

WILD EDIBLE PLANTS – SOURCE OF FOOD AND FODDER FOR MEENA TRIBE OF SOUTH EAST RAJASTHAN

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The ethnobotanical surveys were conducted during the period of October 2007 to April 2008 in different villages of Sawai Madhopur district of Rajasthan. The informations collected from old people, village headman and the forest dwellers regarding the use of wild edible plants are presented.

Keywords : Food; Fodder; Tribe; Wild edible plants.

Tribals are ancient social community. They are economically backward ethnic group. Owing to the nature of the socio-historical factors, tribal groups occupy distinct and unequal position with regard to their access to material resources, knowledge base and social condition existing in society.

Tribals constitute an important segment of population of Rajasthan. About 12.44% of the entire population of the Rajasthan belongs to tribes. Meena's are numerically, the largest tribe of south eastern part of the Rajasthan, spread over districts like Sawai-Madhupur, Kota, Jaipur, Karouli, Alwar and Chittorgarh. The total tribal population of the Sawai Madhopur district is 2,50,788 which is 22.47% of the total district population (Urban 25.97%, Rural 3.27%).

Study site : Sawai Modhopur district is situated at the edge of Malwa plateau at 25°45'–27°14' North latitudes in south eastern corner of Rajasthan. Its total area is 10,527 square kilometers. It is quite unique due to its historical, cultural, geographical location and the physiography. Topographically, the Aravallis and Vindhyan system of hills traverse this district. Climate of this region is semi-arid and sub-humid. Although, according to longitudinal situation it is placed under subtropical region, the average annual rainfall of the area is 852 mm. During the monsoon season, the relative humidity is highest (up to 90%) and in the summers humidity is minimum (10-30%). Master line or life line of this area drainage system is "Chambal". Alluvial soil ranges from clayey to sandy loam. Vegetation of this area is mixed deciduous forest.

Methodology : The ethnobotanical surveys were conducted during the period of October 2007 to April 2008 in few villages named as "Sherpur", "Kilchipur", "Jheenapur", "Chakeri", "Surwal", "Gothra", and "Shyampura" of Sawai Madhopur district. The

information was collected from old people, village headman and the forest dwellers. Some of the village markets were also explored to document the wild plant product sold in the market.

Observations : Meena tribals are dependent on wild plants for their food and feed requirement. They mostly eat leafy vegetables, which grow as weeds. Their diet is comprised of unconventional foods viz. edible forms of flowers, fruits, tubers, leaves, stems and seeds. During famine or when the staple food is in short supply, people mostly remain dependent upon various species of wild plants. Some of these wild plants are known by the same local name throughout the study area.

Table 1 shows the list of few wild edible plants used by Meena tribe of study area. Maize (*Zea mays*), Wheat (*Triticum aestivum*) and Bajara (*Pennisetum americanum*) are the staple cereals used by Meena tribe of this area. However, usage of inferior grains, belonging to the genera: *Echinochloa*, *Panicum*, *Paspalum* and *Setaria* is also very common. Red chillies (*Capsicum annum*) and salt are the only spices which most people use for making vegetables. Breads are eaten with onions (*Allium cepa*) and butter-milk also. They are not aware of nutritive value of the food they consume but they have their own understanding about the food grain and type of food they are habitual with.

The various food preparations, with their local name and how they are exactly prepared is documented here:-

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| Bapla-bati | – | Flour Wheat (<i>Triticum aestivum</i>) dough balls are put in boiling dal and cooked for 10–15 minutes |
| Bhaji | – | Vegetable |
| Bhakar | – | Bread or chapati |
| Ghatri | – | Either of coarsely ground Maize |

Table 1. Wild edible plants used by Meena tribals.

S.No.	Plant's name	Family	Useful part	Mode of consumption
1.	<i>Abelmoschus moschatus</i>	Malvaceae	Fruits	Cooked as vegetable or roasted and ground to use as chutney.
2.	<i>Acacia catechu</i>	Mimosaceae	Gum	Eaten by kids as such or fried and used in making sweets.
3.	<i>Acacia nilotica</i>	Mimosaceae	Pods, seeds	Young or shade dried pods cooked as vegetable. Seeds are roasted and eaten.
4.	<i>Achyranthes aspera</i>	Amaranthaceae	Seeds	Kheer prepared with seeds. It quenches the appetite for 3 to 4 days.
5.	<i>Aloe vera</i>	Liliaceae	Leaves	Pulp of the leaves cooked as vegetable.
6.	<i>Amaranthes spinosus</i>	Amaranthaceae	Shoot	Tender shoot cooked as vegetable.
7.	<i>Anogeissus pendula</i>	Combretaceae	Gum	Used for making ladoos specially for mothers after delivery.
8.	<i>Azadirachta indica</i>	Meliaceae	Fruits	Ripe fruits largely eaten by children.
9.	<i>Bauhinia racemosa</i>	Caeselpiniaceae	Pods, Flowers, Buds	Pulp of ripe pods mixed with flour and made into bread, Raw pods and flowers buds cooked as vegetable.
10.	<i>Butea monosperma</i>	Fabaceae	Flower	Nector sucked by children from the nectary.
11.	<i>Capparis decidua</i>	Capparidaceae	Fruits	Ripe fruits eaten as such, unripe ones cooked as vegetable and pickled.
12.	<i>Cassia fistula</i>	Caeselpiniaceae	Flowers	Cooked as vegetable.
13.	<i>Chenopodium murale</i>	Chenopodiaceae	Shoot	Young shoot cooked as vegetable.
14.	<i>Commelina benghalensis</i>	Commeliniaceae	Shoot, Leaves	Young shoot cooked as vegetable or leaves used in curry or "Pakodas".
15.	<i>Cordia dichotoma</i>	Ehretiaceae	Fruits	Ripe fruits eaten as such and unripe ones pickled.
16.	<i>Cucumis callosus</i>	Cucurbitaceae	Fruits	Eaten raw or cooked as vegetable. Fruits are also shade dried and stored for offseason.
17.	<i>Cynodon dactylon</i>	Poaceae	Leaves	Leaves and top tender culms are consumed during scarcity.

18.	<i>Dioscorea alata</i>	Dioscoreaceae	Tubers	Cooked as vegetable.
19.	<i>Diosphyros melanoxyton</i>	Ebenaceae	Fruits	Ripe fruits are eaten.
20.	<i>Euphorbia cauducifolia</i>	Euphorbiaceae	Leaves	Young and fleshy leaves consumed as vegetable.
21.	<i>Ficus religiosa</i>	Moraceae	Mature receptacles	Eaten fondly.
22.	<i>Grewia tenax</i>	Tiliaceae	Fruits	Mature fruits are eaten.
23.	<i>Leucaena latisipliqua</i>	Mimosaceae	Leaves and pods	Young leaves and pods cooked as vegetable in scarcity.
24.	<i>Madhuca longifolia</i>	Sapotaceae	Flowers	Eaten as such and after shade drying, cooked with raw mango fruit.
25.	<i>Mangifera indica</i>	Anacardiaceae	Inflorescence	Inflorescence ground to form chutney.
26.	<i>Maytenus emarginatus</i>	Celastraceae	Fruits	Eaten as such.
27.	<i>Moringa oleifera</i>	Moringaceae	Flower and pods	Fresh flowers and young pods cooked as vegetables.
28.	<i>Nelumbo nucifera</i>	Nymphaeaceae	Petiole and rhizome	Petiole and rhizome cooked as vegetable and also pickled.
29.	<i>Oscimum canum</i>	Lamiaceae	Seeds	Seeds are cooked in milk to make kheer.
30.	<i>Opuntina elatior</i>	Cactaceae	Fruits	Raw fruits are cooked as vegetables and mature ones are eaten as such.
31.	<i>Phoenix sylvestris</i>	Arecaceae	Fruits	Mature fruits are eaten as such or with milk.
32.	<i>Pithocelobium dulce</i>	Mimosaceae	Pods	Mature pods are eaten for sweet and juicy aris.
33.	<i>Prosopis cineraria</i>	Mimosoaceae	Pods	Young pods (sangria) are cooked as vegetable and also preserved for offseasons.
34.	<i>Rumex vesicarius</i>	Polygonaceae	Leaves	Cooked as vegetable.
35.	<i>Salvadora oleoides</i>	Salvadoraceae	Fruits	Fruits eaten and also dried and preserved.
36.	<i>Tamarindus indica</i>	Caesalpiniaceae	Leaves, flowers and fruits	All the three eaten and pulp of the fruits used in curry and drinks.
37.	<i>Wrightia tinctoria</i>	Apocynaceae	Latex	Latex of the stem sucked by children.
38.	<i>Ziziphus mauritiana or Ziziphus nummularia</i>	Rhamnaceae	Fruits	Fruits are eaten, they are dried, preserved and ground to form chutney.

Table 2. List of wild fodder plants used by Meena tribals.

S.No.	Plant's Name	Useful plant part	Condition
1	<i>Acacia leucophloea</i> (Ranjh)	Leaves & Pods	Live
2	<i>Acacia nilotica</i>	Pods	Live
3	<i>Alianthus excelsa</i>	Leaves	Live
4	<i>Boswellia serrata</i> (Salar)	Leaves	Live & Dead
5	<i>Dichrostachys cinerea</i>	Leaves	Live
6	<i>Flacourtia indica</i>	Leaves	Live
7	<i>Lannea coromandelica</i>	Leaves	Live
8	<i>Pithocelobium dulce</i>	Leaves	Live
9	<i>Zizyphus xylopyra</i>	Leaves	Live
10	<i>Phoenix sylvestris</i>	Leaves	Live

(*Zea mays*) or Wheat (*Triticum aestivum*) is boiled, then curd is poured and lastly red chillies (*Capsicum annum*) and salt are added to taste.

Khata –A gruel is prepared from gram flour (*Cicer arietenum*) and sour butter milk.

Laddoos–Balls of compressed sweetened fried flour, *Sesamum indicum* seeds, jaggery, corollas of Mahuwa (*Madhuca longifolia*).

Lapsi – A sweat dish made of wheat flour and jaggery sweet dish.

Malaroti–Mahuwa (*Madhuca longifolia*) corollas or fruits are boiled crushed mixed with flour and kneaded into dough to make bread. In a vessel, bamboo stripes are placed crossing each other to prepare a meshwork, water is poured. The rolled dough is placed on the meshwork. The vessel covered with a *Phoenix sylvestris* leaf mat is placed on fire. The bread prepared is called "Malaroti".

Malido /Choorma–Bread cakes are ground to powder with jaggery or sugar and ghee is added.

Khechada–It is made of ground Bajra, pulse and eaten with sugar.

Raabdi – It is prepared from coarsely ground grain and salted butter milk. A very popular dish among tribals is eaten both times of the day.

Rayto –Butter milk is fried and seasoned with spices.

Rotala–Thick bread.

Tribals use many forest plants as fodder for their live-stock and cattle. A list of plants for this purpose has been mentioned in this report (Table 2). Tribals show over protective attitude towards their cattle. They hardly want

to open their mouth to disclose any thing related to cattle and their feed. They feel that their animals might be smitten by an evil eye so they conceal the facts related their livestock.

The state of Rajasthan is rich in biodiversity. In the present study, about 38 species of wild edible plants and 10 plants species of wild fodder plants in Sawai-Madhopur district were recorded which are generally used by Meena tribe. The economically weaker section of the tribe is more or less dependent on these wild plants now a days. The coarse unpalatable food eaten by tribal people keeps them strong with extra ordinary stamina to sustain the hardships of life.

The edible plants of this area have potential of earning for tribals. The wild edible fruits are good source of minerals, vitamins, proteins, carbohydrates etc, which is probably the secret of the long life and sound health of the tribals. Hence, there is a need for further analysis of the nutritional value of all these wild edibles. There is much scope for improving the growth forms of wild edible plants by using scientific techniques. The popularization of these vast edible diversity in the urban areas can add to new taste and recipes.

A peculiar behaviour was noticed by us that the young women had less information on indigenous knowledge but contrary to this, they were over concerned to conserve their knowledge and biodiversity.

There is an urgent need to carry out the basic research to develop techniques for the conservation of highly useful and threatened species.