

State of plant biodiversity of different locations of Ambernath taluka, Thane, Maharashtra, India

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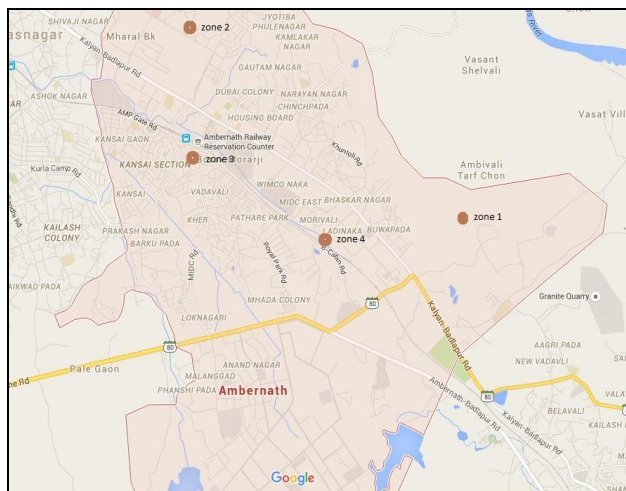
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Article Info	Abstract
<p>Available online on http://www.ijlsci.in</p> <p>ISSN: 2320-964X (Online) ISSN: 2320-7817 (Print)</p> <p>Editor: Dr. Arvind Chavhan</p> <p>Cite this article as: Anthony Kayden, Vishwakarma Arti and Patel Alpa (2015) State of plant biodiversity of different locations of Ambernath taluka, Thane, Maharashtra, India, <i>Int. J. of Life Sciences</i>, Special Issue, A4: 37-41.</p> <p>Acknowledgement: Authors are thankful to the local people for the guidance.</p> <p>Copyright: © Author, This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.</p>	<p>Ambernath taluka is situated in Thane district and has a varied geographical structure. It has hills which descend from Matheran ranges. Ambernath has wide range of Plant Biodiversity & few water bodies like lakes and Ulnas River flowing through it. Apart from that Ambernath also has semi urban and well developed residential areas, as well as heavily polluted industrial areas. As the locality concern environmental factors, pollution, topography and other essential factors affect the vegetation and further the flora and fauna of the area. In the present paper we have divided the taluka into four zones on basis of their type and environmental factors and studied the plant diversity of different locations of Ambernath. The zones are as follows 1) Hilly vegetated area 2) Semi urban area 3) Urban area 4) Industrial polluted area. Taking the surrounding factors in consideration plants have been recorded and classified and the characters have been noted.</p> <p>Keywords: Plant biodiversity, geographical structure, environmental factors, pollution, Ambernath, Matheran</p> <p>INTRODUCTION</p> <p>Ambernath falls under the plains at the foot of the slopes of the Sahayadri, and has a small part of Matheran ranges Coordinates: 19.209°N 73.186°E, having area of 38km² and Elevation 115ft form sea level. Ambernath descending as small hills having vegetated patches extending a few a few kilometres harbouring some wild animals. Winter is from December to February, followed by summer from March to June. The southwest monsoon season is from June to September. October and November moist deciduous type vegetation is found here. Climate in Ambernath is comparatively less humid as compared to the western part of the thane district. The temperature variation is more in the eastern part of the district comparing to the</p>

western coastal areas (Champion and Seth, 1968) Ambernath also has well developed residential and urban areas and societies having ornamental plants and non native planted trees in. Ambernath has heavily polluted industrial areas. Mainly manufacturing matchsticks and has less vegetation and only a few type of grass that are able to survive the polluted environment.

Ambernath also has an ordnance estate which is a plain land having industries manufacturing weapons residential areas as well as dense vegetation supporting various small animals. Varied type of zones supports different type of plants and different type of fauna, which may have a crucial role on the environment and its sustainability, in the present paper we have noted the biodiversity of various types of areas and compared them.



Map of Ambernath showing different zones

MATERIALS AND METHODS

We noted the biodiversity of the different zones respectively as mentioned below

Zone 1: Hilly vegetated area - This area comprises of hills having good amount of vegetation and foot hill vegetation

Zone 2: Semi urban area – This is a residential, industrial and vegetated area where the different

type of localities coexist, eg. Ordnance estate of Ambernath.

Zone 3: Urban area – This is a well developed residential area where non native plants and small weeds have been observed.eg.Ambernath (east).

Zone 4: Industrial polluted area – This is a heavily polluted industrial area where vegetation present but low plant diversity has been observed.eg. Morivali Section.

All the four zones were surveyed and plant diversity was noted. The plants observed were identified and then were compared as per different zones.

RESULTS AND DISCUSSION

Zone 1: Hilly vegetated area:

Highest amount of vegetation was found here due to lack of human intervention. This area dominated by Angiospermic plants, where flowering plants ranging about 1 to 3 meters in height and dense grass cover about 1 meter in height, trees present ranged from 4 to 6 meters in height (Melville, 1983). Some areas showed non native planted trees of *Eucalyptus* which were the tallest 10 meters and above (Takhtajan, 1969).

Zone 2: Semi urban area:

This area consists of residential industrial and vegetated areas this area this area has a varied type of vegetation. This area can be divided into two locations namely.

1. Residential and industrial: showing Bryophytes and Pteridophytes growing near walls and few inches. Residential area is dominated by native and non native fruit bearing and ornamental plants are seen at a few locations. (Singh and Mudgal, 1997)

2. Vegetated area: This area consisted of grasses similar to the hilly area and the vegetation also is similar except for some trees which were present in small patches (Takhtajan, 1980).

Zone 3: Urban area:

This area consisted of small weeds, ferns, bryophytes and pteridophytes height ranging from a few inches to one meter. Rest of the vegetation is dominated by ornamental plants.

Zone 4: Industrial polluted area

This area consist of notable amount of vegetation but the species diversity lacks, ornamental plants are seen near the industries apart from that few trees are seen at intervals and the natural vegetation is dominated by grasses and creepers. (Rao and Gupta, 1997).



Fig. 1: Image showing topography of zone 1



Fig.2: Image showing topography of zone 2

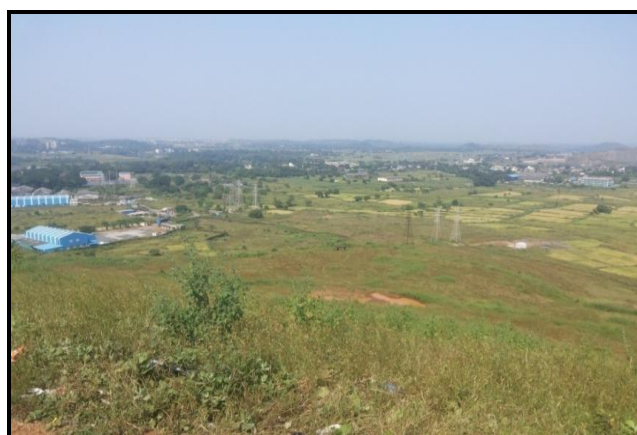


Fig.3: Image showing topography of zone 2

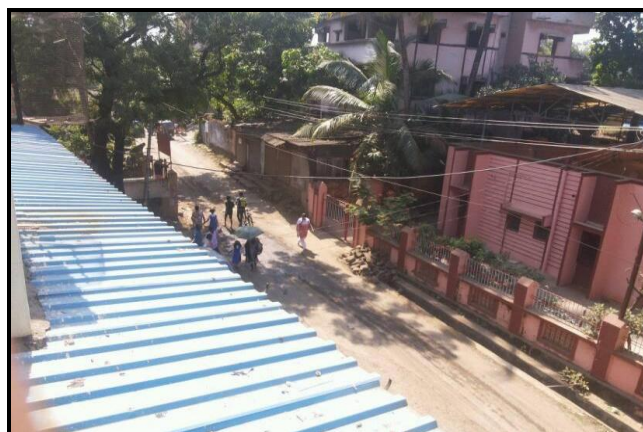


Fig. 4 Image showing topography of zone 3



Fig.5:Image showing topography of zone 3

Table 1: Showing different types of plants

Types	Angiosperms	Gymnosperms	Pteridophytes	Bryophytes	Algae	Fungi	Lichen
No of plants	78	04	07	04	07	04	03



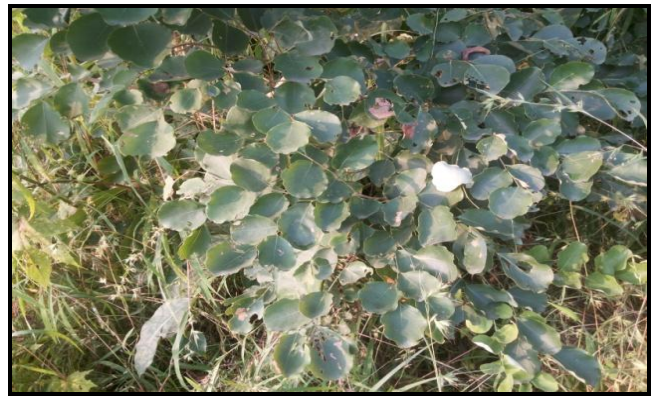
Fig. 6: Image showing topography of zone 4



Fig.7: Image showing topography of zone 4



Tectona grandis



Dalbergia latifolia



Lichen-Foliose



Fungi-Polyporus

Fig. 8: Different Plant Species

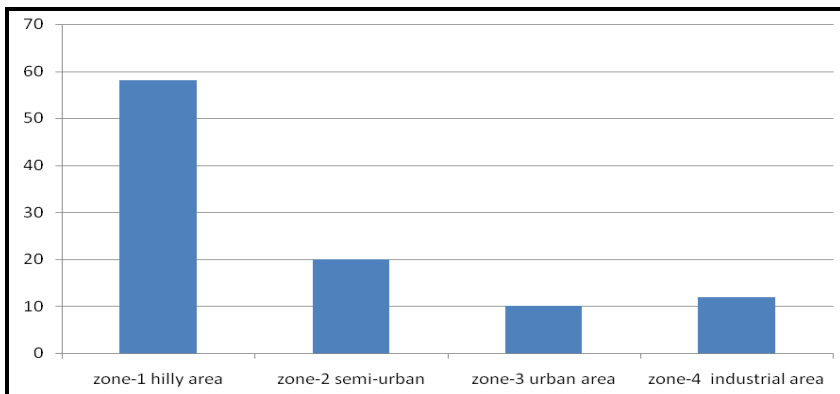


Fig.9: Diversity of respected areas in percentage

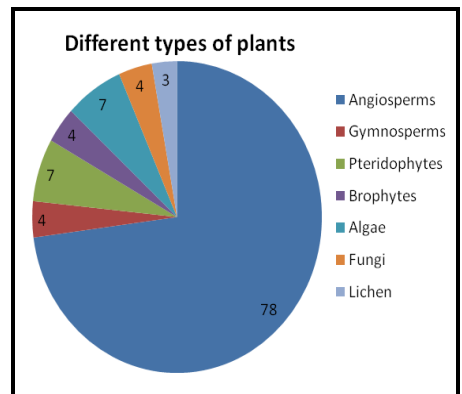


Fig. 10: Plant Percentages

CONCLUSION

After doing the survey of different zone of Ambarnath the different characteristics have been observed.

Zone 1 showed highest amount of biodiversity since there is least amount of human intervention availability of vast amount of fertile land and pollution free environment

Zone 2 showed high amount of vegetation and biodiversity but lesser than zone 1 since the area had very little industrialisation and residency with a vast landscape of fertile land.

Zone 3 showed least amount of vegetation since the areas are highly populous and some amount of pollution is present here.

Zone 4 showed low amount of biodiversity but ample vegetation as compared to zone 3 since human intervention is low due to which plants that are able to survive the polluted environment are able to grow and multiply here.

Ambarnath has wide range of Biodiversity showing all the types of plants which should be sustained for further research for conserving socioeconomic wealth.

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