

# Preliminary Survey on Occurrence and Distribution of Wild Vegetables from Akola District

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## ABSTRACT

*Use of wild edible vegetables is diminishing at fast pace but it is clear that in many parts of the world the use of wild vegetables is still prevalent. Consumption of vegetables is a major source of vitamins and micronutrients for people using only vegetarian diets rich in carbohydrates. It also helps in prevention of some age-related degeneration diseases, arteriosclerosis stroke etc. In Akola District study on occurrence and distribution of wild vegetables which is almost untouched, is taken into consideration. Overall 20 plants from different families were collected throughout the year so that their flowering and fruiting stage can be studied. Out of them 4 plants are from family Fabaceae, 3 plants from family Amaranthaceae, and remaining plants are from Asparagaceae, Cruciferae, Portulacaceae, Malvaceae, Moringaceae, Caesalpiniaceae, Cucurbitaceae, Apiaceae, Rubiaceae, Convolvulaceae, Lamiaceae, Chenopodiaceae and Polygonaceae. All these plants are common in rural area of Akola district.*

**Key words:** - Wild vegetables, distribution, uses, Fabaceae, Amaranthaceae, Convolvulaceae, Lamiaceae, etc.

## INTRODUCTION:

Wild edible plants are existing in the forests, protected areas, rural domicile sites, wetlands and grasslands which can be used as food through appropriate means of collection, preparation and preservation [1]. The edible wild plants are greatly valued throughout the Himalayan region and serve in important source of non-conventional food for indigenous communities. Human beings are reliant in varieties of plants, mainly for food, medicine, clothing and shelter which are the key necessities of human civilization [2]. Wild edible plants also constitute the part of natural vegetation and maintain the ecological balance of nature [3]. All the common vegetables and fruits of our present day were known once as wild plants and they are cultivated and improved by our ancestors for their nutritional values [4]. There are about 3, 52000 flowering plants in the world out of which 20,000 are edible and many more that have yet to be documented [5]. Possibly, 20% of edible species have provides 90% of our daily foods [6]. There are about 7000 species have been cultivated for food. Akola district is geographically divided into 4 Talukas, in Western part Murtizapur, Northern part Akot, Eastern part Balapur and southern part Patur taluka is situated. Overall 22 plants from different families were collected throughout the year so that their flowering and fruiting stage can be studied. Out of them 4 plants are from family Fabaceae, 3 plants from family Amaranthaceae, and remaining plants are from Asparagaceae, Cruciferae, Portulacaceae, Malvaceae, Moringaceae, Caesalpiniaceae, Cucurbitaceae, Apiaceae, Rubiaceae, Convolvulaceae, Lamiaceae, Chenopodiaceae and Polygonaceae. During exploration work, it has been noted that out of these, few vegetables are regularly cultivated by villagers in particular season; this may be due to its high nutritional values. Therefore, study of this topic is taken into consideration.

## MATERIALS AND METHOD:

The plant exploration tours were conducted during the various seasons throughout the year. During the collection of plants date, place of collection was noted. For the collection of plants assorted size of sterile polythene bags were used. The leaves were place properly against direct sunlight so that it can be well protected from shriveling. All such bags were put in a large and thick polythene bags which are to be easily carried in the

field. The leaves were carefully checked to avoid insects eaten, bacterial and fungi infected ones. These bags are preferable for traditional vasculum made up of metal which protects the plants from heat. It was kept in mind that selection of specimen for mounting should be done in the field itself. If the leaves, inflorescence or fruits were too large for the mounting board, they were trimmed suitably, when a leaf had to be removed for space, the petiole was left on specimen itself to show phyllotaxy. The drying of specimen was done in the conventional method using newspaper. The dried specimens were identified with the help of local floras like, Cooke, 1907 [7]; Dhore, 2005 [8]; Naik, 1998[9]; Singh and Karthikeyan, 2000[10], Singh *et al.*, 2001[11].

## RESULTS

### 1. *Brassica campestris* Linn.

Family – Cruciferae

#### Common names – Mustard, Kali Mohari

Uses – Seeds used in exacerbations, cancer and tumours. Roots emollient and diuretic, juice used in chronic cough and bronchial catarrh.

### 2. *Portulaca quadrifida* L.

Family –Portulacaceae

#### Common name – Chickenweed

Uses-. The leaves and tender shoots are also used in cooked and eaten as greens as a veterinary lactation stimulant or as an anti-abortifacient. It is also used for parasitic infection, for kidneys, pulmonary troubles, stomach troubles, venereal disease and as a diuretic, pain-killer or vermifuge. It is use as a diuretic, to treat rheumatism and gynecological diseases, as a sedative, analgesic and cardiotoxic, to treat fever, disorders of the urinary tract, worm diseases, as a tonic and choleric, to treat dysentery and to apply externally to ulcers, eczema and dermatitis. It also shows anti-cancer activity against human colon cancer HT-29 cells as well as it confirmed anti-fungal activity against *Aspergillus niger* and *Candida albicans*.

### 3. *Potulaca oleracea* L.

Family- Portulacaceae

#### Common name - Ghol

Uses- It appears to be an excellent candidate for inclusion in saline drainage water reuse systems It is highly tolerant of both chloride- and sulphate-dominated salinities, is a moderate selenium accumulator and a valuable vegetable crop for human consumption and for livestock forage. It is also a source of a gum with emulsification properties that can be used in the food industry.

### 4. *Hibiscus cannabinus* L.

Family- Malvaceae

#### Common name - Aambadi

Uses –It is also used as anodyne, aperitif, aphrodisiac, fattening, purgative, and stomachic. It is a folk remedy for bilious conditions; bruises, fever, and puerperium Powdered leaves are applied to Guinea worms. Peelings from the stems is use for anemia, fatigue, lassitude, etc. The leaf infusion is used for coughs. The leaves are used for dysentery and bilious, blood and throat disorders. Seeds are applied externally to aches and bruises. Medicinally, juice of the flowers with sugar and black pepper is used in biliousness with acidity. Seeds are considered aphrodisiac and fattening.

### 5. *Abelmoschus manihot* (L.) Medik

Family-Malvaceae

#### Common name - Ran bhendi

Uses- The bark is said to be emmenagogue. A paste of the bark is used to treat wounds and cuts, with new paste being applied every 2 - 3 days for about 3 weeks. The root juice is warmed and applied to sprains. The juice of the flowers is used to treat chronic bronchitis and toothache.

### 6. *Moringa oleifera* Lam.

Family- Moringaceae

#### Common name - Shevga

Uses- It is used for “tired blood” (anemia); arthritis and other joint pain (rheumatism) ;asthma; cancer; constipation; diabetes; diarrhea; epilepsy; stomach pain; stomach and intestinal ulcers; intestinal spasms; headache; heart problems; high blood pressure; kidney stones; fluid retention; thyroid disorders; and bacterial,

fungal, viral, and parasitic infections. It is also used to reduce swelling, increase sex drive (as an aphrodisiac), prevent pregnancy, boost the immune system, and increase breast milk production. Some people use it as a nutritional supplement or tonic. It is sometimes applied directly to the skin as a germ-killer or drying agent (astringent). It is also used topically for treating pockets of infection (abscesses), athlete's foot, dandruff, gum disease (gingivitis), snakebites, warts, and wounds. Oil from moringa seeds is used in foods, perfume, and hair care products, and as a machine lubricant. It is an important food source in some parts of the world. The seed cake remaining after oil extraction is used as a fertilizer and also to purify well water and to remove salt from seawater. It contains proteins, vitamins, and minerals. As an antioxidant, it seems to help protect cells from damage.

### **7. *Cassia tora* L.**

**Family- Caesalpinaceae**

#### **Common name – Tarota**

**Uses** - Seeds and Leaves are mainly used in Medicine. Glucoside resembling Chrysophanic acid is obtained from leaves and seeds, also minerals from the leaves. Leaves are used as vegetables in rural people. Leaves largely used in treatment of skin diseases to cure scorpion and honey - bee bites.

### **8. *Crotalaria juncea* L.**

**Family- Fabaceae**

#### **Common name – Boru**

**Uses**-Sun hemp is extensively cultivated for fiber or green manure and leaves are fed as a high protein supplement to other poorer feeds. Dried leaves, bark and boiled seeds are fed to cattle. With restrictions, seed has been used as fodder. It is showing promise as a forage legume for intercropping with upland rice. Leaves and stems are dried since animals do not eat sun hemp when it is green. Sun hemp should be cut for hay or ploughed in for green manure in the early flowering stage when it is 1.5-2.5 months old. Due to the shade of its dense canopy it is also used as a cover crop to suppress weed populations.

### **9. *Sesbania grandiflora* L.**

**Family- Fabaceae**

#### **Common name - Heta**

**Uses**-It is used in Ayurveda for many ailments due to its aperient, diuretic, emetic, emmenagogue, febrifuge, laxative and tonic properties. It is used both internally and externally. Internally, it is given to treat cough, cold, cataract, fever, weakness, indigestion, excessive heat in body etc.

### **10. *Citrullus colocynthis* L.Schrad.**

**Family- Cucurbitaceae**

#### **Common name - Kadu- indravani**

**Uses**- It is used in chest diseases (Bronchial Asthma), Constipation, rheumatic diseases tumor diseases. Roots are used as abortifacient. A decoction of the whole plant, made in juice with fennel, is said to help indurations of the liver. It is also used to protect woolen clothing from moths.

### **11. *Peucedanum graveolens* L.**

**Family –Apiaceae**

#### **Common name - Shepu**

**Uses**- The fruit is hot and bitter. It is carminative, stomachic, digestive, anti-flatulent and stimulant. It is used in digestive disorders.

### **12. *Morinda citrifolia* L.**

**Family- Rubiaceae**

#### **Common name - Noni, Indian mulberry**

**Uses**-Roots serve to treat stiffness and tetanus and have been proven to combat arterial tension. Elsewhere they are used as febrifuge, tonic and antiseptic. The fruits are used as a diuretic, a laxative, an emollient and as an emmenagogue, for asthma and other respiratory problems, as a treatment for arthritic and comparable inflammations, in cases of leucorrhoea and sapsraemia and for maladies of inner organs. Roots, leaves and fruits may have anthelmintic properties. In traditional medicine the parts used are administered raw or as juices and infusions or in ointments and poultices. The curative properties of the plant parts are ascribed to the presence of medicinally active anthraquinone derivatives. The fruit contains rancid smelling capric acid and unpleasant tasting caprylic acid. It is thought that antibiotically active compounds are present. The fruit pulp can be used to cleanse hair, iron and steel.

**13. *Rivea hypocriferiformis* (Desr.) Choisy****Family- Convolvulaceae****Common name - Phaangi**

Use-The leaves possess mild antioxidant potential that may be because of the constituents possessed by the plant such as flavonoids. The plant is good source of energy and micronutrient and can be used as nutritious leafy vegetable in daily life and specifically in conditions such as cough, skin disease, and asthma. It is also use in the management of asthma, cough, and skin disease.

**14. *Mentha viridis* Linn.****Family – Lamiaceae****Common name - Pudina, Mint**

Uses-It has carminative, antispasmodic, and stimulant properties. It is diuretic and febrifuge virtues. As a febrifuge, it is superior to peppermint, and may be used freely in warm infusion. The cold infusion is beneficial in high color, or scalding of urine, difficult micturition, etc.; it may be used alone or in combination with marshmallow root. In fact, it is one of the best of simple diuretics, and acts nicely with potassium acetate. A saturated tincture of the fresh herb with gin has been found serviceable in gonorrhoea, strangury, suppressed urine, gravel, and as a local application to painful hemorrhoids. The oil is diuretic, stimulant, antispasmodic, and rubefacient, and is used externally in rheumatic and other pains. Dose, same as peppermint. It is used in scanty secretion of urine with frequent desire to urinate; simple nausea.

**15. *Amaranthus tricolor* L.****Family- Amaranthaceae****Common name - Taduljira**

Uses- It is used as a cooked leaf vegetable. It is eaten raw in salads; the soft stems are eaten like asparagus. Forms with bright red and red, yellow and green-colored leaves are grown throughout the world as ornamentals. It is used externally to treat inflammations, and internally as a diuretic. It is a good source of B vitamins, iron, magnesium, zinc, fiber and protein.

**16. *Amaranthus paniculatus* L.****Family- Amaranthaceae****Common name - Rajgira**

Uses -It is used as a refrigerant, diuretic, and purgative, as an enema for stomach troubles, piles, against cholera and also as a sudorific. It prevents vomiting. The plant is also used for treating leprosy. A decoction of the plant improves digestion, is used in kidney complaints and as a mouth wash for toothache. The decoction with palm nut soap is used to arrest miscarriage. The boiled leaves and roots are given to children as a laxative. It is applied as an emollient poultice to abscesses, boils and burns. The whole plant is used in treatment of snake-bite, but no part of it is an antidote to snake-venom. Root paste in equal proportion with honey is used to control vomiting.

**17. *Atriplex hortensis* L.****Family- Amaranthaceae****Common name - Chandanbatva**

Uses- The leaves are diuretic, emetic and purgative. They are also said to be a stimulant to the metabolism and an infusion is used as a spring tonic and a remedy for tiredness and nervous exhaustion. They have been suggested as a folk remedy for treating plethora and lung ailments. The leaves are said to be efficacious when used externally in the treatment of gout. The seeds, mixed with wine, are said to cure yellow jaundice. They also excite vomiting. The fruits are purgative and emetic. Liniments and emollients prepared from the whole plant, like the juice of the plant, are said to be folk remedies for indurations and tumors, especially of the throat.

**18. *Chenopodium album* L.****Family – Chenopodiaceae****Common name - Chakvath**

Uses- The leaves and young shoots may be eaten as a leaf vegetable, and is a very nutritious, healthy addition to the diet. It has some medicinal properties like anthelmintic, antiphlogistic, antirheumatic, constipative, laxative, odontalgic etc. It is also used in the treatment of rheumatism, bug bites, sunstroke, urinary problems, skin problems etc. The leaves and young shoots of this plant are used in dishes such as soups, curries, and paratha. It is used to treat various symptoms attributable to nutritional deficiencies. It's also said to have

sedative and refrigerant properties, and people have used the poultice leaves to soothe burns. Many wild birds eat the seeds, as do chipmunks and squirrels, and the plants are used as fodder.

**19. *Rumex vesicaris* Linn.**

**Family – Polygonaceae**

**Common name - Aambadchuka**

*Uses-* The whole plant, particularly the leaves; the seeds, used as an antiscorbutic, appetiser, astringent, carminative, laxative, stomachic and tonic, and for jaundice. It is also used for dental treatment relive pain, inflammation diarrhea.

**20. *Asparagus racemosus* Willd.**

**Family- Asparagaceae**

**Common name - Shatavari**

*Uses-* Root and leaves used as nutritive, rejuvenative, aphrodisiac, laxative, galactagogue, antispasmodic, antacid, diuretic, antitumor, demulcent, anti-diarrheal, anti-depressant, anti-microbial, anti-oxidant, adaptogenic and as well it is immunomodulatory in nature. It is also used in Premenstrual syndrome, uterine bleeding, and breast milk production.

## DISCUSSION AND CONCLUSION

Use of wild edible vegetables is diminishing at fast pace but it is clear that in many parts of the world the use of wild vegetables is still prevalent. Consumption of vegetables is a major source of vitamins and micronutrients for people using only vegetarian diets rich in carbohydrates. In remote rural areas, where vegetable cultivation is not practical and market supplies are not organized, local inhabitants depend on indigenous vegetables both cultivated in their kitchen gardens and wild for enriching the diversity of food than several known common vegetables. Most contribution of vegetable to human body is to provide vitamin A, C, folic acid, dietary fibers and minerals. Consumption of wild vegetables is said to have many beneficial effects such as prevention of some age-related degeneration diseases, arteriosclerosis stroke etc. Most of these wild vegetables have a potential for income generation but fail to compete with exotic vegetables at present due to lack of awareness underutilization and marketing strategies. Hence, there is need to preserve traditional knowledge as well as conserve these genetic resources mostly those of wild relatives of crop plants which can be useful in case of genetic erosion or for crop improvement.

## REFERENCES

1. Haraldson, K. (1978). Anatomy and Taxonomy in Polygonaceae subfam. Polygonoideae meissn. Emend Jaretrky.
2. Maesen L. Jg. Van der, (1986). *Cajanus* and *Atylosia* W. na D. Agri. Univ. Wageningen.
3. Fahey, J.W. (2005). *Moringa oleifera*; A review of the medical evidence for its nutrition therapeutic and Prophytactic Properties.
4. Dixon G.R. (2007). Vegetable *Brassica* and related crucifers Walling foud.
5. Alam, EA (2012). In vitro studies on *Rumex vesicaris* L. for the production of some active constituents.
6. Grabben, GJH and O.H. Denton (eds), (2004). Plant resources of tropical Africa. Vegetables prota. Found Wageningen, Backhys, Leiden.
7. Cooke, Theodore (1907). "The flora of the Presidency of Bombay". Vol. I & Vol. II, Botanical Survey of India; Calcutta.
8. Dhore M. A., 2005. Flora of Amravati District. publ. S. G. B. Univ. Amravati.
9. Naik V.N. (1998). Flora of Marathwada. Vol. I and II. Amrut Prakashan, Aurangabad.
10. Singh N.P., Karthikeyan S. (2000). Flora of Maharashtra State. Dicotyledons Vol. I. Botanical Survey of India, Calcutta.
11. Singh N.P., Lakshminarsimhan P., Karthikeyan S. and Prasanna P.V. (2001). Flora of Maharashtra State. Dicotyledons Vol. II. Botanical Survey of India, Calcutta.