Traditional Ethnobotanical Practices and Biodiversity Loss in Jalgaon District (Maharashtra: India): A Review

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ABSTRACT

Jalgaon district of Maharashtra State is mainly agrarian but inhabited by some tribal and non-tribal people. They depend partially on minor and major forest products for their daily needs in different seasons. As many as 32 plant species belonging to 28 genera and 22 angiosmermic families generally found in wild are presently considered for their status and ethnobotanical practices in this district. They utilize plants for various purposes. Some plant species are being over exploited such as: (i) underground parts (04 species), leaves (04 species), flowers and inflorescence axis (02 species), fruits (10 species), seeds (01 species), fodder (12 species) and timber (08 species). All these plant species grow wild and are threatened. It is a dire necessity to a make the local inhabitats aware about their unsustainable traditional practices to check further deterioration and dwindling of plant-wealth. There is an urgent need to develop sustainable relationship between native people and forests.

Keywords: Ethnobotany, Biodiversity Loss, Jalgaon District.

INTRODUCTION

The district of Jalgaon in the northern part of Maharashtra state lies between 20° and 21° north latitude and 74°55' and 76°28' longitude. It is situated in Tapi basin. It is separated from neighboring. Madhya Pradesh state by Satpura and from the south by Satmala hilly ranges. Some ranges of Western Ghats extend in the eastern side of the district. The trap rocks occur in the district and the soil is deep brown rich red or black. The forests are tropical, dry deciduous type. It is mainly monsoon fed region. The population is mainly non-tribal and agrarian. Some tribes also inhabit in hilly forested areas viz., Bhils, Pawara, Vanjara and Tadvi. The ttibals have to depend partly on forest sources. The district has been botanized floristically and ethnobotanically (Kshirsagar and Patil, 2008); Pawar and Patil, 2008). The present authors also subsequently verified the traditional practices especially related to over-exploitation. These observations are the subject-matter of this account.

METHODOLOGY

Field work was conducted to obtain ethnobotanical information in different seasons. Data has been gathered w.r.t. plant part used, purpose of use (Medicinal or miscellaneous), vernacular plant name etc. The plant species are deciphered consulting the floras viz., Cooke (1958), Sharma et al. (1996), Singh et al. (2000, 2001), Patil (2003), Kshirsagar and Patil (2008). The present account is mainly directed towards biotic interference in the region on account of traditional practices. The information so obtained is interpreted relevantly in this communication.

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Systematic Enumeration:

Underground Parts:

1.	Cleanatis heynei M.A.Rao (Runanculaceae) Ranjai Use: (i) Root juice drunk against haematuria in Jalgaon district. (ii) Pulp of newly growing roots consumed raw in Jalgaon district.
2.	Pueraria tuberosa (Roxb. et Willd.) DC. (Papilionaceae) Bhui-Kohla. Use: (i) Powder of tubers advised to increase lactation of mother and also to treat pregnancy. (ii) Flour of tubers used while preparing breads in Jalgaon district.
3.	Ensete superbum (Roxb.) Cheesm. (Musaceae) Rankela Devkel Use: Flour obtained from rhizome is used for preparing bread in Jalgaon district.
4.	Dioscorea oppositifolia L. (Dioscoreaceae) Kand Use: Tubers are boiled and consumed in Jalgaon district.

Leaves:

1.	Butea monosperma (Lam.) Taub. (Papilionaceae) Palas, Khakra Use: Green leaves used to make dinner plates and bowls, also sold in markets in Jalgaon district.
2.	Terminalia bellirica (Gaertn.) Roxb. (Combretaceae) Behada Use: Leaves are used for making dinning plates and dishes in Jalgaon district.
3.	Diospyros melanoxylon Roxb. (Ebenaceae) Tendu, Tembhurni Use: Leaves are used for bidi-wrapping and sold in market in Jalgaon district.
4.	Ensete superbum (Roxb.) Cheesm. (Musaceae) Rankel, Dev Kel Use: Leaves used as dinner plate in Jalgaon district.

Flowers:

1.	Butea monosperma (Lam.) Taub. (Papilionaceae) Palas, Khakra Use: Flowers used as vegetable in Jalgaon district.
2.	Ensete superbum (Roxb.) Cheesm. (Musaceae) Rankel, Dev Kel Use: Flower buds and inflorescence axis used as vegetable in Jalgaon district.

Flowers:

1.	Capparis zeylanica L. (Capparidaceae) Waghati Use: Pericarp of unripe fruits consumed as vegetable in Jalgaon district.
2.	Capparis decidua (Forsk.) Edgew. (Capparidaceae) Kardu Use: Fruits used for vegetable and also pickled in Jalgaon district.
3.	Ziziphus rugosa Lam. (Rhamnaceae) Toran Use: Fruits consumed when ripe in Jalgaon district.
4.	Leea asiatica (L.) Ridsdale (Vitaceae) Lahan Deni Use: Ripe fruits consumed in Jalgaon district.
5.	Sapindus emarginatus Vahl (Sapindaceae) Ritha Use: Fruis used for hair washing and sold in markets.
6.	Rhus sinuata Tunb. (Anacardiaceae) Amoni Use: Fruits are edible and sold near schools.
7.	Terminalia bellirica (Gaertn.) Roxb. Combretaceae Behada Use: (i) Fruits collected on large scale and sold in markets. (ii) Its Kernels also consumed by local people in Jalgaon district.

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8.	Meyna laxiflora Robins (Rubiaceae) Awali Use: Ripe fruits are consumed in Jalgaon district.
9.	Garuga pinnata (Roxb.) (Burseraceae) Kokad, Kokod Use: Fruits are pickled in Jalgaon district.
10.	Diospyros melanoxylon Roxb. (Ebenaceae) Tendu Use: Ripe fruits are consumed.

Seeds:

1.	Sterculia urens Roxb. (Sterculiaceae) Kadai Use: Seeds eaten raw or after roasting or cooking in Jalgaon district.

Fodder:

1.	Capparis zeylanica L. (Capparidaceae) Waghati Use: Leaves are fed to goats in Jalgaon district.
2.	Flacourtia indica (Burm. f.) Merr. (Flacourtiaceae) Par-bor Use: Leaves are fed to goats in Jalgaon district.
3.	Pueraria tuberosa (Roxb. ex Willd.) DC. (Papilionaceae) Bhui-Kohla Use: Green foliage and tender twigs are fed to cattle in Jalgaon district.
4.	Meyna laxiflora Robins (Rubiaceae) Awli Use: Leaves are fed to domestic animals in Jalgaon district.
5.	Kydia calycina Roxb. (Malvaceae) Sheenkar Use: Leaves are used as fodder for pet animals in Jalgaon district.
6.	Garuga pinnata Roxb. (Burseraceae) Kakad, Kakod Use: Leaves and tender shoots are used as fodder for domestic animals in Jalgaon district.
7.	Dalbergia paniculata Roxb. (Papilionaceae) Sisum, Satpudya Use: Leaves are used as fodder for cattle in Jalgaon district.
8.	Ougeinia oojeinensis (Roxb.) Hochr. (Papilionaceae) Tiwas, Kala-palas Leaves: Leaves are used as fodder for domestic animals in Jalgaon district.
9.	Haldina cordifolia (Roxb.) Ridsd. (Rubiaceae) Haldu, Haldwan Use: Leaves are fed to cattle in Jalgaon district.
10.	Mitragyna parvifolia (Roxb.) Korth. (Rubiaceae) Kalam Use: Leaves are fed to domestic animals in Jalgaon district.
11.	Ehretia aspera Willd. (Ehretiaceae) Tambulya, Datarangi Use: Leaves are used as fodder for domestic animals in Jalgaon district.
12.	Ficus arnottiana (Miq.) Miq. (Moraceae) Amsa Use: Leaves are fed to cattle in Jalgaon district.

Timber:

1.	Mitragyna parvifolia (Roxb.) Korth. (Rubiaceae) Kalam Use: Wood is used for hut and house construction and also for agricultural implements in Jalgaon district.
2.	Cassine albens (Retz.) Kosterm. (Celastraceae) Bhutyapalas Use: Wood is used for various purposes.
3.	Ougeinia oojeinensis (Roxb.) Hochr. (Papilionaceae) Tiwas, Kala-Palas Use: Wood is employed for making bullock-carts in Jalgaon district.
4.	Terminalia bellirica (Gaertn.) Roxb. (Combretaceae) Behada. Use: Wood is used for making ploughs and bullock-carts in Jalgaon district.

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5.	Careya arborea Roxb. (Barringtoniaceae) Kumbhi Use: Wood is used for making agricultural implements in Jalgaon district.
6.	Alangium salvifolium (L.f.) Wang. (Alangiaceae) Ankol, Akali Use: Wood is used for house construction and agricultural implements in Jalgaon district.
7.	Haldina cordifolia (Roxb.) Ridsd. (Rubiaceae) Haldu, Haldwan Use: Wood is employed for house construction, doors and windows in Jalgaon district.
8.	Bridelia airy-shawii P.T.Li (Euphorbiaceae) Asan Use: Wood is used for making house-past, rafters and bullock-carts in Jalgaon district.

RESULTS AND DISCUSSION

The district of Jalgaon is a part of Khandesh region of Maharashtra State. It has been investigated in past and some taxa have been mentioned in these accounts (cf. Blatter and MeCann, 1935; Cooke, 1958; Puri et al., 1960; Jaini and Deshpande, 1964; Sharma et al. 1996; Patil, 1990). However, as an exclusive topic of research in floristics, Kshirsagar and Patil (2008) investigated floristically and documented 813 plant species pertaining to 442 genera and 105 families in Jalgaon district. Later on, Jalgaon district is inventorised ethnobotanically and recorded first-hand information plant uses belonging to 390 taxa, 310 genera and 96 families (Pawar and Patil, 2008). Thus flora of Jalgaon district is well studied floristically and as well as for traditional ethnobotanical practices. The present authors paid repeated visits in this district and verified the traditional utilities particularly which are being over-exploited.

India is well acknowledged for its richness in floristic, ethnic and cultural diversity. Obviously, India is one of the greatest emporia of traditional knowledge. Ethnobotanical studies in India although are initiated in recent time but can be traced since Vedic period. It is certain that 'Ethnobotany' is a distinct branch of natural sciences and is the first knowledge system which primitive human-beings acquired by sheer necessity, observations, experimentation and perceptions. This has been also the experience of the present authors while investigating traditional practices in Jalgaon district of Maharashtra.

Information regarding about traditional plant utilities are carefully documented with particular emphasis on vernacular plant name, part used, and purposes of daily necessities of the inhabitants of Jalgaon district. They exploited underground as well as aerial parts or even entire plants. It has been observed that total 04 species belonging to 04 genera and 04 families in wild were exploited extensively for their underground organs such as adult roots, newly growing roots, tubers and rhizomes. While doing so, complete plants are rooted out. Although the users obtained their necessary plant parts, other plant parts are thrown outside and thereby truly killed. These plant taxa are now facing a precarious state in the said district.

Total 04 species are exploited for their foliage. Leaves are very important organs as they carry on photosynthetic activity and as such are essential for plant-life. These are being collected in large amounts for different purposes e.g. dinner plates and bowls or dishes, bidi-wrapping, etc. These are sold in local markets. They are exploited nearly in all seasons and as such affect their phenological periods. No luxuriant growth is observed in case of these taxa.

Flowers are absolutely essential parts of plants in view of their reproduction and propagation. Flowers of two plant specie viz., B.monosperma (Lam.) Taub. And Ensete superbum (Roxb.) Cheesm. are used as vegetable. The latter species is presently rendered rare and endangered in this district. Only few individuals growing in inaccessible places are surving. The former one is also in a precarious state. Likewise, fruits (10 species) are collected for various purposes such as vegetable, hair washing and cherished when raw or ripe. Many of these are sold in local markets. This practice is an impediment in fruit dispersal in nature and is responsible for their decreasing populations in the region. As many as 10 species belonging to 09 genera and 09 families are victims of human greed. The case of tree viz., Starculia urens Roxb. is not different. Their seeds are cherished raw and very few individuals are inhabiting in the said district.

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The tribal and non-0tribal people also rear some cattle. Many of them have very small land holding for agriculture or even landless. In such circumstances, they have to depend on forest produce. A total of 12 species belonging to 12 genera and 08 families constitute sources of fodder. These are mostly tree species, except Pueraria tuberosa (Roxb. ex willd.) DC. Huge quantities of foliage are collected daily in all seasons. This is the reason for their rarity in the district.

The local inhabitatnts raise their huts, houses and sheds for cattle. Total 08 tree species belonging to 08 genera and 07 families are being utilized as timber. Entire trees fell down. This is also a reason for their rarity in the region. Many of them cut down prior to their flowering and fruiting. Natural regeneration is discontinued and affect their populations.

Hooker and Thompson (1853) regarded Khandesh region, Jalgaon district is part of its, a botanically distinct sub-province. It is to be noted that sustainability was ingrained in thought process and traditional practices in this region as in ancient Indian culture. In past, the population increase, natural calamities bioinvasion, over population, development processes and trade in modern period accelerated the rate of forest denudation and even depletion of plant species. Many of the inhabitant tribes perforce depend on forest produce for their daily necessities of life. The present precarious condition of the plant species in wild and natural habitats is on account of traditional practices. There is a dire necessity to make them aware about their practices and plant wealth in their vicinity.

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