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# Use of Wild Edible Monsoon Vegetables as a Food by Ovali and Kudap Villagers in Chiplun Tehsil of Ratnagiri District, Maharashtra.

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## ABSTRACT

Wild but edible vegetables growing in monsoon play a significant role in the sustenance of rural people. It is believed that the wild vegetables boost immunity, if consumed in certain period of time. The study area was surveyed for two monsoons of 2018 and 2019 with the assistance of local residents having knowledge of wild vegetables and attempts are made to make a checklist of wild vegetables growing in study area. The study documented twenty one wild edible vegetable plant species belonging to sixteen families. The edible part of these species utilized by local people include rhizomes, corms, stems, leaves, petioles, inflorescence, flowers, petals, fruits, pods and seeds. The information gathered from local people revealed that there is a need of conservation of these vegetables by promoting cultivation in wild state. The present study indicated that due to socio-cultural changes and non participative attitude of younger generation, the ethno-botanical knowledge regarding habitat of wild vegetables, their identification, conservative collection and ways of propagation and vegetable recipes is declining.

**KEY WORDS**: Wild edible vegetables; Monsoon; Diversity; Ethnobotany;

# INTRODUCTION

In India most rural inhabitants dependent on wild edible plants to meet their food requirements as they provide staple and supplement foods. Maharashtra is the third largest state of India and one of the prominent topographic features of the state is the Deccan plateau, which is separated from the Konkan coastline stretching 720 km along the Arabian Sea by 'Western Ghats. Ratnagiri is a coastal district of Maharashtra state, situated in the western ranges of Western Ghats. Ovali and Kudap are the small villages in Chiplun Tehsil of Ratnagiri district, located in the valleys in the foothills of western ghats and scenically surrounded by the highest peaks of Sahyadri from all the 3 sides.

Vegetables that grow naturally without any cultivation or care are called wild vegetables. In the early days of the monsoon season, the vegetables begin to grow naturally and become available for consumption. They grow in forests, wilder areas, edges of farmlands, barren fields and waste lands. These vegetables were collected by villagers and used as source of food for them. Some times, depending on availability, they are sold in the local market which makes additional emergency income to the poors. The diversity in the wild vegetable not only gives variation in diet but also provides nutritional supplements. It is well known for their essential biochemicals and nutritional importance as they contained good amounts of proteins, fats, carbohydrates, vitamins and minerals (Onwordi *et.al.*, 2009; Saikia and Deka, 2013). The wild vegetables plays an important role in maintaining the balance in the diet and advised to eat more, that may help to reduce the risk of diseases like cancer, coronary heart attack, diabetes, etc. (Stangeland, 2009 and Aregheore, 2012).There are 1532 edible wild food species in India, mostly from Western Ghats and Himalayan regions (Arora and Pande, 1996).

Millions of people do not have enough food to meet their daily requirements. They sub-seed on the diet deficient in one or more nutrients (Ogle and Grivetti, 2000; FAO, 2004). The wild vegetables come packed with iron, calcium, vitamins, antioxidants and fibre, and are vital components of a healthy, balanced diet. The nutritional value of wild edible vegetables is higher than several known common vegetables.(Ogle and Grivetti, 2000; Sundriyal and Sundriyal, 2001).From treating common ailments to adding variety to a simple diet, these indigenous super foods have been consumed in rural India for centuries. An interesting fact is that some wild vegetables have a

dedicated cult in urban areas & big cities where they are sold in special markets. Along with being wild edible vegetables, a majority of them also have medicinal importance.

Getting wild vegetables in large quantities is difficult as their production depends on the nature. Though the wild vegetable varieties are available in small quantities, there is quite a good demand for them during certain occasions like Ganapati Festival, Nag Panchami,Vat Pournima etc. All of these vegetables are cooked by people in study area in deshi style by using local spices and ingredients.

The wild edible vegetables are largely ignored during land use planning and implementation, economic development and biodiversity conservation. Most of the popular vegetables that we know are recently introduced in our kitchens. A very scant information is available on wild vegetables growing in monsoon in konkan and their recipe. The information about diversity and uses of wild vegetables growing in monsoon has been sidelined due to lack of scientific knowledge and documentation (Garud *et. al.*, 2010). Hence, there is a huge gap in understanding the importance and significance of this information and the applications of the same. Thus, the need to document the perception of the communities becomes necessary as it would help in improving the understanding of these wild plant species. Moreover, lack of documentation of such interesting observations may result in the extinction of this traditional knowledge. Therefore present study was planned to document the wild edible vegetables growing in monsoon and being used by villagers as well as tribal people.

## MATERIAL AND METHOD

### STUDY AREA

Ovali and Kudap are two small villages located in Chiplun tehsil of Ratnagiri district. Both villages are located in the valleys at the western foothills of western ghats of Maharashtra, India. The Ovali and Kudap villages are 20 km (East ) and 18 km (South-East) away from Chiplun respectively.They have quite a moderate climate, with temperatures in the range of 25 to 40 $^{o}$C during summer and 20 to 26 $^{o}$C during winter. The study area receives average annual rainfall of 3500 mm. Both villages are inhabited by different tribes like Thakur, Mahadev Koli, Dhanagar and Katkaris along with other castes.

## DATA COLLECTION AND ANALYSIS

Wild edible vegetables include wild flowers, fruits, nuts, pods, leaves, roots, shoots and whole plants from forests, hedges and grasslands. So people especially those living in villages were found foraging around hillsides in search of wild vegetables during rainy season. Multiple methodologies and tools were used for data collection. The information related to wild edible vegetables was obtained through participatory tools such as household food survey (24 respondents) and local market survey (17 key informant interviews, 11 focus group discussions). With the help of local people, wild vegetables were collected from natural habitats during the period from June to October for two successive years. The collected plant specimens were identified during the field visits, cross checked against different informants to validate the local information and confirmed by referring literature of Sutaria (1998), Cooke (1967) and Singh *et. al.*, (2001). The collected plants and data entries were registered in proper format for further analysis.

## RESULTS

The list of 21 wild vegetables growing in monsoon and being utilized as vegetable of season by the local people residing in Ovali and Kudap villages in Chiplun Tehsil o fRatnagiri district of Maharashtra was prepared. The Plants are classified systematically and the data is tabulated in following table no. 1.

**Table No. 1. List of wild monsoon vegetables reported in Ovali and Kudap Villages.**

| Sr. No | Name of the Plant | | Family | Parts used | Purpose of use |
|---|---|---|---|---|---|
| | Local Name | Botanical Name | | | |
| 1 | Bharangi | *Clerodendron serratum* (L.) Moon | Verbenaceae | Tender leaves. | Preparation of Curry Plant part cooked as a vegetable |
| 2 | Dinda | *Leea indica* (Burm.f.) Merr. | Vitaceae | Tender shoots | Preparation of Curry Plant part cooked as a vegetable |
| 3 | Safed Musali / Mulshi / Phodshi | *Chlorophytum borivilianum* Santapau & R.R.Fem. | Asperagaceae | Leaves | preparation of Curry, plant part cooked as a vegetable |
| 4 | Takala | *Cassia tora* (L.) Roxb. | Fabaceae | Tender Leaves | preparation of Curry, Chutney etc. Plant part cooked as a vegetable |
| 5 | Kurdu | *Celosia argentea* L | Amaranthaceae | Tender Leaves | Preparation of Curry, Plant part cooked as a vegetable |
| 6 | Bamboo | *Dendrocalamus strictus* (Roxb.) Nees. | Poaceae | Tender bamboo shoots | Preparation of Curry, Pickles etc. Plant part cooked as a vegetable |
| 7 | Shevala | *Amophophallus commutatus* L. | Araceae | Tender flowering stalks ( Inflorescence ) | Preparation of Curries, Plant part cooked as a vegetable |
| 8 | Kartoli | *Momordica diocia* Roxb.ex.Wild. | Cucurbitaceae | Young green fruits | Preparation of Curries, Plant part cooked as a vegetable |

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|---|---|---|---|---|---|
| 9 | Kawala | *Smithia sensitive* Aiton | Fabaceae | Tender leaves | Preparation of Curries, Plant part cooked as a vegetable |
| 10 | Kuda | *Holarrhena pubescens* Wall.ex G.Don | Apocynaceae | Tender fruits (Pods) | Preparation of Curries, Plant part cooked as a vegetable |
| 11 | Raan alu | *Colocasia antiquorum* Schott. | Araceae | Tender Leaves | Preparation of Curries, Pakoda, Aluvadi etc., Plant part cooked as a vegetable |
| 12 | Chiu | *Portulaca oleracea* L. | Portulacaceae | Tender Leaves | preparation of Curries, Plant part cooked as a vegetable |
| 13 | Maath | *Amaranthus spinosus* L. | Amaranthaceae | Tender Leaves | preparation of Curries, Plant part cooked as a vegetable |
| 14 | Korata | *Wrightia tinctoria* (Roxb.) R.Br., Mem. Wern. Soc. | Apocynaceae | Tender Leaves | preparation of Curries, Plant part cooked as a vegetable |
| 15 | Kakad | *Garuga pinnata* Roxb. | Burseraceae | Tender Leaves | preparation of Curries , Plant part cooked as a vegetable |
| 16 | Korla | *Bauhinia malbarica* Roxb. | Leguminosae | Tender Leaves | preparation of Curries , Plant part cooked as a vegetable |
| 17 | Dukkar kand /Air Potato | *Dioscora bulbifera* L. | Dioscoraceae | Bulbils | preparation of Curries, Pakodas etc., Plant part cooked as a vegetable |
| 18 | Raan Halad | *Curcuma aromatic* Salisb | Zingiberaceae | Rhizomes | preparation of Curries as a colouring and flavouring agent, in pickles etc. |

| | | | | | |
|---|---|---|---|---|---|
| 19 | Suran | *Amorphophallus paeoniifolius* (Dennst) Nicolson | Araceae | Corms | preparation of Curries, Pakodas etc., Plant part cooked as a vegetable |
| 20 | Raan Phanas | *Artocarpous hirsutus* Lam | Moraceae | Fruits | preparation of Roasted seeds |
| 21 | Pev | *Cheilocostus speciosus* (J.Koing) C.Specht | Costaceae | Leaves | preparation of Curries , Plant part cooked as a vegetable |

## DISCUSSION

Majority of the rural communities in the world living in hilly regions use wild edible plant species for food, medicine and other purposes (Hawksworth, 2006; Aryal *et.al.*, 2009; Dorji, 2012). It is estimated that hundreds of people use wild edible vegetables which grow naturally in the monsoon in their diet. Since they grow naturally, they are organic, free from pesticides and chemicals,.really very tasty and good for health.

People in this region depend on wild edible plants for their daily food and vegetable requirements as well as for fresh fruit and medicines. We have documented 21 wild edible vegetable species currently being used in various forms by the local people in the Ovali and Kudap villages. A number of studies by other authors have documented a diverse range of wild vegetables and their medicinal uses, but most have not assessed status and availability, household consumption patterns or local management practices of this natural wealth.

Wild edible vegetables contributed substantially to the food requirements of the households in the study area. People preferred to collect vegetable species with multiple use, but they also collect large quantities of species used purely as a vegetable. They eat these vegetables by preparing different cuisines such as curries, salads, snacks etc.

While conducting the survey, a vegetable vendor of Chiplun town said that in the recent years the wild vegetables have also started entering in various markets of the state and there is quite good demand for them. The rates vary according to the demand and supply of the vegetables. Usually in the local village markets or on the roadsides vendors can be seen selling the various wild vegetables.

The studies highlight the importance of wild edible vegetables in the diet of local people. The literature indicate that the current trends in harvesting of some species may not be sustainable and could affect species availability in the future (Shrestha and Dhillion, 2006; Rijal, 2011; Dorji, 2012 and Aryal, 2009). Wild edible vegetables are considered to be an important source of vitamins and minerals (Sundriyal and Sundriyal, 2003; Acharya and Acharya, 2010) and to contribute to energy and micronutrients for farmer families throughout the year. The use of plants as medicines is declining partly because there are fewer traditional healers, which could be

due to lack of knowledge transfer and least interest of younger generation in studying traditional forms of medicine.

Wild edible vegetables are important resources, and further study is essential to provide updated inventories and information about their availability and use. Local people must be involved in conservation and management, as they are both the guardians and users of the resources and have greatest knowledge about them. Domestication of these vegetables where possible is needed to ensure continued availability. It is important to consider how such species can contribute to future food security.

**Conclusion**

The wild vegetables have very good nutritional potential to meet the recommended dietary allowances, but special awareness among the villagers is necessary for conservation of these vegetables. Without involvement of local people, government could not maintain the diversity and conserve the gene pool of such valued plants.

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