



BIODIVERSITY OF PLANTS IN LOHARA FOREST, CHANDRAPUR, VIDARBHA REGION, INDIA

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ABSTRACT:

The different types of ecosystems interact amongst each other, thus holding the diver's life on earth. One such major terrestrial ecosystem is the forest. Existence of forest and human being is interdependent. Exploitation of forest minimizes the values and standards of being a human. The major forest in Chandrapur district are Tadoba reserve forest and patches of Tadoba forest is Lohara forest and Junona Forest. According to the plant biodiversity study of Lohara forest, it has been observed that there are more than 50 plant species. *Tectona grandis*, *Azadiracta indica*, *Tridax procumbens*, *Acacia nilotica* and *Boswellia arrata* are the common plants in the forest. It has been seen during the survey that *Tectona grandis*, *Lantana camara*, *Acacia sp.*, etc. are the dominating plants of Lohara forest. They seem to be preventing the growth of other species. The soaring human and cattle population have burdened extreme pressure on ecosystem. It decreases the flora of forest. The hoteling, highway, transportation, tourism and various mining activities (Stone Quarries, Crusher Projects and Blasting) nearby forest have degrading the forest ecosystem. Now there is the need to improve and increase of forest cover.

KEYWORDS: Biodiversity, Plants, Lohara Forest, Chandrapur, Vidarbha, India.

INTRODUCTION:

Biodiversity refers to the diversity of plants, animals and microorganisms in a particular area [2]. Indian biodiversity is rich and sets amongst the important biodiversity regions of the world. Forests are the complex ecosystems and it takes the place of heart and beauty of biodiversity. In India, the annual rainfall pattern varies from the minimum of 100 mm in Thar Desert and maximum of 5000 mm in Cherapunji region. Near about One Lakh Twenty-Seven Thousands (1,27,000) species of flowering plants are there in India. The experts are of opinion that Four Lakh (4,00,000) species are yet to be explored and identified amongst which maximum are the micro-organisms and invertebrates.

Biodiversity is a changing factor with the time period and modification in the environmental conditions. But due to increasing human population and its influences the normal process is faster and of extinction of species has increased. Although the forest under study is plain area, the biodiversity of species is enumerable and helpful for the nearby forest [3,4].

Knowledge of forest structure and the floristics are necessary for the study of forest dynamics, plant-animal interactions and nutrient cycling. An aspect that has generated substantial attention for many years among ecologists as well as evolutionary and conservation biologists has been the analysis of the patterns, causes and maintenance of biological diversity in the tropics [1,5].

Vegetation is an essential component of an ecosystem, which displays the effect of various environmental conditions [6]. Documentation of any area with a remarkable diversity and its cultural heritage is a matter of importance for the wellbeing of rapidly changing Indian society. Maharashtra state having largest floral and faunal biodiversity. Total six tiger reserves and nine wildlife sanctuaries are in state explaining itself, how major biodiversity found in the state.

Due to rapid growth and development in the urbanization, industrialization and in many developmental sectors, the threat to the local biodiversity is increases in the disturbing rate. There is an urgent need of biodiversity conservation of the degrading area [7].

Geologically, Chandrapur District presents a variety of stratigraphic unit right from archean to recent alluvium and laterites. The Districts is gifted with deposits of various minerals like Coal, Iron; geological sequence of formation is as Table:1

Vidarbha region is placed to the Northern East part of Maharashtra. The studies are located at 20002'04.17" N, 79029'39.59" E Northern latitude and 19058'06.19" N, 79023'12.81" E by southern latitude, 19058'36.07" N, 79020'01.78"E at Western longitude and 20000'47.04" N, 79025'21.25"E at Eastern Latitude. According to Champion and Seth's classification[8], Vidarbha's forest is a tropical dry deciduous forest belonging to the Satpuda ranges. The Climate is generally hot and Dry, whereas in the rainy season it is humid and the rain fall is quite heavy. The temperature in summer is >45°C and drops down to 10°C. Annual rainfall ranges between 800 mm to 1300 mm.

The distribution of water varies from place to place and from one geological formation to another. The quality of ground water in rural areas is sensitive to the contaminants originating from agriculture chemicals, such as

fertilizers, pesticides and lime. Poor quality of ground water has direct adverse effects on the human health as well as on growth of plants.

Soil is highly basaltic black cotton and loamy clay type. Lack of major rivers forces to the increased ground water and well water consumption.

In Vidarbha, protected forests, grassland pockets, number of water bodies and agriculture crop patterns has maintained the great diversity of flora and fauna. Vidarbha has three main seasons: the wet monsoon and post monsoon from June to October, the cool dry winter, from October to March and the hot dry season from March till the onset of rains.

The name of Lohara forest was introduced due to Lohara village, it is situated in northeast side of Chandrapur city and this forest is smallest south patch of TATR (Tadoba Andhari Tiger Reserve). The distance of Lohara forest is 5 km from Chandrapur city. This area is densely covered with *Tectona grandis* species; therefore, this is dominating species of this forest.

OBSERVATION AND RESULT:

Study area of present work is in Chandrapur district. Chandrapur district is located in Maharashtra state of India. Lohara lake is located in Study area. It is surrounded by large trees and dry deciduous forest.

Plant Biodiversity in Lohara Forest:

This forest is rich in plant species such as Teak (*Tectona grandis*), Khair (*Acacia catechu*), Palas (*Butia monosperma*), Salai, Neem (*Azadirachta indica*), Subabool (*Leucaena leucocephala*), *Calotropis procera*, *sps.*, *Ficus* *sps.* plants etc. Near about 57 numbers of plants species have been identified. Out of which most of the herbaceous, climbers, shrubs and tree species and names are given Table: 2

Forest is the place for sustenance of human being. Biodiversity is a changing factor with the time period and modification in the environmental conditions. But due to

incensement of human activity, the forest and its biodiversity badly went under threats. Although, the forest under study is plain area, the biodiversity of plant species is enumerable and helpful and cause impact on the nearby forest. The forest is blessed with near about 380 plant species.

After the survey and observation of the Lohara forest, it is observed that the plant species like herbaceous species gone extinct during early summer and in hot summer days most of the shrubs and trees become dry as the forest is deciduous. Some plants species like Neem, Hirda, Arjuna Mahua, Pipal, Umber, Karanj, Maharukh, Bel, etc. remain green during all summer days. *Parthenium sp.*, *Lantana camara*, *Ageratum sp.*, *Argemone mexicana*, *Alternanthera sp.*, *Balanites sp.* are spreading at faster rate causing delimiting the spread of parental species like *Cassiatora*, *Ageratum sp.* and other herbs specie. *Cassia tora* and other local wild species seems to be dominating on *Parthenium sp.* and new other exotic species recently.

Pollution, human intrusion, grazing activity, industrialization, transportation, exploitation in using forest wealth and increase in temperature are also playing significant role up to large extent responsible for the health and alteration of forest.

CONCLUSION:

The aim of this research was to study the major sources of noise pollution in typical six biggest square or areas where the traffic and public activity is more. The Chandrapur is very much having stuffing from near to types of pollution i.e., air pollution, water pollution, soil pollution, metal pollution etc. but after this study, it is clear that this city was also suffering from noise pollution also. The noise quality of the Chandrapur city was not so good. The noisy areas having selected for this study. The adverse

Table No. 1: Geological Sequence of Formation

impact of this observed noise pollution on public of Chandrapur city has facing day by day. This is the alarming time to control the noise pollution.

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Age	Formation	Rock Type
Recent to sub recent	Alluvium, Soil, Laterites	Sand, Clay, Silt, Soil & Laterites
Lower Eocene to Upper Cretaceous	Deccan traps	Basalts (Weathered & Vesicular), Massive Basalts
Triassic	Upper Gondwana Group Maleri	Clay Shale, Sandstone
Lower Triassic to Upper Carboniferous	Lower Gondwana Group Kamthi, Barakar, Talchir	Reddish Brown Sandstone, Shale Clay Sandstone, Coal seam
Pre- Cambrian	Vindhyan	Shale, Sandstone, massive Limestone
Archean	Crystalline and Older Metamorphic	Gneisses, Quartzite, Schist

Table No. 2: Herbaceous Species

Sr. No.	Vernacular Name	Botanical Name
1	Kambarmodi	<i>Tridax procumbens</i>
2	Kunjar	<i>Digera muricata</i>
3	Gajargawat	<i>Parthenium hysterophorus</i>
4	Dudhi	<i>Euphorbia heyneana</i>
5	Amratvel, Kumbhela	<i>Cayratiatrifolia</i>
6	Chikna	<i>Sida alba, Sidaglutinosa</i>
7	Phutani	<i>Polyala arvensis, P. elongates</i>
8	Shendari	<i>Hibicushirtus, H. labatus, H. ovalifortus,</i> <i>Malachra capital</i>
9	Aghada	<i>Achyranthes aspera</i>
10	Durva	<i>Cynodonbactylon</i>
11	Lajalu	<i>Mimosa pudica</i>
12	Jangali bhendi	<i>Abelmoscus ficuineus</i>
13	Starbur	<i>Acanthospermum hispidum</i>
14	Tarota	<i>Cassia tora</i>

Table No. 3: Climbers Species:

Sr. No.	Vernacular Name	Botanical Name
1	Gulvel	<i>Tinosporacordiforia</i>
2	Vasanwel	<i>Caeculushirsums</i>
3	Kalkuilee	<i>Mucuna pruiens, Mucuna monosperma</i>
4	Kali takal	<i>Cidaba fruticose</i>

Table No. 4: Shrubs Species:

Sr. No.	Vernacular Name	Botanical Name
1	Raimunni	<i>Lantana camera</i>
2	Chandrajyoti	<i>Jatropha gossypifolia</i>
3	Palas	<i>Butea monosperma</i>
4	Bahawa	<i>Cassia fistula</i>
5	Bambu	<i>Dendrocalamus strictus</i>
6	Rui	<i>Calotropis gigantean, C. procera</i>

Table No. 5: Tree Species:

Sr. No.	Vernacular Name	Botanical Name
1	Sagwan / Sag	<i>Tectona grandis</i>
2	Haeti/ Hadga	<i>Sesbania grandiflora</i>
3	Arjun	<i>Terminalia arjuna</i>
4	Hirda	<i>Terminaliya chebula</i>
5	Bel	<i>Aegelemarmelos</i>
6	Gulmohar	<i>Delonix regia</i>
7	Shewaga	<i>Moringa oleifera</i>
8	Neem	<i>Azadiracta indica</i>
9	Raktachandan	<i>Pterocarpus santalinus</i>
10	Aran, Jamrasi	<i>Cassine glauca</i>
11	Maharukh	<i>Ailanthus excels</i>
12	Paringa	<i>Grewia ulifolia</i>

13	Salai	<i>Boswellia arrata</i>
14	Anjan	<i>Hardwickia binnata</i>
15	Karanj	<i>Pongamia pinnata</i>
16	Bakul	<i>Mimusepselengi</i>
17	Shami	<i>Prosopis spicigera</i>
18	Sitaphal	<i>Annona squamosa</i>
19	Kadamb	<i>Niolamarckiacadamba</i>
20	Khirni	<i>Manilkara hexanadra</i>
21	Umbar	<i>Ficus recemosa</i>
22	Bor	<i>Zizypus maritiana, Z. Jojoba</i>
23	Moha	<i>Madhuca indica, M. lingifolia</i>
24	Sona / Aapta	<i>Bauhaunia sp.</i>
25	Behada	<i>Terminalia bellerica</i>
26	Babul	<i>Acacia nilolica, Acacia chundra</i>
27	Jambul	<i>Syzygium cumine</i>
28	Parijat	<i>Nycanthesar bortristics</i>
29	Aawala	<i>Emblica officinals</i>
30	Pipal	<i>Ficus religiosa</i>
31	Katesawar	<i>Bombax ceiba</i>
32	Tembhurni	<i>Diospyros melanoxylon</i>