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Angiosperm Plant Community of Jharbala Pura of Bundi district, Rajasthan: A Case Study

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ABSTRACT: A plant community is a collection of plant species that are found in association. Individual species in any particular plant community may grow together because they have similar habitat requirements. A large number of flora and fauna occurs in Jharbala Pura place of Bundi district, Rajasthan. Different geological formations are also found in the area. Habits, Distribution and abundance of plant species depends on the different layer of hills and hillocks. Angiosperm plant community of hills and hillocks of Jharbala Pura of Bundi district are considered in this communication.

KEYWORDS: Angiosperms, *Anogeissus pendula*, Deciduous, Community, Floristic, Physiognomy

I. INTRODUCTION

A plant community can be described floristically or physiognomically. Physiognomy is the physical structure or appearance of the plant community. A group of plants of different species which coexist in a habitat under certain conditions, and that may be mutually dependent on each other. Floristically south eastern Rajasthan is considered to be the richest part of the state.

Jharbala Pura is a small village located in Bundi district of Rajasthan state, India. It comes under Jharbala Pura Panchayat. Bundi district is a part of Haroti region of South-east Rajasthan. Jharbala Pura is situated 13 km away from Bundi. Jharbala Pura is surrounded by Talera Tehsil towards South, Hindoli Tehsil towards west, Keshoraipatan Tehsil towards East, Nainwa Tehsil towards North. Divisional headquarter Kota is situated south towards this place. Jharbala Pura area are covered by Ramgarh Vishdhari Wildlife sanctuary range.

Jharbala Pura of Bundi, Rajasthan is lies in between 25° 28' 29" North latitude and 75° 40' 51" East longitude. Its elevation (Altitude) is 252 meters above the seal level. The rivers near the Jharbala Pura are Kural and Unli Nadi. The Jhar Mahadev and edifices (Mazar) of Jharpir are prominent example in the area. Jhar Mahadev is an important tourist point with a temple (lord shiva), water fall and natural beauty. Large forest and different physical regions are present in surrounding the area. The present observation deals with study of plant community around the Jharbala Pura of Bundi, a part of south-east Rajasthan.

II. RELATED WORKS

Important studies on the flora and ecology of various part of India have been made by Mathur (1960), Champion and Seth (1968), Shetty and Pandey (1983), Shetty and Singh (1987-93), Pascal and Pellissier (1996), Baruah, Mitali and Saikia (2000), Sharma (2002), Singh and Singh (2002), Basu (2009), Sharma (2010), Meena (2012), Sharma (2022), Sathisha and Sachin Gowda (2023). An ecological and floristic survey was carried out of area by author during 2020-23.

A plant community is similar in concept to a vegetation type, more of an emphasis on the ecological association of species within it. Necessity of ecological observations of Jharbala Pura of Bundi were realised. That's why this study is selected for present work. The study of floristic composition of forest stand of area has been made bearing in mind various aspects.

III. METHODOLOGY

This hill range of area is generally wooded and contains root stocks of *Anogeissus pendula* Edgew. The slopes of the hills are moderate to steep, but at some places, become precipitous near the top. In the present study vegetation structure of forest area especially hills of the area have been accounted. An eco-physiographical and floristic survey of



the area was carried out during January 2020 to April 2023. Floristic composition and plant community of forest hill areas of Jharbala Pura are being explained through the Table-I. The paper is based on current exploration and field observation of the area.

The dominant tree and shrub species of the area are *Capparis decidua* (Forssk.) Edgew., *Ziziphus mauritiana* Lam., *Phanera vahlii* (Wight & Arn.) Benth., *Flacourtia indica* (Burm.f.) Merr., *Salvadora oleoides* Decne., *Phoenix sylvestris* (L.) Roxb., *Vachellia leucophloea* (Roxb.) Maslin, Seigler & Ebinger, *Anogeissus pendula* Edgew., *Anogeissus latifolia* (Roxb. ex DC. Wall. ex Guill. & Perr., *Vachellia nilotica* (L.) P.J.H.Hurter & Mabb., *Vachellia leucophloea* (Roxb.) Maslin, Seigler & Ebinger, *Balanites aegyptiaca* (L.) Delile, *Boswellia serrata* Roxb., *Mitragyna parvifolia* (Roxb.) Korth., *Holoptelea integrifolia* (Roxb.) Planch., *Butea monosperma* (Lam.) Kuntze, *Grewia flavescens* Juss., *Lannea coromandelica* (Houtt.) Merr., *Sterculia urens* Roxb., *Wrightia tinctoria* (Roxb.) R.Br., *Vitex negundo* L. and *Manilkara hexandra* (Roxb.) Dubard. Angiosperm (tree and shrub species) association species of vegetation of different strata of hills of Jharbala Pura has been described in this communication.

IV. EXPERIMENTAL RESULTS

Plant community is overall appearance of vegetation of particular area. The forests of the area fall under the category of Tropical dry deciduous forest. Edaphic and biotic factors chiefly determine the composition, distribution and quality of these forests rather the climate conditions revealing over the tract. Most of the plants grow in association. However, some form pure stand or population patches at certain areas. Jharbala pura village and forest area was selected for the study of angiospermic plant community. In addition to the extensive observation of plant communities, this study has been done bearing in mind various aspects, during the survey.

The present paper communicates study of plant community at Jharbala Pura of Bundi district, south - east Rajasthan. The floristic composition of forest stand of area (Base/plain, slope and top layer of hills) has been observed in this work. Different types of plant species occurred in this forest. Table-1 shows association of plant species of study area.

TABLE - 1

<i>Butea monosperma</i> - <i>Phoenix sylvestris</i> - <i>Vachellia leucophloea</i>	<i>Wrightia tinctoria</i> - <i>Anogeissus pendula</i>	<i>Boswellia serrata</i> - <i>Anogeissus pendula</i>
<i>Lannea coromandelica</i> - <i>Mitragyna parvifolia</i>	<i>Lannea coromandelica</i> - - <i>Sterculia urens</i>	<i>Sterculia urens</i> - <i>Anogeissus latifolia</i>
<i>Holoptelea integrifolia</i> - <i>Mitragyna parvifolia</i>	<i>Sterculia urens</i> - <i>Anogeissus pendula</i>	<i>Anogeissus pendula</i> - <i>Lannea coromandelica</i>
<i>Vachellia nilotica</i> - <i>Balanites aegyptiaca</i>	<i>Anogeissus pendula</i> (Pure stand)	<i>Lannea coromandelica</i> - <i>Boswellia serrata</i>
<i>Anogeissus pendula</i> - <i>Salvadora oleoides</i>	<i>Anogeissus pendula</i> - <i>Grewia flavescens</i>	<i>Anogeissus latifolia</i> - <i>Boswellia serrata</i>
<i>Vachellia leucophloea</i> - <i>Flacourtia indica</i>	<i>Grewia flavescens</i> (Pure stand)	<i>Lannea coromandelica</i> - <i>Acacia catechu</i>
<i>Phanera vahlii</i> - <i>Ziziphus mauritiana</i>	<i>Lannea coromandelica</i> - <i>Grewia flavescens</i> - <i>Salvadora oleoides</i>	<i>Acacia catechu</i> - <i>Anogeissus pendula</i>
<i>Capparis decidua</i> - <i>Ziziphus mauritiana</i>	<i>Anogeissus pendula</i> - <i>Lannea coromandelica</i>	<i>Anogeissus pendula</i> (Pure stand)
BASE (PLAIN)	SLOPE	TOP

MAJOR ANGIOSPERMIC PLANT COMMUNITIES AT JHAR BALA PURA

V. CONCLUSION

The components of each plant community are influenced by topography, soil type, climate change and biotic disturbance. The plant community is a collection or association of plant species within a designated geographical unit, which forms a relatively uniform patch, distinguishable from different vegetation types.

The present investigation was made to ecological approach of ecosystem of study area with reference to diversity of dominant plant species and also to enumerate the plant community at different strata of hills. This baseline information is significant to open new perspective for the conservation of forest vegetation diversity and their utilization for the



welfare of human beings. Present investigation creates the awareness about the biodiversity conservation and their utility in ecosystem maintenance.

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