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Indigenous and minor vegetables of Manipur

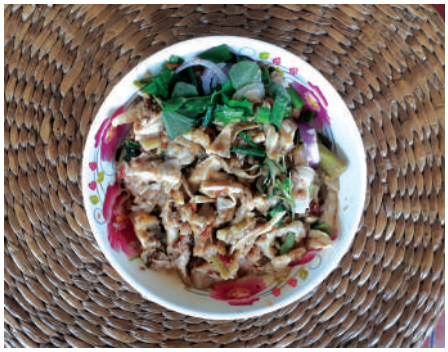
Indigenous and minor vegetables are used or consumed in many forms as raw or cooked by the local people. Various delicacies and products are prepared comprising of the various indigenous and minor vegetables along with meat and fish. The local delicacies prepared from indigenous and minor vegetables are a must in the everyday lives of the people, and sometimes it is even more prominent and important than the standard staple crops and vegetables. Here, an effort has been made to list out various indigenous and minor vegetable crop species and the delicacies prepared from them by the local people. Research attentions and interests should be taken in these crops for exploring new food crops and food ensure and nutritional security of the country.

INDIGENOUS (Traditional) and minor vegetables are best defined as species that are locally important for the sustainability of economies, human nutrition and health, and social systems but which have yet to attain global recognition to the same extent as major vegetable commodities. Some indigenous and minor vegetables grow in the wild and are readily available in the field as they do not require any formal cultivation. Indigenous and minor vegetables represent inexpensive but high quality nutritional sources for the poor segment of the population especially where malnutrition is wide spread as in some part of the underdeveloped countries in particular. People living in hills and valleys have rich traditional knowledge of plants and herbs which are edible, with their direct impact on health benefits; they have a tradition of eating raw leaves, young inflorescences, and tender stalks as nutrient supplement in their diets. Traditional knowledge of eating raw plants by inhabitants as medicinal or health supplement in their diet is an age old practice. Different indigenous and minor vegetables are used for preparation of delicious dietary items. Some of them are winged bean, sword bean, rhizome of lotus, arrowhead, fermented and non-fermented bamboo shoot and Foxnut etc.

Different uses of Indigenous and minor vegetables in local cuisine

Altogether 31 indigenous and minor vegetable plants belonging to 29 genera and 20 families are found in different parts of Manipur inhabited by the *Meitei* community. The different traditional *Manipuri* cuisines prepared from different indigenous and minor vegetables by the local people from time immemorial are documented below.

Singu: It is a typical Manipuri salad prepared by mixing finely chopped raw vegetables with salt, red chilli, roasted sesame powder, roasted pea powder (Besan). It is originated from *Meitei* community of Manipur but well eaten by the sibling communities of the state. Singju is of two types–without fermented fish and with fermented fish. The former type is mainly served at ritual occasions, ceremonial, traditional and customary festive feast while the later type is for home consumption. Singju has been the all time favourite side dish for meals and as afternoon or evening snacks too. Though this is a popular food item, it remains as an underutilized food due to its little or lack of commercial market. Variety of green vegetables are used to prepare different/recipe of singju. Some of the vegetables which are commonly used for preparing singju



Bamboo shoot eromba

Banana flower Paknaam

Chinese chive fritters

Table 1. Common indigenous and minor vegetables of Manipur, their dietary uses and health benefits

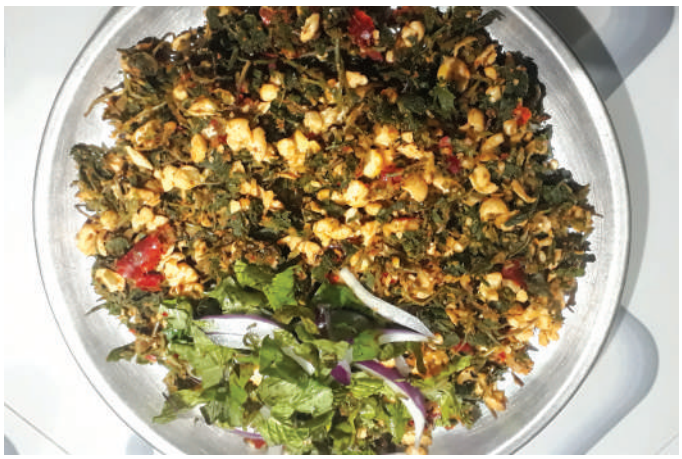
Scientific Name	Local name	Family	Parts uses	Dietary uses and preparation	Medicinal values
Alocasia macrorrhiza	*Singju-paan*	Araceae	Corm	Corm cooked with fermented soybean. One of the important ingredients of *singju*.	Purify blood
Allium hookeri	*Maroinapakpi*	Liliaceae	Whole plant	Leaves are used in *paknam*, other Manipuri dishes and root are also used in fish curry.	Aphrodisiac
Allium tuberosum	*Maroinakuppi*	Liliaceae	Whole plant	Leaves are used in preparing fritter and can be used in different Manipuri dishes.	Aphrodisiac and diuretic.
Alpinia nigra	*Pullei*	Zingiberaceae	Rhizome	Rhizome used in *eromba* (used in religious ceremonies, symbolic of Manipuri New Year)	Carminative, aphrodisiac, tonic, diuretic, expectorant, appetizer and analgesic. Skin infections
Alocasia indica	*Yendem*	Araceae	Stem, rhizome	Whole plant can be used in *eromba* and *kangsoi* preparation.	Purify blood
Amomum aromaticum	*Namra*	Zingiberaceae	Stem, rhizome	Rhizome as a constituent in the preparation of *eromba*.	Powder is taken to control high blood pressure.
Canavalia cathartica	*Tebi*	Papilionaceae	Fruit	Young pods are used in *singju, eromba, chagempomba* preparation.	Anthelmintic or vermifuge.
Cardamine hirsuta	*Chantrukmana*	Brassicaceae	Stem, leaves	Whole plant except root is used in *singju*.	Diuretic, paste is applied on cut and injuries
Centella asiatica	*Peruk*	Apiaceae	Whole plant	Whole plants except root is used in preparation of *kangshu,* simple boil or eat as raw.	Expectorant and against cold & gastric.
Colocasia esculenta	*Lam paan*	Araceae	Stem, leaves	Corm and leaf cooked eaten as *ooti*.	Extract is tonic, given in cough and diabetes.
Cycas pectinata	*Yendang*	Cycadaceae	Leaves	Young shoot is used in preparation of *kangshu*	Against dysentery.
Elsholtiza blanda	*Lomba*	Lamiaceae	Inflorescence	Leaves and dried inflorescences are used in *singju* and *eromba* as raw.	Antipyretic, expectorant, against high blood pressure and menstrual disorder
Euryale ferox	*Thangjing*	Nymphaeacea	Fruit	Fruit cooked eaten or raw in *eromba*.	Raw fruit eaten against diabetes; leaf petiole paste applied on burns and boils.
Hedychium coronarium	*Lok-lei*	Zingiberaceae	Rhizome	Rhizome is used in preparation of *eromba*.	Paste of rhizome is eaten against cough, fever; leaf extract is given against throat complaint.
Houttuynia cordata	*Toningkhok*	Saururaceae	Whole plant	Leaves are used in *singju* and *eromba* as raw	Anti-diuretic, against cholera and dysentery
Ipomoea aquatica	*kolamni*	Convolvulaceae	Stem, leaves	Shoot cooked eaten and used in preparation of *singju*.	Boiled leaf extract is used as ear-drop to treat ear-ache; leaf paste is applied on insect bite.
Musa paradisiaca	*Laphu*	Musaceae	Stem, flower	Young pseudo-stem is used in preparation of *eromba*. Banana flower is used in preparation of *paaknam*and *singju*.	Easy movement of bowel and against dysentery, diarrhoea, cholera
Nelumbo nucifera	*Thambal*	Nelumbonaceae	Root, fruit	Young leaves are eaten as raw and lotus rhizome is one of the important ingredients in preparation of *singju*.	Paste of petiole is applied on boils and burns.
Neptunia oleracea	*Esing-ekaithabi*	Fabaceae	Whole plant	Shoot cooked as *erombaor* eaten raw as *singju*.	Eaten raw in dysentery and intestinal infections.
Oenanthe javanica	*Komprek*	Apiaceae	Whole plant	Shoot and leaf is one of the best and preferred species used in the preparation of *singju*.	Boiled in little water and the filtrate is used as ear-drop to cure ear-ache.

Scientific Name	Local name	Family	Parts uses	Dietary uses and preparation	Medicinal values
Parkia roxburghii	*Yongchak*	Fabaceae	Fruit and flower	Young inflorescences and tender pods are used in *singju*. Mature pods are used in *eromba*.	Carminative & against piles
Persicaria posumba	*Kengoi*	Polygonaceae	Whole plant	Used in preparation of *Kangsoi*	Eaten to cure diabetes, piles and intestinal disorder.
Polygonum barbatum	*Yelang*	Polygonaceae	Tender shoot	Used in preparation of *Kangsoi* and *eromba*.	Paste is taken to treat stomach disorder and dysentery.
Psophocarpustetra gonolobus	*Teng-noumanbi*	Papilionaceae	Fruit and roots	Young pods are used in preparation of *singju, eromba, chagempomba.*	Expectorant
Sagittaria sagittifolia	*Koukha*	Alismataceae	Corms	Used in preparation of *bora, eromba*	Paste along with honey is given in cough.
Bambusa spp.	*Usoi*	Poaceae	Tender shoot	Used in preparation of *kangshu* and *ooti*	Anthelmintic or vermifuge
Sesbannia grandiflora	*Chuchu-rangmei*	Papilionaceae	Tender shoot	Young pods and tender twigs are used in preparation of *singju* and *eromba*.	Expectorant, antipyretic & against diabetes
Trapa natans	*Heikak*	Lythraceae	Fruits	Fruit cooked eaten or as raw, petiole eaten as *eromba* and *singju*	Nutrition & tonic
Meyna laxiflora	*Heibi*	Rubiaceae	Fruits and leaves	Young leaves used preparation of *singju*.	Anthelmintic or vermifuge
Viola pilosa	*Huikhong*	Violaceae	Shoot	Shoots is used in preparation of *Kangshu*	Cooked and eaten to cure cough, running nose and stomach ulcer.
Wendlandia glabrata	*Pheija*	Rubiaceae	Inflorescence	Young shoots are used in preparation of *singju* as raw and cooked in preparation of *eromba*	Expectorant and against dysentery.

are Lotus rhizome (*Thambou*), unripe papaya, winged bean, cabbage, sword bean, banana flower (*Laphutharo*), water parsley, tender shoots of pea, water mimosa, stink bean etc. The chopped vegetables are mashed along with chilli, besan, salt etc.

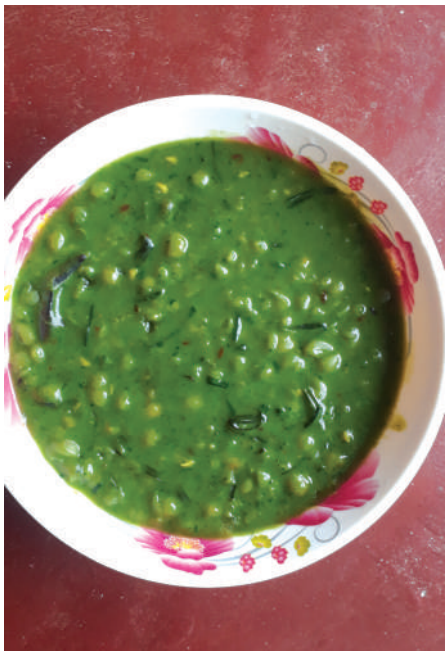
Eromba: It is one of the most popular dishes of Manipur. It is a type of chutney made with boiled vegetables mashed with chilli, potato and fermented fish. It can be made with any vegetables depending on our culinary imagination like stink bean eromba, colocasia eromba, bamboo shoot eromba, broad bean eromba, etc. To make it tastier, it is garnished with herbs like chinese chive, coriander leaves, lemon basil, chamomile leaves and roots and many more. It can also be prepared without fermented fish by using fried chilli, fried chives, onions etc.

Paknam: It is a type of pancake prepared by using besan along with a mixture of hooker chives *(Maroinapakpi),* young banana inflorescence, pea flour, wild coriander and fermented fish, salt, chilli and spices. All the content are mashed properly and the pea flour (besan) is added into it, which should be mixed thoroughly and placed in one or two layers of turmeric leaves, final wrapping can be done by using banana leaves. The whole content is baked on a hot pan and light weight is placed upon it. After 30 to 45 min, it imparts a typical flavour which indicates the product is cooked. Instead of this, it

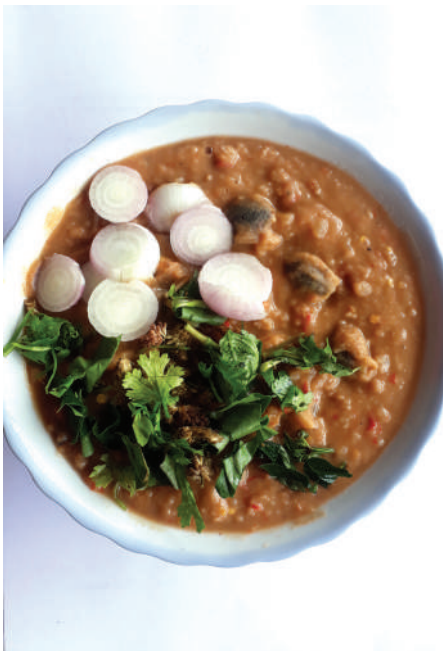


Indian Pennyworth Kangsu

Kangsai



Ooti asangba



Stink bean eromba

Stink bean

can be cooked in steam, the preparation can be sealed in a small tiffin box and put inside pressure cooker for up to 3 whistles and then pan roast until it turn to somewhat brown. Paknam can also be prepared by using tree mushroom (*Kanglayen*) instead of the vegetables.

Khoukha bora/ Koukha kanghou (Arrowhead fritters /fried): Arrowhead is the edible tuber of the arrowhead plant which grows in rice field and swamps. In Manipuri cuisine, it is eaten stir fried (koukha kanghou) or as fritters (koukha bora). It is prepared by frying the arrowhead dipped in besan paste. It is famous for its taste and delicacy in every local markets and small hotels.

Kangshu: It is another typical traditional food which is popular in *Meitei* community. Indian Penny worth (Peruk) is cooked in pressure cooker up to 2 whistles and squeezed dry to remove water and mashed with boiled roasted dried yellow peas and mix with fermented fish, red chilli and salt. Kangshu can be prepared with non-fermented bamboo shoot (Ushoi kangshu), wendlandia paniculata (U-thummana khangsu) etc.

Kangsoi: It is a mixture of various boiled vegetable along with fermented fish, dried fish, chillies and salt, Chinese chive and hooker chives. Various indigenous and minor vegetables are used in preparation of kangsoi such as *P. olygonium orientale* (*yellang*), *Persicaria posumba* (*kengoi*), *Stellaria media* (*Yerum keirum*), etc. Kangsoi is generally an important and daily consumed cuisine in Manipuri house hold.

Ooti: Ooti is a very well known cuisine of Manipur, cooked and consumed in every house. It is cooked using non fermented bamboo shoot (Ushoi) along with dried yellow peas after soaking it overnight. Chinese chives, salt, chilli. Sodium bicarbonate is one of the compulsory ingredients in the preparation of ooti for its flavour. Another kind of ooti is ooti asaangba (green ooti) which is prepared with rice and colocasia leaves. One should keep in mind that stirring with spoon during the whole process of preparation should not be done as it will render the ooti lack of taste

Chagem pomba: Chagem pomba is also one of the important dishes of manipuri's which is prepared by mixing varieties of vegetables, dried fish, fermented fish, salt, chilli, turmeric powder, bay leaf, mustard oil ,Chinese chive, cut rice and fermented soybean. Some vegetables which are used in preparation of Chagempomba are water mimosa, mustard leaf, pea tips, stink bean, broad bean, and pea. Cut rice and fermented soybean is compulsory to put in preparation of chagempomba. Cut rice is called chagem in Manipuri, from which it derives its name, chagempomba. The list of indigenous and minor vegetables consumed by Manipuri people as raw or cooked along with their scientific names, uses as delicacy and health benefits are given in table 1 and, the family dominance and the percent of plant parts as usage are presented in for a better knowledge of the preference of indigenous and minor vegetable crops in this region.

SUMMARY

The indigenous minor vegetables are available freely or consumed in many forms as raw or cooked by the *Meitei* community in Manipur from time immemorial. They are used for various local delicacies preparation due to its medicinal value and good taste. However, little attention has been paid on these crops and hence no proper scientific methods of nutritional and chemical profiling and agro techniques of these plants have not been worked out till now. Therefore, without further delay documentation should be done and conserved as a nutritional vegetable for the future generation.

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