Study of Some Fodder and Fuel (2f's) Based Plants of Sariska Tiger Reserve in Aravallis

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Abstract: **The Sariska tiger reserve in Aravallis has its own importance and specific characteristics endowed with unique biodiversity. In the present study an attempt has been made to ascertain the current status of plant species which is used as economic important plants for the sustenance of livelihood of local peoples inside and outside the reserve. Attention is focused on one of the important reserve forest of state of Rajasthan with pace of their endemism and facing number of challenges in this reserve. Several studies so far conducted in Aravallis like Nair and Nathawath1957, Dennis etal1977, Sharma 1978, 1983, Parmar1985, Rogers1988, 1990, 1991, Khan1995 which supported checklist of plant diversity in this natural reserve with their economic uses at local, besides this in other region studies like Samant and Dhar1997, Joshi 2000, Gamble 1884, Ghate 1939, Legris and Meher Homji,1982 on the prospects and valuation of biodiversity in form of fodder and fuelwood plants as the source of income and the livelihood**

Keywords: Biodiversity, Sariska tiger reserve, Aravallis fodder and fuel important plants

I. INTRODUCTION

According to the Champion and Seth (1968) the forest of Aravalli region falls under the broad category of Tropical Dry forests. Study area the "Sariska Tiger reserve" (74°14´ to 76° 34´ N and 25° 5´ to 27° 3´ E) is situated in the Aravalli hill range and lies in the semi-arid part of Rajasthan (Rodgers and Panwar, 1988). It became a wild life sanctuary in 1955 and Tiger reserve in 1982. According to Department of Forest, Government of Rajasthan the total area of the Sariska Tiger Reserve is 866 sq.km, of which 302.2 sq. km. is buffer zone and 497.8 sq.km is core zone. Sariska core zone is comprised of three isolated; pockets: Core-I (273.8 sq.km), II (126.5 sq.km.) and III (97.5 sq.km). The status of the Core I has been notified as a National park in 1982. Sariska is undulating to hilly and has numerous narrow valleys. Kiraska and Kankwari plateau and two large lakes Mansarovar and Somsagar. Silisad lake is situated just along the north eastern boundary of the reserve. The altitude of Sariska varies from 540 to 777 meters. The vegetation of Sariska correspond to Northern tropical dry deciduous forests (sub group 5 B; 5/E I and 5/E2) and Northern tropical thorn forest (Sub Group 6 B) (Champion and Seth, 1968). The forest being scattered and sparse over a large area on various geological and soil formation and vary greatly in composition. Sariska is very rich in biodiversity with wide spectrum of flora and ample of wild life. The main economically valuable species are dhok (*Anogeissus pendula*) salar (*Boswellia serrata*), khair (*Acacia catechu*), bamboos (*Dendrocalamus strictus*), dhak (*Butea monosperma*), kair (*Capparis decidua*), ber (*Zizyphus mauritiana*) with having lot of ground flora comprised of shrubs, herbs, grasses and sedges etc.

Map of Sariska Tiger Reserve in Aravallis

II. MATERIAL AND METHODS

Personal observations were taken in the field by visiting the study area and its different landforms. It was a great help that the field staff of Sariska Tiger Reserve, Department of Forest, Government of Rajasthan was associated always in the field. Plant samples (leaf, flower etc.) were brought to Indira Gandhi Centre for Human Ecology, Environmental and Population Studies, herbarium sheets for important species were prepared and help and cooperation was sought from the "Herbarium" of Department of Botany, University of Rajasthan, Jaipur for finding out their feasibility of uses as forest products. Interview has been taken for counter check of their utility by local dwellers inside or outside the reserve. The inventorization of such species and their parts utilize checked by literature authentically.

III. RESULT AND DISCUSSION

Analysis of interview schedule has revealed that there is large number of plant species with economic value termed as minor forest products. Plant species are utilized for variety of purposes. Table (a) includes a list of twenty one plants species which are providing fodder. In which six and maximum number from Mimosaceae family,three species from Rhamnaceae , Combretaceae and one each from Paplionaceae, Simaroubaceae ,Caesalpiniaceae Ehretiaceae, Tilaceae ,Sterculiaceae, Lythraceae, Leguminosae and Burseraceae respectively. Table (b) includes thirty eight plants species which are providing fuel comprising with four species of Mimosaceae, two of , Combretaceae 01 Rutaceae,02 Euphorbiaceae,01 Burseraceae,02 Paplionaceae 01Caesalpiniaceae,02 Ebenaceae,01 Flacourtiaceae,05 Tiliaceae, 01Rubiaceae,01 Anacardiaceae 01Annonaceae,01 Lythraceae, 01Apocynaceae, 01Alangiaceae,02 Capparaceae, 01Convolvulaceae,01 Solanaceae,01 Nyctanthaceae ,01Verbenaceae.

Table (a)Includes the list of plant species utilized as fodder in Sariska Tiger Reserve

	Name of the species	Families	Local name	Purpose
1.	*Butea monosperma* (Lamk.) Taub.	Paplionaceae	Palas	Dried leaves
2.	*Zizyphus nummularia* (Burm. f.) Wt. & An.	Rhamnaceae	Pala	Dried leaves
3.	*Acacia leucophloea* (Roxb.) Willd.	Mimosaceae	Rijva	Green leaf twigs
4.	*Acacia nilotica* (L.) Del.	Mimosaceae	Babul	Green leaf twigs
5.	*Acacia senegal* (L.) Willd.	Mimosaceae	-	Green leaf twigs
6.	*Ailanthus excelsa* Roxb.	Simaroubaceae	Ardu	Green leaf twigs
7.	*Anogeissus latifolia* Roxb.	Combretaceae	Dhavdo	Green leaf twigs
8.	*Capparis decidua* (Forsk.) Edgew.	Combretaceae	Kair	Green leaf twigs
9.	*Capparis sepiaria* L.	Combretaceae	-	Green leaf twigs
10.	*Delonix elata* (L.) Gamble.	Caesalpiniaceae	Sanderso	Green leaf twigs
11.	*Ehretia leavis* Roxb.	Ehretiaceae	-	Green leaf twigs
12.	*Grewia flavescens* Juss.	Tilaceae	-	Green leaf twigs
13.	*Pithecellobium dulce* (Roxb.) Benth	Mimosaceae	Jungle jalebi	Green leaf twigs
14.	*Prosopis chilensis* (Molina) Stuntz.	Mimosaceae	-	Green leaf twigs
15.	*Prosopis cineraria* (L.) Druce	Mimosaceae	Khejari	Green leaf twigs
16.	*Sterculia urens* Roxb.	Sterculiaceae	Kadayo	Green leaf twigs
17.	*Wood fordia fruiticosa* (L.) Kurz.	Lythraceae	Dalia	Green leaf twigs
18.	*Zizyphus mauritiana* Lamk.	Rhamnaceae	Bordi	Green leaf twigs
19.	*Zizyphus xylopyra* (Retz.) Willd.	Rhamnaceae	Ghatbor	Green leaf twigs

20.	*Dichrostachys cineraria* (Linn.).	Leguminosae	Goyakhair	Green leaf twigs
21.	*Boswellia serrata* Roxb.	Burseraceae	Salar	Green leaf twigs

Table (b). Includes the list of plant species which are utilize for fuel purpose in Sariska Tiger Reserve

SNo.	Name of the species	Families	Local name	Use	Category
1.	*Acacia leucophloea* (Roxb.) Willd.	Mimosaceae	Rijua	Dried twigs and boles	V
2.	*Acacia nilotica* (Linn.) Del.	Mimosaceae	-	Dried twigs and boles	V
3.	*Aegle marmelos* (L.) Corr.	Rutaceae	Bel	Dried twigs and boles	V
4.	*Albizzia odoratissima* (L.f.) Benth.	Mimosaceae	-	Dried twigs and boles	V
5.	*Albizzia procera* (Roxb.) Benth.	Mimosaceae	-	Dried twigs and boles	V
6.	*Anogeissus latifolia* (Roxb.) Wall	Combretaceae	Dhawdo	Dried twigs and boles	V
7.	*Anogeissus pendula* Edgew.	Combretaceae	Dhok	Dried twigs and boles	V
8.	*Bridelia retusa* (L.) Spr.	Euphorbiaceae	-	Dried twigs and boles	V
9.	*Boswellia serrata* Roxb.	Burseraceae	Salar	Dried twigs and boles	V
10.	*Dalbergia sissoo* Roxb.	Paplionaceae	Sisam	Dried twigs and boles	V
11.	*Delonix elata* (L.) Gamble	Caesalpiniaceae	Sandesro	Dried twigs and boles	V
12.	*Butea monosperma* Lam. Taub.	Paplionaceae	Dhak	Dried twigs and boles	T
13.	*Diospyrous meloxylon* Roxb.	Ebenaceae	Timbru	Dried twigs and boles	-
14.	*Diospyrous montana* Linn.	Ebenaceae	-	Dried twigs and boles	-
15.	*Flacourtia indica* Burm. f. Merr.	Flacourtiaceae	-	Dried twigs and boles	-
16.	*Grewia subinaequalis* Dc.	Tiliaceae	Phalsa	Dried twigs and boles	-
17.	*Grewia tiliaefolia* Vahl.	Tiliaceae	-	Dried twigs and boles	-
18.	*Haldina cordifolia* Roxb.	Rubiaceae	Haldu	Dried twigs and boles	-

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19.	*Lannea coromandelica* (Houtt.) Merrill.	Anacardiaceae	Madhol	Dried twigs and boles	V
20.	*Miliusa tomentosa* (Roxb.) Sinclair.	Annonaceae	Umbhio	Dried twigs and boles	V
21.	*Mitragyna parvifolia* (Roxb.) Korth.	Rubiaceae	Kalam	Dried twigs and boles	V
22.	*Pithecellobium dulce* (Roxb.) Benth.	Mimosaceae	Jangel Jalebi	Dried twigs and boles	V
23.	*Terminalia alata* Roth.	Combretaceae	-	Dried twigs and boles	T
24.	*Terminalia arjuna* (Roxb.) Wt. & Am.	Combretaceae	-	Dried twigs and boles	E
25.	*Terminalia crenulata* Roth.	Combretaceae	-	Dried twigs and boles	T
26.	*Woodfordia fruticosa* (L.) Kurz.	Lythraceae	-	Dried twigs and boles	T
27.	*Wrightia tinctoria* R.Br.	Apocynaceae	Dudhli	Dried twigs and boles	V
28.	*Alangium salvifolium* (L.f.) Wang.	Alangiaceae	Ankol	Dried twigs and boles	V
29.	*Capparis decidua* (Forsk.) Edgew.	Capparaceae	Kair	Dried twigs and boles	-
30.	*Capparis sepiaria* Linn.	Capparaceae	-	Dried twigs and boles	-
31.	*Grewia flavescen* Juss.	Tiliaceae	-	Dried twigs and boles	-
32.	*Grewia tenax* (Forsk.) Fiori.	Tiliaceae	-	Dried twigs and boles	-
33.	*Grewia tiliaefolia* Vahl.	Tiliaceae	-	Dried twigs and boles	V
34.	*Ipomoea nil* (Linn.) Roth.	Convolvulaceae	-	Dried twigs and boles	V
35.	*Jatropha curcus* Linn.	Euphorbiaceae	Ratanjot	Dried twigs and boles	V
36.	*Lycium barbarum* Linn.	Solanaceae	-	Dried twigs and boles	V
37.	*Nyctanthes arbor-tristis* Linn.	Nyctanthaceae	Harsinghar	Dried twigs and boles	V
38.	*Vitex nigrindo* Linn.	Verbenaceae	Nirgund	Dried twigs and boles	V

IV. CONCLUSION

In this study emphasis was laid on the floral diversity with their uses as fodder and fuel based products subsistence of local dwellers inside and outside the Sariska Tiger Reserve .The study revealed that the loss biodiversity of the study area due to anthropogenic activities leads in scarcity of such minor forest products, which is basis of livelihood of local peoples. Due to the human interference in reserve will lead to deterioration of so many species which have great importance to generate economy for local peoples, and uses of such minor products relieve biotic stress on reserve so far.

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