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AN ASSESSMENT OF HIGH COMMERCIAL VALUE, EXTREMELY USEFUL TAXA OF LEGUMINOSAE FAMILY WITH SPECIAL REFERENCE TO CONSERVATION PRIORITIZATION IN JABALPUR REGION

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Present study enumerates high commercially valuable and extremely useful leguminous plants along with conservation status and out of 17 species, 3 are critically endangered, 5 endangered and 8 vulnerable. Papilionaceaus plants are *Abrus precatorius, Butea monosperma, Dalbergia latifolia, D. paniculata, D. lanceolaria, Erythrina suberosa, Mucuna pruriens, Pueraria tuberosa*; 3 are Caesalpiniaceae *Bahunia variegate, B. vahlii, Cassia javanica* and 5 Mimosaceae species are *Acacia catechu, Albizia lebbeck, Neptunia triquetra, Prosopis juliflora, P. cineraria.* All these plants are commercially used for different purposes like medicinal, timber, furniture, packing of transportation and also used by native people in the study area. These plants should be cultivated and planted immediately for conservation prioritization.

Keywords : Conservation; Commercial; Extremely useful.

Introduction

Jabalpur is located by 230-10 ^{0} North and 79^{0} 57^{0} East and 402 meters high above mean sea level, it is one of the largest district of Madhya Pradesh, is the head quarter of Revenue division. The area of the district is 10,160 sq. km. with of population 2,460,714 of which male and female were 1,278,448 and 1,182,266, respectively (2011 census). Jabalpur District is located in the Mahakoshal region of Madhya Pradesh, on the divide in between the watersheds of Narmada. It is situated on National Highway No. 7 (N.H. 7). The centre point of India, Karondi is situated 60 km. towards North East of Jabalpur.

The vegetation of Jabalpur forest division is climatically' mainly of tropical type and can be broadly classified into deciduous, dry and mixed types. Before the organization of Katni district, forest of Jabalpur occupy an area of 2319.12 sq. km. by dividing in six ranges - Jabalpur 241.10 sq. km., Katni 417.17 sq. km., Barhi 349.18 sq. km., Bargi 291.65 sq. km. and Kandam 481.92 sq. km. But after the separation of Katni as new district in 2000, Jabalpur forest division with Jabalpur, Sihora and Bargi occupies the 1551.78 sq.km. area under reserve and protected forest. Forest occurs in the southern eastern and Northern eastern part of Jabalpur district mainly on hilly slopes and grounds. The Jabalpur forest in classified into three types, Sal Forest and Teak Forest and Mixed Forest.

Threatened species are any species (including animals, plants, fungi, etc.) which are vulnerable to endangerment in the near future. The World Conservation Union (IUCN) is the foremost authority on threatened species, and treats threatened species not as a single category, but as a group of three categories, depending on the degree to which they are threatened : Vulnerable species, Endangered species, Critically endangered species. Species that are threatened are sometimes characterised by the population dynamics measure of critical depensation, a mathematical measure of biomass related to population growth rate. This quantitative metric is one method of evaluating the degree of endangerment.

Less-than-threatened categories are near threatened, least concern, and the no longer assigned category of Conservation Dependent. Species which have not been evaluated (NE), or do not have sufficient data (Data Deficient) also are not considered "threatened" by the IUCN. In the present study plants were categorized according to Red List categories[1] of IUCN version 4.0 (2001-2012). The list of plants which have been considered as CR- Critically Endangered, EN-Endangered, VU-Vulnerable are given on the basis of frequent survey and available literature.

Material and Methods

The present study is the result of planned explorations during 2009-2012. Frequent field surveys were undertaken in different seasons to collect the plants species. Herbarium

Table 1. List of high commercial value and extremely useful leguminous plants with their conservation status in Jabalpur Region.

S.No.	Botanical name	Regional Name	Habit	CS	Sub-Family
1.	*Abrus precatorius* L.	Gumchi, Ratti	C	EN	Papilionaceae
2.	*Butea monosperma* Lam. Taub.	Palash, Teshu	T	VUL	Papilionaceae
3.	*Dalbergia latifolia* Roxb.	Safed Shisham	T	EN	Papilionaceae
4.	*Dalberiga paniculata* Roxb.	Dhobin	T	VUL	Papilionaceae
5.	*Dalbergia lanceolaria* (L.F.)	Dhamosi	T	EN	Papilionaceae
6.	*Erythrina suberosa* L.	Gadha palash	T	CR	Papilionaceae
7.	*Mucuna pruriens* L. Dc. Prodr.	Kauch	H	EN	Papilionaceae
8.	*Pueraria tuberosa* Roxb. ex. Wild.	Bidari kand	C	VUL	Papilionaceae
9.	*Indigofera cassioides* Rttler, Ex. DC	Neel	S	NT	Papilionaceae
10.	*Bahunia variegata* L. Sp.	Kachnar	T	VUL	Caesalpiniaceae
11.	*Bahunia vahlii* Wight and Arn.	Mahul patta	C	EN	Caesalpiniaceae
12.	*Cassia javanica* L. Sp.	Java cassia	T	VUL	Caesalpiniaceae
13.	*Acacia catechu* (L.f.) Wild Sp.	Khair	T	VUL	Mimosaceae
14.	*Albizia lebbeck* L. Benth.	Siris	T	VUL	Mimosaceae
15.	*Neptunia triquetra* Benth.	Lajalu	H	CR	Mimosaceae
16.	*Prosopis juliflora* SW. DC. Pro.	Khejra	T	VUL	Mimosaceae
17.	*Prosopis cineraria* (L.). Druce.	Shami	T	CR	Mimosaceae

Threatened categories : CR - Critically Endangered; EN-Endangered; VU - Vulnerable; CS-Conservation status; Habit-Herb (H), Shrub (S), Climber (C), Tree (T).

specimens were prepared by using the guide line suggested by Jain and Rao[2]. Frequent trips to the forest near the forest area were made, for obtaining the complete specimen in flowering and fruiting stages. The collected specimens were allotted due field number and pressed properly for drying, all the features of the plant are visible. Herbarium specimens were identified with the help of standard floras, Hooker[3], Oommachan[4], Oommachan and Shrivastava[5], B.S.I.[6], (Madhya Pradesh Vol. I-III. 1993-2001), Khanna *et al.*[7]. Sources of information about the plants obtained in different ways *i.e.* through available literature, local and district market, forest staff, plant collectors, and Anthropologists. The plant species were identified and systematically arranged in Herbarium cum Museum, Department of Biological Science, Rani Durgawati Vishva Vidyalaya, Jabalpur for further record and references.

Result and Discussion

High commercial value Leguminous plants given in Table 1. Out of 17 species critically endangered 3, endangered 5 and vulnerable 8 plants commercially used for different purposes like medicinal, timber, furniture, packing of transportation and also used by native popole of study area. 7 species are in Papilionanceae, 3 are in Caesalpiniaceae and 4 in Mimosaceae. Extremely useful Leguminous plants out of 17, three species are critically endangered, 5 endangered and 8 vulnerable. Papilionanceous plants are *Abrus precatorius, Butea monosperma, Dalbergia latifolia, D. paniculata, D. lanceolaria, Erythrina suberosa, Mucuna pruriens, Pueraria tuberosa;* 3 are Caesalpiniaceae *Bahunia variegate, B. vahlii, Cassia javanica* and 5 in Mimosaceae species are *Acacia catechu, Albizia lebbeck, Neptunia triquetra, Prosopis juliflora, P. cineraria.* All these plants should be cultivated and planted immediately for conservation prioritization.

During the course of survey we assume that a major proportion of tribal population has now come in the influence of the undercurrent of the developing society. In the process these people have developed a temptation for the over-exploitation of natural resources, with a view to earn more and more money. Thus, they have adopted destructive methods for harvesting valuable NWFPs and medicinal plants. Some of the commercially known medicinal plants threfore are being awfully rooted out from the forest area and are sold to the local middlemen or agents of various outside pharmaceutical industries and dealers. This tendency of the people may also be treated as an attribute to loss of natural wealth. There is no scientific system of collection or harvesting technique for the sustenance of these valuable resources as a result of which many of these plants have become endangered.

Due to higher market demand, over exploitation

and destructive harvesting of medicinal plants through local people of this area, many commercially important NWFPs and medicinal plants are now getting locally rare and endangered and are on the verge of extinction. In view of the richness of valuable NWFPs in this area a mechanism should be developed to control destructive harvesting practices. Thus, there is need to aware and motivate the people for non-destructive harvesting of valuable medicinal plants.

Conservation measure- Local people should be made aware of threatened species, causes of threat and consequences of their species, causes of threat and consequences of their decline to society through pamphlets, photographs, rally, competition, debate, media etc.

Involvement of local healers, vaidya and knowledgeable persons in conservation programmes like seed dispersal, planting and awareness campaign training and implementation of health and sanitation schemes etc. Employing local people in indentification of species, documentation of their local distribution pattern, assessment of area of occupancy and extent of occurrence.

Extensive awareness programmes for biodiversity conservation, its value in ecosystem function and services in local schools and colleges. Biodiversity programmes should not only be restricted to threat or extinction to species as it has broader perspective on which human beings depends. CR, EN, VUL, species should be protected in their wild habitat and species recovery programme should also be taken up in new habitats with local people involvement.

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