

Plants Used in Shelter Construction By The Natives of Sapotara Tehsil, Rajasthan

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Abstract

In this present work, a brief account of plants, which are used in shelter construction from the natives of Sapotara tehsil has been given. Here 40 plant species belonging to 22 families have been tabulated which are used very commonly for shelter construction purpose by the rurals.

KEY WORDS: Shelter, construction, plants, Rurals

INTRODUCTION

Sapotara is a tehsil/ block in the Karauli district of Rajasthan. Total area is 1498km² comprising 224 villages (tribal dominating area). Main tribe of study area is Meena. The population of tribe is 78883 according to census of 2011.

The general climatic condition of the area is dry, except a short duration of rainy season. The normal rainfall is 559mm with 67.12% of humidity. December to February is cold season, March to June summer, July to September rainy season and October to November is autumn season.

The average max. and min. temperatures remain 41° and 25° respectively. The study area comprises of hill slopes, ridges, valleys, rocky plateau, cliffs gorges ravines as important physical features.

VEGETATION OF THE REGION

The following vegetation types occur in the study area: -

1. *Anogeissus pendula* series
2. Degraded *Anogeissus pendula* series
3. *Acacia leucophloea* – *Capparis decidua* series
4. Grasslands
5. *Acacia senegal* – *Maytenus emarginatus* series

Anogeissus Pendula Series: The *Anogeissus pendula* forests of Sapotara ranges of this region are probably the best protected and managed forests in the entire state. *Anogeissus pendula* forms

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almost pure crop with slight admixture of *Acacia leucophloea* at some places. The proportion of *Anogeissus pendula* is generally over 80% of the crop. *Anogeissus pendula* is generally gregarious in nature forming almost pure stands. Its common associates are, *Boswellia serrata*, *Lannea coromandelica*, *Wrightia tinctoria*, *Sterculia urens*, *Bauhinia racemosa*, *Acacia catechu*, *Flacourtia indica*, *Butea monosperma* etc. Among shrubs, the common ones are, *Grewia flavescens*, *Rhus mysurensis* and *Euphorbia caducifolia*.

Degraded *Anogeissus pendula* series: It is a degraded stage of above series. Degradation of the forest is due to severity of human activities, particularly merciless hacking, rampant grazing and browsing. Where soil is shallow, the *Anogeissus* crop is very much reduced and (5-10%) proportion of *Acacia catechu* (75-79%) becomes much higher. *Ziziphus mauritiana* is invariably a characteristic associate of *Acacia catechu* in this type.

***Acacia leucophloea* - *Capparis decidua* series:** The species commonly met with are *Acacia leucophloea*, *Capparis decidua*, *Ziziphus nummularia*, *Balanites aegyptiaca* and *Dichrostachys cinerea*. At some places, *Acacia nilotica* is also found.

Grassland: *Apluda mutica*, *Sehima nervosum*, *Heteropogon contortus*, *Dichanthium annulatum*, *Desmostachya bipinnata*, *Vetiveria zizanioides*, *Saccharum bengalense*, *Dactyloctenium aegyptium* and *Cyperus rotundus* are the common grasses.

***Acacia Senegal* - *Maytenus emarginatus* series:** This is characteristically found on sandy deposits (generally found at the base of high hills). *Acacia senegal* forms about 80% of the series. Common associates are *Maytenus emarginatus*, *Grewia tenax* and *Grewia flavescens*. Among herbs and grasses *Aerva javanica*, *Sericostoma pauciflorum*, *Eragrostis tremula* etc. are common.

Maytenus emarginatus and *Leptadenia pyrotechnica* are found at the foothills. *Maytenus emarginatus* forms about 50% of the series, other associates are *Flacourtia indica*, *Ziziphus nummularia* and *Ziziphus mauritiana*. Among ground flora are *Leptadenia pyrotechnica*, *Tridax procumbens*, *Crotalaria burhia*, *Eragrostis ciliaris*, *Eragrostis tremula*, *Calotropis procera* etc.

Research work carried out by Das (1990, 1997), Meena et al.(2003), Meena (2013) , Sharma & Khandelwal (2010 a), Jain & Jain (2012), Sharma & Khandelwal (2010 b) and Singh & Singh (1982) have been published .

METHODOLOGY

Regular field surveys were carried in the study area during 2013- 2015.

Generally two types of interviews were taken, firstly of individuals and secondly of groups. Among them female interviewers were 46% while remaining 54% were male. Most of them were over 40 years and uneducated.

Herbarium specimens were prepared, preserved and identified with help of Flora of Indian Desert (Bhandari 1990), Flora of Rajasthan- vol.1-3 (Shetty & Singh 1987-93), Flora of North-East Rajasthan (Sharma & Tiagi 1979) and BSI (Botanical Survey of India), Jodhpur. Specimens were collected and deposited in the herbaria of University of Rajasthan (RUBL), Jaipur.

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TABLE 1 – List of Plant Species Used In Hut Construction

S. No.	Name of Plant	Pillar	Beam	Rafter	Pole	Purlin	Thatch	Plank	Cooling screen	Local name of plant
1.	<i>Acacia leucophloea</i> (Roxb.) Willd	✓								Remja, Ronjda
2.	<i>Acacia jacquemontii</i> Benth.	✓								Bavali
3.	<i>Acacia nilotica</i> (L.)	✓	✓	✓				✓		Babool, Bavaliyo
4.	<i>Aegle marmelos</i> (L.) Corr.	✓	✓							Bel
5.	<i>Ailanthus excelsa</i> Roxb.							✓		Ardu
6.	<i>Alhagi maurorum</i> Medic.								✓	Jawasa
7.	<i>Anogeissus pendula</i> Edgew.	✓	✓	✓	✓	✓				Dhok
8.	<i>Azadirachta indica</i> A. Juss.	✓	✓	✓	✓			✓		Neem
9.	<i>Balanites aegyptiaca</i> (L.) Del.		✓	✓				✓		Hingota
10.	<i>Bauhinia racemosa</i> Lam.		✓							Kachnar
11.	<i>Butea monosperma</i> (Lam.) Taub.						✓			Chheela
12.	<i>Cassia fistula</i> L.	✓			✓					Barr
13.	<i>Dalbergia sissoo</i> Roxb.	✓	✓	✓	✓					Sisoo
14.	<i>Dendrocalamus strictus</i> (Roxb.) Nees				✓	✓	✓			Baans
15.	<i>Desmostachya bipinnata</i> (L.) Stapf						✓			Daab
16.	<i>Dichrostachys cinerea</i> (L.) Wt. & Arn.	✓								Birbira
17.	<i>Diospyros melanoxylon</i>	✓						✓	✓	Tendu

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	Roxb.									
18.	<i>Ehretia laevis</i> Roxb.	✓	✓		✓					Tamoliya
19.	<i>Ficus carica</i> L.		✓		✓					Anjir
20.	<i>Ficus racemosa</i> L.	✓		✓						Gular
21.	<i>Flacourtia indica</i> (Burm. f.) Merr.	✓	✓	✓						Kankher
22.	<i>Holoptelia integrifolia</i> (Roxb.) Planch.	✓	✓	✓	✓					Churel
23.	<i>Indigofera linifolia</i> (L. f.) Retz.						✓			Jhunghan ghas
24.	<i>Leptadenia pyrotechnica</i> (Forsk.) Decne.					✓	✓			Kheep
25.	<i>Madhuca indica</i> J. F. Gmelin	✓	✓	✓				✓	✓	Mahuva
26.	<i>Mangifera indica</i> L.	✓						✓	✓	Aam
27.	<i>Maytenus emarginatus</i> (Willd.) Ding Hou	✓	✓	✓	✓					Gwank
28.	<i>Pennisetum americanum</i> (L.) Leeke						✓			Bajra
29.	<i>Phyllanthus emblica</i> L.			✓						Amra
30.	<i>Phoenix sylvestris</i> (L.) Roxb.		✓							Khajur
31.	<i>Prosopis cineraria</i> (L.) Druce	✓	✓	✓	✓					Chhonkar
32.	<i>Ricinus communis</i> L.				✓					Arandi
33.	<i>Saccharum bengalense</i> Retz.					✓	✓			Munj
34.	<i>Saccharum spontaneum</i> L.					✓	✓			Kaans
35.	<i>Tamarindus indica</i> L.	✓								Imli

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36.	<i>Typha angustata</i> Bory & Chaub						✓			Patera
37.	<i>Vetiveria zizanioides</i> (L.) Nash							✓		Khas
38.	<i>Wrightia tinctoria</i> (Roxb.) R. Br.	✓								Dhudha Khinni
39.	<i>Ziziphus mauritiana</i> Lam.	✓	✓	✓	✓					Pemli ber
40.	<i>Ziziphus nummularia</i> (Burm. f.) Wight & Arn.							✓		Jhaad

RESULT AND DISCUSSION

40 plant species belonging to 22 families are used by natives of Sapotara tehsil in thier shelter construction.

Plants like *Acacia nilotica*, *Anogeissus pendula*, *Azadirachta indica*, *Dendrocalamus strictus*, *Holoptelia integrifolia* and *Prosopis cineraria* are widely used. A temporary shelter is built in the agricultural field to keep watch.

The wood of *Anogeissus pendula* is favourite due to its durability.

Saccharum bengalense is widely used for thatching purpose.

Traditional construction of huts and shelters is still in practice. Choice of plants for construction depends on the quality and availability of species.

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