



THE LOSS OF MEDICINAL PLANT DIVERSITY FROM MAHUR AND KINWAT FOREST RANGES OF NANDED DISTRICT (MAHARASHTRA)

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Abstract:

The sudden or gradual disappearance of a species is known as extinction. Extinction has become the destiny of a great number of plant and animal species from earth due to mans own activities and ignorance. The present paper discusses the gradual disappearance of important medicinal plants of Mahur and Kinwat forest ranges. It also focuses on their present position on the line of extinction. Some of these plants are *Psoralea corylifolia* L., *Soyamida febrifuga* (Roxb.) A. Juss., *Holarrhena antidysentrica* Sensu, *Plumbago æylinica* L., *Hybanthus ennaspermus* (L.), *Homonoia retusa* (Grh.), *Curculigo orchiodes* and *Boswellia serrata* Roxb.

Keywords: Loss of medicinal plants, Mahur and Kinwat forest ranges and Nanded district.

Introduction:

The depletion of biodiversity is an alarming problem all over the world. The sudden or gradual disappearance of a species is known as extinction. Extinction has become destiny of a great number of plants species from earth due to mans own activities and ignorance.

Although species extinction is a natural process that will continue without human intervention, but it is a fact that loss of species is 1,000 to 10,000 times faster than the erstwhile natural rate of extinction.

The conservation of various life forms is not only necessary for our future generation but it is a key to survival and progress of human kind as well as civilization.

There is a global resurgence in the traditional medicinal plants resulting in their excessive exploitation and consecutive depletion.

Marthwada which is one of the 4 divisions of Maharashtra state is having an area of 64,798 square kilometers. The rich plant biodiversity of Marthwada possesses 1,700 Angiospermic plants out of which at least 350 are identified as medicinal plants used in traditional medicine system. (Naik 1998, Rohidas and Bankar 2002).

The medicinal plants are found in Mahur and Kinwat forest ranges of Nanded district, in the present communication discusses the loss of certain important medicinal plants from this area.

Materials and Method:

A continuous survey and observation of medicinal plants was carried out since last fifteen years i.e. 2001 to 2015 from Mahur and Kinwat forest ranges by various workers, (Rathor et.al. 2002).The habitat and

distribution of plants was noted and reasons of decline in population of plants was carefully monitored during the course of time, and the attempt was made to find out to which category these plants are heading i.e. endangered, vulnerable, rare and threatened (Jain and Shashtry 1980) The enumeration presented below include botanical name, family, common name, locations/distribution, medicinal use, probable cause of decline in number and probable category towards which it is heading. The suggestions are also have been made regarding strategy of conservation of these plants, (Zunjarrao R.S.,2003).

Result and Discussion:

Plant Enumeration:

1. *Soyamida febrifuga* (Roxb.) A Juss. (Meliaceae), ROHAN- A tall tree found in Aurangabad, Nanded in Parbhani district. The bark is astringent and having wound healing property. Population decreasing fast due to wood being used excessively for furniture and no replication is done, so likely to become a VULNERABLE species.
2. *Boswellia serrata* Roxb. Ex. *Coleb* (Burseraceae) SALAI- A middle size tree found all over Marathwada. It is a well known source of Ayurvedic drug. The resin of plant is used for rheumatoid arthritis. Cheap timber is made from wood so uncontrolled cutting of plants by tribals and villagers causing a threat. Gradually becoming a THREATENED species.
3. *Holarrhena antidysentrica*. Sensu. Wall. (Apocynaceae) PANDHRA KUDA (Stem bark) INDRAJAW (Seeds) - A small tree

found in Aurangabad, Nanded and Parbhani districts. The bark and seeds are very important source of Ayurvedic drug for stomach disorders, removal of bark for supply to Ayurvedic preparations by local people is main cause of decline in population so turning it into THREATENED species.

4. *Psoralea corylifolia* L. (Fabaceae) BAWACHI- A small herb distributed throughout the region. The roots leaves and seeds used in Ayurvedic medicine for skin diseases. The population is decreasing fast as people feed this plant to cattle and also use for Ayurvedic medicine. But probably main reason is introduction of *Parthenium hysterophorus* L. which has destroyed the habitat of this plant along with many others so it is becoming a THREATENED species.

5. *Plumbago zeylanica* L. (Plumbaginaceae) CHITRAK – A small under shrub distributed in all districts of Marathwada. It is an important drug in Ayurveda. The roots have many medicinal properties and so extensively exploited by tribal so natural population is declining in all districts so becoming a THREATENED species from natural habitat.

6. *Hybanthus enneaspermus* (L.) F.Muell (Violaceae) RATAN-PURUSH- A small diffused herb found throughout Marathwada except Aurangabad district, extensively used by local medicine man for variety of diseases particularly as aphrodisiac. A rapid decline in population due to over exploitation and also due to introduction of *Parthenium hysterophorus*, heading to become a THREATENED species.

7. *Homonoia reusa* (Grh.) Muell. (Euphorbiaceae) PASHAN BHEDA- A small rigid herb found only in Nanded district Ethno botanical used include use of fruits and leaves in skin diseases and childrens diseases used extensively by local medicine man, population is declining rapidly due to this reason and so it is becoming a RARE species.

8. *Curculigo orchioides* Garten (Hypoxidaceae) KALI MUSLI- A perennial herb with stout elongated tuberous rootstock and fleshy root fibers. It is used fresh or s dried tuber. It is used singly or with combination of other herbs as emollient, appetizer and antipyretic. It is also useful in piles, bronchitis and liver problems. It is used as diuretic and considered as good aphrodisiac (Ramawat et. Al. 1998). The tribal and local medicine men collect the tubers in large quantity hence the decline in population probably already declared as ENDANGERED species.

9. *Hemidesmus indicus* (L.) R.Br. (*Periplocaceae*), ANANTHAMOOLA- It is a slender, laticiferous, twining, sometimes prostrate or semi-erect shrub. Roots are woody and aromatic. The stem is numerous, slender, thickened at the nodes. The leaves are opposite, short-petioled, very variable, elliptic-oblong to linear-lancelet. The flowers are greenish outside, purplish inside, crowded in sub-sessile auxiliary cymes. Is used to make beverages and also used in traditional medicine .It is administered in the form of powder, infusion or decoction as syrup. The extracts from the root are used as a coolant and a blood-purifier and also used in many other forms, especially as refreshing syrup with sugar and a dash of lemon (Sharbat), Population decreasing fast due to being used excessively no replication is done, so likely to become a VULNERABLE species.

10. *Withania somnifera* (L.) Dunal (Solanaceae), ASWAGANDHA- is a perennial shrub Height: usually 30-60 cm but can grow up to 170 cm, upright and stout shrub with central stem, branches star-shaped branching are covered in fine hairs, leaves alternate and ovate, up to 10 cm long and up to 5 cm wide, flowers yellow petals on the inside but with a green outer-covering layer, fruit red berries in papery protective covering (calyx). Roots long, fleshy tubers. It is used as General tonic and "adaptogen", helping the body adapt to stress, especially for geriatrics, to promote strength and vigor, used as sedative or calming agent and for insomnia, the species Latin name "somniafer" means "soporific"/"tending to cause sleep", Sexual vitality and Liver tonic.A rapid decline in population due to over exploitation, so likely to become a VULNERABLE species.

11. *Bombax ceiba* Linn. (**Bombacaceae**), **KATSEVIRI**-It grows to an average of 20 meters, with old trees up to 60 meters in wet tropical regions. The trunk and limb bear numerous conical spines particularly when young, but get eroded when older. The leaves are palmate with about 6 leaflets radiating from a central point, an average of 7-10 centimeters wide, 13-15 centimeters in length. The leaf's long flexible petiole is up to 20 cm long. Cup-shaped flowers solitary or clustered, axillary or sub-terminal, fascicles at or near the ends of the branches, when the tree is bare of leaves, an average of 7-11 centimeters wide, 14 centimeters in width, petals up to 12 centimeters in length, calyx is cup-shaped usually 3 lobed, an average of 3-5 centimeters in diameter. Staminal tube is short, more than 60 in 5 bundles. Stigma is light red,

up to nine centimeters in length, [ovary](#) is pink, 1.5~2 centimeters in length, with the skin of the ovary covered in white silky hair at 1mm long. Seeds are numerous, long, ovoid, black or gray in colour and packed in white cotton. The fruit, which reaches an average of 13 centimeters in length, is light-green in color in immature fruits, brown in mature fruits. Spikes on stem can be ground and applied to face for treatment against acne, bark extracts are also helpful in the treatment of gastrointestinal disorders like dysentery and diarrhea and is administered for the treatment of sexual and gastrointestinal disorders. Population decreasing fast due to excessively used by tribal's of this area and no replication is done, so likely to become a VULNERABLE species.

12. *Aegle marmelos* (L.) Corr. (Rutaceae), BAEL-It is a mid-sized, slender, aromatic, armed, gum-bearing tree growing up to 18 meters tall. It has a leaf with three leaflets, Flowers white, fragrant, in auxiliary panicles. Sepals and petals 5 each. Stamens numerous. Ovary more than 10 locular, ovules numerous per locule, axile. Berries ovoid or globose, woody, seeds numerous, oblong. Fruit takes about 11 months to ripen on the tree and can reach the size of a large [grapefruit](#) or [pomelo](#), and some are even larger. The shell is so hard; the fibrous yellow pulp is very aromatic. Numerous hairy seeds are encapsulated in a slimy [mucilage](#), the fruit and used to treat [tuberculosis](#) and loss of appetite. They are prescribed in a number of ailments such as gastrointestinal diseases, piles, oedema, jaundice, vomiting, obesity, pediatric disorders, gynecological disorders, urinary complaints and as a rejuvenate. The leaves are used in large scale for pooja at Mahur ghad temples and in other temples of this area area and no replication is done, so likely to become a VULNERABLE species.

Discussion

The observations indicate that the decline in population of these medicinal plants is mainly due to over exploitation by tribal and local people due to ignorance, the large number of cattle herds grazing the ground flora, introduction of exotic species like Parthenium. The gradual decline in population makes it later on as a threatened, rare, vulnerable and lastly endangered species which finally becomes extinct (Jain 1976). One of the plants *Curculigo orchivides* Garden is already declared as endangered species. The important conservation strategies in this regard are implementation of awareness programmes

evolving tribal/local people through NGO's using sources like school children. In-situ, conservation by dispersing seeds in their natural habitat and in case of rare medicinal plants protection and propagation by recent biotechnological techniques of tissue culture suggested, (Ramawat K.G. et. al., 1998).

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