



DISTRICT ENVIRONMENTAL ATLAS



PUNE DISTRICT (MAHARASHTRA)



ZONING ATLAS DIVISION
MAHARASHTRA POLLUTION CONTROL BOARD, MUMBAI

CENTRAL POLLUTION CONTROL BOARD, DELHI

August, 2006

District Environmental Atlas

PUNE DISTRICT (MAHARASHTRA)

PREPARED BY
MAHARASHTRA POLLUTION CONTROL BOARD
FOR
CENTRAL POLLUTION CONTROL BOARD



Acknowledgements

The District Environment Atlas (DEA) of Pune District is a result of cooperation among the various government and other organizations, and contribution of various individual experts in the respective fields. The Maharashtra Pollution Control Board (MPCB), Mumbai is thankful to the Ministry of Environment and Forests (MoEF), Government of India, Central Pollution Control Board (CPCB), and the Department of Environment (DoE), Government of Maharashtra (GoM) for entrusting it with the task of co-coordinating and preparing the District Environment Atlas.

First and foremost, we would like to thank Smt. Sharwaree Gokhale, Chairperson, MPCB, and Dr. D.B. Boralkar, Member Secretary, MPCB for providing continuous support for the preparation of this report. Suggestions of various participants in meetings and workshops and review and comments from team members of CPCB were useful in achieving the objectives of the report.

The team is also grateful for the support extended by the officials and heads of the following Government offices of Pune District:

1. District Collector, District Collectorate Office, Pune
2. Chief Executive Officer-Zillah Parishad, Pune
3. Disaster Managemet Cell, District Collectorate Office, Pune
4. Dy. Director, Social Welfare Office, Pune
5. Economics & Statistical Department, Pune
6. Asst. Director and District Planning Officer, Town Planning and Revenue Dept, Pune
7. Director, Maharashtra Remote Sensing Application Centre, Nagpur
8. Director, National Bureau of Soil Survey and Landuse Planning, Nagpur
9. Dy. Director General, Regional Meteorological Department, Mumbai
10. Mananging Director, Maharashtra Tourism Development Corporation, Mumbai
11. Regional Director, Maharashtra Tourism Development Corporation, Pune
12. Commissioner, Agricultural Department, Pune
13. District Superintendent, Agriculture Office, Pune
14. Superintending Engineer, Maharashtra Jeevan Pradhikaran, Pune
15. Chief Engineer, Public Works Department, Pune
16. Superintending Engineer, Pune Irrigation Circle, Pune
17. Chief Engineer, Central Railway, Pune
18. Dy. Conservator of Forests (Wildlife), Western Region, Pune
19. General Manager, District Industries Centre, Pune
20. District Health Office, Zillah Parishad, Pune
21. Jt. Director, Zoological Survey of India, Pune
22. Dy. Director, Botanical Survey of India, Pune
23. Dy. Director, Social Forestry Department, Pune
24. Director, Ground Water Surveys and Development Authority, Pune
25. Div. Forest Officer, Forest Department, Pune
26. District Fishries Development Officer, Pune
27. District Geology and Mining Office, Pune
28. District Soil Conservator, Soil Survey and Soil Testing Department, Pune
29. Commissioner, Tribal Development, Pune
30. Asst. Director, Archaeological Department, Pune
31. District Khadi and Village Industries Board, Pune
32. Commissioner, Pune Municipal Corporation, Pune
33. Development Engg. (Environment), Pune Municipal Corporation, Pune
34. Dy. City Engg. (Water Works Dept.), Pune Municipal Corporation, Pune
35. Chief Engg, MIDC, Pune
36. Ex. Engg., MIDC, Pimpri-Chinchwad
37. Ex. Engg., MIDC, Baramati

Information from the following websites is acknowledged:

www.mpcb.mah.nic.in, www.mahapwd.com, www.maharashtratourism.gov.in, www.punediary.com, www.virtualpune.com and unipune.ernet.in/dept/shs/.

Last but not the least, we acknowledge the officers and staff of the MPCB at the office of MS, CAO, EB, EIC at HQ and the office of RO and SRO's at Pune for their cooperation and support, without the help of which, this work would have not been possible.

(Dr. A.R. Supate)
Project Leader and Team Members

Project Team

Maharashtra Pollution Control Board, Mumbai

Dr. A. R. Supate, Project Leader

Mr. S. C. Kollur, Project Scientist

Mr. Sachin Nimbalkar, Environmental Planner

Ms. Bela Pharate, Environmental Planner

Mr. Satish Anekar, Data Entry Operator

Central Pollution Control Board, New Delhi

Mr. T. Venugopal, Director, UPC Division

Mr. Anand Kumar, Project Coordinator

Ms. Jayeeta Sen, Environmental Planner

Ms. Nandini Choudhary, Environmental Planner

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ABBREVIATIONS

BG	Broad Gauge
BMW	Bio-Medical Waste
BOD	Biological Oxygen Demand
CETP	Common Effluent Treatment Plant
CIRT	Central Institute of Road Transport
CO	Carbon Monoxide
COD	Chemical Oxygen Demand
CPCB	Central Pollution Control Board
CREP	Corporate Responsibility for Environmental Protection
DEA	District Environmental Atlas
DO	Dissolved Oxygen
DoE	Department of Environment
ESR	Environment Status Report
GoM	Government of Maharashtra
GSDA	Groundwater Surveys and Development Agency
HC	Hydro Carbons
HDP	Highly Dissected Plateau
HW	Hazardous Waste
MDP	Medium Dissected Plateau
HDP	Highly Dissected Plateau
MIDC	Maharashtra Industrial Development Corporation
MINARS	Monitoring of Indian National Aquatic Resources
MLD	Million Litres per day
MoEF	Ministry of Environment and Forests, Govt. of India
MPCB	Maharashtra Pollution Control Board
MRSAC	Maharashtra Remote Sensing and Applications Centre
MSW	Municipal Solid Waste
MSL	Mean Sea Level
MT	Metric Tonnes
NH	National Highways
NGO	Non-Governmental Organization
NOx	Oxides of Nitrogen
NPK	Nitrogen Phosphorous and Potassium
PCMC	Pimpri Chinchwad Municipal Corporation
PIL	Public Interest Litigation
PM	Particulate Matter
PMC	Pune Municipal Corporation
PWD	Public Works Department
RPM	Respirable Particulate Matter
RSPM	Respirable Suspended Particulate Matter
RTO	Regional Transport Office
SH	State Highways
SO ₂	Sulphur Dioxide
Sol	Survey of India
SPM	Suspended Particulate Matter
SS	Suspended Solids
ST	Scheduled Tribe
STP	Sewage Treatment Plant
SWM	Solid Waste Management
TKN	Total Kjeldhal Nitrogen
TMC	Thousand Million Cubes
TPD	Tonnes per Day
TSDF	Treatment Storage and Disposal Facility

CHWTSDF	Common Hazardous Waste Treatment Storage and Disposal Facility
TSP	Tribal Settlement Plan
TSP	Total Suspended Particles
TSPM	Total Suspended Particulate Matter
ULB	Urban Local Bodies
ZP	Zilla Parishad

INTRODUCTION

Background

Industrialization is on the rise and so is the environmental pollution due to emissions and wastes generated from industries. The industrial pollution due to its nature has the potential to cause irreversible damage to the environment. Some areas or ecosystems are more susceptible to adverse environmental impacts than others. The unplanned and haphazard sitting of industries, improper handling and disposal of Solid, Hazardous and/or Biomedical waste might substantially increase the risks to the environment. Agriculture and urbanization too have impact in their different ways on the Environment.

Environment entails water, air, land and the interrelationship, which exists among and between water, air, land, and human beings, other living creatures, plants and micro-organisms. The information on all such aspects is an important tool for any decision making process for environmental management. Due to the lack of a systematic database, decisions tend to be subjective and time consuming. Many times, very important aspects may be left out due to lack of information while taking investment decisions and implementation of development projects.

Recognizing the need for a compiled and systematic database on the existing environmental status of the district, the “**District Environmental Atlas**” (DEA) has been prepared using primary and secondary data. The District Environmental Atlas includes easy-to-read maps (at scale 1:2,50,000) on general and physical features, surface water and ground water features, environmentally sensitive zones, major sources of pollution and the environmental quality of the district.

The present report **District Environmental Atlas of District Pune** is prepared by the Maharashtra Pollution Control Board, with technical guidance and financial assistance from the Central Pollution Control Board, Delhi and the Ministry of Environment and Forest, Govt. of India, New Delhi, respectively.

The District Environmental Atlas (DEA)

The objective of preparing the District Environmental Atlas is to present the environmental status of the districts through easy to read maps. In addition, DEA streamlines several benefits, which are briefed below:

- Provides a ready-reckoner for relevant environmental information in the district;
- Provides a basis for incorporating environmental aspects into physical (landuse) planning process that are needed in the district;
- Helps in planning cost-effective pollution control measures and programmes;
- Helps in developing infrastructure facilities such as roads, water supply, electricity etc. and provision of common waste treatment and disposal facilities;
- Helps to check the additional pollution in the areas already over-stressed with pollution;
- Helps in increasing awareness of the public on the sources and nature of pollution anticipated in the district and
- Helps to locate areas to be monitored for pollution

Methodology

The District Environmental Atlas (DEA) is prepared using secondary data from various departments and from thematic maps procured from the Survey of India (Sol) and Maharashtra Remote Sensing and Applications Centre (MRSAC), Nagpur.

Steps to prepare the District Environmental Atlas

The procedure for preparing the District Environmental Atlas [1:2,50,000 (1 cm = 2.5 km)] is broadly categorized into five steps, as below:

- Step I : Preparation of the base map and general maps of the District (Settlement, Transportation Network, Climate and Natural Hazard);
- Step II : Preparation of themes which show the physical features of the District (landuse, drainage, physiography etc.);
- Step III : Identification of areas showing 'Sensitive Zones' which are unsuitable for industrial sitting from environmental considerations/ guidelines, legal restrictions, social constraints and physical constraints for industrial siting;
- Step IV : Preparation of maps stating information about major sources of pollution:
- Location of Existing Industrial Areas/ Estates
 - Location of Mines
 - Solid / Hazardous waste generation
 - Vehicular Pollution Load
 - Domestic Sewage Load
 - Consumption of Pesticides and Fertilizers;
- Step V : Preparation of theme maps pertaining to air, surface and ground water quality.

Limitations of District Environmental Atlas (DEA)

- The maps of the Atlas are prepared to 1:2,50,000 scale (1 cm = 2.5 km) which means that micro-level details cannot be considered. It is time consuming and expensive to carry out studies at district level in a more detailed scale. However, the present study will prove to be a rapid assessment of environmental condition of the district.
- The maps available with various departments, although in small scale, do not always have matching boundaries. The boundaries shown in the topographical sheets are considered to be accurate.
- Due to availability of secondary information on different scales other than that, which is required, the data had to be converted to the adopted scale (1:2,50,000). While making scale conversions, the error is minimized in the environment related aspects viz. forests, sanctuaries etc. and distributed in the aspects that are not very relevant from the environmental impact point of view.
- The Atlas has been prepared mostly based on available information, as it is very expensive and time consuming to collect primary data. Also, it is beyond the scope of the State Pollution Control Board to create primary data on aspects such as landuse, physiography, soil types etc. Wherever maps or data is not available, assumptions have been made based on field visits, available reports and experience of the State Pollution Control Board in the District.

Major Activities

The major activities involved in preparation of the District Environmental Atlas (DEA) for Pune District are:

- Collection of data, maps and information from secondary sources;
- Preparation of base map and various theme maps;
- Survey of the District and monitoring of ambient air quality, surface water and ground water quality and preparation of related thematic maps;
- Digitization of the maps;
- Preparation of the draft and final report;
- Review of the report, maps and recommendation by CPCB;
- Review of the report, map and recommendation by the State Departments, interaction meet with industrial associations, NGO's and local public; and
- Preparation of the final report.

