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Preliminary Survey on timber yielding plants of Yawal-Pal wildlife sanctuary and it's adjacent area in Southern Satpuda Ranges from Jalgaon District (M.S).

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Abstract : The present study is based on the preliminary survey on timber yielding plants resources of Yawal-Pal wildlife sanctuary and it's adjacent area from Southern Satpuda ranges during 1991 – 1995 and again repeated the survey in 2017-2019. The results showed that 70 timber yielding plants belonging to 33 families and 53 genera. Among the different families fabeaceae family is dominant with 10 species followed by Mimosaceae and Caesalpiniaceae with 9 and 6 species respectively. Timber species are used by tribals and villagers for hut, house construction and Agriculture equipment's. Now a days the demand of the timber increases for the same. Paper factory needs Bamboo and other soft wood. Forest is also cut for electrification. So measures should be adopted to prevent the massive deforestation prevailing in the area.

Keywordss **- Plants resources, Deforestation, survey, Yaval-Pal wildlife sanctuary, District Jalgaon.**

I. INTRODUCTION

Timber plays a vital role in the economic and industrial development. Timber products are eco-friendly than the other variants made from metals, plastics and cement as these are recyclable, energy efficient and reduce greenhouse gases. Timber is the one of the most versatile and valuable raw material used by the man (Singh, *et.al.*, 2021). The timber yielding plants species are used by tribals and villagers for hut, house construction, agricultural equipment's, boat building, toys, Musical instruments furniture and Grinding equipments. (Vijigiri, and Sharma, 2012; Singh, 2018; Dobhal, *et.al*., 2010).

Satpuda mountain range is major topographical features of central India. There are seven ranges of Satpuda which run more or less parallel to each other. According to karnik (1959), Satpuda starts from Mahadev hills of Chauragarh in Madhya Pradesh, extending westward to Burhanpur and Nimar, thence to Khandesh. Mountain tracks of Satpuda are situated between Vindhya ranges and Chandor hills of Sahyadri's from the Western Ghats.

II. THE STUDY AREA

Southern Satpuda is divided into three talukas namely Chopda, Yawal and Raver. The Yawal wildlife sanctuary and Pal forest park is situated in these three talukas. This area lies between 700.41' and 7609.73' E longitudes and 210 3.42' and 210.25' N latitudes. This area is about 120 Kilometers in length having width of 45 kilometers. The average height of this area is 721 meters and it varies between 700 to 1150 meter.

The headquarter of sanctuary is at Yawal. It covers an area of 177.52 sq.kms. Height of the sanctuary varies between 700m to 1134m. Highest hillock is situated near the Gawilgad hills; in Yawal taluka (1134 m.) . The rainfall of sanctuary varies between 800-900 mm. The average maximum and minimum temperature is 430 C. and 80 C. respectively.

III. CLIMATE

Climate of the study area is identified in three well defined seasons viz. Winter (Nov-Feb), Summer (March-May) and rainy season (June-Oct).

1. Rainfall : Average annual rainfall of area was Chopda 661.27mm. , Yawal 670.54mm. and Raver 634.63 mm. respectively. Maximum rainfall occurs during the month of August.

2. Temperature : Temperature rises rapidly after February. May is hottest month of the year. The maximum temperature rises upto 460 C. December is usually the coldest month, minimum temperature varies between 70 C. - 150C.
3. Humidity: Humidity is one of the important factor,which affects the growth of the plant species and quality of the vegetation. Relative humidity is maximum during July and August 80% to 95% and minimum during May and April (30% to 40%). Hence due to constant rainfall and humidity, we found quality timber species in Southern satpuda ranges.

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IV. MATERIAL AND METHODOLOGY

The botanical excursions were arranged to cover all the places of botanical interest and to collect most of the plants in their flowering and fruiting stages.Timber species were brought to the laboratory and identified with the help of Floras such as Cooke (1958), Hooker (1872 to 1897) and Santapau (1967). Collected specimen where compared with authentic ones in the herbarium of the Botanical survey of India, Western circle, Pune and Agharkar Research Institute, Pune. After identification of plants, specimens were pressed, poisoned and labeled. Saturated solution of mercuric chloride in ethyl alcohol was used for poisoning the specimens. Then herberium sheets have been deposited in the herbarium Department of Botany, University of Poona, Pune 411007.

V. RESULT AND DISCUSSION

Timber has been a major natural resource in all civilizations across the world. The demand for timber has been traditionally met only from the forests. Large scale utilization of timber, especially after the industrialization, has reduced the natural timber stock acutely in several tropical and temperate countries. India is one of the largest timbers producing as well as importing country due to its increasing demand for both domestic and industrial utility.

In the present work Preliminary survey on timber yielding plants of Yawal-Pal wildlife Sanctuary and it's adjacent area has been carried out. Data were collected and it is observed that 70 Angiosperm timber yielding plants belong to 33 families and 53 genera. They are arranged alphabetically according to their scientific names, families and vernacular names. Previous work on the timber yielding plant was carried out by several workers like 54 timber yielding plant belonging to 54 species and 23 families were identified from Alirajpur district, Madhya Pradesh, India (Panchya, 2021) and the other researcher identified 27 timber yielding plants belonging to 25 genera and 13 families from Bhadravathi Taluka, Karnataka (Kumar and Kiran, 2016). The phytochemical work on individual plants is carried out by number of workers; qualitative investigation was carried out in Acacia leucophloea (Roxb.) Willd. (Wankhade, 2019).

VI. CONCLUSION

India is one of the largest timbers producing as well as importing country due to its increasing demand for both domestic and industrial utility. The exploration of timber yielding plants is need of the present era because of its utility. The present work provides the documentation and appropriate utilization of timber yielding plant in the study area. People of these are having the good knowledge about of the timber yielding plants, but the urbanization and industrialization may result in the loss of the several species from the area. The lesser known timbers trees with multipurpose utility need to be given more attention for improvement, popularization and marketing in the future so that pressure on few selected timber species can be reduced.

Fig. No. 1- Distribution of timber yielding taxa within family genera and species.

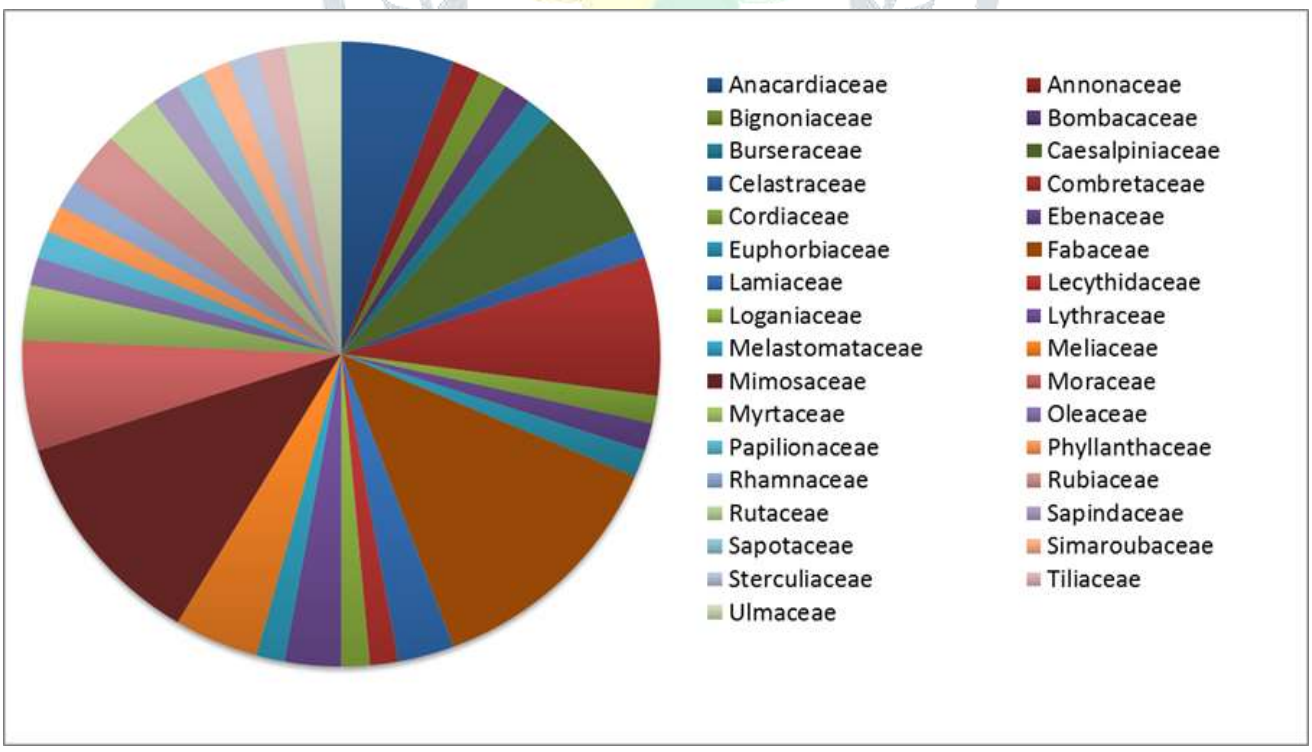

Fig. No.2- Distributin of timber yielding plants within family, genera and species

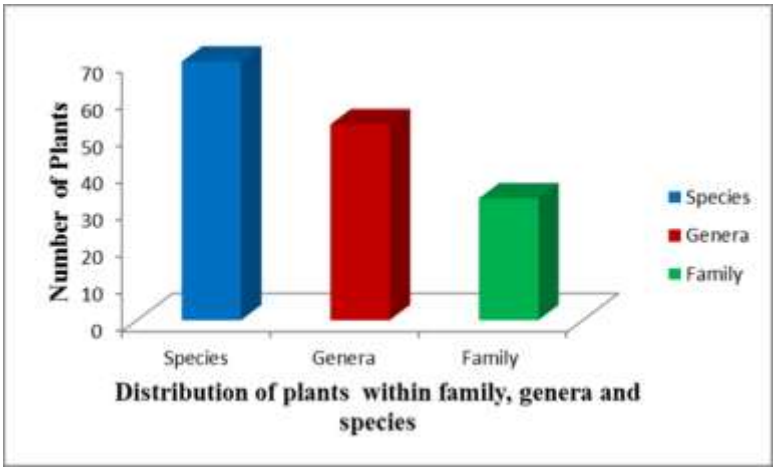

Table 1- Timber yielding plants from the study area.

Sr.No	Botanical Name	Local Neme	Family
1.	*Acacia leucophloea* (Roxb.) Willd	'Hiwar'	Mimosaceae
2.	Acacia ferruginea DC.	'Ghatsag' , 'Pandhara khair'	Mimosaceae
3.	*Acacia polyacantha* Willd.	'Sonkhairi'	Mimosaceae
4.	*Acacia nilotica* (L.) Delile	'Babul'	Mimosaceae
5.	*Acacia chundra* (Roxb. Ex Rottl. Willd.)	'kher', 'khair'	Mimosaceae
6.	*Albizia procera* Benth	'Gurar', 'Safed-Siris'	Mimosaceae
7.	*Albizia lebbeck* (L.) Benth	'Sirisha', 'Chinchola'	Mimosaceae
8.	*Albezia odoratissima* (L.F.) Benth.	'Chichwa', 'Kalashiras'	Mimosaceae
9.	*Anogeissus latifolia* (Roxb. Ex DC) Wall ex. Guill and perr.	'Dhaura', 'Davda'	Combretaceae
10.	*Aegle marmelos* (L.) Corr.	'Bila', 'Bel'	Rutaceae
11.	*Azadirachta indica* A.Juss.	'Nimb', 'Neem'	Meliaceae
12.	*Ailanthus exculsa* Roxb.	'Varue', 'Hadu'	Simaroubaceae
13.	*Bridelia retusa* (L.) A. Juss.	'Asana'	Phyllanthaceae
14.	*Buchanania lanzan* Spr.	'Char', 'Charu','Charoli'	Anacardiaceae
15.	*Buchanania axillaris* (Desr.) Ramamoorthy	'Char'	Anacardiaceae
16.	*Bombex ceiba* DC.	'Simal','Sawar'	Bombacaceae
17.	*Butea monosperma* (Lam.) Taub.	'Bhahavi', 'Palas'	Fabaceae
18.	*Cassia fistula* Linn.	'Bahava'	Caesalpiniaceae
19.	*Careya arborea* Roxb.	'Kumbi', 'Kumbh'	Lecythidaceae
20.	*Cassine glauca* (Rottb.) O. ktze.	'Jamrasi','Aran', 'Butyakalas'	Celastraceae
21.	*Chloroxylon swietenia* DC.	'Haldu', 'Bhirra'	Meliaceae
22.	*Cordia macleodii* (Griff.) Hook.	'Dhaian'	Cordiaceae
23.	*Dispyros chloroxylon* Roxb.	'Temru'	Ebenaceae
24.	*Dalbergia sissoo* Roxb.	'Sisam', 'Sissu'	Papilionaceae
25.	*Dalbergia latifolia* Roxb.	'Bijsa', 'Shisham'	Fabaceae
26.	*Dalbergia paniculata* Roxb.	'Phassi'	Fabaceae
27.	*Dalbergia lanceolaria* L	'Shisham'	Fabaceae
28.	Delonix *elata* (L.) Gamble.	'San-sada'	Caesalpiniaceae
29.	*Delonix regia* (Hook.) Raf.	'Gulmohar'	Caesalpiniaceae
30.	*Dolichandrone falcata* Seem.	'Medsing'	Bignoniaceae
31.	*Erythrina suberosa* Roxb.	'Pangara'	Fabaceae
32.	*Erythrina stricta* Roxb.	'Pangara'	Fabaceae
33.	*Emblica officinalis* Gaertn.	'Awa'	Euphorbiaceae
34.	*Eucalyptus globulus* Labill.	'Nilgiri'	Myrtaceae
35.	*Ficus religiosa* L.	'Pipal'	Moraceae
36.	*Ficus recemosa* L.	'Umber'	Moraceae
37.	*Ficus benghalensis* L.	'Wad'	Moraceae
38.	*Ficus amplissima* J.E.sm.	'Pipri'	Moraceae
39.	*Gmelina arborea* Roxb.	'Shivan'	Lamiaceae
40.	*Garuga pinnata* Roxb.	'Katula', 'kakad'	Burseraceae

41.	*Grewia tiliaefolia* Vahl.	'Dhayn'	Tiliaceae
42.	*Haldina cordifolia* Hook. F.	'Hardu', 'Haldu'	Rubiaceae
43.	*Holoptelea integrifolia* (Roxb.) planch	'Papada'	Ulmaceae
44.	*Hardwickia binata* Roxb.	'Anjan'	Caesalpiniaceae
45.	*Lagerstroemia parviflora* Roxb.	'Bondara'	Lythraceae
46.	*Lannea coromandelica* Merrill.	'Moian', 'Moin'	Anacardiaceae
47.	*Lagerstroemia microcarpa* wight	'Girvada', 'Lendia'	Lythraceae
48.	*Limonia acidissima* L.	'Kaitha', 'Kait'	Rutaceae
49.	*Mangifera indica* Linn.	'Amba'	Anacardiaceae
50.	*Mitragyna parvifolia* (Roxb) Korth	'Kallam', 'kaddam'	Rubiaceae
51.	*Madhuca longifolia* (J.Konig) J.F.Macbr	'Mahu', 'Muhu', 'Mahuwa'	Sapotaceae
52.	*Memecylon umbellatum* Burm.	'Karap'	Melastomataceae
53.	*Miliusa tomentosa* J.Sinclair	'Homb', 'Hoom'	Annonaceae
54.	*Ougeinia oojeinensis* (Roxb.) Hochr.	'Tinsa', 'Tiwas'	Fabaceae
55.	*Pongamia pinnata* (L.) Pierre	'Kanji', 'Karanj'	Fabaceae
56.	*Pterocarpus marsupium* Roxb.	'Bia', 'Bivla' , 'Bhilava'	Fabaceae
57.	*Syzygium cumini* Lam.	'Jamun', 'Jambul'	Myrtaceae
58.	*Schleichera oleosa* (Lour.) Oken.	'Kusum'	Sapindaceae
59.	*Sterculia urens* L.	'Karai', 'Dhavarukh'	Sterculiaceae
60.	*Soymida febrifuga* (Roxb.) A.Juss.	'Rohin', 'Rohan'	Meliaceae
61.	*Strychnos potatorum* L.	'Nirmoi', 'Nirmali'	Loganiaceae
62.	*Schrebera swietenioides* Roxb.	'Mokha'	Oleaceae
63.	*Terminalia belirica* Roxb.	'Behdu', 'Beheda'	Combretaceae
64.	*Terminalia arjuna* (Roxb. Ex DC.) Wight and Arm	'Kahu', 'Kahua', 'Arjun sadada'	Combretaceae
65.	*Tectona gandis* L.F.	'Sag', 'Sagudu'	Lamiaceae
66.	*Terminalia crenulata* Roth.	'Ain', 'Sadada'	Combretaceae
67.	*Trema orientalis* (L.) Bl.	'Gol'	Ulmaceae
68.	*Terminalia chebula* Retz.	'Harda', 'Hirda', Harla	Combretaceae
69.	*Tamarindus indica* L.	'Chinch'	Caesalpiniaceae
70.	*Ziziphus glaberrima* (sedgew.) Sant.	'Ghatboor', 'Ghoti'	Rhamnaceae

VII. REFERENCES

[1] Cooke, T. (1958). The Flora of Presidency of Bombay Vol. I and II. London Reprinted edition Bot. Surv. India.

[2] Dobhal, A., kumar, P. and Bisht, S. (2010). Diversity of timber yielding plants found in different parts of district Tehri Garhwal, Uttarakhand, India. Intonational Journal for environment Rehabilitation and conservation. Vol. 1(2), 9-15.

[3] Hooker, J.D. (1872-1897). The flora of British India. Vol. I-VII. London.

[4] Karnik, C.R. (1959). Studies on the flora and vegetation of Satpuras Bombay state (India), with a note on the satpura-Hypoithesis. pp. 1-387.

[5] Kumar, K.H. and Kiran, B.R. (2016). Preliminary survey of timber yielding plants of Bhadravathi Taluk, Karnataka. International Journal of Research in Environment Science. Vol.2(2). 1-4.

[6] Panchya, J.S. (2021). Diversity of common commercial timber yielding taxa in alirajpur district of Madhya Pradesh, India. Indian Journal of Research. Vol. 10(1), 61-62.

[7] Santapau, H. (1967). The Flora of Khandala on the western Ghats of India, (3rd edition) Delhi.

[8] Singh, S. (2018). Timber yielding plants of district Haridwar and adjacent Siwalik hills. Annals of plant sciences. Vol. 7(1), 1978-1982.

[9] Singh, S. Afshan, G. Rehman, F. and Khan, S. J. (2021). Survey of some timber yielding plants of district Rampur UP, India with special reference to their commercial value. International Journal of Botany studies, Vol.6(4), 106-116.

[10] Vijigiri, D. and Sharma, P.P. (2012). Timber yielding plants and their utilities in Nizamabad district of Andhra Pradesh, Journal of phytology, Vol.4 (4) : 17-20.

[11] Wankhade, M.S. (2019). Quantitative investigation of phytoconstituents present in Acacia leucophloea (Roxb.) Willd. methanolic leaf and bark extract. Journal of Global Resources. Vol.5(2), 340-344.Validity of Capital Assets Pricing Model.Evidence from KSE-Pakistan.European Journal of Economics, Finance and Administrative Science, 3 (20).