

# Plant Resources of Ethnic Tribes

The indigenous and ethnic people of the world have learnt to live in most hostile environmental condition in this universe. The most interesting feature associated with these indigenous and ethnic has been found that, they live in localities which are immensely rich in biodiversity. It is estimated that about 300 million indigenous people are living in world, out of which nearly half i.e. 150 million are living in Asia, about 30 million of which are living in Central and South America and a significant number of them are living in Australia, Europe, New Zealand, Africa, and Soviet Union. A list of some of these prominent ethnic and indigenous people is presented in table -1. These ethnic and indigenous people have played a vital role in conservation of environmental management and development process as they posse's traditional knowledge which has been useful in Eco-restoration. It has been noticed that these people know how to live with harmony in nature.

In India, 68 million people belonging to 227 ethnic group and comprising of 573 tribal communities derived from six racial stocks namely - Negroid, Proto- Australoid, Mongoloid, Mediterranean, West Breachy and Nordic exists in different part of the country. These ethnic people mostly the indigenous tribals live close in the vicinity of forests and have managed and conserved the biodiversity of their localities since long time. These tribals take shelter from forest and utilize wild edible plants both raw and cooked. The flower and fruits are generally eaten raw where as tubers, leaves and seeds are cooked. Tribals utilize forest produce, forest timber and fuelwood. These tribals are living in forest since ages and have developed a kind of affinity with forests.

India is a country with large ethnic society and has immense wealth due to which it is rich in biodiversity. There are 45,000 species of wild plant out of which 9,500 species are ethnobotanically important species. Of these 7,500 species are in medicinal use for indigenous health practices. About 3,900 plant species are used by tribals as food (out of which 145 species comprise of root and tubers, 521 species of leafy vegetables, 101 species of bulbs and flowers, 647 species of fruits), 525 species are used for fiber, 400 species are used as fodder, 300 species are used in preparation and extraction of chemicals which are used as naturally occurring insecticides and pesticides, 300 species are used for extraction of gum, resins, dyes and perfume. In addition to these a number of plants are used as timber, building material and about 700 species are culturally important from moral, cultural, religious, aesthetic and social point of view of. Indian sub-continent is one of the twelve mega-centres of biodiversity representing two of the eighteen hotspots of biological diversity one occurring in Western Ghat and another in North- Eastern Himalaya. Floristically 141 endemic genera belonging to over 47 families of higher plant occur in India In India 11.95% of the world's biodiversity has been conserved by ethnic people in many ways. Botanical survey of India has reported 46,214 plant species are found in India of global flora of these 17,500 represents flowering plants. Thirty seven of these are endemic and found in North -East of India.

## 1 PLANTS ARE CONSERVED IN NATURAL HABITAT AND IS BEING WORSHIPPED BY TRIBALS AS HOME OF GOD AND GODDESS.

Many plants are conserved in their natural habitat by tribals due to magico - religious belief that they are habitat of god and goddess. The tribal culture prevalent in tribal pockets in Central India has been recorded in Dindori, Balaghat and Mandala districts of Madhya Pradesh and Kawardha and Bilaspur districts of Chhatisgarh states. The survey study reveals that plants and flowers have a profound influence on them. Tribals worship trees and flowers as they believe that God and Goddesses reside in them. A list of such plants is presented in table -2

### LIST OF PLANTS WORSHIPPED AND CONSERVED BY TRIBALS ON ACCOUNT OF MAGICO - RELIGIOUS BELIEF.

SNo	Local Name	Vernacular Name	Scientific Name	Family Name	Name of God and Goddess residing in plants
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1	Aam	Amra	<i>Mangifera indica</i> Linn.	Anacardiaceae	Lord Vidhyadhara
2	Arjun	Arjun	<i>Terminalia arjuna</i> W &A	Combretaceae	Lord Brahma
3	Bijapura	Nibu	<i>Citrus medica</i> Linn	Rutaceae	Lord Brahaspati
4	Bilva	Bel	<i>Aegle marmelos</i> Corr	Rutaceae	Lord Shiva
5	Nimba	Name	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Serpent King
6	Basil	Tulsi	<i>Ocimum santum</i> L	Lamiaceae	Goddess Lakshmi
7	Baka	Agasti	<i>Sesbania grandiflora</i> (Linn) pers	Fabaceae	Lord Narayan
8	Karavira	Kerabi	<i>Nerium indicum</i> Mill	Apocynaceae	Lord Ganesh
9	Nilapadma	Kamal	<i>Nelumbi nucifera</i> Gaertn	Nymphaeaceae	Godess Ambika
10.	Sweta <u>padma</u>	Madar	<i>Calotropis gigantea</i> (L) R.Br	Asclepiadeceae	Lord Shiva

## 2. CROP PLANTS CONSERVED BY TRIBALS AS SOURCE OF FOOD.

The ethnic and indigenous people have conserved several plants and endangered cultivars of agricultural crops such as rice, maize, millets, grains, legumes, fruits and vegetables which have originated under diverse agro-ecological climates in north-east, central and peninsular region of India, the indigenous communities have their abode, e.g. some of these indigenous cultivars of rice such as Pattambi, Champara, Valsana are conserved by Kurichya, Pariyar, Khasi, Jatin and Garo tribes in North East region - Manipur, Meghalaya, Assam and 150 wild cultivars of rice which are conserved by Santhal, Munda, Birhor and Gond tribes of Madhya Pradesh, Chhatisgarh, Orissa, Jharkhand and Bihar. These cultivars are genetically superior than existing cultivated rice varieties in characters like aroma, grain quality, protein content, digestibility and also found resistance to insects, pests and diseases. These varieties are now multiplied by rice breeders and incorporated in All India Co-ordinated Rice improvement programme at Central Rice Research Institute Cuttack and at International Rice Research Institute Phillipines, Manila.

## 3. DIVERSITY OF PLANTS CONSERVED BY TRIBALS AS WILD FRUITS, SEEDS, BULB, ROOTS AND TUBERS FOR EDIBLE PURPOSE -

The ethnic and indigenous people have to depend upon several wild species for fruits, seeds, bulbs, roots and tubers which are used for edible purposes.

### PLANTS CONSERVED BY TRIBALS FOR EDIBLE PUROSE

S.No	Scientific Name	Local Name	Family Name	Uses
1	<i>Aegle Marmelos</i>	Bel	Rutaceae	Fruits are roasted and eaten
2	<i>Amorphosphallus paenonflodium</i>	Suran	Araceae	Petiole/ Bulb as vegetable
3	<i>Achyranthus Asper</i>	Chirchita	Amranthaceae	Tender shoots as vegetable
4	<i>Bauhinia Purpuea</i>	Keolar bhaji	Convolvulaceae	Leaves, Flowers, Seeds as Vegetable
5	<i>Bahhinia vahlii</i>	Sehar	Ceasalpiniaceae	Leaves as Vegetable

6	<i>Dioscorea alta</i>	Dudhia aru	Dioscoreaceae	Tubers as Vegetable
7	<i>Curculigo Orchioides</i>	Kali musli	Amaryllidaceae	Roots and Tubers as vegetable
8	<i>Xylia xylocrpa</i>	Jambu	Mimosaceae	Seeds as vegetable
9	<i>Entada pursaetha</i>	-	Mimosaceae	Seeds as vegetable
10	<i>Dioscorrea bulbifera</i>	ratalu	Dioscoreae	Tubers as vegetable

Tribals follow environmental conservation rule in harvesting edible plants which establishes ecological prudence. Tubers of edible plants like those of *Dioscorea spp.* are harvested by tribals when the leaves of the vine turns yellow and has physiologically matured. The wild tubers are dig carefully avoiding damage to associated species.

#### **4. PLANTS ARE CONSERVED IN NATURAL HABITAT IN FOREST USED AS ANTIDOTE OF SNAKE BITE AND SCORPION- STING BY TRIBAL HERBAL HEALERS**

Many plant species are of great economic importance to tribals as rhizomes of such plants like *Acorus calamus*, stem bark of *Bunchania lanzan*, stem and leaves of *Moringa oleifera*, *Achyranthus aspera*, *Gynandropsis gynandra*, *Bombax ceiba* are being used as antidote of snake - bite and scorpion sting. Paste is prepared from rhizome and applied on wounds. These plants are conserved for above purpose by tribals

#### **5. PLANTS ARE CONSERVED IN NATURAL HABITAT AND USED FOR SETTING BONE FRACTURE AND IN ORTHOPEDIC TREATMENT OF TRIBAL HERBAL HEALERS.**

The root, stem and leaves of some plants are powdered and paste is prepared and applied by tribals on broken bone portions. The paste prepared from of stem and leaves of plants like *Vanda tessala*, *Alternanthera sessiles* and of roots of *Cassia adnata*, *Sida cordata*, *Bauhinia purpurea* etc. are tied for healing of wound for 10 - 15 days on broken bones. These plants are conserved by tribal herbal healers in natural forests for orthopedic treatments.

#### **6. PLANTS CONSERVED BY TRIBALS IN NATURAL HABITAT AND UTILISED AS MEDICINAL HERBS**

Primitive and indigenous people have been using several plants for combating disease from centuries and are found wide acceptance in traditional medicinal use. Plants like *Equisetum ramosissimum*, *Argemone maxicana* are dried, powdered and paste is applied on infested portion of skin and on wounds. Plants like *Bauhinia purpurea*, *Sida acuta*, *Jatropha curcus*, *Grewia hirsutum*, *Albizia lebbeck*, *Capparis deciduas* are conserved as used in muscular pain, cure of fever, headache, and body swelling.

Decoction prepared from roots of *Curculigo orchioides*, *Bombax ceiba*, to cure white discharge in urine of tribal women are also conserved by primitive tribes.

#### **7. PLANTS ARE CONSERVED IN ABONDENED SITES OF SHIFTING AGRICULTURE BY TRIBALS**

The shifting agriculture jhoom practice of cultivation of crops are practiced by ethnic societies in North-East region of India in states of Assam, Tripura, Mizoram etc. in Central India in states of U.P., Maharashtra, Orissa and Chharisgarh and in South India in states of Tamil Nadu, Andhra Pradesh, Karnataka and Kerala. In this practice a forest is cleared by felling of trees and plant bio-mass is burnt and the ashes collected which are source of essential plant nutrients are spread in the fields. After an year of cultivation, the land is abandoned for several years for regeneration of fertility of soil. During

this period the farmers are moved for cultivation in other land. The tribals do not perform complete felling of forest but they retain several useful species of horticultural and agricultural importance such as *Mangifera indica* (Mango), *Citrus spp.* (Orange), *Musa spp.* (Banana), *Phyllanthus embilica* (Goose berry), *Zea mays* (Maize), *Saccharum spp.* (Sugarcane). Several useful plants like *Ardisia polycephala*, *Ardisia cripisa*, *Casearia glomerata*, *Meliosma ipñata*, *Rhus spp.*, *Phoenixx spp.* etc. are colonized at abandoned sites.

## 8. PLANTS ARE CONSERVED IN SACRED GROVES OF TRIBALS AS IN - SITU CONSERVATION OF BIODIVERSITY.

The ethnic people of India have played a vital role in preserving bio-diversity of several virgin forests and have conserved several flora and fauna in sacred groves of tribals, otherwise these flora and fauna might have been disappeared from natural eco -system. The sacred groves are the natural forests which are located in North - East, Central and Peninsular India. The interference of all kind of human activities are prohibited in sacred groves. In sacred grove of Maharashtra in Western ghat, the giant tree *Mangifera indica* (Mango) which is covered by the twiner of *Tinospora sinensis* having hanging stem and looks like trunk of elephant. Due to magico - religious belief the tribals worship mango tree and have conserved these trees in natural eco -system. In western ghat one can find the *Curcuma domestica* the wild herbaceous species growing as carpet along with piper in some rare sights(Vartak,<sup>6</sup>) Some of the plants growing in sacred groves in India are described by Jain <sup>7</sup> are presented in table - 4.

Nutritional evaluation of about 200 wild species of edible purpose has also been carried out in different nutritional laboratories of CSIR, New Delhi. These plants have been collected from tribal areas (Arora <sup>5</sup>). Due to high nutritional value of the most of the plant, it was observed that the tribals who still live in undisturbed forest areas and practice traditional food habits (consumption of wild cultivars and food varieties in forest from different season) are found to be more healthy and free from diseases

Table 4 - PLANTS GROWING IN SACRED GROVES IN INDIA

S.No	Name of plant	Uses
1	<i>Butea monosperma</i>	Medicinal, Dye
2.	<i>Cordia dichotoma</i>	Food, Medicinal
3.	<i>Ravuolfia serpentina</i>	Medicinal
4.	<i>Alstonia scholaris</i>	Medicinal
5.	<i>Helicteres isora</i>	Medicinal
6.	<i>Boswellia serrata</i>	Medicinal
7.	<i>Calotropis gigantean</i>	Medicinal
8.	<i>Carissa congesta</i>	Medicinal
9.	<i>Diopyros Montana</i>	Medicinal
10.	<i>Bambusa arundinacea</i> (wild bamboo)	Miscellaneous

Source: Jain,S.K.<sup>7</sup> Ethnobiology in Human welfare