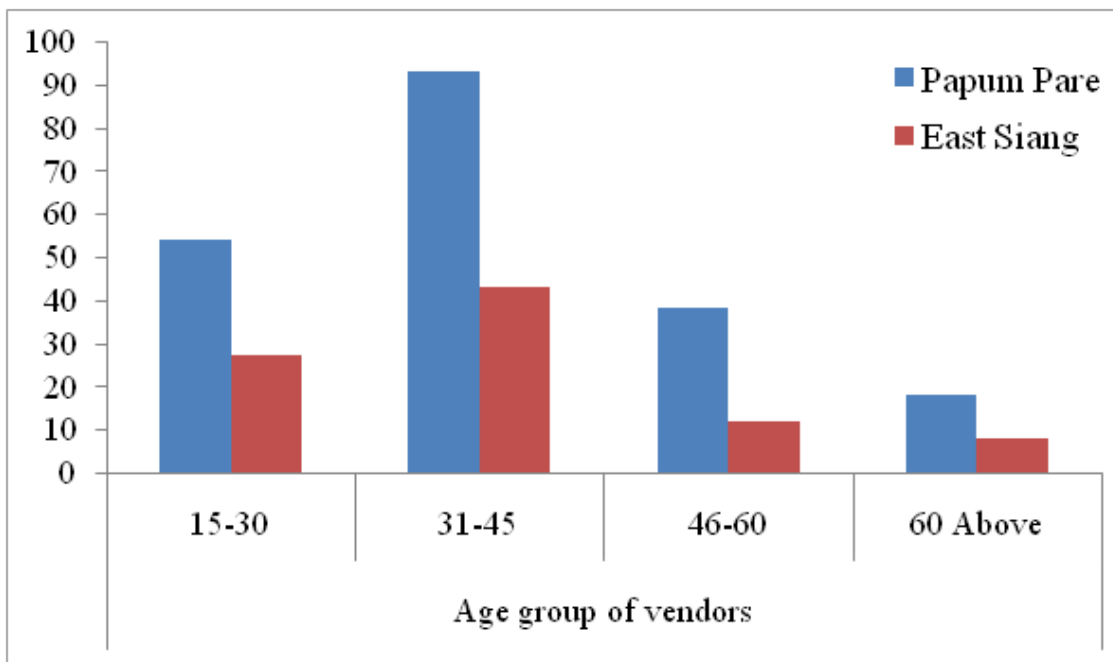


Figure 3: The age group of vendors interviewed

The current study further highlighted the number-based distribution of various species according to the involvement of retailers in their selling. It was observed that for Papum Pare district, there was no presence of any species in the retailer numbers between 0-10 and 11-20. Moreover, the maximum presence of species was observed to be through 41-60 and 121-160 retailers, each containing 16 species while the second highest presence

of species is through 61-90 retailers which comprise 14 species. There was also a good amount of presence of species sold by 91-120 and more than 161 retailers each having 13 species. While only 9 species were found to be sold by 21-40 retailers. This shows that the vast majority of species possess a good amount of market presence through active retailer participation due to their high demand and availability (figure 4).

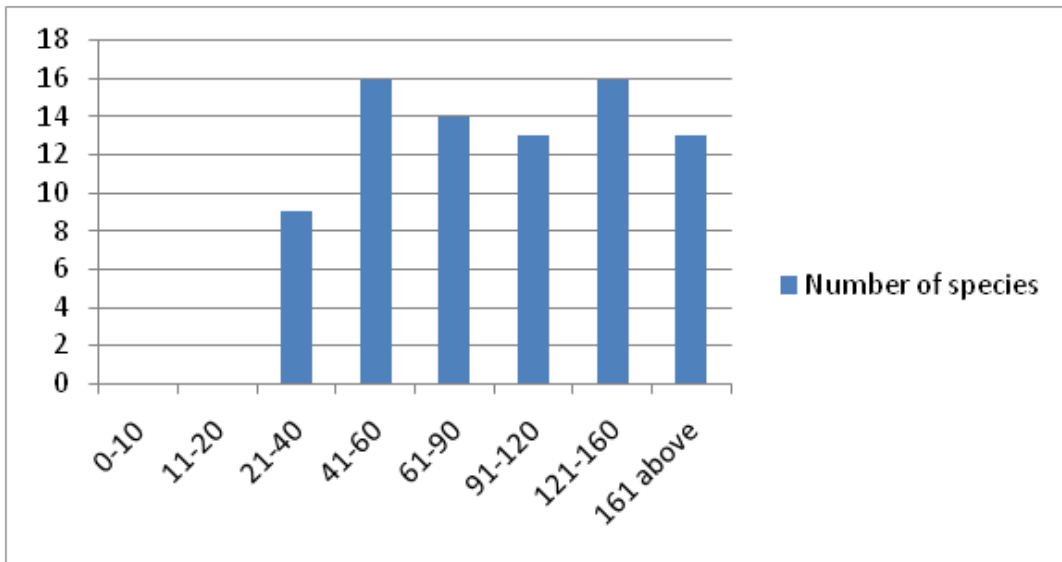


Figure 4: Distribution of species based on the number of retailers involved in their sale in Papum Pare

In the East Siang area, most of the species were sold by a reasonable number of retailers, and the maximum occurrence of species was found under the 21-40 retailers category, with 35 species in total. This suggests that many species have been well traded and their market penetration is moderate. On the other hand, fewer numbers of species were found being sold

by 41-60 retailers, with 15 species recorded in total, implying that their market penetration and availability are higher compared to those being sold by fewer retailers. The minimum number of species being sold by 0-10 retailers was found which includes only 3 species, while only 4 species were sold by 61-90 retailers (figure 5).

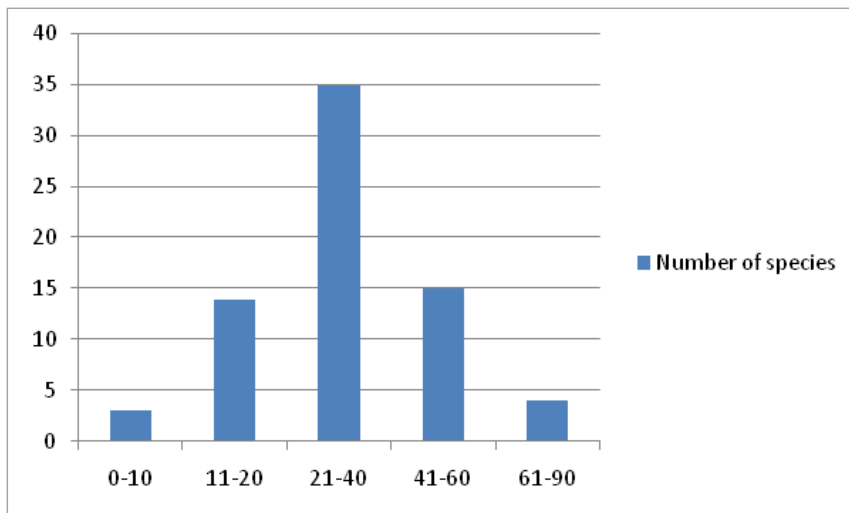


Figure 5: Distribution of species based on the number of retailers involved in their sale in East Siang

(i) Species Diversity, habits and parts used of WEPs

A total of 81 species (annexure 1- list of species) were recorded from the 31 different markets of the two districts. Total number of species sold in Papum Pare and East Siang districts are 81 & 71 respectively, which shows dominant of WEPs sell in the Papum Pare district is comparatively higher. The number of species documented belongs to 37 families and 60 genera of plants and 1 family and genus of macrofungi. Out of these documented vegetables, pteridophytes account for 1 species (1.23%), macrofungi for 1 (1.23%), monocotyledons account for 20 (24.69%) and the rest 59 (72.83%) account for dicotyledons. Among

the lifeforms of the reported species, 43 (53.08%) herbs constitute highest contribution followed by 21 trees (25.92%), 7 shrubs (8.64%), 5 climbers (6.17%), 3 bamboos (3.7%) and 1 each of fern and fruiting body of macrofungi (1.23% each) (Figure 6). During the present study, it was recorded that leaves of 37 species were sold in the market which is the highest part of plant sold in the markets of the study area followed by tender shoots (36) and fruits (28). Plant parts like flower of 12 species, seed (9) rhizome (8), inflorescence (6), whole plant (3) and 2 each of petiole, pseudostem, stem and pith and 1 each of sucker, corm, bulb, young sprout, bark, bulbil, fruiting body, nuts and root constitute the parts of plants sold (figure 7).

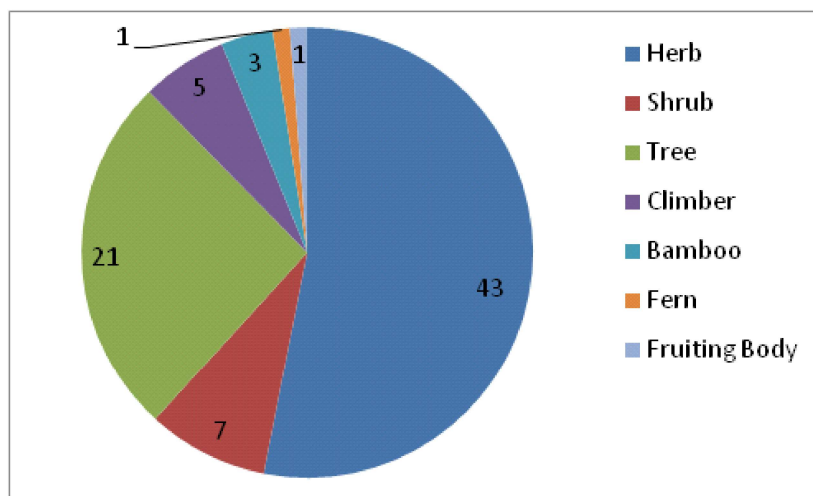


Figure 6: Habit wise distribution of WEPs documented from the markets

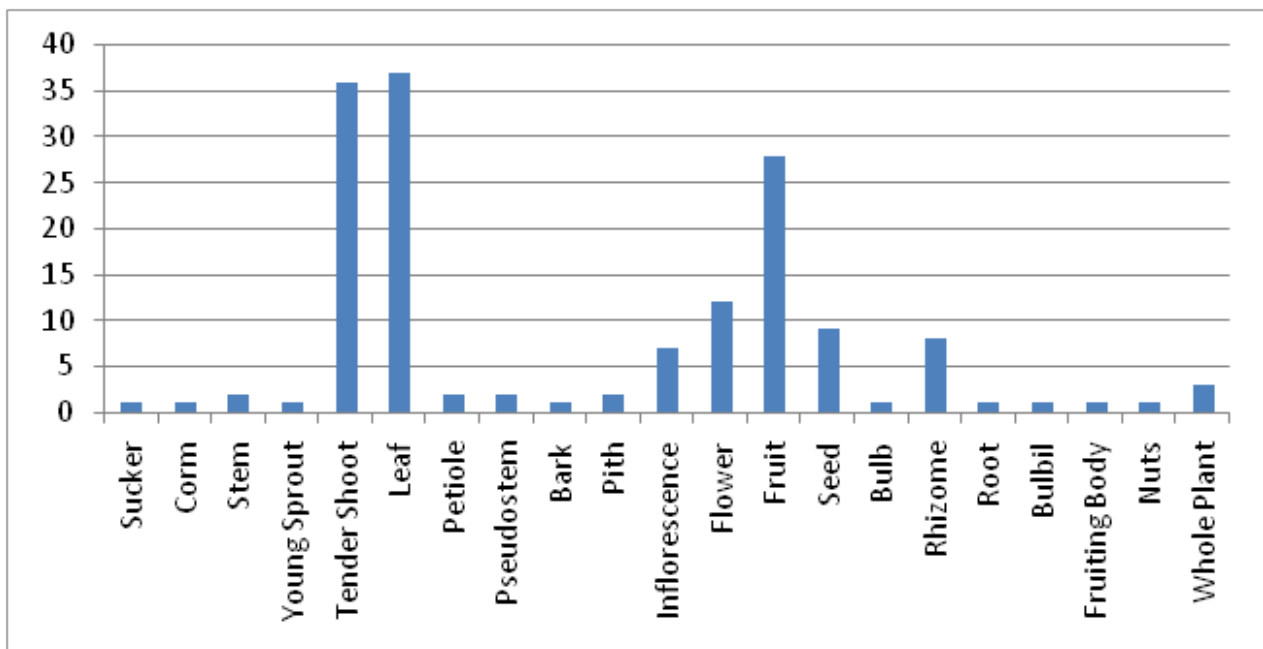


Figure 7: Parts of plants sold in the markets studied

The species contribution per family was also analysed and found that Amaranthaceae, Araceae, Lamiaceae, Musaceae and Rutaceae contribute 5 species each and was the highest contribution familywise. This is followed by Lauraceae, Poaceae, Solanaceae

and Utricaceae with 4 numbers of species each (figure 8). Amongst the WEPs recorded, 59 numbers of dicotyledonous plants were recorded followed by 20 monocots, 1 species each of pteridophytes and macrofungi (figure 9).

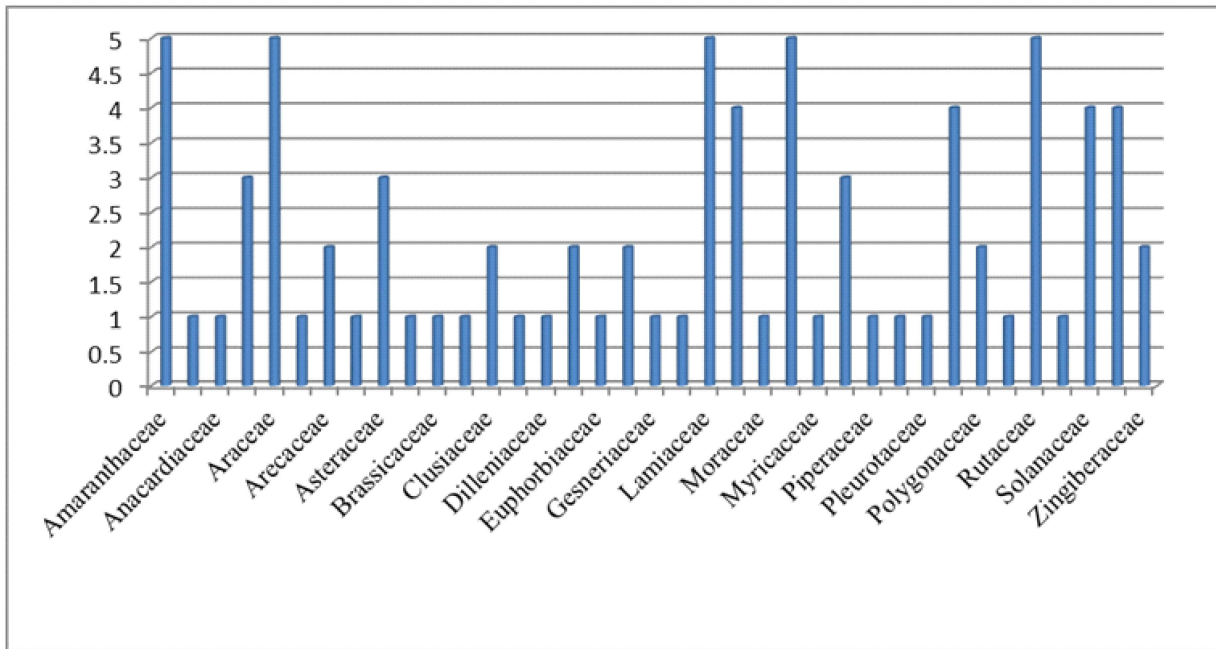


Figure 8: Family wise species contribution of the WEPs sold in the markets

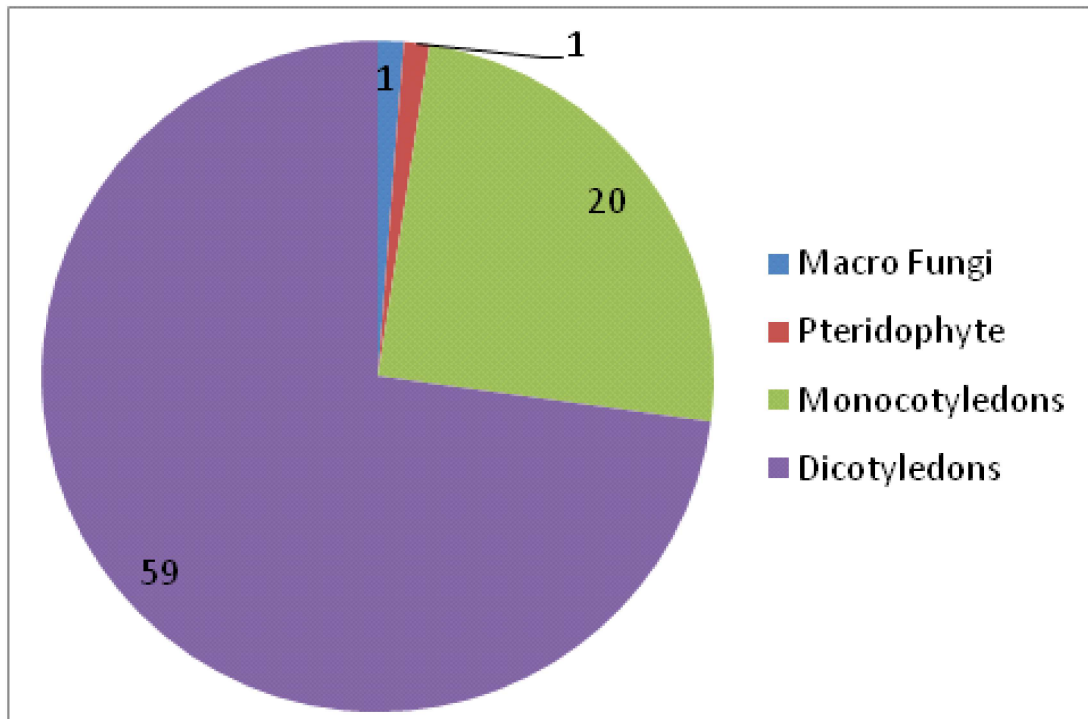


Figure 9: Types of plants and WEPs available in the market

Seasonal availability of WEP species was documented in the study area. Of the total of 81 WEP species available, most (49 WEP species) were observed to be available throughout the year, which is indicative of their adaptability in the ecosystem and significance as a source of nutrition. Seasonal availability of the WEP species was relatively rare. Only a few numbers of WEP species were available seasonally in winter (1 species), summer (1 species), spring (2 species), and autumn (2

species). The availability of some species was noted to occur concurrently in specific seasons, which was seen predominantly in spring and summer (13 WEP species) and summer and autumn (6 WEP species). Other species were noted for their multi-season availability, such as autumn and winter (4 WEP species) and spring, summer, and autumn (2 WEP species), with only one species having availability between summer and winter (figure 10).

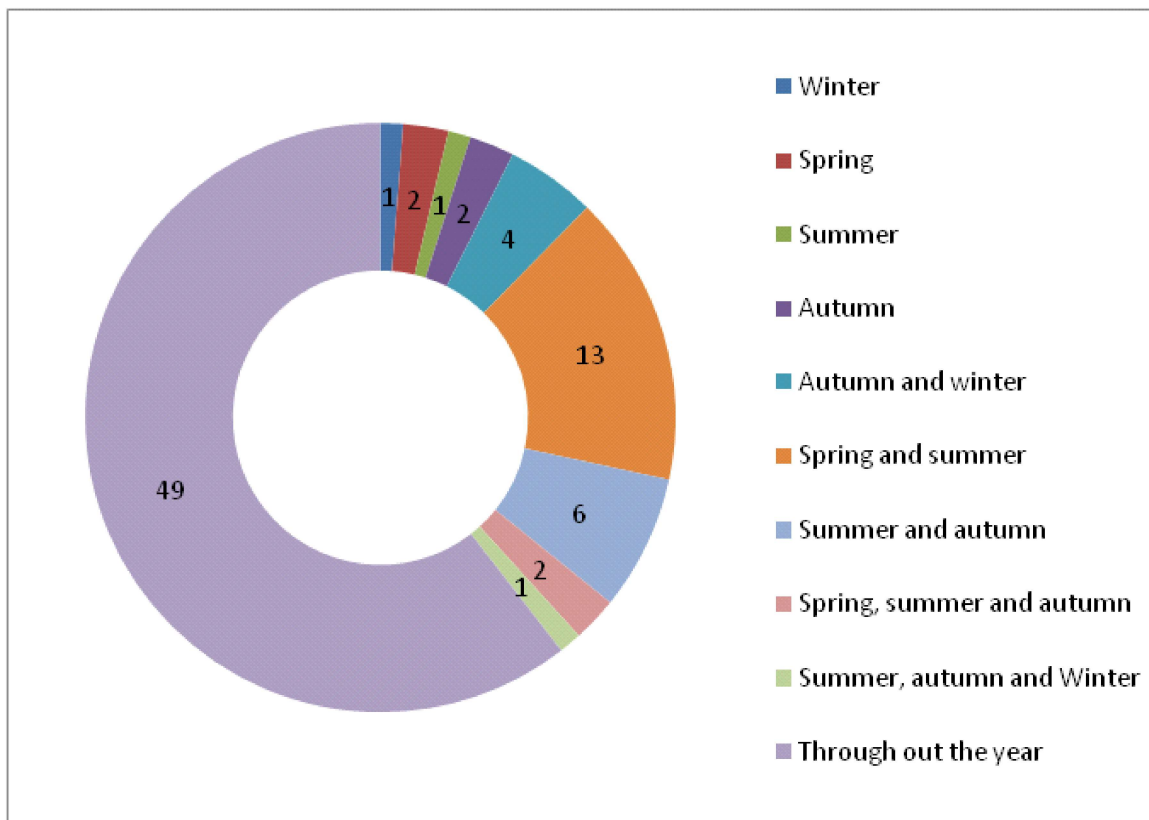


Figure 10: Availability of number of WEPs in different seasons

The Jaccard similarity index of Papum Pare district and East Siang district was 0.876, which showed that both districts have a very high degree of similarity regarding the composition of the plant species. This shows that most of the species available in Papum Pare are also available in East Siang due to similar environmental conditions, similar vegetation type, and usage of plant species for similar purposes. The low percentage of dissimilar plant species indicates the occurrence of few local variations in plant species.

The Jaccard similarity index for each pair of the 24 market locations varied from 0.532 to 0.960,

indicating the presence of plant species with moderate to very high similarity across markets. The highest degree of similarity was obtained between the Lower Karsingsha and Upper Karsingsha markets ($J = 0.960$), indicating the presence of highly similar species composition between the two markets. The highest Jaccard similarity was also seen in urban markets such as between the Itanagar Akashdeep Market and Itanagar Ganga Market ($J = 1.000$). On the other hand, there were lower degrees of similarity obtained between markets located far apart such as the Pasighat and Yupia markets.



Nirjuli Daily market



Temporary establishment at Nirjuli



Itanagar (Ganga)



Road side market near Shiv mandir, Itanagar



Sagalee



Pasighat

Plate 1: Some of the markets surveyed in the present study



Musa itinerans



Acmella paniculata



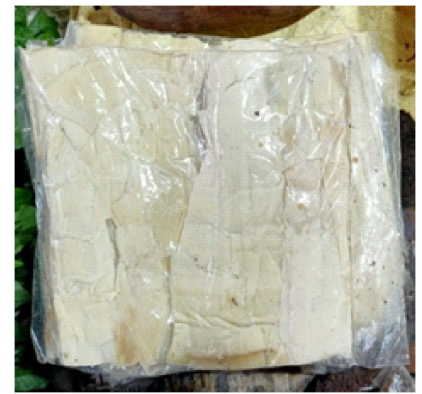
Zanthoxylum rhetsa



Litsea cubeba



Castanopsis indica



Fermented Bamboo Shoot



Piper pedicellatum



Phoebe cooperiana



Colocasia esculenta



Solanum torvum



Lasia spinosa



Solanum anguivi

Plate 2: Some of the WEPs in the market

4. Discussion

The present study reports a high level of diversification of WEPs along with their widespread commercialization at local markets in Papum Pare and East Siang districts of Arunachal Pradesh, emphasizing their significant importance in meeting indigenous needs for livelihoods and food security. The predominance of Nyishi and Adi tribes in the study area largely shapes the dynamics of the use of plant-based resources by these populations as they have their unique ethno-botany traditions associated with forest ecosystems. The same trends have been noted for other areas of Northeast India where traditional ecological knowledge remains the cornerstone for food practices and trading (Dollo *et al.*, 2021; Dutta & Dutta, 2022).

One of the key observations of this study is the significant role of women vendors who account for more than 85-90% of vendors in all markets studied, with females constituting the total vendor population in some places. This finding clearly confirms previous literature showing women being the main bearers of knowledge concerning wild foods and actively engaged in their collection, preparation, and trading (Singh *et al.*, 2020; Choudhury *et al.*, 2023). The informal markets dominated by women play an important role in supporting livelihoods especially in tribal areas due to limited employment opportunities. Gender-dominated markets can be seen in Manipur, Meghalaya, Mizoram, and Southeast Asia (Shankar *et al.*, 2021).

A prevalence of traders within the 31–45 years age category implies that the livelihood of WEPs depends mainly on economically active individuals who can effectively coordinate collecting, domestic activities, and market trading. Youthful vendors, especially in Papum Pare district, imply the relevance of WEPs to the local population. Meanwhile, decreasing involvement of the age categories above 46 years is indicative of certain socio-economic changes, posing potential issues regarding transfer of plant-related knowledge from one generation to another. These tendencies have already been observed in other areas of the Eastern Himalaya and attributed to modernization and changing dietary habits (Tangjang *et al.*, 2020; Dollo *et al.*, 2021).

The identification of 81 different WEP species representing 37 plant families demonstrates unique flora of the Eastern Himalayan biodiversity hotspot. The dominance of dicotyledonous species and herbaceous life forms is consistent with other ethnobotanical surveys carried out in various Himalayan and sub-Himalayan regions. Indeed, there is evidence that herbs

predominate in ethnobotanical studies owing to their widespread distribution, quick regeneration, and seasonal availability (Kala & Ratajc, 2012; Misra *et al.*, 2020). An additional observation of the significant role of tree species and bamboo suggests the ongoing exploitation of forests.

Leafy parts, tender shoots, and fruits appeared to be the most common plant parts used for trade in WEPs. This trend is typical of many ethnobotanical surveys conducted in India and Southeast Asian countries. Indeed, recent studies indicate that leafy vegetables play an important role in diets of many populations because of their beneficial properties, *i.e.*, a significant content of antioxidants, vitamins, minerals, and dietary fibres (Nongdam & Tikendra, 2019; Choudhury *et al.*, 2023). The use of other plant parts, such as rhizomes, inflorescences, pseudostems, and bulbs, is indicative of a wide culinary practice in the area. The presence of WEPs through most parts of the year underscores their adaptability to the ecosystem and significance as dependable sources of food. The overlap of seasons in spring, summer, and autumn is associated with high biological productivity, guaranteeing consistent supply into the market. The perennial nature of wild food products has gained considerable recognition as an important safeguard against seasonal food shortages and unpredictable climatic impacts on agriculture (Misra *et al.*, 2020; Dutta & Dutta, 2022).

The disparities in retailer involvement in Papum Pare and East Siang districts indicate differences in market sizes, proximity to cities, and infrastructure levels. Papum Pare had greater market coverage and higher retailer involvement, probably due to superior connectivity and demand from urban centres. Similar geographic trends have been reported in other ethnobotanical market analyses, where infrastructure and accessibility play significant roles in commercialization levels (Shankar *et al.*, 2021).

The very high Jaccard similarity index (0.876) for the two districts highlights the significant similarity of marketed species composition based on similar environmental factors and cultural aspects. The higher similarity among neighbouring markets shows the existence of a common group of species, whereas lower similarity among distant markets indicates local availability and demand. Similar trends have been observed in previous regional market research conducted in Asia, highlighting the relationship between ecological, cultural, and market factors (Albuquerque *et al.*, 2018; Tangjang *et al.*, 2020).

The results highlight the multiple roles of WEPs in contributing to the nutrition, economy, and cultural traditions of Arunachal Pradesh. Given the rapid changes in land use, climatic conditions, and socio-economic status, the incorporation of WEPs into conservation strategies, sustainable extraction systems, and livelihood schemes for women becomes increasingly important. Enhancing the value chain of WEPs, documenting indigenous knowledge, and recognizing the significance of informal markets for conservation purposes can contribute to the dual objectives of preserving biological diversity and promoting community resilience.

5. Conclusion

The present study highlighted the significance of WEPs in sustaining Papum Pare and East Siang districts of Arunachal Pradesh. Markets were dominated by females, highlighting the significance of their role in petty trade and WEPs based livelihoods. Rich species

diversity, dominance of herbaceous life plants, availability of most WEPs throughout the year and the involvement of retailers is an indication of good adaptive potential and well-developed market network. Very high value of Jaccard similarity index between the districts and among various markets highlights the common stock of species used which is the same because of similar ecosystem and culture of the area. The outcome of the present study stresses on the necessity of conserving WEP diversity and women-centric market system for ensuring food security and sustainable livelihoods in Eastern Himalaya region.

6. Acknowledgement

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Annexure I

SI No.	Name of the Species	Local Name	Availability Season	Availability in	Part sold in market	Vendors		
						Papum Pare	East Siang	Total
1	<i>Acmella paniculata</i> (Wall. ex DC.) R.K.Jansan	Marchang (Ny, Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, tender shoots, inflorescence	143	57	200
2	<i>Allium hookeri</i> Thwaites	Piaj/ Ponoru (As)	Summer & Autumn	Papum Pare & East Siang	Leaves, bulb, flower,	108	22	130
3	<i>Alocasia odora</i> (G.Lodd.) Spach	Dohi Kosu (As)	Spring & Summer	Papum Pare & East Siang	Petiole, rhizome	57	27	84
4	<i>Alocasia macrorrhizos</i> (L.) G. Don.	Bor mankachu (As)	Throughout the Year	Papum Pare & East Siang	Rhizome	34	24	58
5	<i>Alpinia nigra</i> (Gaertn.) Burt	Tora Pat (As)	Spring & Summer	Papum Pare & East Siang	Flower, rhizome, fruits, pseudostem	120	47	167
6	<i>Amaranthus hybridus</i> L.	Moricha Xaak (As)	Throughout the Year	Papum Pare & East Siang	Tender shoots	112	41	153
7	<i>Amaranthus spinosus</i> L.	kinnyu (Ny), Gubor oying (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots	125	39	164
8	<i>Amaranthus tricolor</i> L.	Ronga Morisa Xaak (As)	Throughout the Year	Papum Pare & East Siang	Tender Shoots	96	25	121
9	<i>Amaranthus viridis</i> L.	Gubor oying (Adi), Yorko puchu kinyu/Tai (Ny)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots, flower	167	51	218
10	<i>Amomum dealbatum</i> Roxb.	Papia (Adi)	Spring & Summer	Papum Pare & East Siang	Seed. Young sprouts, piths	83	44	127
11	<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicolson	Ol Kochu (As)	Spring	Papum Pare & East Siang	Tender shoots, crom	90	19	109
12	<i>Arenga Pinnata</i> (Wurmb) Merr.	Tasey (Ny)	Throughout the Year	Papum Pare	Piths	72	0	72
13	<i>Averrhoa carambola</i> L.	Kordoi (As)	Autumn & Winter	Papum Pare & East Siang	Fruits	28	13	41
14	<i>Bambusa balcooa</i> Roxb.	Hikyung (Ny), Heech (Ny), Hyub (Ny)	Throughout the Year	Papum Pare & East Siang	Tender Shoots	185	67	252
15	<i>Bambusa tulda</i> Roxb.	Hikyung (Ny), Heech (Ny), Hyub (Ny)	Throughout the Year	Papum Pare & East Siang	Tender Shoots	185	67	252
16	<i>Cardamine hirsuta</i> L.	Soram guyi/Serampeti/Pidii sorum (Ny), Oram-petsik (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots, Flower, Whole plant	96	21	117
17	<i>Castanopsis indica</i> (Roxb. Ex Lindl.) A.DC.	Kira seen (Ny), Sirang/Korang (Adi)	Autumn & Winter	Papum Pare	Fruits, leaves, seed, nuts	38	0	38
18	<i>Castanopsis hystrix</i> A.DC.	Kora (Ny), Amke (Adi)	Autumn	Papum Pare	Fruits	61	0	61
19	<i>Calamus flagellum</i> Griff. ex Walp.	Tar rame (Ny), Yoyi/Ramang(Adi)	Spring & Summer	Papum Pare & East Siang	Tender Shoots, Fruits, Young Stem	78	43	121
20	<i>Centella asiatica</i> (L.) Urb.	Ngulyikhcq/Holow/Bodo (Ny), Barang/Golgi Sipum/Dolgi/Kipum Yayum/Kiiling Kiiroh (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots, Flower	146	31	177
21	<i>Chenopodium album</i> L.	Jilmil Xaak (As)	Autumn & Winter	Papum Pare & East Siang	Tender Shoots	133	42	175
22	<i>Choerospondias axillaris</i> (Roxb.) B. L. Burt & A. W. Hill	Totam belam (Adi)	Autumn & Winter	Papum Pare & East Siang	Fruits	52	11	63
23	<i>Cinnamomum tamala</i> (Buch.-Ham) T.Nees & Eberm	Tcjpai (As)	Throughout the Year	Papum Pare & East Siang	Leaves	131	31	162
24	<i>Cinnamomum zeylanicum</i> Blume	Dalchini (As)	Throughout the Year	Papum Pare & East Siang	Bark	56	26	82
25	<i>Clerodendrum glandulosum</i> Lindley	Poto/Tapin (Ny), Ongin/Kopak/Tapen (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots	117	37	154

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26	<i>Colocasia esculenta</i> (L.) Schott	Eng ngepop (Ny), Ngerek/Enge (Adi)	Throughout the Year	Papum Pare & East Siang	Tender Shoots, petiole, Rhizome, yellow spathes, leaves, Suckers	148	57	205
27	<i>Crassocephalum crepidioides</i> (Benth.) S.Moore	Yamen (Ny), Ibel/Gende/Ogen (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots, Stem	62	14	76
28	<i>Dendrocalamus hamiltonii</i> Nees & Arn. Ex Munro	Hej/Eh heroom (Ny), Hurung/Ilepo (Adi)	Throughout the Year	Papum Pare & East Siang	Tender Shoots	185	67	252
29	<i>Dillenia indica</i> L.	Champak/Soot Aas (Ny), Hati pol/ Sompa / Sompa cshing (Adi)	Summer, Autumn & Winter	Papum Pare & East Siang	Fruits	145	59	204
30	<i>Dioscorea alata</i> L.	Engin/Egin nginck(Ny), Ogit/ Mayong (Adi)	Winter	Papum Pare & East Siang	Rhizome, Fruits	47	23	70
31	<i>Dioscorea bulbifera</i> L.	Hes/Engin (Ny), Engin/Remel/Uli (Adi)	Spring & Summer	Papum Pare & East Siang	Rhizome, bulbils	35	16	51
32	<i>Diplazium esculentum</i> (Retzius) Swartz	Taka paya/Takka peya/Hoka pada (Ny), Takang/Pattu (Adi)	Throughout the Year	Papum Pare & East Siang	Young Tender Shoots	164	51	215
33	<i>Drymaria cordata</i> (L.) Willd. ex Schult.	Pipi/Tai Tamak (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots	122	22	144
34	<i>Elatostema platyphyllum</i> Wedd.	Pipi/Tai Tamak (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, tender shoots, flower	37	15	52
35	<i>Elatostema sessile</i> J.R.Forst. & G.Forst.	Hooji-ow/Hopi-hojap (Ny)	Throughout the Year	Papum Pare & East Siang	Leaves, tender shoots	51	19	70
36	<i>Elsholtzia blanda</i> Benth.	Papitduli (Adi)	Summer & Autumn	Papum Pare & East Siang	Seed	132	24	156
37	<i>Eryngium foetidum</i> L.	Man-dhania (As)	Throughout the Year	Papum Pare & East Siang	Leaves	162	31	193
38	<i>Fagopyrum esculentum</i> Moench	Huku (Ny), Amintatek/Nupuk /Lompuk (Adi)	Summer & Autumn	Papum Pare & East Siang	Leaves, Tender Shoots, fruits, Seed	122	23	145
39	<i>Ficus lepidosa</i> Wall. ex Kurz	Dimoro (As)	Spring & Summer	Papum Pare & East Siang	Fruits	47	29	76
40	<i>Garcinia Cowa</i> Roxb.	Tabi-Tarak/Tabing Tarak/ Tarak(Adi)	Spring & Summer	Papum Pare & East Siang	Fruits	34	14	48
41	<i>Garcinia pedunculata</i> Roxb. ex Buch.-Ham.	Mibia (Ny), Tabing/Liba/ Dumbo miklang Eshing (Adi)	Spring & Summer	Papum Pare & East Siang	Fruits	58	36	94
42	<i>Gymura bicolor</i> (Roxb. ex Willd.) DC	Bengunia Xak (As)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots	72	24	96
43	<i>Houttuynia cordata</i> Thunberg	Hiya/Honya/Hon gyea/Checha Peya (Ny), Roram (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, tender shoots, Root, Flower	182	49	231
44	<i>Hydrocotyle sibthorpioides</i> Lam.	Xoru Manimuni (As)	Throughout the Year	Papum Pare & East Siang	Leaves	62	11	73
45	<i>Hydrolea zeylanica</i> (L.) Vahl	Lehti Bon Xaak (As)	Spring & Summer	Papum Pare & East Siang	Tender Shoots	87	27	114
46	<i>Ipomoea aquatica</i> Forssk	Kolmou Xaak (As)	Spring & Summer	Papum Pare & East Siang	Tender Shoots	51	26	77
47	<i>Lasia spinosa</i> (L.) Thw.	Sengmora (As)	Spring & Summer	Papum Pare & East Siang	Leaves, Tender Shoots, Rhizome	58	23	81
48	<i>Leucas aspera</i> (Willd.) Link.	Durun Xaak (As)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots	38	24	62
49	<i>Litsea cubeba</i> (Lour.) Pers.	Tayer/Taier (Adi, Ny)	Spring, Summer & Autumn	Papum Pare	Fruits, seed	162	0	162
50	<i>Manihot esculenta</i> Crantz	Shimolu Aloo (As)	Throughout the Year	Papum Pare & East Siang	Rhizome	92	27	119
51	<i>Mentha viridis</i> (L.) L.	Podina (As)	Throughout the Year	Papum Pare & East Siang	Tender Shoots	41	15	56
52	<i>Musa acuminata</i> Colla	Kulu (Ny)	Throughout the Year	Papum Pare	Inflorescence, fruits	137	0	137
53	<i>Musa balbisiana</i> Colla	Bhimkol (As)	Throughout the Year	Papum Pare & East Siang	Inflorescence, fruits	113	37	150

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54	<i>Musa itinerans</i> Cheesman	Kuku (Ny)	Throughout the Year	Papum Pare & East Siang	Inflorescence	97	41	138
55	<i>Murraya Koenigii</i> (L.) Spreng.	Norosingho Paat (As)	Throughout the Year	Papum Pare & East Siang	Leaves	43	13	56
56	<i>Musa markkuana</i> (M.Sabu, A.Joe & Sreejith) Hareesh	Kodum (Ny, Adi)	Throughout the Year	Papum Pare	Inflorescence	178	0	178
57	<i>Musa velutina</i> H.Wendl. & Drude	Kodok sin (Ny)	Throughout the Year	Papum Pare & East Siang	Inflorescence, Pseudostem	184	56	240
58	<i>Myrica esculenta</i> Buch.-Ham. Ex D. Don	Tatir (Adi)	Spring	Papum Pare & East Siang	Fruits	21	14	35
59	<i>Oenanthe javanica</i> (Blume) DC.	Bubu/Barn/Kebun amul / Babon (Ny)	Throughout the Year	Papum Pare & East Siang	Tender Shoots, Whole Plant	44	26	70
60	<i>Oroxylum indicum</i> (L.) Kurz	Domiiir etkung (Adi)	Summer	Papum Pare & East Siang	Flower	57	9	66
61	<i>Oxalis corniculata</i> L.	Amrul/Phagiyp (Ny), Piak lip/Piyakiyu/Phak ep/Kurum (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, Flower, Fruit, Whole Plant	49	7	56
62	<i>Oxalis debilis</i> Kunth.	Bor Tengesi Xaak (As)	Throughout the Year	Papum Pare & East Siang	Leaves, Flower, Fruit	78	11	89
63	<i>Paederia foetida</i> L.	Yepi Ribung/ Eperiong(Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoot	43	23	66
64	<i>Persicaria chinensis</i> (L.) H.Gross	Madhu-Soleng (As)	Throughout the Year	Papum Pare & East Siang	Leaves, tender shoots, flower, fruits	61	27	88
65	<i>Perilla frutescens</i> (L.) Britton	Tanam-namdu (Ny), Namdung (Adi)	Summer & Autumn	Papum Pare & East Siang	Seed	123	16	139
66	<i>Phoebe cooperiana</i> P.C. Kanjilal & Das	Jishir (N), Tapir/Tapil(Adi)	Autumn	Papum Pare	Fruits	116	0	116
67	<i>Phyllostachys bambusoides</i> Siebold & Zucc.	Hikyung (Ny), Heech (Ny), Hyub (Ny)	Throughout the Year	Papum Pare & East Siang	Young Tender Shoots	185	67	252
68	<i>Piper pedicellatum</i> C. DC.	Rori/Rare/Raru(Adi), Rare (Ny)	Throughout the Year	Papum Pare	Leaves, tender shoots	177	0	177
69	<i>Plantago major</i> L.	Sob Nyuru (Ny), Ishapgul (Adi)	Spring & Summer	Papum Pare & East Siang	Leaves, Stem	55	21	76
70	<i>Pleurotus ostreatus</i> (Jacq.) Kummer	Taying (As)	Spring, Summer & Autumn	Papum Pare & East Siang	Fruiting body	74	41	115
71	<i>Pouzolzia hirta</i> Blume ex Hassk.	Hosskhoyik (Ny), Oyik/Onik (Adi)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots	165	37	202
72	<i>Rhynchochum ellipticum</i> (Wall. ex D. Dietr.) A.DC.	Jongku(Adi), Jooke(Ny)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots	29	9	38
73	<i>Sarcochlamys pulcherrima</i> (Roxb.) Goudich	Tekok/Bola sen/ Bholo Chaegne (Ny)	Throughout the Year	Papum Pare & East Siang	Leaves, Tender Shoots	92	29	121
74	<i>Solanum americanum</i> Mill.	Hora /Hor(Ny), Okomamang/Banko (Adi)	Throughout the Year	Papum Pare & East Siang	Tender Shoots, leaves, Young Fruits, Flower, seed	123	42	165
75	<i>Solanum anguivi</i> Lam.	Kopii Piimiik/Sotabyom (Adi), Adi Byak/Beako (Ny)	Spring & Summer	Papum Pare & East Siang	Fruits	86	36	122
76	<i>Solanum torvum</i> Sw.	Kodu/Pirte (Adi), Shoat Beyak/Byakta (Ny)	Throughout the Year	Papum Pare & East Siang	Fruits, Tender leaves	107	38	145
77	<i>Solanum viarum</i> Dunal	Bhakori Tita (As)	Throughout the Year	Papum Pare & East Siang	Fruits	73	29	102
78	<i>Zanthoxylum acanthopodium</i> DC.	Tapetamet(Adi), Honior(Ny)	Throughout the Year	Papum Pare & East Siang	Leaves, Fruit, seed	146	27	173
79	<i>Zanthoxylum armatum</i> DC.	Onger (Adi)	Throughout the Year	Papum Pare	Young Shoot, Leaves, seed	127	0	127
80	<i>Zanthoxylum oxyphyllum</i> Edgew.	Honyor(Ny), Onger(Adi)	Summer & Autumn	Papum Pare	Tender leaves, Fruits, seed	119	0	119
81	<i>Zanthoxylum rhetsa</i> DC.	Onger(Adi),Honi or(Ny)	Summer & Autumn	Papum Pare & East Siang	Tender leaves, Fruits, seed	159	37	196

Local names in Ny- Nyishi, Adi and As- Assamese dialects only