

Contribution of Wild Vegetables to meet Nutritional Demand of tribal population of Surgana, District Nashik, Maharashtra, India

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ABSTRACT

In period of crisis, wild vegetables are used for their nutritional values as well as for getting additional food supplements. During present investigation total 44 wild vegetables and fruits were recorded from Surgana Region of Nashik District. Detailed information regarding local name, botanical name, family, habit, utilization of plant part and seasonal availability have been recorded. Most of these wild vegetables have become rare due to erratic rainfall and increasing urbanization in Surgana region. These less known and sometimes rare edible plant species can be promising source of income and nutrition for poor families. So steps are needed to be undertaken for extensive exploration and awareness about wild vegetables. Availability of wild vegetables through online shopping mode is helpful in creating awareness among common civic as well as it encourages cultivation and collection of these wild vegetables.

Figure : 00

References : 12

Table : 01

KEY WORDS : Food source, Nutritional value, Wild vegetables.

Introduction

Since ages tribal communities live away from the main civilization into their native places in widely scattered accommodations. These places are generally isolated from the main civilization through dense forest, valleys and mountains. This isolation has made them economically and educationally backward compared to their neighboring metropolitan populations. Surgana is the tribal dominated area situated at the boundary of Maharashtra and Gujarat State. More than 98% population from this area belongs to ST category. Communities such as *Kokana*, *Mahadev koli*, *Warli*, *Harijan* and *Charan* live here in harmony. Traditionally, Paddy cultivation is the main occupation of these communities for which they fully depend on nature. Besides rice, ragi, shama millet (*Bhagar*), pigeon peas (*tur dal*), black gram (*urad dal*) and horse gram (*kulith*) are cultivated in Surgana.

The rich biodiversity in these regions includes many edible and nutritionally important plants. These plant species are less known to common man. However, for centuries, tribal communities from Surgana region are using many wild vegetables to meet their nutritional demand. In period of crisis wild vegetables are used for

their nutritional values as well as for getting additional food supplements. Fruits and vegetables are important components of a balance and healthy diet³. These plants offer various benefits and opportunities to communities; for example, they enable communities to cope with food scarcity^{7,9}. Ancestral and contemporary traditional diets are known to offer valuable health benefits.

Though some botanical explorations and publications have emphasized on the diversity and value of edible plants, the information available on wild vegetables is rather incomplete^{2,5,6}. Many wild vegetables are less known, not getting much attention even though they have high nutritional and medicinal value. There is need to study and give recognition to these wild vegetables. The main objective of the present research work is to study wild vegetables from Surgana region and to provide a benchmark view for documentation of edible wild plants from this region.

Material and Method

Data were collected through random survey method. Visits were made in the study area during different seasons for collection of the information and material. Data were analyzed. Plant specimens were

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TABLE-1: Wild Vegetables and fruits recorded from Surgana region

Sr. No.	Local Name	Botanical Name	Family	Habit	Utilization of Plant Part	Seasonal Availability
1.	<i>Abai</i>	<i>Canavalia gladiata</i>	Fabaceae	Herb	Pods used as vegetables	October to December
2.	<i>Ambada</i>	<i>Hibiscus Sabdariffa</i>	Malvaceae	Herb	Leaves cooked as vegetables	July to September
3.	<i>Kamal kakadi</i>	<i>Nelumbo nucifera</i>	Nelumbonaceae	Modified Root	Tubers are cooked as vegetables	March to June
4.	<i>Alshi</i>	<i>Linum usitatissimum</i>	Linaceae	Herb	Roasted seeds and Seed oil is consumed	November to March
5.	<i>Bahawa</i>	<i>Cassia Fistula</i>	Caesalpinaceae	Tree	Flowers cooked as vegetables	March to May
6.	<i>Bamboo</i>	<i>Bambusa arundinacea</i>	Bombacaceae	Tree	Flowers cooked as vegetables	March to May
7.	<i>Baphali</i>	<i>Peucedanum grande</i>	Apiaceae	Shrub	Ripen Fruits used as spices	November to December
8.	<i>Barada</i>	<i>Echinochiora frumentaceae</i>	Poaceae	Grass	Sprouted seeds used as vegetables	October to November
9.	<i>Bhokar</i>	<i>Cordia dichotome</i>	Ehretiaceae	Tree	Small leaves cooked as vegetables, ripen fruits are eaten raw	March to June
10.	<i>Bhondara</i>	<i>Lagestroemia reginae</i>	Lythraceae	Tree	Ripen fruits are consumed raw	June to July

Sr. No.	Local Name	Botanical Name	Family	Habit	Utilization of Plant Part	Seasonal Availability
11.	<i>Chil</i>	<i>Chenopodium album</i>	Chenopodiaceae	Herb	Leaves cooked as vegetables	July to September
12.	<i>Chinch</i>	<i>Tamarandus indicus</i>	Caesalpiaceae	Tree	Flowers used as vegetables, Ripen fruits are eaten raw	April to June
13.	<i>Edunga</i>	<i>Embelia ribes</i>	Myrsinaceae	Shrub	Tender leaves are used as vegetables	June to July
14.	<i>Ghaypat</i>	<i>Agave Americana</i>	Agavaceae	Shrub	Tender stem cooked as vegetables	Throughout year
15.	<i>Ghol</i>	<i>Bacopa monnieri</i>	Scrophulariaceae	Grass	Leaves are cooked as vegetables	Throughout year near water bodies
16.	<i>Hadga</i>	<i>Sebania grandiflora</i>	Fabaceae	Tree	Flowers cooked as vegetables	November to January
17.	<i>Jhaadi Ratale</i>	<i>Manihot esculenta</i>	Euphorbiaceae	Tree	Tubers are cooked as vegetable or eaten raw	Throughout year
18.	<i>Kadukanda</i>	<i>Dioscorea bubifera</i>	Dioscoreaceae	Modified Root	Tubers are eaten raw	June to October
19.	<i>Kamal kakadi</i>	<i>Nelumbo nucifera</i>	Nelumbonaceae	Modified Root	Tubers are cooked as vegetables	March to June
20.	<i>Khandol</i>	<i>Sterculia urens</i>	Sterculiaceae	Tree	Seeds and exuded gum can be consumed	April to May
21.	<i>Kanchan</i>	<i>Bahunia variegata</i>	Caesalpiaceae	Shrub	Tender leaves cooked as vegetables	January to May

Sr. No.	Local Name	Botanical Name	Family	Habit	Utilization of Plant Part	Seasonal Availability
22.	<i>Karvand</i>	<i>Carissa carandas</i>	Apocynaceae	Shrub	Flowers, Ripen fruits cooked as vegetable or eaten raw, Unripe fruits are used for making pickles	January to July
23.	<i>Kartoli</i>	<i>Momordica dioxia</i>	Cucurbitaceae	Climber	Unripe fruits are cooked as vegetables	July to September
24.	<i>Kateshwar</i>	<i>Bombax ceiba</i>	Bombacaceae	Tree	Flowers are used as vegetables and ripen fruits are eaten raw	February to May
25.	<i>Kavali bhaji</i>	<i>Urginea indica</i>	Liliaceae	Grass	Tender leaves and bulb are cooked as vegetable	June to July
26.	<i>Kena</i>	<i>Commelina benghalensis</i>	Commelinaceae	Grass	Young buds and tender leaves are used as vegetables	June to July
27.	<i>Kukarwal</i>	<i>Sterculia foetida</i>	Sterculiaceae	Tree	Roasted seeds are eaten	May
28.	<i>Khurasani</i>	<i>Guizotia abyssinica</i>	Asteraceae	Shrub	Leaves cooked as vegetables, seeds are used to make chatani, Seeds are used for oil extraction	June to October
29.	<i>Kurdu</i>	<i>Celosia argentea</i>	Amaranthaceae	Shrub	Leaves cooked as vegetables	July to September

Sr. No.	Local Name	Botanical Name	Family	Habit	Utilization of Plant Part	Seasonal Availability
30.	<i>Moha</i>	<i>Madhuca indica</i>	Sapotaceae	Tree	Flowers are used as vegetables and to prepare alcohol, ripen fruits are eaten raw and seeds are used for oil extraction	April to July
31.	<i>Math</i>	<i>Amaranthus viridis</i>	Amaranthaceae	Herb	Leaves are used as vegetables	July to September
32.	<i>Palasvel</i>	<i>Pueraria tuberosa</i>	Fabaceae	Climber	Tendrils are used as vegetables	July to September
33.	<i>Petar</i>	<i>Abutilon indicum</i>	Malvaceae	Tree	Ripen fruits are eaten raw	May to June
34.	<i>Rajhans</i>	<i>Adiantum lunulatum</i>	Adiantaceae	Herb	Leaves are used as vegetables	January to May
35.	<i>Rankardai</i>	<i>Argemon mexicana</i>	Papaveraceae	Herb	Tender stem cooked as vegetables, seeds are often used for oil extraction and food adulteration	January to May
36.	<i>Sarambalya</i>	<i>Justicia procumbens</i>	Acanthaceae	Herb	Leaves, flowers and stem are cooked as vegetable	July to September
37.	<i>Shevaga</i>	<i>Moringa oleifera</i>	Moringaceae	Tree	Leaves, flowers and pods are used as vegetables	

Sr. No.	Local Name	Botanical Name	Family	Habit	Utilization of Plant Part	Seasonal Availability
38.	<i>Shinda</i>	<i>Phoenix dactylifera</i>	Areaceae	Tree	Ripen fruits are eaten raw	May to July
39.	<i>Siri</i>	<i>Leptadenia reticulata</i>	Asclepiadeaceae	Climber	Flowers, ripen fruits are eaten raw	Late Monsoon
40.	<i>Tagda</i>	<i>Rotolaria retusa</i>	Fabaceae	Shrub	Flowers are cooked as vegetables	July to September
41.	<i>Tarvata</i>	<i>Cassia tora</i>	Caesalpinaceae	Shrub	Leaves are cooked as vegetables, seeds are used in making beverages	July to September
42.	<i>Terda</i>	<i>Impatiens balsamia</i>	Balsminaceae	Shrub	Tender leaves are cooked as vegetables	July to September
43.	<i>Umber</i>	<i>Ficus racimosa</i>	Moraceae	Tree	Ripen fruits are eaten raw	Throughout year
44.	<i>Velunj</i>	<i>Basella alba</i>	Basellaceae	Herb	Leaves are cooked as vegetables	Throughout year

collected and identified with reported floras^{1,3-4,7-12}.

Information regarding less known edible wild vegetables was obtained by taking personal interview of native tribes. People were questioned in their local language regarding their food habits, life style and dependence over the wild plants for food needs and additional knowledge of less known wild vegetables. The information included local names of plants, cultivation practices, part used, seasonal availability and medicinal importance.

Observation

(Table-1) Shows the information of the wild vegetable recorded from Surgana Region of Nashik District, Maharashtra.

Result and Discussion

During present investigation total 44 wild vegetables and fruits were recorded from Surgana region of Nashik District. Detailed information regarding local name, botanical name, family, habit, utilization of plant part and seasonal availability has been recorded. Among 44 recorded wild vegetables 9 species belong to herbs, 10 shrubs, 15 trees, 4 grasses, 3 modified roots and 3 belong to climbers. All these 44 wild vegetables belong to 37 families.

All the enumerated plant species are very commonly used by the tribal communities of Surgana region. Though local people collect most of the recorded wild vegetables from forest area and mountains some of the wild vegetables are also found to be cultivated in their kitchen garden for daily needs. Plant species Moha (*Madhuca indica*) is important for its food and medicinal value. This plant is economically very important as most of the local communities are involved in alcohol making business from this plant. In rural and urban areas bamboo (*Bambusa arundinacea*) plant is known for making furniture but in tribal communities this plant is popular wild vegetable. Tender bamboo vegetable is the legacy in this area. All the species recorded during present study have a promising role as dietary supplement in the food habits of tribal communities. However, nutritional status of these wild vegetables needs study in detail.

Tribal community from Surgana region strongly believes on medicinal properties of wild vegetables. According to them *Kartoli* reduces the blood sugar level in case of diabetic patients. *Ambada* reduces the acidity and it is rich source of vitamin C. *Math* is found to be natural pain killer vegetable. It has pain fighting powers. Tender leaves of *Math* are available in July to August and after that till October stem is available which also has medicinal properties. *Bamboo* vegetable is used to cure the skin rashes. *Karvand* is rich source of vitamin C. It is

beneficial in case of skin and heart disease. Juice of *Karvand* is found to be useful for indigestion problems. Raw fruits and flowers of *Karwand* are available in February to April and ripe fruits are available till the end of rainy season. Tribal people show some superstitious belief in case of some wild vegetables. For example tribal people will not cross the *Bahava* or *Abai* pods because they believe that crossing these pods will cause the night blindness in them. In fact they use these pods to treat the night blindness. Most of these wild vegetables have become rare due to erratic rainfall and increasing urbanization in Surgana region.

Taking this into account, importance of less known plant species especially wild edible plant varieties are eventually trying to establish new food habit by introducing these plants to modern community as additional food resource and to meet the increasing demand of food⁶. Wild vegetables are quite popular and common in tribal regions as compared to urban, city area. Many wild edible plant species are not preferred for cultivation by farmers because they might not be productive as compared to conventional and popular plant species. This results in scarcity of wild vegetable varieties in the market. Apart from this, residents of contemporary society have propensity towards buying popular and common vegetables which are easy to cook as compared to wild vegetables. Fast food consumption practices are responsible for decreased popularity of overall homemade food including vegetables.

During survey in the Surgana region, it was found that though recorded wild vegetable are rare in urban areas they are quite common in tribal regions. These wild vegetables make a substantial contribution to their food security. These less known and sometimes rare edible plant species can be promising source of income and nutrition for poor families. So steps are needed to be undertaken for extensive exploration and awareness about wild vegetables.

In human diet nutritious food is extremely important. The future of the world depends on good food. Good food keeps us healthy. It helps us to reach our potential. It strengthens our communities and protects our planet. Naturally grown wild vegetables not only provide required calories and essential proteins but also keep away many diseases. Eating wild vegetables in their respective seasons provides lost of health benefits. Wild vegetables are good immunity boosters. Wild vegetables are grown naturally in the forest area without any chemical fertilizer which makes them more nutritious. Most of these wild vegetables have become rare due to erratic rainfall and increasing urbanization in Surgana region.

Celebration of *van mahotsav* in all parts of India

has come up with the new hope for creating awareness about forests, trees, nature and their essential contribution in making the human life more successful and healthy. Wild vegetables exhibition during these *van mahotsav* is

gaining popularity day by day. Availability of wild vegetables through online shopping mode is helpful in creating awareness among common civic as well as it encourages cultivation and collection of these wild vegetables.

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