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# Drainage System of Ramgarh Vishdhari Wildlife Sanctuary, Rajasthan, India

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**ABSTRACT:** Wet lands of Ramgarh Vishdhari Wildlife sanctuary are considered in this communication. A number of water ponds founds in this area. Mez River flows in the middle of the Ramgarh Vishdhari Wildlife sanctuary and it is the life line of flora, fauna and ethnic societies. The availability of water is not uniform throughout the area, due to the different geological formations. Habits, Distribution and abundance of plant species depends on the availability of water.

**KEYWORDS:** *Anogeissus pendula*, Deciduous, Drainage systems, Hydrophytes, Topography, Wetland

## I. INTRODUCTION

Ramgarh Vishdhari Wildlife sanctuary is located in Bundi district of Rajasthan state and 45 Km. away from it. The sanctuary lies in the south-eastern part of Rajasthan between 24° 59' 11" to 25° 53' 11" North latitude and 75° 19' 30" to 76° 49' 30" East longitudes. It is a single compact and large forest ecosystem in Haroti region. Different physical regions are present in the sanctuary.

The availability of water is not uniform throughout the year in the area of Ramgarh Vishdhari Wild Life sanctuary. The terrain, topography and geology of the area influence the water regime by contributing towards runoff and recharging the area ground water. The water holding capacity of the area is poor due to the geological formations. The availability of water increases from Dang, Ravines, Valleys, Khoh, and Wet lands. The present observation deals with drainage system in and around Ramgarh Vishdhari Wildlife sanctuary.

Good drainage systems support the hydrophytes and moisture loving taxa. The vegetation differs of free floating, swamps, marshy places, moist and shady places near the water bodies. Macrophytes are beneficial to others because they provide food for fish, aquatic animals and human beings. Some wetlands plants having nutritional values provide scope of utilizing as foods.

## II. RELATED WORKS

The notable contribution from ecological studies particularly on floristics includes Biswas and Calder, 1936; Mathur, 1960; Shringi, 1981; Cook, 1996; Singhand Singh 2002; Sujana and Sivaperuman, 2008; Yadav and Yadav, 2008; Pandey and Pandey, 2011; Kumar, 2012; Meena, 2012; Singh and Satyanarayan 2012; Chowdhury and Das 2013; Sharma, 2013; Jadhav, 2016. Drainage system of Ramgarh Vishdhari Wildlife sanctuary have been recorded in present enumeration.

## III. METHODOLOGY

Ecological factors influence vegetation by producing variations, in the climate, physiography and soil conditions of geographical region. This hill range of area is generally wooded and contains root stocks of *Anogeissus pendula*. The slopes of the hills are moderate to steep, but at some places, become precipitous near the top.

In the present study whole area especially different physical regions of the area and dominant and co-dominant vegetation structure have been accounted. An eco-physiographical survey of the area was carried out during January 2019 to June 2021. Drainage systems in forest areas of Ramgarh Vishdhari Wildlife sanctuary are being explained through the Figure-I and Table-I. The paper is based on current exploration and field observation of the area.

#### IV. EXPERIMENTAL RESULTS

A number of water ponds built in the villages which exist in the Ramgarh Vishdhari Wildlife sanctuary retain water till late in winters. Mez River and Machali River support a variety of aquatic flora and fauna in the area. In addition, the wetland areas of sanctuary are favourite grounds of many bird's species.

The dominant vegetation (trees and shrubs) of the area are *Acacia nilotica*, *Acacia catechu*, *Anogeissus pendula*, *Acacia leucophloea*, *Butea monosperma*, *Lannea coromandelica*, *Mitragyna parvifolia*, *Maytenus emarginatus*, *Balanites aegyptiaca*, *Capparis decidua*, *Grewia flavescens*, *Salvadora oleoides*, *Dichrostachys cinerea*, *Zizyphus mauritiana* and *Zizyphus nummularia*.

The sanctuary area has been divided into five physical regions namely - Dang, Khoh, Stream and Nallah, Ravines, Valleys and Wetlands; these having uniformity of habitat, slope, soil, forest etc. Due to exposed rocks, low soil depth and raised terrain, the 'Dangs' are the driest part of the reserve. In the 'Khohs' or 'Nallahs' some springs are live even in the hot season and such areas become the nuclei of wild life activity in summers. During the monsoon season a number of streams flow out of the reserve. The streams dry up later and scattered pools of water in the dry streambeds serve as perennial water holes for wild animals.

During monsoon, water is widespread and animals avoid humid and uncomfortable wetlands and migrate to 'Dangs' and other areas of higher altitudes which are comparatively dry and comfortable. After October and November, they start moving downwards i.e., towards valleys and later to stream areas. During dry and hot months of May and June nearly all the animals are found near water holes. Water bodies and wetlands in forest areas of Ramgarh Vishdhari Wildlife sanctuary are mentioned in Table-I and Figure-I.

**TABLE - I**  
**WATER BODIES IN RAMGARH VISHDHARI WILDLIFE SANCTUARY AREA**

1. Bhenrupura talab	22. Chulia Deh
2. Balaji Ka Nala	23. Thandi Jhari
3. Bada Rawal Ji Ka Nala	24. Mez River
4. Amba Wala Nala	
5. Jamunia Deh	
6. Kharia Nade	
7. Kohani Deh	
8. Bala Ji Ka Deh	
9. Semlya Deh	
10. Jait Sagar	
11. Shambu Sagar	
12. Thikrada talab	
13. Phool Sagar	
14. Banganga reservoir	
15. Machali river	
16. Bheru Ji Ka Deh	
17. Banskhol Kui	
18. Gardi Bawari	
19. Jhal Khoh	
20. Triveni	
21. Bora Bawari	

This seasonal variation in water availability helps in proper utilization of habitat throughout the year according to the productivity of the area. Mez and Machali River flows in the middle of the Ramgarh Vishdhari Wildlife sanctuary. Mez river coming from northern side of Ramgarh Piplia block and enters into sanctuary area and another river Machali which enters from North- East part of sanctuary. Both these rivers mix together near Ramgarh place and appear as a single river. This river comes out from the sanctuary at Khatkar village.

FIGURE – I

**Map Showing  
Water Bodies and Wet lands in Ramgarh Vishdhari Wild Life Sanctuary**

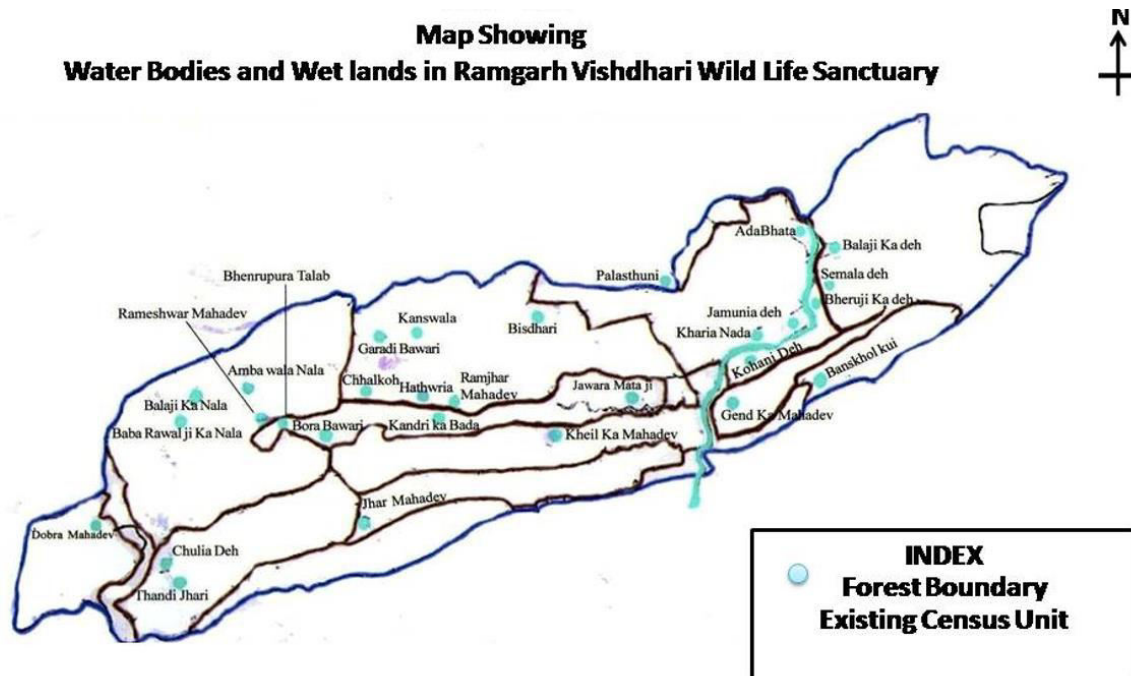


FIGURE -1: Water Bodies and Wetlands in Ramgarh Vishdhari wildlife sanctuary, Bundi district, Rajasthan.

## V. CONCLUSION

The forest vegetation of the Ramgarh Vishdhari Wildlife sanctuary is described as 'Tropical dry deciduous.' This baseline information is significant to open new perspective for the conservation of wetlands vegetation biodiversity and their utilization for the welfare of human beings. Wetland vegetation increases productive of aquatic ecosystems. This study creates the awareness about the water bodies and their utility in ecosystem maintenance.

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