

UNIT IV

Wild Plants and Tribals

Introduction

The tribal communities have been largely dependent on the wild plants for various purposes. Several studies have documented this traditional knowledge about wild plants, but mostly related to its dietary and medicinal aspect. Tribals and various ethnic groups all over the world have used these plants for various purposes such as for food, as source of medicines, intoxicants, beverages, dyes, resins, oils, timber, firewood, furniture, making agricultural implements, handicrafts, musical instruments, etc. In addition to these uses, tribal people consider some of these plants as sacred, such plants are worshipped and many have magico-religious beliefs associated with them. Of these plants very few have been commercially utilized, so study of indigenous uses of these wild plants can lead to identification of many new plants as alternative and better sources of food, medicine and for other purposes.

4.1 Edible Wild plants used by tribals:

Consuming wild edibles is part of the food habits of people in many societies and intimately connected to virtually all aspects of their socio-cultural, spiritual life and health. It also plays a major role in meeting the nutritional requirement of the tribal population in remote parts of the country throughout year. Wild food plants play a very important role in the livelihoods of rural communities as an integral part of the subsistence strategy of people in many developing countries. Most tribal communities depend on the wild resources including wild edible plants to meet their basic food needs as well as for additional food supplements. It is estimated that in India about 800 species are consumed as food plants, chiefly by the tribal inhabitants. Tribals collect various parts of the plants growing in forests such as fruits, flowers, seeds, young shoots, leaves, etc which

not only serve as inexpensive food but other useful products are also obtained. The ethnobotanical study of wild edible plants is very significant as it may help to identify the potential sources of alternative food which could be utilized in times of scarcity also and promising plants among these can be selected for cultivation on a larger scale .In ancient Indian literature also there is mention of wild plants used as emergency foods for survival. In India, many studies on wild edible plants have been carried out by different workers in various parts of the country.

List of some common edible plants used by tribals

Botanical name	Family	Local name	Part used	Region where consumed
<i>Achyranthes aspera</i>	Amarathaceae	Apamarg	Tender leaves	Andhra Pradesh
<i>Amaranthus viridis</i>	Amaranthaceae	Bathua	Tender leaves	U.P.,Himachal Pradesh
<i>Basella rubra</i>	Basellaceae	Poi	Leaves	U.P.
<i>Bauhinia purpurea</i>	Fabaceae	Kachnar	Leaves and flowers	U.P.
<i>Chenopodium album</i>	Chenopodiaceae	Chaulai	Leaves and young shoots	U.P. , M.P
<i>Commelina benghalensis</i>	Commelinaceae	Kankauaa	Young shoots	U.P
<i>Cyperus esculenta</i>	Cyperaceae	Gondila	Rhizome	Central India

<i>Dipsacus inermis</i>	Caprifoliaceae	Wopal Haakh	Leaves	J and K
<i>Chlorophytum tuberosum</i>	Liliaceae	Musli	Root tubers	Andhra Pradesh
<i>Coccinia indica</i>	Cucurbitaceae	Kundru	Immature fruits	J and K, U.P., Central India
<i>Stellaria media</i>	Caryophyllaceae	Koku, Kokuwa	Leaves	J and K, Himachal Pradesh
<i>Malva neglecta</i>	Malvaceae	Sonchal	Leaves	J&K, Himachal Pradesh
<i>Calamus erectus</i>	Arecaceae	Bet	Shoot	Assam
<i>Hydrocotyle javanica</i>	Araliaceae	Mani-muni	Whole plant	Assam
<i>Pouzolzia zeylanica</i>	Urticaceae	Ponnanik eera	Aerial part	Kerala
<i>Mucuna pruriens</i>	Fabaceae	Kavanch	Young shoots, tender leaves and seeds	Madhya Pradesh
<i>Carum carvi</i>	Apiaceae	Mako zeera	Leaves, Roots, seeds	H.P.
<i>Cannabis sativa</i>		Bhang	Leaves, tender shoots	Rajasthan
<i>Rumex nepalensis</i>	Polygonaceae	Hebli	Leaves	H.P. , J &K

List of wild fruits used by tribals

Botanical name	Family	Common name	Region
<i>Alangium salvifolium</i>	Alangiaceae	Ankol	U.P., Andhra Pradesh.
<i>Aegle marmelos</i>	Rutaceae	Bel	Central India , Andhra Pradesh
<i>Bauhinia purpurea</i>	Caesalpiniaceae	Kachnar	Madhya Pradesh
<i>Chenopodium foliosum</i>	Chenopodiaceae	Goosefoot	Himachal Pradesh
<i>Ficus semicordata</i>	Moraceae	Nala Dumar	Madhya Pradesh
<i>Phoenix sylvestris</i>	Arecaceae	Khajur, Chind	Madhya Pradesh, Andhra Pradesh
<i>Fragaria nubicola</i>	Rosaceae	Dhul-akhre	Himachal Pradesh
<i>Antidesma acidum</i>	Euphorbiaceae	Chempulinjamarom	Kerala
<i>Kirganelia reticulata</i>	Phyllanthaceae	Abirangi	Manipur
<i>Litsea cubiba</i>	Lauraceae	Sernam	Manipur
<i>Bassia malabarica</i>	Sapotaceae	Illippa, Adiyam	South India

<i>Cissus discolor</i>	Vitaceae	Vallipuli, Kani	South-India
<i>Diospyros melanoxylon</i>	Ebenaceae	Tendu	Madhya Pradesh, Odisha, Rajasthan
<i>Calamus rotang</i>	Areaceae	Beta	Odisha
<i>Cordia dichotoma</i>	Cordiaceae	Bhokar, Lasura.	Rajasthan
<i>Carissa caranda</i>	Apocynaceae	Granda	Rajasthan
<i>Brucea javanica</i>	Simaroubaceae	Heining	Manipur

Some ferns are also consumed as vegetables by tribals in various parts of India e.g. *Helminthostachys zeylanica*, *Lastrea crenata*, *Ophioglossum reticulatum*, *Dryopteris spp.*, etc. In addition to green plants, many mushrooms are also consumed by tribal people e.g. *Morchella esculenta*, *Lycoperdon sp*, *Polyporus arcularius*, *Royoporus spathulatus*, *Pleurotus cornucopiae*, *P. djamor*, *Gyrodontium sacchari*, *Hericium cirrhatum*, *Lentinus patulus*, *L. squarrosulus* , *Fistulina hepatica*, *Auricularia auricular-judae*, etc

4.2 Plants used for preparation of intoxicants and beverages by tribals.

Intoxicants or the beverages consumed by tribals for intoxication are of various types depending upon the plant from which they are obtained and the process of preparation. Women and children also consume these beverages during religious ceremonies or festivals. Moreover these drinks also play a supplementary role for tribal people and are also used in small quantities as medicine for various ailments by different tribes. For example rice beer is used as an intoxicant by most tribals in India and it is also used for medicinal purposes as light tranquiliser, for treatment of fever, dysentery, diarrhea and gynaecological disorders.

Some important sources of intoxicants are:

1. *Borassus flabellifer*

Family: Arecaceae

This plant is commonly known as the 'Asian Palmyra Palm' or 'Toddy Palm' or 'Wine palm'. Sap of this plant is used by the tribals for making an alcoholic drink called 'tadi.' The sap is obtained by tapping the shoot top and collecting in earthen pots. It is fermented before consumption.

2. *Cannabis sativa*

Family: Cannabaceae

A beverage called bhang lassi is prepared from the female flowers especially during festivals. The buds along with leaves are crushed in pestle and mortar, the paste is added to milk or curd and filtered, finally it is flavoured with sugar, fruit and spices. Consumption of this beverage is part of ancient Hindu culture.

3. *Caryota urens*

Family: Arecaceae

Caryota urens is commonly called fishtail palm. 'Salphi' is a traditional beverage obtained from this plant. Salphi plants can be seen growing near every residential area of tribals in Bastar region. Drink is made by making cut in the inflorescence on tree. A plant which is about 20-30 years old is used for producing this liquor and it can produce the same for about 5 to 6 years. About 10 to 12 litres of this liquor is produced per plant in a single day initially but later on the produce decreases. Fresh liquor is preferred for consumption

4. *Eleusine coracana*

Family: Poaceae

An alcoholic drink called 'paise' is prepared from the grains of this plant. A fermented paste prepared from the grains of wheat or maize is used to make this liquor. This beverage is prepared fresh or a day earlier and tribal men as well as women consume atleast one litre per head in the morning before going to fields for work. This drink is said to be very nutritious and tribals do not consume anything after having it.

5. *Ficus hispida*

Family: Moraceae

Country liquor is prepared from this plant by tribals of Orissa. Tribals of Meghalaya use unripe fruit as vegetable. The fruit juice is used for various medicinal purposes also.

6. *Madhuca longifolia*

Family: Sapotaceae

Dried corollas or flower buds of this plant are boiled for a very long time and the filtrate is fermented to obtain an alcoholic drink called 'mahua' which is very popular among the tribals of India. Gond and Kol tribes also use it for treating dysentery.

7. *Oryza sativa*.

Family: Poaceae

Rice beer is popularly known as 'handia' among Bihar, Jharkhand, Orissa Madhya Pradesh and Chattisgarh tribes

whereas it is called 'zutho' by the Naga tribes. This beverage is also very popular among different tribes of India although the method of preparation may vary from region to region. Rice beer is fermented with the help of 'ranu tablets' which are prepared from various plants.

8. *Phoenix sylvestris*

Family: Arecaceae

A beverage locally called 'chhind' is prepared from this palm. This liquor is obtained by making a cut in the pith region at the top of palm when it is 10 – 12 years old. The liquor is collected in a container made from dried shells of fruits of *Lagenaria siceraria* tied with fibres of *Bauhinia vahlii*. During festivals chhind is consumed in cups made from leaves of *Shorea robusta* and *Diospyros melanoxylon*.

9. *Sorghum vulgare*

Family: Poaceae

Tribals of Ladakh and Sikkim prepare an alcoholic beverage called 'chhang' from barley.

In addition to intoxicants, other non-alcoholic beverages such as sherbets and tea are also prepared from wild as well as cultivated plants. These beverages are mainly used as cooling and refreshing drinks or as stimulants

4.3 Plants used by tribals as source of oil.

Allium sativum

Family: Liliaceae

Oil obtained from garlic bulb is rich in sulphur and has strong antimicrobial activity. It is used by Indian tribals for head massage to treat headache and along with other oils it is used to relieve bodyache. Members of Gond tribe use this oil for application to scorpion sting.

Argemone Mexicana

Family: Papaveraceae.

Oil obtained from seeds of this plant is used for medicinal purposes such as to treat stomachache.

Azadirachta indica

Family: Meliaceae

Oil obtained from the seeds is called neem oil which is very aromatic. It is used for treatment of skin problems such as itching, healing of cuts and wounds by the tribals.

Elaeocarpus floribundus

Family: Elaeocarpaceae

Local name for oil obtained from seeds of this plant is bhangkri tel or jalpai. It is used as cooking oil by the tribals, also for skincare and treatment of skin disorders.

Garcinia indica

Family: Guttiferae.

Oil obtained from the seeds is called 'dhokra kand tel' or 'choisy' or 'kokum tel'. It is used by the tribals for skin and hair care.

Madhuca indica

Family: Sapotaceae

Oil is edible, commonly known as 'garang', 'idum' or 'mahua tel'. It is used as hair oil by the tribals and also as lamp oil. Mahua tel is also used for medicinal purposes to treat constipation, piles, rheumatism, headache and skin diseases.

Ricinus communis

Family: Euphorbiaceae

Castor oil obtained from the seed of this plant is used by tribals for treating disorders like rheumatism, constipation and worm infestation. It is also used as skin shiner and for grooming of hair.

Plants used by tribals to obtain resins

Resins can be defined as oxidation products of various essential oils. All the natural resins are of plant origin except lac which is secreted by an insect. Resins can be broadly classified into three categories i.e. oleoresins, gum-resins and hard resins. Oleoresins are soft and oily resins with considerable amount of essential oils. Gum resins are mixtures of gums and resins and have small amount of essential oils. Hard resins are solid, brittle with very little essential oils and no odour. In addition to the commercially known sources of resin, the tribals obtain resins from other plants also which have not been commercially exploited yet.

Important sources of resin are:

Gardenia resinifera

Family: Rubiaceae

Uses: Members of Gond tribe use resin obtained from the stem and buds of this plant as insecticide and repellent for flies. The resin is bitter in taste and is taken orally as anti-helminthic. Resin mixed with coconut oil is applied on head and throat for pain relief.

Boswellia serrata

Family: Burseraceae

The oleo-gum resin obtained from this plant has many commercial uses. The indigenous communities use it for medicinal purposes for curing diarrhea, dysentery, colic, cough, headache, liver complaints, convulsions, bronchitis, asthma, cough, arthritis, jaundice, goitre,

tumours, piles and skin diseases. It is also used in incense. These indigenous uses of this resin when tested clinically have given encouraging results. The Boswellic acid present in this resin has shown analgesic activity in experimental animals and its anti-asthmatic property has also been observed clinically. *Boswellia ovalifoliolata* resin is also used as alternative to *B. serrata* incense by the tribals.

Butea monosperma

Family: Fabaceae

The gum resin is of ethno-medicinal importance and is used as tonic. It has diuretic and astringent properties. It is also used to cure diarrhea, piles and dysentery.

Shorea robusta

Family: Dipterocarpaceae.

Sal resin is applied for relief from chest pain and cramps. It is also useful against cholera, stomachache, diarrhoea, dysentery, gonorrhoea and skin infections. It is also used as incense and for healing of wounds.

Pinus roxburghii

Family: Pinaceae

Besides being commercially important, pine resin has local medicinal uses also. It is used for treatment of boils, bone fractures, swellings, ulcers, urinary complaints and sprains. The resin is also applied for skin disorders, leprosy and for quick healing of cracks in soles of feet. Some tribals also use it against snake bite.

Canarium strictum

Family: Burseraceae

The gum resin is aromatic and is used for incense.

Commiphora wightii

Family: Burseraceae

Resin is used as mosquito repellent and as medicine for asthma, boils and headache. Resin fumes are inhaled to treat nasal catarrh, bronchitis and typhoid.

4.4 Plants used for religious and cultural Practices

Humans have appropriated plants for numerous cultural applications. Since prehistoric times, plants have served as symbolic organisms to represent aspects of the life cycle and seasonal changes, to worship, and to make offerings to gods. Plants are incorporated into mythology and legends to show their meanings to various cultures. The term 'Divine Botany' has been used by Jain while referring to the study of plants associated with different religions and traditions. Plants are associated with all religious faiths of the world and notable works on the aspect include study of plants in Indian Treatises and Traditions by Majumdar, Plants of Bible by Moldenke, Plants of Quran by Farooqi and Plants of the Puranas by Sensarma. There is mention of plants in the Buddhist, Jain and Sikh faiths also.

Studies indicate that certain trees are preferred for plantation in religious places and there are also references regarding use of wood of specific trees for building places of worship or making idols

Some important plants used for religious and cultural practices in India are:

1. Peepal Tree (*Ficus religiosa*)

Peepal tree is one of the most worshipped tree of India and is also popularly known as the Bodhi tree. It is sacred for Buddhist people because it is believed that Gautam Buddha attained enlightenment under this tree. In Hinduism, the peepal tree represents the three supreme gods- Vishnu, Brahma, Shiva. The roots represent Brahma, the trunk represents Vishnu and the leaves of the tree represent Shiva. Peepal tree has its uses

in Ayurvedic medicines as well and is known to treat many ailments. A cloth or thread of red color is tied around the tree to worship it.

2. Banyan tree (*Ficus benghalensis*)

Banyan tree is generally said to be the humble abode of Krishna. Banyan trees are always found either near a temple or there is a shrine below the tree itself. It is also the national tree of our country and has large foliage which provides a vast field of shade. In the scorching summers, many people jaded by the blistering heat take shelter under the shade of the banyan tree.

3. Bael (*Aegle marmelos*)

Bael is a very sacred tree of India and is associated with the almighty Lord Shiva. The bael leaves are always offered to Shiva. The religious ceremonies are considered incomplete if the Bael leaves and fruits are not offered to him.

4. Ashoka (*Saraca indica*)

Ashoka is a very well known evergreen tree which has beautiful and fragrant flowers. The ashoka tree is considered sacred by Hindus, Buddhists and even Jains. In Hinduism, this tree is associated to the God of Love, also known as the Kama Deva.

5. Mango tree (*Mangifera indica*)

The leaves and fruits of the sacred mango tree are used in many religious ceremonies. The mango tree has been cited in the epics like Ramayana, Mahabharata and even in the Puranas. The fruit of the mango tree is an emblem of purity, love and fertility. The leaves of the mango tree are always hung by a string to express the auspiciousness of any occasion.

6. Neem tree (*Azadirachta indica*)

The neem tree is one of the most revered trees in India due to its numerous benefits. Neem has medicinal properties and is used to treat many diseases. It is also associated with goddess Durga and many people believe that neem trees help in keeping evil spirits at bay.

7. Banana tree (*Musa paradisiaca*)

The sacred banana tree is used in many religious ceremonies. The leaves are hanged near the entrance to mark an auspicious occasion and are also used as plates to give prasad. The fruit of the banana tree is offered in religious ceremonies to gods and goddesses, in particular, Lord Ganesha and Lord Vishnu.

8.Coconut tree (*Cocos nucifera*)

In South India, the coconut tree is considered the most sacred tree. Most of the people there have planted this tree in their houses.Coconut is used in many religious ceremonies of the Hindus and is even distributed as prasad.

Kadamb tree (*Anthocephalos cadamba*)

Lord Krishna used to play his flute under the Kadamb tree. All the activites in his childhood, were done near this tree. The kadamb tree is a favorite among many gods and goddesses. Goddess durga is believed to reside in the Kadamba forest.

Tulsi (*Ocimum sanctum*)

Tulsi is one of the most common sacred plants of our country. Many people has tulsi's planted in their backyards. Tulsi is always needed in religious ceremonies and is also popular for its medical applications. Tulsi is loved by Lord Vishnu and in hinduism, tulsi vivaah is a very popular religious practice. Apart from this, yogis wear tulsi beads to purify their mind, body and soul.

Deodar (*Cedrus deodara*)

These are evergreen conifers known for their ornamental value and broadly used as timber. their wood has aromatic smell with red or red-tinged colour and is decay-resistant and insect-repellent.

Among Hindus it is worshipped as a divine tree, particularly in Kashmir and Punjab villages, as the name deodar suggests. The first half of the

word deva means the words divine, deity, deus, and Zeus and the second part connotes durum, druid, tree, and true.

Several Hindu legends refer to this tree. In Valmiki Ramayan Forests full of Devadaru trees were the favorite abode or living place of ancient Indian sages and their families who were devoted to Hindu god Shiva for whom they performed very difficult tapasya (meditation) to please him.

Indian Gooseberry or Amla (*Phyllanthus emblica*)

Phyllanthus emblica or Indian Gooseberry is a species commonly known for its fruit called Amla. The fruit has one of the highest concentrations of Vitamin C more than and thus is reputed as a strong antioxidant. Amla finds uses in many medicinal and cosmetic products, especially those for hair such as hair oils and tonics. Amla fruit is used in Indian cooking mainly as pickles or as mouth-freshners. It is also a constituent of the popular Dabur Chawanprash. It is used in worship of Goddess Lakshmi.

Turmeric(*Curcuma longa*) -

Curcuma longa or Turmeric is a plant with high medicinal and cultural value in India. India is the largest producer of Turmeric in the world. The rhizome of the plant has medicinal properties. It is ground into a powder which is used on several religious occasions in Hinduism. Turmeric paste is applied to the body of the bride before marriage to cleanse the body and make it more radiant. On religious occasions, Turmeric is applied to the forehead of devotees and also the forehead of the statues of gods.