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# Timber Yielding Plants of Alwar District, Rajasthan

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**ABSTRACT:** The present survey aims to identify and document the timber-yielding plants of Alwar district, Rajasthan, India. The field survey of the study area was conducted between Sep. 2021 to June 2023. During the survey, 28 timber-yielding species belonging to 15 families were documented and are used for various purposes by the people. A maximum number of species (27) was utilized for furniture, followed by House Construction (26), Poles and Sticks (20), Agriculture Implements (16), and Packing Boxes (08). Fabaceae (08 species) was the dominant family among all families followed by Moraceae (05 spp.), and Myrtaceae (03 spp.). According to plant vegetation type, the highest number of timber-yielding plants was deciduous type (60.71%) followed by, evergreen (25.00%), semi-deciduous (10.71 %), and semi-evergreen (3.57 %). People of this area possess good information about plants used for different purposes, but their continuous exposure to modernization may result in the extinction of species in the future.

**KEYWORDS:** Timber, Plant Utilization, Furniture, Alwar, Rajasthan.

## I. INTRODUCTION

India is one of the 17 mega-diverse countries in the world. The flora of India, due to a wide range of variations in climate, altitude and ecological habits is both rich and diverse. The latest estimate of Plant diversity in India stands at 55387 taxa including 22108 angiosperms, 83 Gymnosperms, 1319 Pteridophytes, 2819 Bryophytes, 3044 Lichens, 15701 Fungi, 9035 Algae and 1278 Microbes<sup>[1]</sup>.

Timber is an important plant product that has been serving mankind since the dawn of civilization and has contributed much to its advancement. The use of timber plants in making several things such as agricultural implements, boat building, handicrafts, packing cages, toys, construction, furniture, and instruments.

The studies on timber plants have been done by many workers in different parts of the world as well as India<sup>[2,3,4]</sup>. The preliminary study of the flora of the Alwar district was conducted by Vyas<sup>[5]</sup>. The vegetation of the Alwar district corresponds to the northern tropical dry deciduous forest (Subgroup 5B; 5/E1 and 5/E2) and northern tropical thorn forest (Subgroup 6B)<sup>[6]</sup>. Bhandari has extensively explored the flora of Jodhpur, Barmer and Jaisalmer district<sup>[7]</sup>. The flora of North-east Rajasthan which includes Alwar, Jaipur, Bharatpur and Dausa districts has also been studied by Sharma and Tiagi<sup>[8]</sup>. The first systematic description of the plant species of the Sariska Tiger Reserve was made by Parmar who reported 403 indigenous and naturalized plant species belonging to 86 families of vascular plants<sup>[9]</sup>. Yadav, 20 species of Angiosperm plants have been added to the flora of North-east Rajasthan. Yadav studied 45 woody species consisting of 25 tree and 20 shrub species of the various forest areas in the Alwar district of Rajasthan<sup>[10,11]</sup>. The Present survey was carried out to document the timber-yielding plant species in Alwar district, Rajasthan.

## II. MATERIAL AND METHODS

The Alwar district is located between 27°4' to 28°4' north latitude and 76°7' to 76° 13' east longitude in the north-eastern part of Rajasthan. The district is spread across 8380 km<sup>2</sup> area. The most characteristic feature in the Alwar district is the Aravall mountain range which runs for about 81 km. from south to north. It is bounded by the district Gurgaon (Haryana) in the north, Dausa in the south, Jaipur in the southwest and Bharatpur in the north-east. The climate in this area is hot and dry. The summer season is from the middle of March to June. The rainy season is from

July to September with more than 90% of the rain received during this period. Winter extends from October to February.

The survey of the study area was conducted from Sep. 2021 to June 2023. Field sites were visited by experienced people and village headmen. The timber plant species was identified by interviewing local villagers, village headmen, and carpenters. The plant specimens were collected during field trips and identified with the help of regional flora and using standard literature [7,8,12-15].

### III. RESULT AND DISCUSSION

A total of 28 plant species providing timber belonging to 15 families have been identified. (Table-1) The detailed family-wise distribution of timber-yielding plant species is presented in Figure 1. The highest number of timber-yielding plants was recorded in families Fabaceae which contains 08 plants followed by Moraceae (05 spp.), Myrtaceae (03 spp.) Meliaceae Anacardiaceae, Annonaceae, Bombacaceae, Boraginaceae, Combretaceae, Lamiaceae, Ulmaceae, Moringaceae, Rhamnaceae, Phyllanthaceae, Rutaceae (1 spp. Each). A detailed chart according to plant vegetation type is shown in Figure 2. The highest number of timber-yielding plants was a deciduous type (60.71%) followed by, evergreen (25.00%), semi-deciduous (10.71 %), and semi-evergreen (3.57 %). A list of timber-yielding plants used for different purposes is shown in Table 2 and a detailed chart according to plant Utility is shown in Figure 3. The highest utility of timber was recorded in Furniture and the minimum in packing boxes. The number/percentage of allied utility is given as follows Furniture (27/96.42%), House Construction (26/92.85%), Poleand Sticks (20/71.43%), Agriculture Implements (16/57.14%), Packing Boxes (08/28.57%).

Table 1: List of timber-yielding plants in the study area.

S. No.	Botanical Name	Local Name	Family	Vegetation Type
1	<i>Acacia nilotica</i> (L.) Delile	Babool	Fabaceae	Deciduous
2	<i>Aegle marmelos</i> (L.) Corr.	Bel	Rutaceae	Semi-Evergreen
3	<i>Albizia lebeck</i> (L.) Benth.	Siris	Fabaceae	Deciduous
4	<i>Azadirachta indica</i> A. Juss.	Neem	Meliaceae	Semi-Deciduous
5	<i>Bombax ceiba</i> L.	Semal	Bombacaceae	Deciduous
6	<i>Butea monosperma</i> (Lam.) Taub.	Dhak	Fabaceae	Deciduous
7	<i>Cassia fistula</i> L.	Amaltas	Fabaceae	Deciduous
8	<i>Cordia dichotoma</i> G. Forst.	Lassora	Boraginaceae	Deciduous
9	<i>Dalbergia sissoo</i> (Roxb.)	Shisham	Fabaceae	Deciduous
10	<i>Delonix regia</i> (Hook.) Raf.	Gulmohur	Fabaceae	Deciduous
11	<i>Eucalyptus camaldulensis</i> Dehnh.	Safeda	Myrtaceae	Deciduous
12	<i>Eucalyptus globulus</i> Labill.	Safeda	Myrtaceae	Deciduous
13	<i>Ficus benghalensis</i> L.	Bargad, Bad	Moraceae	Evergreen
14	<i>Ficus carica</i> L.	Anjeer	Moraceae	Semi-Deciduous
15	<i>Ficus racemosa</i> L.	Goolar	Moraceae	Semi-Deciduous
16	<i>Ficus religiosa</i> L.	Pipal	Moraceae	Deciduous
17	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Papri	Ulmaceae	Deciduous
18	<i>Mangifera indica</i> L.	Aam	Anacardiaceae	Evergreen
19	<i>Moringa oleifera</i> Lam.	Sahjana	Moringaceae	Deciduous
20	<i>Morus alba</i> L.	Shatoot	Moraceae	Deciduous
21	<i>Phyllanthus emblica</i> L.	Amala	Phyllanthaceae	Deciduous
22	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Jangal Jalebi	Fabaceae	Evergreen



23	<i>Polyalthia longifolia</i> (Sonn.) Thwaites	Ashok	Annonaceae	Evergreen
24	<i>Psidium guajava</i> L.	Amrood	Myrtaceae	Deciduous
25	<i>Tamarindus indica</i> L.	Imli	Fabaceae	Evergreen
26	<i>Tectona grandis</i> L.f.	Sagaun	Lamiaceae	Deciduous
27	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn.	Arjun	Combretaceae	Evergreen
28	<i>Ziziphus jujuba</i> Mill.	Ber	Rhamnaceae	Evergreen

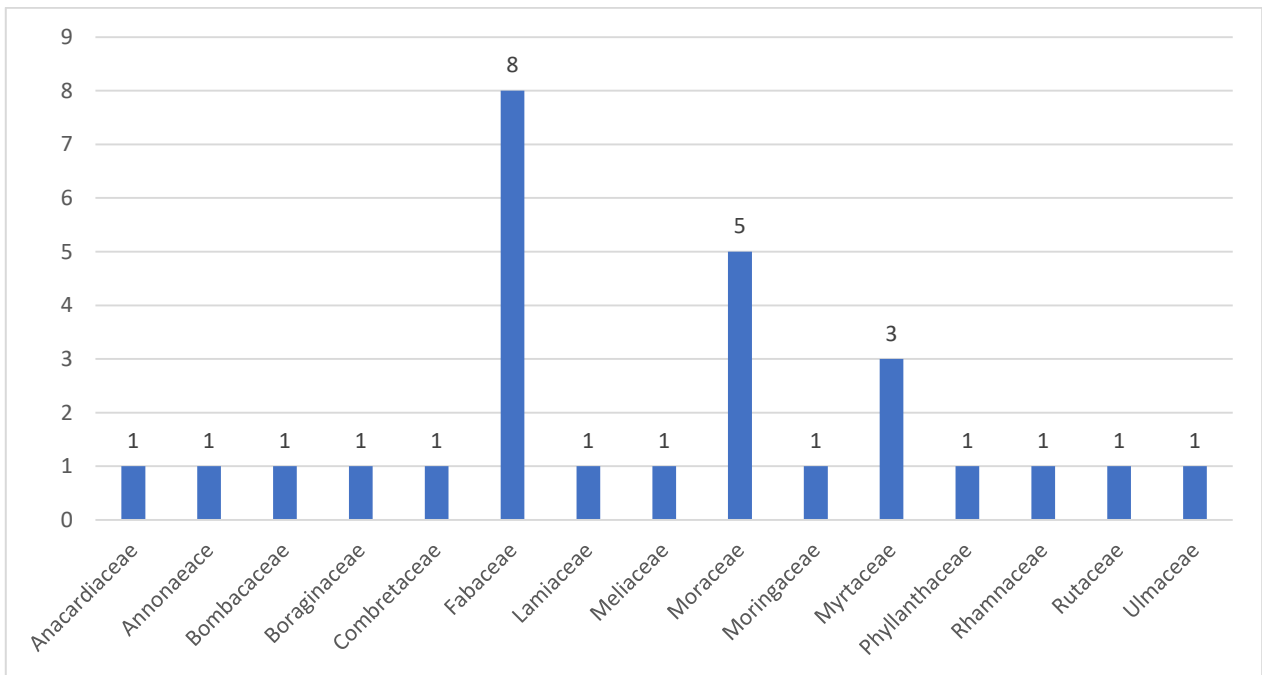


Fig.1 Family-wise distribution of timber-yielding plants

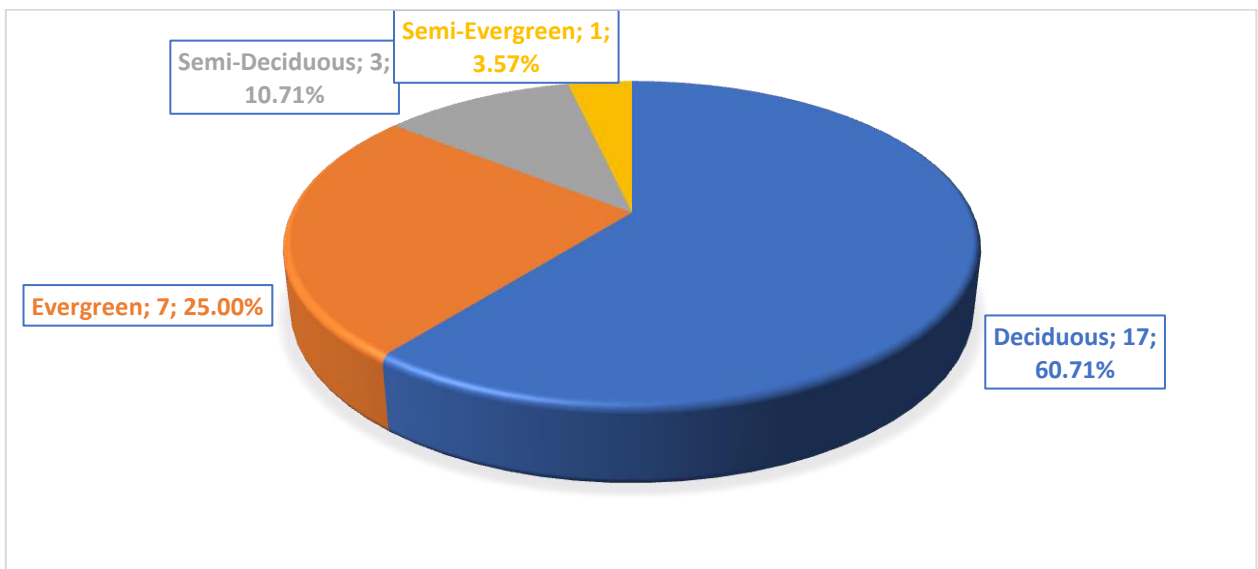


Fig.2 Vegetation type-wise distribution of timber-yielding plants

**Table 2:** Timber-yielding plants used for different purposes

Sr.No.	Botanical Name	Furniture	House Construction	Agriculture Uses	Packing Boxes	Poles & Sticks
1	<i>Acacia nilotica</i> (L.) Delile	✓	✓	✓	-	✓
2	<i>Aegle marmelos</i> (L.) Corr.	✓	✓	✓	-	✓
3	<i>Albizia lebbbeck</i> (L.) Benth.	✓	✓	✓	-	✓
4	<i>Azadirachta indica</i> A. Juss.	✓	✓	✓	-	✓
5	<i>Bombax ceiba</i> L.	✓	✓	✓	-	-
6	<i>Butea monosperma</i> (Lam.) Taub.	-	-	-	✓	✓
7	<i>Cassia fistula</i> L.	✓	✓	-	-	✓
8	<i>Cordia dichotoma</i> G. Forst.	✓	✓	-	✓	-
9	<i>Dalbergia sissoo</i> (Roxb.)	✓	✓	✓	-	✓
10	<i>Delonix regia</i> (Hook.) Raf.	✓	✓	✓	-	-
11	<i>Eucalyptus camaldulensis</i> Dehnh.	✓	✓	✓	✓	✓
12	<i>Eucalyptus globulus</i> Labill.	✓	✓	✓	✓	✓
13	<i>Ficus benghalensis</i> L.	✓	-	-	✓	-
14	<i>Ficus carica</i> L.	✓	✓	-	-	-
15	<i>Ficus racemosa</i> L.	✓	✓	✓	✓	-
16	<i>Ficus religiosa</i> L.	✓	✓	✓	✓	-
17	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	✓	✓	-	-	-
18	<i>Mangifera indica</i> L.	✓	✓	✓	-	✓
19	<i>Moringa oleifera</i> Lam.	✓	✓	-	-	✓
20	<i>Morus alba</i> L.	✓	✓	✓	-	✓
21	<i>Phyllanthus emblica</i> L.	✓	✓	-	✓	✓
22	<i>Pithecellobium dulce</i> (Roxb.) Benth.	✓	✓	-	-	✓
23	<i>Polyalthia longifolia</i> (Sonn.) Thwaites	✓	✓	-	-	✓
24	<i>Psidium guajava</i> L.	✓	✓	-	-	✓
25	<i>Tamarindus indica</i> L.	✓	✓	-	-	✓
26	<i>Tectona grandis</i> L.f.	✓	✓	✓	-	✓
27	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn.	✓	✓	✓	-	✓
28	<i>Ziziphus jujuba</i> Mill.	✓	✓	✓	-	✓

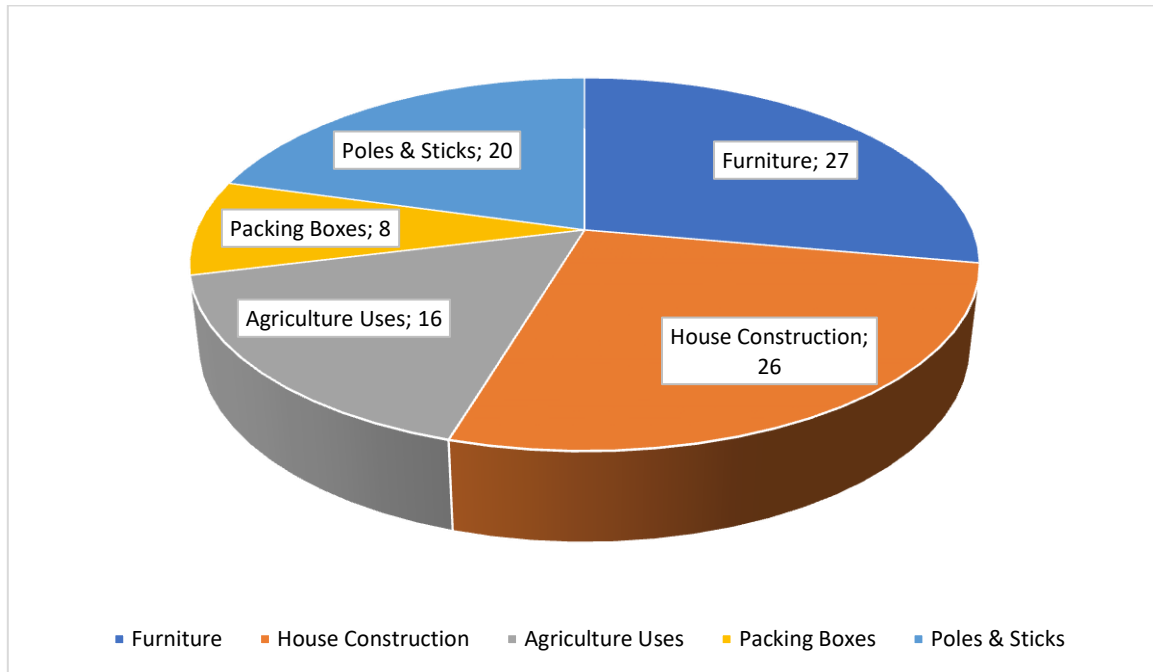


Fig.3 Timber Resources and their utility

#### IV. CONCLUSION

The present study was undertaken to document the timber-yielding plant species, which are currently found in the Alwar district. A total of 28 timber-yielding species belonging to 15 families is documented which are used for various purposes by the peoples for their livelihood. These plant species are important for the human being and sustenance of life. People of this area possess good information about plants used for different purposes, but their continuous exposure to modernization may result in the extinction of species in the future.

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#### REFERENCES

1. Mao, A.A., Agrawala, D. K., & Mukherjee, Sinjini. Plant Discoveries 2022(including algae, fungi & microbes) – New Genera, Species and New Records. Botanical Survey of India, Kolkata, 2023.
2. Balfour, Edward. *The Timber Trees, Timber and Fancy Woods, as Also, the Forests, of India and of Eastern and Southern Asia*. Higginbotham, 1870.
3. Gamble, J. S. "A Manual of Indian Timbers, Sampson Low, Marston & Co." Ltd., London, 1922.
4. Trotter, Hugh. "The common commercial timbers of India and their uses." *The common commercial timbers of India and their uses*. 1941.
5. Vyas, L. N. 1967. Contribution to the flora of North-east Rajasthan, Alwar district. J. Bombay Nat. Hist. Soc. 64: 191-231.
6. Champion, H. G. and Seth, S. K. 1968. A revised Survey of the forest types of India. Government of India Publication, New Delhi.
7. Bhandari, M. M. 1978. Flora of the Indian Desert. Scientific Publishers, Jodhpur.
8. Sharma, S. and Tiagi, B. 1979. Flora of North-East Rajasthan. Kalyani Publishers, New Delhi.
9. Parmar, P.J. 1985. A Contribution to the flora of Sariska Tiger Reserve, Alwar district, Rajasthan. Bulletin of the Botanical Survey of India. 27(1-4): 29-40.
10. Yadav, A S 2005. Supplement to the flora of North-East Rajasthan from Alwar district. J. Phytol Res.18 :111-114.



11. Yadav, R K. and Yadav, A S. 2006. Vascular flora of Bala-fort forest in Alwar, Rajasthan. Indian Forester. 132: 233-238
12. Shetty, B.V. and Singh, V. 1987. Flora of Rajasthan. Botanical Survey of India. Calcutta, Vol-1.
13. Shetty, B.V. and Singh, V. 1991. Flora of Rajasthan. Botanical Survey of India. Calcutta, Vol-2.
14. Shetty, B.V. and Singh, V. 1993. Flora of Rajasthan. Botanical Survey of India. Calcutta, Vol-3.
15. Sharma, N. 2002. The Flora of Rajasthan. Avishkar Publishers, Jaipur.



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