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ANNUAL REPORT 2008-09




महाराष्ट्र प्रदूषण नियंत्रण मंडळ

MAHARASHTRA POLLUTION CONTROL BOARD

CONTENTS

1. Introduction

The Maharashtra Water (Prevention and Control of Pollution) Board was established in 1970, under the provisions of Maharashtra (Prevention of Water Pollution) Act, 1969, which was enacted by the State Legislature. Subsequently, in 1974, the Parliament passed Water (Prevention and Control of Pollution) Act 1974.This was adopted by the State in 1981 and the Board was constituted under the new Act.

The Parliament enacted Air (Prevention and Control of Pollution) Act in 1981 and, the Environment (Protection) Act in 1986. Subsequently Rules regarding the management of hazardous chemicals, hazardous wastes, Biomedical wastes, Municipal Solid Wastes, emergency planning preparedness and response for chemical accidents, recycled plastics manufacture and environment impact assessment, coastal zone regulation, Batteries management, ozone depleting substances Rules, fly ash utilization, Noise Pollution Rules etc. were notified by the Central Government in the Ministry of Environment and Forests. State Pollution Control Boards have been entrusted with a responsibility of enforcement of these various environmental protection legislations and rules notified there under.

The scope of the activities of the Board is science and technology based and multidisciplinary in nature. Considering the challenges in the enforcement of the environmental regulations, the Maharashtra Pollution Control Board (MPCB) has geared itself up in terms of capacity building, development of infrastructure, laboratories, engaging services of the professionals and environmental scientists and engineers, outsourcing of the work, preparation and implementation of the action plans for environmental management of the places of interest and prevention and control of pollution.

Environmental monitoring is one of the principal activities of the Board and under this program the ambient air quality is being monitored daily at three important traffic junctions in Mumbai viz. Sion, Mulund and Bandra and at the stations set up in cities like Nashik, Pune, Nagpur ,Aurangabad, Kolhapur. Ambient air quality data gathered under National Ambient Air monitoring program (NAMP) is compiled and made available on the Board's website. Similarly Water quality data of rivers, sea, surface and ground water is also monitored by the Board under GEMS , MINARS and SWMP programme and made available on website of the Board. As per the directions of the High Court of Mumbai and Supreme Court of India, Action Plans have been prepared and being implemented to control air pollution at Pune and Solapur cities. The Board is coordinating the activities under this plan.

Setting up of C.E.T.Ps.(Common Effluent Treatment Plants) in the industrial areas is encouraged by the Board. The performance of all C.E.T.Ps is also monitored regularly by the Board.

To facilitate the implementation of MSW Rules and to motivate urban local bodies, MPCB has taken up demonstration projects at 5 places in the State. Common facilities for management of hazardous wastes have been set up at Taloja, TTC, Butibori (Nagpur) and Ranjangaon (Pune) industrial areas. Two more Hazardous waste management facilities are proposed at Shendre, in Aurangabad and at Mahad, in Raigad

The Board has introduced a quick disposal system for the consent/ authorization applications made by the industries and other projects under the environment protection regulations. The steps taken by the Board have been widely appreciated by industries and developers since they can now track the status of their applications on the MPCB website. Information on the consents/ authorizations granted by the Board is also uploaded on website of the Board.

To generate environmental awareness among the people regarding effects of pollution, need to prevent and control pollution and protect the environment, MPCB has implemented various programs involving media, NGOs, industries, local bodies and academic institutions. As a part of the campaign against the plastic carry bags street plays were also organized at schools, colleges, railway stations and Mantralaya and these were widely appreciated by the people.

2. Constitution of the Board

The Maharashtra Pollution Control Board consists of Chairman, Members and a full time Member- Secretary, who is the chief executive officer as per the Rules under Water (P.&C.P) Act, 1974 notified by the State Government in 1983. The composition of the Board is as under:

- **Chairman:** (Part time or full time)
- **Representatives of the State Govt.** (not exceeding five)
- **Representatives of local bodies** (not exceeding five)
- **Representatives of companies or corporations of the State Govt.** (two)
- **Members representing interests of agriculture, fishery or industry or trade etc.** (not exceeding three)
- **Member Secretary**

Government of Maharashtra has the powers under section 4 of the Water (Prevention and Control of Pollution) Act, 1974 to constitute State Pollution Control Board,(MPCB). However, during the year under report, the Board is not constituted as per the composition given under the Act.

Mrs.Valsa R.Nair Singh has joined in as Secretary Environment Department, Govt. of Maharashtra and Chairperson to Maharashtra Pollution Control Board from 29th August 2006.

Present Constitution of M. P. C. Board

Smt. Valsa R. Nair Singh	Chairperson, M. P. C. Board, Mumbai.
Smt. Valsa R. Nair Singh	Secretary, Environment Dept. Government of Maharashtra, Mumbai.
Principal Secretary,	Urban Development Dept. Government of Maharashtra, Mumbai.
Principal Secretary,	Home (Transport) Dept. Government of Maharashtra, Mantralaya, Mumbai.
Principal Secretary,	Public Health Dept. Government of Maharashtra, Mantralaya, Mumbai.
Chief Executive Officer	M.I.D.C., Mahakali Caves Road, Andheri (E),Mumbai.
Managing Director	S.I.C.O.M, Nariman Point, Mumbai.
Shri Sanjay Khandare,	Member Secretary, M. P. C. Board, Mumbai.

3. Meetings of the Board

During the reporting year 2 meetings were held. The major decisions are as below

147th meeting (22/04/2008 and 28/04/2008)

1. All the Sub Regional Officers and Regional Officer of the Board as well as Technical Heads (Water Pollution abatement Engineers, Air Pollution Abatement Engineers and Principal Scientific Officer) are nominated by the Board as per the Maharashtra Plastic Carry Bags (Manufacture & Usage) Amendment Rules, 2007 as the competent authorities for the enforcement of Maharashtra Non-Biodegradable Garbage (control) Act, 2006 and Rules made there-under.

2. The Board approved total expenditure of Rs.82.5 Lakhs and the release of 50% payment to the National Institute of Oceanography for coastal monitoring survey to be conducted for next two years as undertaken by the Board. Chairman is authorized to take further decision in respect of continuation of study and preparation of Action Plan.

3. The Board approved contributory pension scheme to the employees and officers of the Board, who have been appointed on or before 01/11/2005 as per the G.R. No.CPS-1005/126/SER-4, dated 31/10/2005. Member Secretary of the Board has been authorized to forward the proposal to the Environment Department, Govt. of Maharashtra for necessary approval.

4. Taking in to consideration increase in number of water and air samples, the Board approved appointment of the officers having prescribed qualifications and experience to be the 'Board Analyst' under the provisions of the Water (Prevention & control of Pollution) Act, 1974 and Sub Section 2 of Section 29 of the Air (Prevention and control of Pollution) Act, 1981 respectively subject to the approval of the State Government.

   The Board approved for forwarding the proposal for recognition of its Regional Laboratories as 'Environmental Laboratories' u/s 12 of the Environment (Protection) Act, 1986 for the purpose of analysis of samples under the Environment (Protection) Act, 1986.

5. The Board approved the imposition of lapse period consent fees/ delayed payment charges w.e.f. 01/07/2008 with the approval of the State Government, as under:

   If, from the date of establishment, consent/ authorization is not obtained/ applied, additional 20 % delayed charges of actual consent/ authorization fees for the lapse period is collected at the time of making first application.

   If, renewal of consent / authorization is not obtained / applied for a period up to 30days, additional 5 % charges of consent / authorization fees is collected.

   If, the renewal not obtained / applied for 31 days to 90 days, additional 10% charges of consent/ authorization fees is collected.

   If, not obtained/ applied for 91 days to 180 days, additional 15 % charges should be collected.

   If not obtained/ applied from 181 days onwards till application is made, additional 20% charges should be collected.

6. It was resolved that the Board will consider providing financial assistance up to 5% of the capital cost (up to maximum Rs.2 crores) on case to case basis for Study on "Rapid e-Waste Assessment in Mumbai Metropolitan Region, Pune and Pimpri- Chinchwad Municipal Corporation (PMC & PCMC) areas"

   The Board decided to grant its post-facto approval to the expenditure of Rs.17.15 lakhs incurred on e-waste study subject to the condition that the concerned officer will take follow up to recover Rs.5.40 lakhs from UNEP, as agreed by it as a reimbursement.

7. Under the Maharashtra Prevention of Water Pollution Board Contributory Provident Fund Rules 1979, powers have been Re-delegated as below.

   Member Secretary is authorized as a Competent Authority for sanction of applications of Class-I and Class-II officers.

   Chief Accounts Officer is authorized as Competent Authority for sanction of applications of Class-III and Class-IV employees of the Board.

8. The Board approved additional expenditure of Rs.23 Lakhs on the Demo Plants for management of Municipal solid Waste in Municipal Councils.

148th meeting (12/03/09)

1 The Board approved the guidelines for environmentally sound stone quarrying operations and further resolved that these guidelines can be submitted to state government with recommendation to notify the same for its effective implementation.

2 The Board approved the project on "Methodology Development for Modelling Propagation of Plume and estimation of futuristic Impact on Coastal ecology using remote sensing and GIS" at the total MPCB contribution of Rs. 10.64 lakhs to be spent from Cess funds. Board also proposed that the IPR of the proposed model/software should be with MPCB/MMRDA for future applications.

3 Board approved the implementation of CPCB assisted project on "Assessment of Status of Riverine fisheries and linking with the water quality Restoration Program" and also future replications in other river stretches and authorized M.S. to take suitable follow up actions.

4 The information on recovery of the balance amount of interest amounting to Rs.69,37,199/-from the Janata Co-Op.Bank Ltd., Pune and investment written off in respect of short term deposits alongwith interest thereon kept with the Chetna Co-Op.Bank was noted by the Board . It was decided that report in this behalf be submitted to the Environment Department, Government of Maharashtra for information.

5 To have incineration based Common Bio-Medical Waste Treatment, Storage and Disposal Facilities (CBMWTSDF) in remote places the Board agreed for part funding up to maximum 15% of the total project cost subject to the budgetary provision of Rs.90 Lakhs and subject to the condition that part funding will be on the project cost excluding the cost of land not exceeding Rs.1 crore.

6 As a special case the Board has sanctioned, the financial support for Rs.1, 18, 31,050/- to Windrows composting project at Pandharpur Municipal Council subject to the condition that proper utilization certificate will be submitted by the Council

7 The Board has sanctioned the opening of the Sub-Regional Office, MPCB Bhiwandi and recommended the Board to make submissions to the State Government for grant of necessary post-facto approval.

8 Board approved the Budget for the year 2009-2010 and Annual Report of the year 2007-2008

9 It was resolved to provide 25% financial support (State Government contribution) to the CETPs in non-MIDC areas, maximum up to 2 crores. The Board also decided that the procedures mentioned in the 110th Meeting should be strictly adhered to.

10 Under MUTP project, for 3 CAAQMS at Mumbai the Board approved financial contribution of 20% in capital and recurring cost to be shared with MMRDA, which will conduct the procurement and O&M process. Board has authorized M.S. to take suitable steps in this regard.

11 The Board has approved the budget provision of Rs.1, 22, 40,000/- for the development, design and annual maintenance contract for 2 Mobile Exhibition Vans to be purchased from M/s.Centre for Environment Education, Pune.

12 Formation of Clean Technology Cell with a budget provision of Rs.50 lakhs has been approved by the Board

4. Committees Constituted by the Board

With a view to have smooth functioning of the Board as provided under section 9 of the Water (Prevention and Control of Pollution) Act 1974 and section 11 of the Air (Prevention and Control of Pollution) Act 1981 the Board has constituted various committees for efficient and effective implementation of the Acts and Rules.

During the year under report, the following committees constituted to conduct specific work

4.1 Consent Appraisal Committee:

As provided under section 9 of the Water Act 1974 and section 11 of Air Act 1981 the Board has constituted the Consent Appraisal Committee on 27/06/07. In exercise of the powers conferred on the Chairman of the Board the Consent Appraisal Committee is constituted as under:

- **Chairman** Maharashtra Pollution Control Board — Chairman
- **Secretary** Urban Development Deptt. — Member
- **The Technical Advisor** Maharashtra Industrial Development Corporation — Member
- **Member-Secretary** Maharashtra Pollution Control Board — Member-Secretary

This committee considers applications for Consents/Authorizations under Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Hazardous Wastes (M & H) Rules, 1989 as under

"RED" category : Projects with capital investment above Rs. 15 crores.

"ORANGE" category: Projects with capital Investment above Rs. 100 crores.

"GREEN" category : All Projects beyond Rs.500 crores
All A & B Class Municipal Councils And Corporations

Board has taken initiatives to take construction projects under Water Act, 1974 and granting consent to establish by imposing the conditions of 80% recycle of effluent. The inline projects are commissioned which have provided full-fledged STP and recycle arrangement, resulted in to water conservation and reduction in discharge i.e. pollution reduction at source. The Board has generated revenue Rs.2, 61, 52,942 from these construction projects.

The revised and amended power delegation in respect of consent management from 18/02/2008, resulted in increase of Board's functional efficiency. The maximum applications are of C.I. Rs.25Cr. & above are discussed and disposed as below:

a) Total 12 meetings of Consent Appraisal committee were conducted and 284 consent applications were discussed and disposed off.

b) Total 28 meetings of Consent Committee were conducted and 541 consent applications were discussed and disposed off.

4.2 Expert Committee for Formulation of Guidelines for suitable Air Pollution Control System in respect of Alum Manufacturing Industries in Maharashtra:

Pursuant to compliance regarding nuisance due to Alum Manufacturing industries, it was decided to appoint an Expert agency to find out suitable air pollution control system, to be installed by the alum mfg. industries in the State of Maharashtra. Accordingly, an Expert Committee was constituted under the Chairmanship of Member Secretary of the Board. Dr. Rajesh Biniwale, NEERI, Dr. B.N. Thorat, UICT were the Expert Members along with Shri V.B. Waghjale, I/c. APAE, MPCB. Shri P.P. Nandusekar, PSO, MPCB was the Convenor of the Committee. The first meeting of the Expert Committee was held on 11-08-2008 at MPCB(HQ) wherein it was decided to visit alum manufacturing units to have proper idea about the present operational practices. Expert Committee visited alum manufacturing units in the 2nd week of January, 2009. The report in this regard is being prepared.

4.3 Expert Committee for Pesticides and Insecticides Industries

As per the decision taken in the 15th Consent Committee Meeting held on 26-08-2008, Maharashtra Pollution Control Board has appointed an Expert Committee vide No.MPCB/PSO/TB/B-5625, dt. 15-09-2008, to examine the proposals of the Pesticides and Insecticides Industries, which are to be discussed in Consent Appraisal Committee and Consent Committee and offer their comments in respect of CREP, air emissions, waste waters, hazardous waste and performance of pollution control arrangements, monitoring of various parameters, etc. The Expert Committee consists of following experts -

1] Shri Sanjay Khandare, Member Secretary, MPCB - Chairman

2] Dr. P.V. Arur, Ex-General Manager, M/s. Hindustan Organics Ltd. - Member

3] Shri R.G. Pethe, Ex-Water Pollution Abatement Engineer, MPCB - Member

4] Divisional Joint Director of Agriculture, Pune Division, Pune-5 - Member

5] Director, Industrial Hygiene, Central Labour Institute, Sion. - Member

6] Shri P.P. Nandusekar, Principal Scientific Officer, MPCB - Member Convener

The first meeting of the above Committee was held on 06-11-2008 and second meeting was held on 05-01-2009.

5. Air and Water Quality Monitoring Network

Planning for prevention, control or abatement of pollution of streams, wells and air & to secure execution thereof, and classify the waters of the State is one of the functions of the State Board and as both air and water pollution poses risk to human health, it is essential to monitor the pollution level of river water, seawater and ambient air.

To observe the trend in water quality and air quality, stations are fixed through which regular monitoring is carried out by the Board. Discharge of industrial effluent & sewage are the main causes of water pollution, therefore the quality of sewage & effluent is also monitored regularly. Industrial emission; vehicular exhaust & burning of solid wastes, are the main causes of air pollution, therefore to monitor the level of air pollutants present in the air, a monitoring network is established across the State. Air quality monitoring is done with the help of (High Volume air Samplers) HVS and mobile air monitoring vans.

Maharashtra Pollution Control Board has its Central Laboratory at Navi Mumbai and Regional Laboratories at Aurangabad, Pune, Nagpur, Nashik, Thane and Chiplun. These laboratories are strengthened with sophisticated instruments / equipments for the analysis of Air, Water, and Hazardous Waste sample. Around 3000 samples are analyzed per month in these laboratories. Apart from this, 7 nos. of Mobile Monitoring Vans have been procured. These are used for Monitoring of ambient air quality at various places. These vans have major air pollution monitoring facilities. SO2, NOx, SPM, Ammonia, CO, HC and meteorological parameters like temperature, humidity, wind direction; wind speed etc can be measured. The data is computerized and printed on hourly basis. Two fixed automatic monitoring stations received under World Bank Project have also been installed at Thane Belapur in Navi Mumbai and at Chandrapur.

MPCB is conducting environmental monitoring for ambient Air and Water in the state under National and State Monitoring Programmes (NAMP,SAMP & NWMP, SWMP). In recent past, Board has augmented the water & Air monitoring network in the State and presently having about 250 Water quality monitoring stations & 65 Air quality monitoring stations in the state. MPCB is also operating 7 CAAQM Stations. Presently data generated through these monitoring programs is collected at the Pollution Assessment Monitoring Surveillance (PAMS) Division in HQ. Soft data is compiled and up loaded to Environment Data Bank(EDB) of Central Pollution Control Board (CPCB) and hosted on MPCB website. Dally Ambient Air Monitoring data of 5 major cities i.e. Mumbai, Pune Aurangabad, Nashik & Nagpur are sent to ZEE TV & ETV for display in public interest.

Water Quality Monitoring Network

For planning a water pollution control program, it is imperative to understand the nature, extent of pollution and control measures required. Water Quality Monitoring is an important exercise, which helps in evaluating the nature and extent of pollution control required, and effectiveness of pollution control measures already in existence. It also helps in assessing the water quality trends and prioritizing pollution control efforts. To understand the prevalent water quality in Maharashtra, MPCB has taken up the task of assessing the water quality through programs such as Global Environmental Monitoring System (GEMS) and Monitoring of Indian National Aquatic Resources System (MINARS) under National Water Quality Monitoring Program (NWMP), funded and guided by CPCB. It started in the year 1978 with 3 stations and increased to 38 stations by 1992. In 2004, 10 more surface water stations and in April, 2006, 25 Ground water stations were added to the project, taking the total to 73. Water (Prevention and Control of Pollution) Act, 1974, covers both surface water as well as ground water pollution. To tackle the hazards of faster deterioration of surface and ground water quality due to uncontrolled urbanization, industrialization and agricultural activities, Board has decided to expand the existing water quality monitoring network in Maharashtra, covering all stretches such as drains, river basins, sea water etc. Accordingly, a Project Implementation Plan was prepared and expanded the existing water quality network of surface water to 200, and ground water network to 50 locations. This is done by identifying and commissioning additional 152 surface water and 25 ground water locations under State Water Quality Monitoring Program (SWMP). Monitoring of all these stations are being carried out as per the Uniform Protocol for water quality monitoring issued by MoEF and CPCB. In February, 2008, CPCB has sanctioned 50 new stations under NWMP from existing SWMP stations - 45 surface water stations with monthly monitoring frequency & 5 ground water stations with half yearly monitoring frequency. Presently, WQM network consists of 123 stations under NWMP and 127 stations under SWMP. (Total= 250).

Augmentation of Water Quality Monitoring Network- at a glance

Sr. No	Water Quality Monitoring Programs	No. of Water Quality Monitoring stations in operation during 2005-06	2006-07	2007-08	2008-09
1	NWMP	48	73	123	123
2	SWMP	---	177	127	127
	Total	**48**	**250**	**250**	**250**

Air Quality Monitoring Network

MPCB, as the regulatory agency in the state, require the information of air quality levels at different locations for planning the pollution control strategy, for dissemination of information & other related matters. Considering the urbanization and industrialization in the state and also public awareness towards the subject, it is necessary for MPCB to collect air quality data at important locations across the state. MPCB is monitoring the air quality at various locations all over Maharashtra under National Ambient Air Quality Monitoring Programme (NAMP) and State Ambient Air Quality Monitoring Programme (SAMP). MPCB had taken over 28 air monitoring stations under National Ambient Air Quality Monitoring programme (NAMP) in Maharashtra w.e.f.01.07.2005 from CPCB and further strengthened the air quality monitoring network in Maharashtra. The strengthening also included developing a systematic State Air Monitoring Program (SAMP) to support the NAMP. In this direction, MPCB has started NAMP stations at Kolhapur, Tarapur, Lote, Amravati and Navi Mumbai. In the same way SAMP stations are also initiated in different industrial cities. In May 2008, three SAMP stations were started at Latur and in June, 2008 three SAMP stations were initiated at Sangli. 3 SAMP stations at Mahad & 2 SAMP stations at Roha were commissioned on 25.09.2008 & 3 stations at Jalgaon started operation in Jan. 2009. In March, 2009 CPCB has sanctioned 8 new NAMP stations, by converting the already operational SAMP stations at Roha, Mahad & Sangli. Presently, there are 53 NAMP stations (47 operated by MPCB and 6 operated by NEERI), 15 SAMP stations and 8 Continuous Ambient Air Quality Monitoring Stations (CAAQMS)are in operation in Maharashtra (Total= 76). Apart from this 3 stations at Akola, are under initial stages of operation process.

Augmentation of Air Quality Monitoring- at a glance

Sr. No	Air Quality Monitoring Programs	No. of Water Quality Monitoring stations in operation during 2005-06	2006-07	2007-08	2008-09
1	NAMP	28	45	45	53
2	SAMP	—	10	09	15
3	CAAQMS	4	4	7	8
	Total	**32**	**59**	**61**	**76**

Region wise break-up of Monitoring stations

Region	Air			Water(NWMP)			Water(SWMP)	
				Surface Water		Ground Water	Surface Water	Ground Water
	NAMP	SAMP	CAAQMS	MINARS	GEMS	MINARS		
Mumbai	03	-	03	02	-	-	06	-
Navi Mumbai	06	-	02	-	-	-	01	-
Thane	06	-	-	08	-	05	25	-
Kalyan	02	03	-	-	-	-	05	-
Raigad	05	-	-	05	-	01	12	-
Pune	05	01	02	21	02	01	22	05
Nashik	03	04	-	15	-	03	15	03
Nagpur	09	01	01	17	01	08	05	03
Amravati	03	-	-	03	-	03	06	-
Aurangabad	03	06	-	09	01	03	02	02
Kolhapur	08	-	-	08	01	06	08	07
Total	**53**	**15**	**08**	**88**	**05**	**30**	**107**	**20**

NAMP : National Air Quality Monitoring Programme
SAMP : State Air Quality Monitoring Programme
CAAQMS : Continuous Ambient Air Quality Monitoring Stations.
NWMP : National Water Quality Monitoring Programme
MINARS : Monitoring of Indian National Aquatic Resources System
GEMS : Global Environmental Monitoring Systems.
SWMP : State Water Quality Monitoring Programme

Noise Pollution Monitoring:

- Fire crackers of different make/ manufacture were tested for noise levels in the open space at Wadala Truck Terminal before Diwali Festival during 2004 , 2005, 2006 & 2008, in association with Mumbai Police and the NGO "Awaaz Foundation" The results of noise levels observed during the testing along with the names of the manufacturers were communicated to the Chief Controller of Explosives, Nagpur. Results are hosted at MPCB website.
- In order to assess the impact of traffic noise exposure on residents living adjacent to major roads, MPCB has conducted an extensive noise monitoring

study covering 25 locations in 6 metro cities of Maharashtra during December, 2008 for two days i.e. on working day and Sunday. Report is available on MPCB website.

- During festivals, mass awareness campaigns were being organised through print and electronic media. Involved the services of police authorities, NGOs, representatives of fire cracker manufacturers association etc, for effective implementation of the campaign.

Other Monitoring Projects:

I. Volatile Organic Compounds (VOCs) Monitoring survey at industrial areas such as Taloja and Mahad was conducted in February, 2009, in collaboration with SGS Laboratories, Chennai. Final report will be ready by the end of April, 2009. Taloja & Mahad are critically polluted areas identified in Maharashtra by CPCB, because of huge pollution caused by industries. Action Plan for these problem areas had been prepared and various efforts have been made to implement the action plan. The industrial areas at Taloja & Mahad, which are mostly having chemical industries, attract public complaints and receive attention from media primarily because of effluent problems as well as strong odour & colour in final discharge from the industrial estate. Monitoring was carried out in 3 ways- emission monitoring (Fugitive & Ambient), waste water monitoring and hazardous waste monitoring. MPCB has carried out VOC monitoring as a step towards knowing which VOCs as Hazardous Air Pollutants (HAPs) are found in the ambient air in the Chemical Industrial Area of Taloja & Mahad. This study was carried out in order to prioritize some potential HAPs, for development of standards and subsequently enforcement.

Details are given in Chapter-7

II. Maharashtra Pollution Control Board (MPCB) is executing the project on "Assessment of Status of Riverine fisheries and linking with water quality Restoration programme" through Central Institute of Fisheries Education (CIFE), Mumbai. Initially, Godavari River stretch is taken-up for the study and the Project has received financial assistance from Central Pollution Control Board, New Delhi. In order to link water quality improvement programs with biotic assessments, CPCB has proposed to undertake river wise surveys.

Today, the water in the bathing ghats are considered unfit for even washing and waterborne diseases are spreading, especially among the populations that use river water for household purposes. The biochemical oxygen demand has exceeded the prescribed limits. The high demand for oxygen and the limited inputs by way of production and diffusion have reduced the fish fauna in these stretches. Though there are reports of over 150 species of fishes in Godavari, only 69 species including one endemic (Cirrhinus macrops) and one introduced (Cyprinus carpio carpio) have been listed in Fishbase as occurring in Godavari.

It is well known that the fish abundance as well as the diversity has decreased considerably due to pollution, the resultant decrease in oxygen levels and habitat degradation. The situation necessitates an investigation into the abundance of the fish fauna in the selected stretches of Godavari within the state of Maharashtra.

Keeping in view of the above facts, it is proposed to carry out a study on the fish faunal diversity in 10 stretches of Godavari at Nashik & Aurangabad and to correlate with the observed physicochemical parameters. The study is in progress.

III. Coastal Monitoring project in collaboration with National Institute of Oceanography, Mumbai.

Coastal water monitoring survey was carried out over the stretch of Maharashtra coast from Sindhdurg to Dahanu at the various locations covering 720km (approx). Sampling locations were decided considering the sites of effluent discharge points and natural drains which are carrying polluted water in to the coast. Main objectives of the study as under:

- Ecological monitoring of inshore & coastal areas to identify changes, if any, in water quality, sediment quality and biological characteristics and utilize the findings for corrective measures.
- Monitor for indicator pollutants and assess recovery of the ecosystems.
- Undertake predictive modeling of selected marine areas for planned disposal of industrial & domestic effluents.

Details are given in Chapter-7

6. Present Status of Environment, Problems And Control Measures

6.1 Domestic Pollution

6.1.1 Sewage Waste Management:

Due to rapid urbanization, the Municipal bodies nowadays are facing problems of collection, treatment and disposal of wastewater, solid wastes, Bio-medical waste and plastic waste etc. The waste water generated by local bodies is disposed off either on land or into the surface water. The land disposal causes ground water pollution whereas the disposal into surface water affects the aquatic life. There is no adequate sewerage system in any of the Municipal bodies in Maharashtra State. To control such pollution, actions are initiated under the provision of Water Act, EP Act and the Rules made there under. There are now 22 Municipal Corporations, 223 Municipal Councils and 7 Cantonment Boards in the State. The volume of effluent generated from Municipal Corporations is 5399 MLD. Whereas the volume of effluent generated in Municipal councils is 768 as on March 09. Only 14 % of domestic effluent is being treated by local bodies.

Due to paucity of funds most of the local bodies discharge their domestic effluent in nearby river through /local nalla without any treatment and it is a major source of surface water pollution. In some Regions large-scale industries also contribute to domestic pollution.

To observe the concentration of pollutants present in the sewage, samples are also collected and analyzed regularly in the Board's laboratory. During the year 527 sewage samples have been collected for analysis.

The Region wise Status of STPs is illustrated below

Amravati

STP of 30.5 MLD Capacity is being constructed at Amravati near Lalkhadi village. Lying down of pipeline of 317 Km is in progress and more than 100 km pipeline is already laid down. Sewage after treatment will be disposed off in to Amba Nalla and sludge will be used as manure. Another STP is proposed at Badnera having capacity of 5.4 MLD for which a total pipeline of 28 km will be laid down. 10 km pipeline is already laid down.

Raigad

Panvel Municipal Council has submitted proposal of 22 MLD STP Plant of Rs. 37 Cr. to Maharashtra Govt. through MJP. To fund this project, State Govt. has submitted proposal to Central Govt. CIDCO has provided STP of 25 MLD at Kharghar, Tal. Panvel based on SBR Technology and is commissioned recently. Performance of STP is satisfactory. A proposal to construct new STP of 85 MLD capacity is under planning stage for Kamothe area & Kalomboli area of Tal. Panvel.

Kolhapur

Partial sewage treatment has been provided by the Ichalkaranji Municipal council,the treated effluent is used for irrigation purpose.

The Sangali-Kupwad Municipal Corporation generates 40 MLD of sewage. Out of which 40% is treated in Oxidation ponds and the rest of it is discharged into river Krishna through local nallas. Sewage treated at Miraj (around 8 MLD) is utilized for irrigation purpose

Sangli-Miraj-Kupwad city Municipal Corporation has completed work of 27 MLD Sewage treatment plant at Dhulgaon, Tal. Tasgaon for treatment of sewage generated from Sangli city under NRCP Scheme. 70 % work is completed, remaining work is under progress.

Kalyan

The Kalyan-Dombivali Municipal Corporation (K.D.M.C.) has provided two STPs, one at Aadharwadi & other at Motagaon having capacity of 30 MLD. Both these STPs are in operation & found meeting prescribed standards for disposal of sewage.

The Bhiwandi Nijampur City Municipal Corporation has provided STP of 17 MLD capacity, Ulhasnagar Municipal Corporation and Ambernath Municipal Council has provided STP's having capacity 28 MLD of each, but are not in operation. Badlapur Municipal Council has called the tenders for provision of drainage system and STP of Rs. 151Crores under JNNURM. K.D.M.C. has also submitted proposal on STP's and underground pipeline under JNNURM.

Nagpur

Nagpur Municipal Corporation has facility to treat 100 MLD of sewage generated from the Nagpur City. Most of the industrial estates are having their own sewage treatment facilities. Nagpur Municipal Corporation is planning to provide facility for treating remaining sewage and reuse the treated water for power generation at Koradi Thermal Power Station. The follow up from MPCB and a court case has forced Wardha Municipal Councils to submit proposal of STP to Urban Development Department for financial approval.

Parameters	Results		Unit	Overall Efficiency
	Inlet	Outlet		
pH	6.7 - 6.8	7.6 - 7.8	-	85-90%
SS	250 – 265	25 - 29	mg/l	
COD	240 - 268	46 - 49	mg/l	
BOD	140 – 155	17 - 19	mg/l	
DO	0.2 - 0.6	5.0 - 5.8	mg/l	
Oil & Grease	0.2 - 0.3	0.1	mg/l	

Thane

Thane Municipal Corporation has provided facility to treat only 54MLD sewage i.e. 19% of total sewage generated. To treat 15 CMD of domestic effluent Mira-Bhayander Municipal Corporation has provided 5 STPs

Nasik

Nasik Municipal Corporation has provided 6 sewage treatment plants which cater about 80% of the total sewage generated from the city. One more STP having capacity 52 MLD is under construction. All STPs are in operation. Trimbak Municipal council has also provided STP and is in operation. Presently, sewage generated from most of the municipal bodies is being disposed off in the river through local nallas without any treatment. The total wastewater generation from all the 43 local bodies is around 424 MLD.

Aurangabad

The domestic effluent generated from CIDCO area (old Aurangabad) is collected and treated in STP having capacity of 5.4 MLD..However operation and maintenance is very poor. The Aurangabad Municipal Corporation has not taken any step towards installation of STP for rest of the sewage about 100 MLD. CIDCO Nanded has provided STP having capacity of 2 MLD. Nanded city is covered under NRAP, under which Nanded Corporation has provided anaerobic lagoon of 26 MLD but the operation is not regular. Proposal to install new sewage treatment plant at Elich pool is under consideration of Nanded Corporation. The performance of STP at Nanded Corporation was observed satisfactory in respect of B.O.D and S.S. parameters.

Mumbai

There are 7 STPs in Mumbai city to cater the domestic effluent. However these are inadequate to cover 2671MLD of sewage.

Navi-Mumbai

The Navi-Mumbai Municipal Corporation generates sewage to the tune of 190 MLD which is collected through closed underground sewer system provided at different places. There are 8 STPs in this area but operation and maintenance is very poor. The sewage after treatment is discharged into the creek. Directions are given to Navi-Mumbai Municipal Corporation for preparation of action plan in this regard. For renovation and up gradation of all STPs, budgetary provision is made by the Corporation. Slum area of Turbhe and Ghansoli node are yet to be covered under sewage collection and treatment system.

Pune

There are 3 Corporations in this Region, namely Pune Municipal Corporation, Pimpri-Chinchwad Municipal Corporation (PCMC) and Solapur Municipal Corporation generating domestic effluent 474MLD, 260MLD and 9MLD respectively. Pune Municipal Corporation has provided STPs at 1) Dr.Naidu STP of 90.0 MLD 2) Bhairobanala STP of 130.0 MLD 3) Bopodi STP of 18.0 MLD 4) Tanajiwadi STP of 17.0 MLD 5) Erandawana STP of 50.0 MLD.

PCMC has Provided STP at five different locations having capacity 157 MLD. Additional STP of125 MLD is proposed & work is in progress at Rawet Pimple Nilakh-20 MLD.

Solapur Municipal Corporation has Screen chamber clarifier, sludge well, sludge drying beds but are not in operation. Very few Municipal Councils have provided the treatment facilities for sewage but they are inadequate and operation and maintenance is very poor.

6.1.2 Steps taken for control of domestic pollution

Board is pursuing the matter with municipal council authorities actively. Meetings were conducted on sewage treatment plant and MSW management issues with municipal authorities. Municipal authorities have been asked to make budgetary provisions for STP. Municipal authorities have also been asked to explore assistance in terms of financial aid from concerned government agencies. Notices/directions were issued to the non-complied municipal councils so as to have the improvement upon the existing situation. Bank Guarantee is also taken from some of the Local Bodies.

For discharge of effluent into the river, for non operation of STPs and for non provision of STPs cases have been filed against Kolhapur Municipal Corporation, Ichalkaranji Municipal council, Sangli-Miraj-Kupwad Municipal Corporation, Ulhasnagar Municipal Corporation, Bhiwandi-Nizampur Municipal Corporation and Khopoli Municipal council in the court of law. The Hon. Court ordered to Khopoli Municipal council to complete and commission STP within one year (order dated 24/06/08).

6.2 Water quality status

More than 50% of water is wasted in domestic, agriculture and industrial sectors. The release of domestic wastewater, agricultural run-off water and industrial effluents promote excessive growth of algae in water bodies, which results in their eutrophication. Further, the wastewaters containing high organic matter use dissolved oxygen in the water resulting in oxygen depletion and making the survival life difficult. Microbiological contamination of water due to mixing of untreated wastewater is also the cause of water pollution. Both negligence of authorities and lack of public awareness are responsible for deteriorating the quality of water resources.

Heavy abstraction of water for domestic, industrial and agricultural purposes and use of water for hydropower, fisheries, navigation, and community bath, washing, cattle bathing, reduce dilution factor and cause pollution of river water. In order to maintain the water quality in its best designated use, Board is monitoring river water regularly.

6.2.1 River Water Quality status

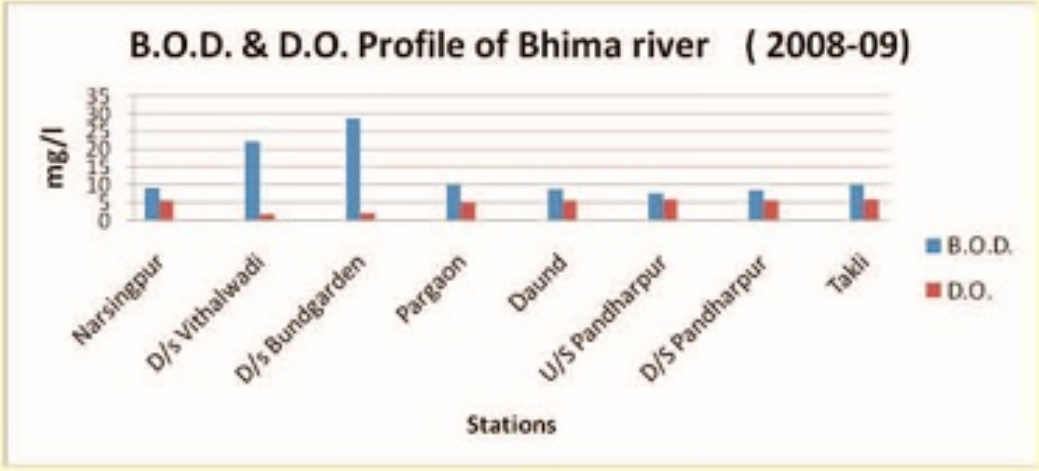
Under National Water Quality Monitoring Programme MINARS (Monitoring of Indian National Aquatic Resource Sampling) and GEMS (Global Environmental Monitoring System) sponsored by C.P.C.B. the river water quality is assessed through a network of 123 stations including main rivers like Godavari, Krishna, Bhima, and Tapi and 30 ground water locations. Under State Water Quality Monitoring Programme the other rivers with tributaries have also been monitored through 127 locations set up on the rivers. It has been observed that at 73% of the locations water quality is deteriorated due to excess of BOD levels indicating organic pollution in the water. The DO levels were not conforming to the standard at 25 locations which covers Godavari River in Nasik, Bhima,Mula-Mutha and Pawna river in Pune Region, Pedhi and Morna rivers in Amravati Region. Rivers in Kolhapur Region have shown the minimum level of Feacal coliform which was ranging between 2.3-12.3MPN/100ml. There were 26 river monitoring stations having fecal coliform concentration more than 200MPN/100ml. Higher concentration of fecal coliform was noticed in the sea water of Mumbai,Thane and Navi-Mumbai.

The maximum water quality deterioration was seen at the following stations

	River	Monitored stations
1	Bhatsa	D/s Pise Dam
2	Godavari	HanumanGhat, Tapovan, Kapila-Goda confluence
3	Pedhi	Dadhi-Pedhi village
4	Morna	D/s Rail Bridge Akola
5	Purna	Andhura
6	Wardha	Pulgaon Bridge
7	Patalganga	Shilphata, MIDC Waterworks
8	Kundalika	Roha Bridge, Arekhurd
9	Mutha	Near veer savarkar bhavan, Deccan Bridge, Pune Sangam Bridge, Ganpati ghat
10	Pawana	Kasarwadi, DapodiBridge, Pune, Pimprigaon, Pune, sangavigaon, pune
11	Bhima	U/s Vithalwadi, D/s of Bundgarden,Pune
12	Mula-Mutha	Mundhwa Bridge
13	Mula	Near Mula-Pawana confluence

The river water quality of Bhima,Pawana,Nira, Mula-Mutha, Indrayani and part of Krishna was assessed through 28 locations under SWMP and 24 locations under NWMP in Pune region. It is seen that BOD levels exceeded the limit at all the 52 locations. However, the DO levels were found satisfactory at 44 locations during the year. At 86% of the locations the Fecal coliform observed in the rivers was above 100 MPN/100ml. The observed concentrations of B.O.D. and Fecal coliform were very high at Savarkar Bhavan and Deccan Bridge of Mutha river in Pune. The Total coliform found in Mula Mutha was in the range of 1000-1350 MPN/100ml. Pawana and Mula Mutha Rivers were adhering to the standards of A-IV class of water. In Satara sub region Krishna and other tributaries have shown organic pollution in water quality. Compared to last year the B.O.D. level is increased at certain locations on Bhima river of Pune and Solapur districts.

A chart showing DO and BOD profile of Bhima river is presented below

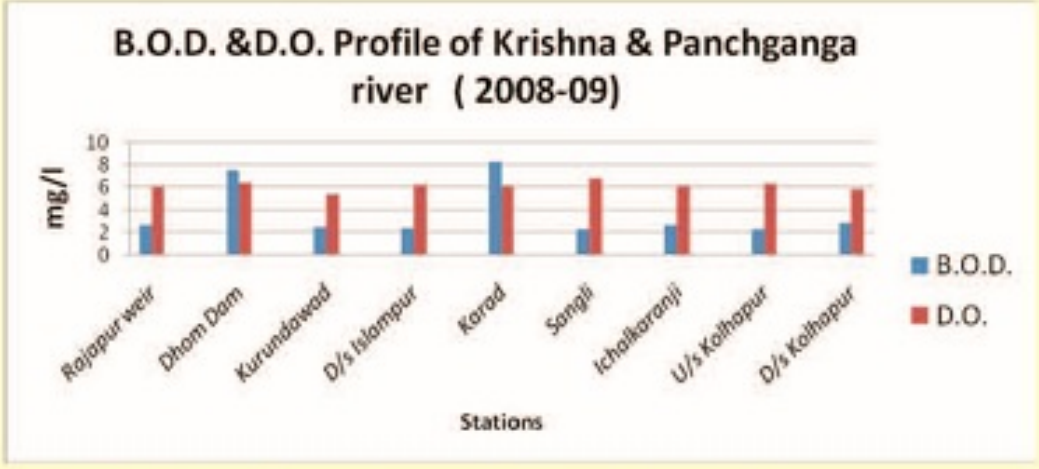


Krishna, Panchganga, Vashishti, Gad and Muchkundi are the rivers flowing through Kolhapur region. Out of these Gad and Muchkundi rivers in Ratnagiri district do not have any deterioration because there are no polluting industries on the bank of these rivers.

The analysis results of water quality reveal that water quality of these rivers remained satisfactory during the year. Levels of B.O.D. have considerably reduced in each river. Except Ichalkaranji , the concentration of TC is slightly increased at other locations on Krishna and Panchganga River. The overall water quality in the Kolhapur region remained more or less within the standard.

Kolhapur Municipal Corporation has proposed to provide STP at Kolhapur. Three no of CETP has been proposed at Ichalkaranji, Hatkanangale & Yadrav respectively, under the Textile Cluster Development Scheme. Court cases have been filed against Kolhapur Municipal Corporation and Ichalkaranji Municipal Council.

A chart showing DO and BOD profile of Krishna and Panchganga river is presented below






Nagpur Region has perennial Rivers like Wardha, Wainganga & their tributaries like Wena, Kanhana, Pench, Nag River, Pili River. Main sources of water pollution in the area are domestic waste generated by Municipal bodies. In Nagpur region most of the industries have provided full-fledged ETP and sending their primarily treated effluent to CETP for further treatment and disposal and utilizing their treated effluent for gardening / irrigation purpose. There are complaints of industrial effluent discharge from some industries, one of them is M/s. Murli Industries Ltd., At Vill.Wadoda, Tq.Kamptee, Dist. Nagpur which generates industrial effluent to the tune of 7460 m3/day and discharge complete effluent into River Nag which finally meets to river Kanhan a mejor drinking source in the region. Besides this, the domestic effluent generated from small commercial organization like Automobiles Service Station, Hotels, Restaurant, residential areas is also entering into the rivers in the area and deteriorating river water quality and also affecting ground water quality. In Nagpur region, river water quality has been assessed at 17 stations set up along the rivers Wainganga, Wardha, Nag, Kanhan, Bagh and Erai. This year considerable reduction in BOD concentrations at almost all stations on the rivers as compared to the last yearhas been noticed. Higher concentration of Total coliform was found at Ellora paper mills on Wainganga river. Water quality deterioration of Bag river has been noticed at Simplex Paper mill. Water quality at the remaining locations remained more or less within the standards during the year.

In Amravati region, water quality deterioration was noticed at 'Haturna', 'Bhatkali' and 'Dadhi-Pedhi' on Pedhi River, however reduction in BOD level has been seen at Dadhi-Pedhi location during the year. Comparison with last year's data reveals that, except few locations the BOD levels are considerably reduced in the reporting year. The DO levels remained satisfactory at all locations.

There are two major rivers Vaitarna and Tansa in Thane Region which are observed to be dry for most of the period in the year. Surya river flows from Palghar and provides water to MIDC area of Tarapur and towns of Virar, Palghar and Vasai. The effluent discharges are not permitted into the river water and source of water supply is protected. The Analysis reports of river water indicate that though BOD is increased reduction in COD level is also noticed during the year.

In Kalyan Region there are many jean wash units in Ulhasnagar & Ambernath located in industrial cum residential area. These units have not provided any facility for treatment of industrial effluent and are identified source of water

pollution. Besides this, The power looms, Yarn sizing, Yarn dyeing & textile processing industries developed in Bhiwandi area are also the source of water pollution. At selected locations of Bhatsa and Ulhas rivers in Kalyan Region the levels of BOD though exceeded the limit and were not adhering to the standards of A-I class of water, much reduction in BOD level is seen at certain locations during the year. Compared to last year the reduction in Total coliform is also noticed in Ulhas river

In Raigad Region,the sources of water pollution of Patalganga River(A-II class) are discharge of untreated domestic effluent from Khopoli Municipal Council area and accidental discharge of effluent from Industries located on the bank of River. Sources of water pollution of Balganga River (A-I Class) is from accidental discharge from industries located on the bank of River

In A-I class of river Patalganga, from origin to Tata Power House there is no industry established in this area. In A-II class of Patalangaga river, industries have been prohibited to discharge treated effluent into Patalagana River. However, Khopoli Municipal Council located in A-II class of Patalganga River is a major source of river water pollution since it discharges domestic effluent to the tune of 11 MLD (Maximum) into river without any treatment.

Most of the industries outside MIDC Patalganga area are not having adequate land for disposal, have joined PRIA CETP. The effluent from industries in Patalganga MIDC has been treated in CETP provided by PRIA & treated effluent is being discharged at Kharpada saline zone through closed pipeline.

From the observed results it is seen that the water quality is deteriorated at Ashtami bridge, Salav, Gofan and Arekhurd on Kundalika river. Water quality of Patalganga river and Savitri river was observed well within the standard during the year. Compared to the last year's data it is seen that the water quality is much improved during the year. Considerable reduction in BOD level is also seen at almost all locations on the rivers of Raigad Region. Higher concentration of fecal coliform is seen at Savroli bridge, Gagangiri and Shilphata bridge on Patalganga river and at Arekhurd on Kundalika river.

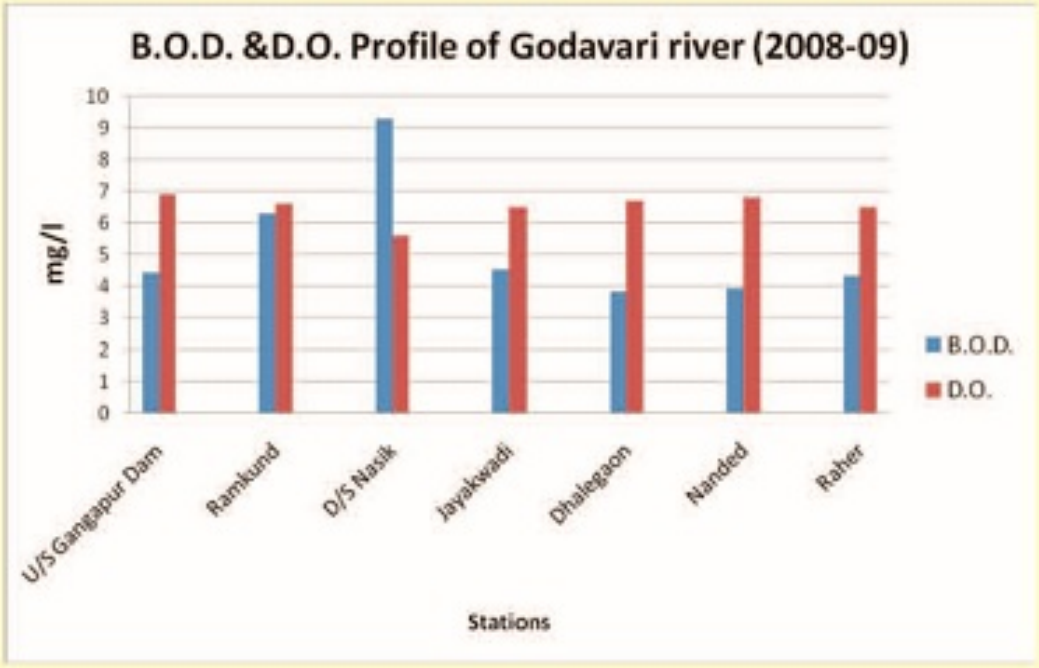
The major sources of river water pollution in Nasik are domestic sewage of Local bodies as well as discharge of untreated/partially treated effluent from sugar factories and distilleries into the river directly/indirectly. Under State water Monitoring programme the river water quality was monitored at 15 locations on tributaries of Godavari river in Nasik Region.and it is seen that water quality is

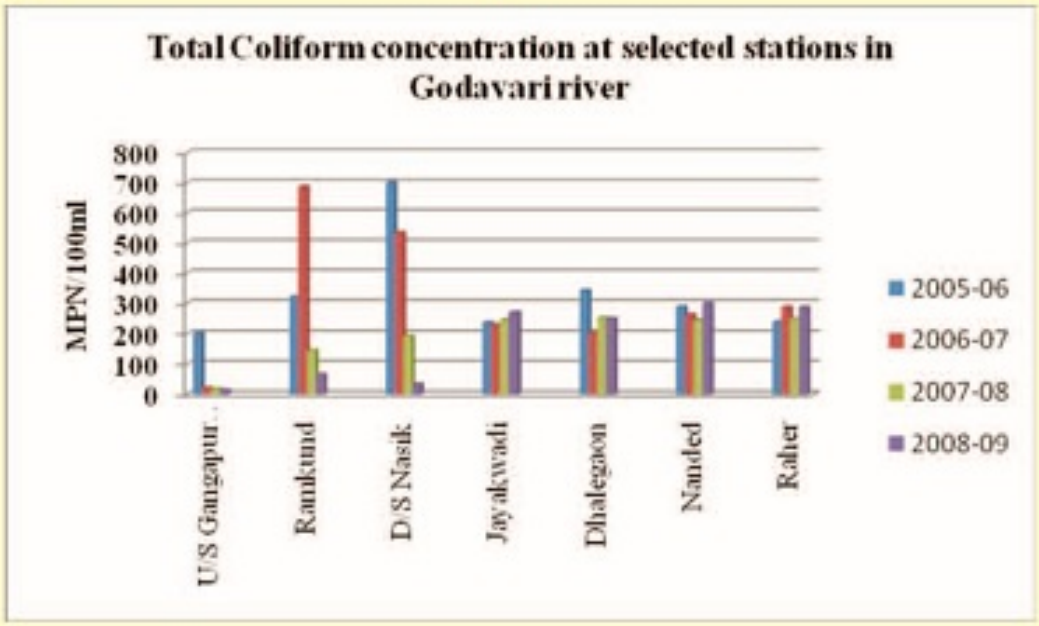
deteriorated at 7 locations. Under national water quality progrmme 15 locations were monitored for assessing water quality of Godavari river and It is seen that at all the locations the BOD level has crossed the limit. The maximum deterioration is seen at Hanuman ghat, Tapovan, Panchvati and Kapila-Goda confluence in Nasik. However the Total Coliform count in Godavari river is reduced at Ramkund and D/s Nasik during the year.

The water quality assessment for part of Godavari river under Aurangabad Region, is done through 17 locations including tributaries like Sukna and Manjara. The analysis result indicate that BOD level exceeded the limit at all locations. The maximum deterioration has been noticed at D/s Paithan,Wadvali and D/s Nanded on Godavari river and at Chikalthana and Chitepimpalgaon on Sukana river. The increase in Total coliform is also noticed at these spots. Manjara river remained pollution free during the year.

To improve the water quality of the river Godawari, in addition to five STP's at different location in the Nashik city one more STP was constructed under National River Conservation Plan which is in operation.

A chart showing DO and BOD profile of Godavari river is presented below




Total Coliform concentration at selected stations in Godavari river
MPN/100ml
800
700
600
500
400
300
200
100
0
U/S Gangapur
Ramkund
D/S Nasik
Jayakwadi
Dhalegaon
Nanded
Raher
2005-06
2006-07
2007-08
2008-09

6.2.2 Ground Water Quality:

Pollution of ground water resources has become a major problem nowadays. The solid, liquid and the gaseous waste that is generated, if not treated properly, results in pollution of environment. This affect ground water due to the hydraulic connectivity in the hydrological cycle. Water extraction without proper recharge and leaching of pollutants from pesticides and fertilizers in to the aquifers pollutes the ground water supplies. In addition, leachates from agriculture, industrial waste and the municipal solid waste are also the cause of ground water pollution.

Ground water quality has been monitored at 84 locations in different regions of the state such as Pune, Amravati, Thane, Raigad, Nagpur, Aurangabad, Nashik, Kolhapur etc. There is no fixed monitoring network for ground water. Recently 25 ground water locations have been sanctioned under MINARS project.

From the analysis results it is observed that though pH values & DO values are within the prescribed limits, the parameters like Total Hardness, Chlorides, Sulphates & Nitrates were exceeding the limits at 25% of the locations. Compared to last year there is improvement in ground water during the reporting year.

Table: Number of Sampling Locations for Ground Water Quality monitoring

Region	No. of Locations Monitored	No. of Locations where parameters exceeded the limit
Thane	10	4
Aurangabad	16	4
Nagpur	10	3
Raigad	4	1
Nashik	6	2
Amravati	5	0
Kolhapur	13	2
Pune	18	5
Navi-Mumbai	1	0
Chandrapur	1	0
Total	**84**	**21**

Total Hardness was found beyond the limit at Ranjangaon bore well; bore wells at Wahegaon and Katpur in Aurangabad region. Chloride concentration was also found high at Ranjangaon bore well. Whereas Sulphate concentration exceeded the limit at bore wells of Wahegaon and Katpur. Highest Chloride concentration recorded in this region was 1190 mg/l (at Ranjangaon bore well) & the maximum

sulphate concentration recorded was 1591. mg/l (at Wahegaon).

At three places in Thane region the Total hardness in ground water was found beyond the limit. The bore well water at Kashi-Mira was observed to be most polluted during the year.

Ground water quality is monitored on receipt of certain complaints in Raigad region. In the collected samples from 4 locations the hardness recorded at Borewell Water of M/s. Bharat Nigukar Village was beyond the limit

27 well water samples were collected in connection with the various complaints received to the Regional office Nasik including regular well water monitoring in Nashik region. The ground water quality in the vicinity of MSW site at Nashik & Ahmednagar area has been monitored. It is seen from the result that the ground water quality has been improved which may be due to scientific processing of MSW. However, Nitrate concentration were observed marginally on higher side which may due to excess use of fertilizer especially urea. In most of the public complaint cases, the ground water was observed contaminated

Ground water quality assessment in Nagpur indicates the deterioration in water quality at 3 monitoring locations, where D.O.level observed was below the standard. The concentration of Hardness and Sulphates recorded at dugwell in Koradi and Bhandewadi respectively exceeded the limit.

Ground water quality monitored at 13 locations in Kolhapur Region was conforming to the prescribed limits at all the locations except at Wangi, Tq Kadegaon in Sangli District where, hardness and chloride concentration elevated up to 1045mg/l and 1053mg/l respectively. In Ratnagiri District, ground water near M/s. Finolex Industries Ltd., Ranpar-Golap was monitored where chloride concentration exceeded the limit.

In Pune region ground water quality was monitored at 18 locations. The water quality was found deteriorated at 5 locations, where Hardness and chloride concentrations exceeded the limit. Maximum hardness 2170 mg/l was recorded at Well water of Shri AS Kamathe near Apeksha palace. Chloride levels were also high (1130 mg/l) at this location. The Total Hardness and chloride concentrations were also found in excess at Bhadale Well Water, Devachi Uruli

6.2.3 Coastal Water Pollution:

The Maharashtra coast that stretches between Dahanu in the North and Terekhol in the South is about 720 km long and 30-50 km wide. There are about 18 prominent estuaries along the coast harbouring many mangrove floral and faunal species in varying densities. Of these Ulhas in the North is the biggest estuary.

Maharashtra is the most industrialised state in India with many industrial clusters established in the coastal belt. Much of the industrial development in Maharashtra has taken place several kilometers inland from the coastline. This is because the primary considerations for such developments in the past had been the availability of water, electricity and transport, while, environment received the lowest priority. Evidently, many industries are located near highways and railway stations and release their effluents in nearby estuaries, creeks and bays. Of the coastal districts Thane and Mumbai are heavily industrialized while the Raigad District is the least developed. Evidently, Thane and Tarapur Creeks and Ulhas, Patalganga and Amba estuaries are the recipients of a variety of wastes. Industries in other coastal districts are mainly located in the MIDC areas and discharge their effluents through a common collection centre to inshore waters (bays). Thus, Kundalika, Savitri, Shastri, Vashisti estuaries etc have been receiving such effluents. Only a few industries such as the nuclear power station at Tarapur and the fertilizer complex at Thal release the effluents directly to the coastal (depth of water <10 m) Arabian Sea.

The inshore waters of Maharashtra particularly around cities and towns also receive domestic wastewater – often untreated, that has severely deteriorated the ecological quality of these water bodies.

Table: Monitoring of Coastal Waters

Region	No. of Locations Monitored	No. of Locations where BOD exceeded the limit	No. of Locations where DO was not conforming to the standard
Mumbai	11	11	3
Raigad	6	5	0
Navi-Mumbai	3	3	0
Kalyan	2	2	0
Kolhapur	4	0	0
Thane	15	15	0
Total	**41**	**36**	**3**

During the year, Board monitored sea water quality at 41 locations including all coastal Regions. Analysis report reveals that except the coastal area of Ratnagiri of Kolhapur Region, BOD values exceeded the limit at 87% of the locations. Slight increase in COD and BOD level has been noticed in Karbavane creek in Chiplun during the reporting year. Compared to last year, there is certainly improvement in coastal water quality in terms of BOD and COD concentration. The highest BOD (217mg/l) and COD (548mg/l) was recorded at BPT Navapur tank in Tarapur sub region of Thane Region.

In Mumbai, sea water assessment indicate that the DO values were confirming to the standards at all locations except at Nariman Point, Malbar Hill and Mahim Bay. The BOD values exceeded the limit at all locations. The concentration of Feacal coliform observed in coastal water of Mumbai was in the range 196-960 MPN/100ml.

Sea water monitoring at 3 locations in Navi-Mumbai indicate that BOD was not adhered to the standard of SW-II class of water and the observed Feacal coliform was in the range 408-433MPN/100ml. BOD level monitored at D/S Kalyan-Bhiwandi Road in Ulhas creek was also found beyond the limit.

The monitoring results obtained from 16 stations fixed on the coastal water pertaining to Thane Region has shown deterioration in water quality where BOD exceeded the limit at all locations. The range of the Feacal coliform found was 115-460MPN/100ml.

Coastal area pertaining to Raigad Region was monitored at 6 locations, where DO was confirming to the standard but BOD was found beyond the limit except at Ambet creek. Compared to last year, rise in COD level is also seen in Arabian Sea.

Following table gives the range of BOD and COD concentration observed in coastal water for last two years.

Coastal Region	BOD mg/l 2007-08	BOD mg/l 2008-09	COD mg/l 2007-08	COD mg/l 2008-09
Mumbai	9.9-44.0	6.0-15.0	134-375	52-184
Raigad	3.4-26.0	3.0-9.9	61-160	68-187
Navi-Mumbai	7.0-37.0	7.0-18.0	57-242	43-135
Kalyan	9.0-41.0	3.6-16.0	80-132	20-184
Kolhapur	2.9-6.7	2.2-5.9	48-68	28-96
Thane	8.03-474	7.2-217.0	61-1300	70-548

6.3 Air quality status

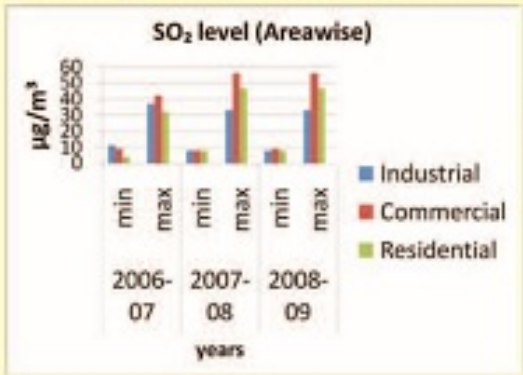
6.3.1 Sources of Air Pollution:

Emissions from vehicular exhaust, stacks of industries are the major sources of Air Pollution. Fugitive emissions from industries, suspended particulate matter from stone crushers, Boiler, road repairs etc. also contribute to air pollution. Mining activity is also a major source of air pollution. In industries air pollution is mainly caused due to a) Process emissions: change of fuel from furnace oil, LDO to coal in boiler, emissions of the dust and particulate matter. Industrial activities such as M.S. Scrap, melting furnaces, lead battery recycler contributes to air pollution.

6.3.2 Status

Ambient air quality has been assessed through 40 locations under NAMP, 10 locations under SAMP and 8 locations under CAAQM. It reveals from the analysis results of last 3 year's ambient air quality monitored at different locations under NAMP, SAMP Project & CAAQM Stations that there is increasing trend though within limit in maximum level of SO2 in commercial and residential areas. Increasing trend in maximum level of NOx is also seen in commercial, residential and industrial areas and crossed the limit during the reporting year. The maximum level of RSPM is increased during last two years in commercial and industrial areas. RSPM exceeded at 31% of the locations during the year. Out of 18 locations where RSPM exceeded the limit, 11 locations are from residential class, 5 from commercial class and 2 from industrial class. This means maximum air pollution has been noticed in residential areas.

Following figures shows area wise minimum and maximum level of parameters during last 3 years.



Ambient air quality monitored during past two years under NAMP project is presented below. From which it is clear that air pollution is increased in 2008-09 at all the commercial locations as compared to 2007-08. Except SO_2 in industrial location, elevation in pollutant level is seen during 2008-09 than that recorded in 2007-08 at all industrial, residential and commercial locations.

Class	No. of locations monitored	Range of So_2 µg / m³ 2007-08	Range of So_2 µg / m³ 2008-09	Range of NOx µg / m³ 2007-08	Range of NOx µg / m³ 2008-09	Range of RSPM µg / m³ 2007-08	Range of RSPM µg / m³ 2008-09
Industrial	14	8-40	8-33	12-49	13-59	51-160	44-240
Residential	18	5-35	8-47	6-53	10-111	40-186	46-172
Commercial	8	7-19	8-56	10-41	15-136	50-107	59-294

The Air quality status in different Regions of the Board is illustrated below

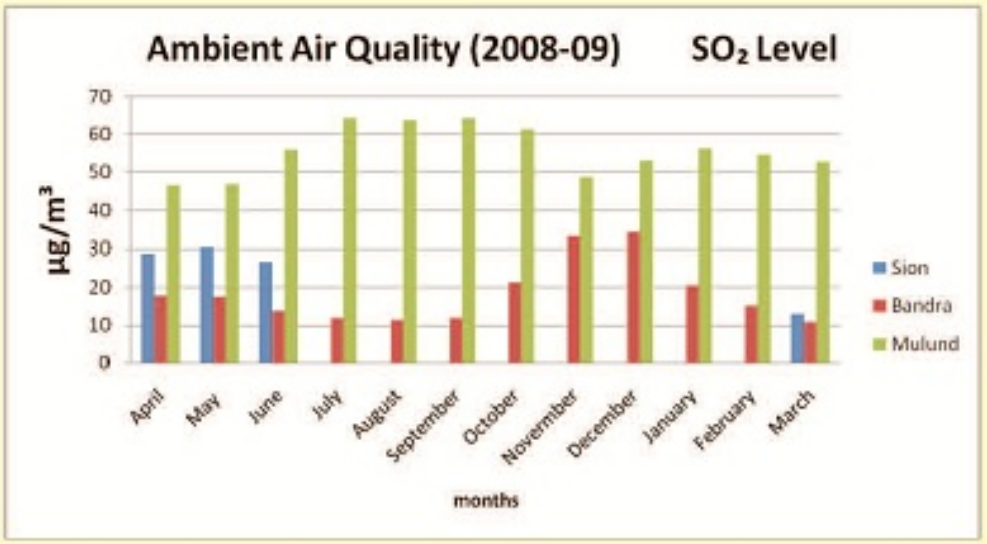
Mumbai Region

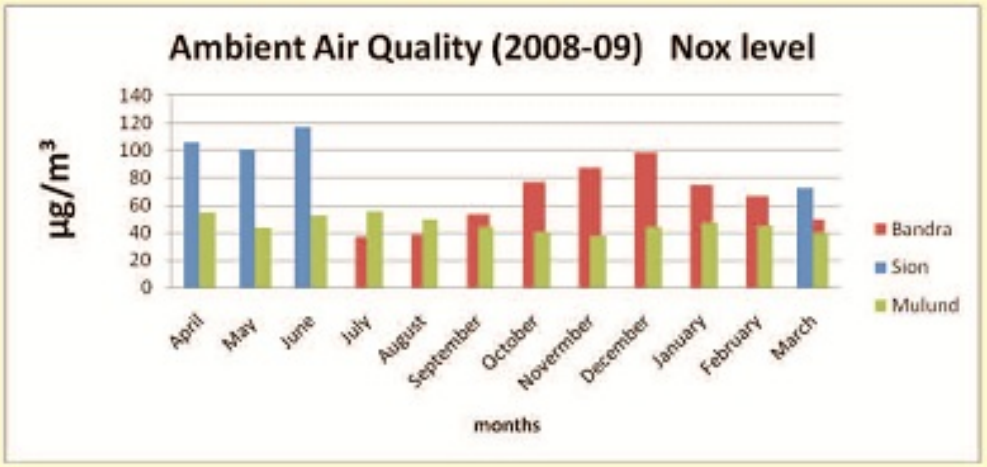
In Mumbai, the Board monitors air quality at two traffic junctions Sion and Mulund and one continuous Ambient Air Quality Monitoring station at Bandra. Due to some technical problem the station at Sion was not monitored during July2008-Feb 2009.

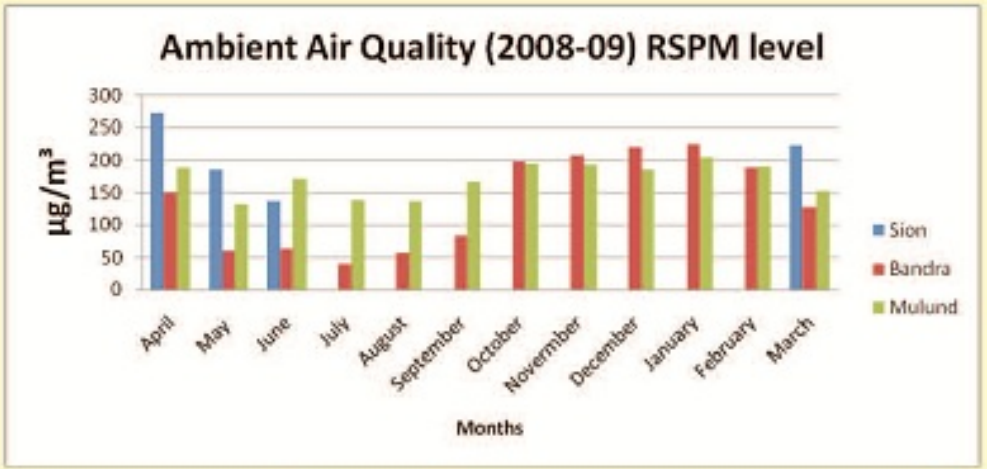
From the analytical data it is observed that the SO2 levels during the year were though conforming to the prescribed limits at all the 3 locations, during August to December 2008 an elevation in SO_2 level is seen at Bandra location. The highest concentration of SO_2 was recorded in July 2008 at Mulund. The NOx levels exceeded the limit during April-June 2008 at Sion Junction and during November-December 2008 at Bandra station. The highest concentration of NOx was recorded in June 2008 at Sion. As far as the RSPM levels are concerned, the levels were found beyond the prescribed limits throughout the year at Sion and Mulund. At Bandra the levels had come down and found within limit during May-September 2008. The highest concentration of RSPM was recorded in April 2008 at Sion.

The overall observation reveals that during the year Sion and Mulund remained more polluted.

The graphs showing levels of pollutants observed during the year are presented below


Ambient Air Quality (2008-09) SO2 Level
µg/m³
70
60
50
40
30
20
10
0
April
May
June
July
August
September
October
Novermber
December
January
February
March
months
Sion
Bandra
Mulund


Ambient Air Quality (2008-09) Nox level
µg/m³
140
120
100
80
60
40
20
0
April
May
June
July
August
September
October
Novermber
December
January
February
March
months
Bandra
Sion
Mulund


Ambient Air Quality (2008-09) RSPM level
µg/m³
300
250
200
150
100
50
0
April
May
June
July
August
September
October
Novermber
December
January
February
March
Months
Sion
Bandra
Mulund

The ambient air quality was also assessed in Mumbai at the locations including Jawahar Nagar, Vashi Naka, BPCL sports club and TATA colony in Chembur suburban area and Hazi-bunder, Wadala and Kurla where it is seen that except Kurla the levels of RSPM and SPM were not conforming to the standards. The SPM concentration was observed very high (1134µg/m³) at Wadala. The highest level of RSPM recorded at Tata colony, a residential area was 253µg/m³.

Raigad Region

The ambient air quality was monitored at 5 industrial and one residential location in Raigad Region where the parameters were found meeting the prescribed standards at all Industrial locations. However at WTP Colony Birwadi, a residential area in Mahad, the RSPM level exceeded the limit (192 µg/m3).

Navi-Mumbai Region

In Navi-Mumbai, 5 industrial locations were monitored for ambient air quality. From the analysis results it is seen that very high concentration of SPM was recorded at 4 locations. The concentration of SPM recorded at M/S IPCL was very high (3225 µg/m3)

Kalyan Region

Following are the sources of air pollution in Kalyan Region

- The industries in Bhiwandi & Dombivali area have altered the fuel pattern from coal to Petro coke /Pet coke for boilers leading to air pollution.
- The Plastic beads metalizing & pearl coating units in Bhiwandi, are creating air pollution & smell nuisance in surrounding area.
- The industries developed in Murbad, Wada & Shahapur taluka are mostly air pollution prone Industries. Most of them have provided APCS. Since last two years ingot manufacturing units have come up in Wada. The raw material used by these units is mainly M.S & S.S scrap. These ingots are the main raw material for Rolling & Re-rolling mills. .Beside these units, lead acid scrap battery recycling units, waste Oil / used oil re-refining units, Engineering & allied units have been established in wada area.

Units having Induction furnaces & Lead Acid Battery recycling are the major pollution potential activities. It has been observed that above such activities in cluster creates more pollution & nuisance to surrounding environment. There are complaints of air pollution from nearby residents specifically against Induction furnace.

The ambient air quality assessment was done at 3 industrial and 5 residential cum commercial locations in Kalyan region. At all residential cum commercial locations the RSPM level was found beyond the limit. The air quality at industrial locations was within the limit. The parameter NOx exceeded the standard at octroi naka in Ulhasnagar. The highest RSPM concentration recorded at Regional office area in Kalyan city was 230 µg/m3. It reflects that there is no indicative rise in concentration of parameters in Air quality compared with last year's quality

Kolhapur Region

Ambient air quality in Kolhapur region was monitored at 6 locations in residential and commercial areas. The analysis results reveals that RSPM levels exceeded the standard at all locations and was found in the range 113-296 µg/m3. The highest RSPM was recorded at Fire-brigade in Sangli. The SO_2 level was also found very high (189 µg/m3) at Miraj market a commercial location.

Amravati Region

The main sources of Air pollution in Amravati region are emissions from boiler. The complaints received to this Region are mainly about stone crushers, hot mix plants in respect of dust emissions.

As regards to Amravati region, one residential, one commercial and 5 industrial locations were monitored for ambient air quality. Here also the levels of SPM and RSPM exceeded the standard at all the monitored residential commercial and industrial locations. At industrial locations i.e. at Western coal field in Wani the SPM and RSPM level were found much beyond the limit.

The industries having boiler, are instructed to provide dust collection system and Operate & maintain it properly to bring the air pollutants within prescribed standards.

Nagpur Region

Major sources of air pollution in the Nagpur region are Thermal Power Plant, Iron & Steel Industries specifically using coal as fuel, Sponge Iron Plants, Mineral Processing Plants, Metal Industries, Coal Mines, Stone Crushers and in the city area vehicles and diesel generator sets. The main complaints received in this region are about Sponge Iron Plants, Metal Industries, and Mineral transportation. During the year Bhandara and Wardha cities were monitored for ambient air quality where the air quality was found well within the limit.

Thane Region

Due to heavy vehicular traffic & from construction activities air quality is deteriorated in Thane city. Boiler and stone crushers are also the major sources air pollution.

To assess ambient air quality 11 locations were selected in Thane Region which includes Thane city, Tarapur, Bhayander,and Dahanu. The results obtained indicate that the RSPM and SPM level exceeded the standard at the locations in Thane and one industrial location in Bhayander. At M/S Reliance Eenergy in Dahanu the ambient air quality was found within the standard.

Nashik Region

During the year, the average concentration of RSPM at NMC, Nashik (monitored throughout the year) was 104.64 µg/m3. This is due to the location being in the heart of city where vehicular traffic is more & is a commercial Area. The SPM concentration at most of the locations were well within the prescribed limit except at few industrial premises to whom necessary warning notices have been issued. Under NAMP, 3 stations are being monitored regularly by KTHM College. At these stations, no deterioration in air quality is seen throughout the year.

Pune Region

5 industrial and 1 commercial location in Pune, one commercial location in Pimpri-Chinchwad, one commercial location in Satara and two commercial and one industrial locations in Solapur were monitored during the year for assessing ambient air quality. It is seen that except Solapur sub-region, the SPM and RSPM concentrations exceeded the limit at all other locations. The highest concentration of RSPM (391µg/m^3) was recorded at "Kachra depo in Urull Devachi" Tq. Haveli Dist Pune.

Aurangabad Region

Ambient air quality was assessed through 8 locations in Aurangabad Region. Out of these 3 locations are operated under NAMP Project. Two locations in Nanded, two locations in Latur and one location in Krushnoor MIDC were fixed during the year for assessing ambient air quality. It is observed that at C.A.D.A. Office in Aurangabad and Bembalkar Building, in Latur, the RSPM level exceeded the limit. Both locations are in residential cum commercial areas. The Ambient air quality monitored at industrial locations in Nanded was found within the limits.

6.3.3 Steps taken to minimize the Air Pollution:

- All the air polluting industries have been enforced to provide adequate measures for control of air pollution i.e. scrubbers on reactor and Hazardous chemical storage, dust collectors for particulate, stacks of sufficient height, ESP and other equipments etc., and accordingly certain conditions are imposed on the industries in the consent order.
- Industry and vehicles are advised to use LSHS/CNG type fuels so as to reduce & avoid air pollution.
- Vigilance is kept by the Board and regular sampling is done to check emissions from stack and also fugitive emissions with the help of HVS & Mobile Van and stack monitoring.
- Regular ambient air monitoring is carried out by the Board.
- Legal action has been initiated against 149 industries. Out of these conviction is secured in 114 cases and 32 cases have been dismissed.
- Proposed/Closure directions are issued to industries for the installation /up gradation of existing Air Pollution Control System and proper operation and maintenance of the same.
- Industries where Coal is used as fuel were instructed to provided adequate capacity of dust collectors followed by wet scrubber to minimize air pollution.
- Some identified industries in Dombivali & Bhiwandi area have changed fuel pattern to Petro coke /Pet coke from coal /oil for boilers. These industries are directed to immediately stop the use of Petrocoke /Petcoke and also directed to clear stock of pet coke by sale or return to manufacturer.

- An extensive survey of plastic beads metalizing & pearl coating units was carried out which are operating illegally and creating air pollution & smell nuisance in surrounding area of Kalyan
- In Malegaon area there are no. of plastic processing units. The main problem arises during segregation of used waste plastic. For melting of used segregated plastics they do not have proper equipments/machinery thereby generating heavy fumes & creating air pollution problem in the surrounding area. These units are being covered under the plastic Rules & also insisted for obtaining the registration under the Plastic Rules as authorized reprocessors.
- Awareness campaign, workshops were also arranged to educate the people..
- In Mumbai air pollution is mainly due to vehicles. Measures are taken such as use of less sulphur content diesel, use of lead free petrol, use of CNG/LPG as an alternative fuel, making PUC compulsory, banning 15 years old vehicles & converting 8 years old vehicles to use CNG/LPG.

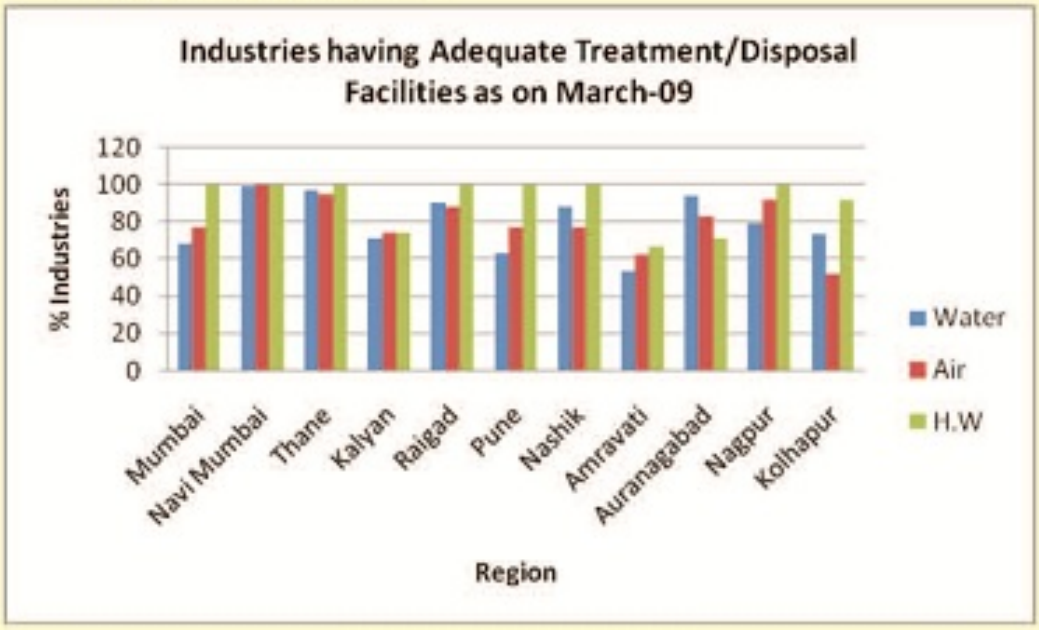
6.4 INDUSTRIAL POLLUTION :

Industries are monitored regularly to assess the efficacy of pollution control measures. Monitoring norms for industries have been fixed. Monitoring of industries includes checking compliance of consent conditions and environmental standards, collection and analyses of untreated / treated samples of effluents, law evidence samples, and hazardous waste samples to observe the concentration of pollutants. Stack emissions are also monitored. Adequacy of treatment plant and its operation is also monitored. The arrangement made for reuse, recycle of treated effluent / waste is also checked. The industries covered under cess are also monitored for assessing the quantum of water consumption.

The Maharashtra Industrial Development Corporation (MIDC) is responsible for the development of industry in the State. Similarly Co-operative Industrial estates are also developed in the State. Mumbai, Thane, Navi-Mumbai, Kalyan, Nasik, Pune and Pimpri-Chinchwad, all have high pollution prone industries.

Most of the industrial activities give rise to substantial pollution of air, water and generate hazardous wastes, noise, etc. These activities are regularly monitored by the Board. Effluent and emission standards for specific industries are notified. These standards are stipulated in the consent orders. Most of the large and medium industries have installed the necessary effluent treatment plants and emission control systems for control of pollution.

The compiled data for the year 2008-09, indicates that there are 69108 industrial units identified by the Board for implementation of pollution control measures. They include 10587'Red', 12765 'Orange' and 45756'Green' categories of industries. Of these 11211 industries have adequate treatment facilities for water pollution and 10399 industries have adequate emission control facilities. There are 4511 industries generating hazardous waste in the state have adequate treatment and disposal facilities.



Under the Central Action Plan, there are 697 industries identified as pollution prone. Out of these, 436 industries identified under the Plan have taken necessary control measures. 117 industries are closed and action is being taken against all defaulting units. The Region wise status of these industries is shown in following table

Status of Industries under Central Action Plan as on 31.3.2009

Sr. No.	Region	Total No. of Units	Total No. of Units Closed	Total No. of Units Complying with the Standards	Total No. of Units not Complying with the Standards
1	Mumbai	6	0	6	0
2	Navi - Mumbai	37	7	30	0
3	Thane	96	5	91	0
4	Raigad	79	4	63	12
5	Kalyan	33	7	26	0
6	Pune	41	3	37	1
7	Nashik	112	27	39	46
8	Nagpur	28	4	17	7
9	Amravati	23	10	5	8
10	Aurangabad	95	12	55	28
11	Kolhapur	137	37	58	42
12	Chandrapur	10	1	9	0
	Total	**697**	**117**	**436**	**144**

6.4.1 Common Effluent Treatment Plants (CETP)

Common Effluent Treatment Plants are established at 26 industrial locations. These as a group have the capacity to treat effluent quantity of 209 MLD and cover 7431 industrial units. This scheme is implemented for the clusters of industries in MIDC areas as a part of the common environmental infrastructure for environment protection. Common effluent treatment plants (CETPs) are being promoted by the Central Government for cluster of industries for management of industrial effluents, especially from small and medium enterprises. Due to one reason or the other most of the CETPs were not complying with the standards in terms of quality of treated wastewater at the outlet. As a result, there are several complaints from various people in the area. The series of actions were taken by the Board against the defaulters, intensive discussions and meetings were held with industry and time-bound action plans were prepared for each CETP. Work of

strengthening and up gradation of treatment units at CETPs is now in progress. Primary standards are complied by all CETPs. Board has obtained bank guarantees from most of the CETPs as a proof of their commitment for complying with the standards and completing the work within the agreed time, failing which, bank guarantees are liable to be forfeited. Board is getting very good response from the industries and MIDC in this regard.

Status of CETPs in Raigad Region

MIDC has developed industrial area at Patalganga. Total 27 nos. of industries are operational & generating industrial effluent. All the individual industries have provided treatment facilities to treat the effluent & treated effluent is being discharged in to CETP through close pipe line provided by MIDC. PRIYA CETP society has provided full fledge treatment facility of 15 MLD capacities to treat the effluent generated from industries of MIDC area. The treated effluent from CETP is discharged into Dharmatar creek at Kharpada through close pipe line (8.5 K.M. length). Outlet quality of CETP is monitored regularly & generally outlet quality is achieving the standards laid down in the consent. Total number of industries who are member of CETP are 40, out of which 13 nos are from outside MIDC area.

Roha industrial association had proposed a CETP in 1992 in MIDC industrial area at Roha, Dist- Raigad. Actual field work of CETP started in November-2002 and completed in February-2004. CETP was partially commissioned in March-2004 and fully commissioned in July-2004.

CETP design was based on the following criteria:-

1)	Capacity	10 MLD
2)	BOD	750 mg/l
3)	COD	3200 mg/L
4)	S.S	500 mg/l
5)	Retention	24 hrs.

The Cost of CETP was Rs. 12.5 Cr. Out of which 50% amount was released as subsidy by MPCB (5%), MIDC (20%), and MOEF (25%). The CETP comprises of collection / equalization tank with floating mixers (4NOs) with Bar screen and Grit Chamber, pH collection tank with flash mixerd PAC/PE dosing, clariflocculator UASB digester with gas holder, bio-Reactor (2 Nos) with membrane diffusers Secondary Clarifier, ozonator with ozxone contact chamber, Sludge thickners (Belt press and filter press), sludge drying bes etc.

The CETP is not still complying with the parameters mostly BOD & COD, Recently the work to assess performance evaluation of the CETP is given to Dr. Babasaheb Ambedkar Technical University, Loner, Dist-Raigad.

Treated effluent from CETP is discharged into saline zone of Kundalika River near Arekhurd village through a pipeline of 8.5 Km length. The National Institutes of Oceanorgraphy (NIO) has recommended the discharge point near Mahadev Khar Village at a distance of 11km from the existing discharge point. Dispersion of effluent at the existing point is not proper and quality of the water in the saline zone of river is getting deteriorated. Now the MIDC has decided to extend the existing point by 1.00 km near Gofan Village. Effluent will be discharged at the center of cross- section of the river through proper diffusers.

The MMA CETP Society has provided tertiary CETP and after proper treatment the effluent is discharged. into saline zone of Savitiri River at Ovale. MPCB has been taking stringent actions including closure against the defaulting industries.

CETP at Taloja MIDC

CETP at Taloja is designed to handle 10 MLD of effluent. Trade effluent from the industries is collected by means of network of closed pipelines. The effluent quantity reaching the CETP is within the installed capacity in the dry season. In the rainy season the effluent quantity is higher resulting in some quantity of untreated effluent being discharged, but due to the dilution factor of rain water the impact is not significant. CETP is in the process of increasing its handling capacity. Upgradation in the existing aeration tank by installing Diffused Aeration System carried out at a cost of Rs.1.25 crores in May 2005 has resulted in treated effluent quality being well within prescribed standards. Hazardous waste generated from this unit in the form of sludge is regularly sent to CHWTSDF at MWML, Taloja for scientific disposal.

CETP has now upgraded the capacity of effluent treatment by providing additional CETP of 10 MLD capacity. The additional CETP was commissioned in Feb-2008.This was inaugurated by Hon. Minister for Environment and Hon.Chairman of Maharashtra Pollution Control Board. The additional CETP is under stabilization presently.

The treated effluent from CETP is disposed into the creek through a closed 7 kilometers long pipeline by means of gravity into creek. The blockage / breaking of effluent carrying pipelines to CETP and treated effluent carrying pipeline from CETP to the final disposal point is a cause of effluent entering adjacent rivers. Vigilance is maintained by MPC Board as well as CETP staff, and any such incidence is brought to the notice of CETP officials and CETP staff is directed by MPC Board to carry out repairs at the earliest.

Performance of certain CETPs in terms of BOD and COD load is given in the following table

The monitoring results obtained for performance evaluation of CETPs at different places indicate that there is more than 40% reduction in COD concentration at 9 CETP's outlet. The increase in BOD and COD load is seen at RIA CETP Roha, Ranjangaon MIDC and Jaysingpur CETP. From the following table it is clear that the CETPs at ACMA Ambernath, DBESA CETP (Textile), DCETP (Chemical) Dombivali, MIDC Kurkumbh Pune and CETP Taloja are operated efficiently.

Name of CETP	BOD			COD		
	Inlet (mg/l)	Outlet (mg/l)	%Increase / decrease	Inlet (mg/l)	Outlet (mg/l)	%Increase / decrease
ACMA CETP	243	80	(-)67%	820	297	(-)64%
Chikloli Morivali	1859	1216	(-)35%	5581	3753	(-)33%
Badlapur CETP	554	294	(-)47%	1690	892	(-)47%
DBESA CETP (Textile)	458.52	218.76	(-)52%	1211.3	561.12	(-)54%
DCETP (Chemical)	543.64	164.76	(-)70%	1504.5	489.41	(-)67%
RIA CETP	459.04	465.33	(+)1.35%	1372.66	1490.28	(+)7.91%
PRIA CETP	49.9	29.7	(-)40.48%	149.45	88	(-)41.11%
MMA CETP	2498.26	2018.96	(-)19.21%	4923.86	3984.8	(-)19.07%
MIDC Kurkumbh,	3100	712	(-)77.03%	8081	1654	(-)79.53%
Ranjangaon MIDC	40.07	117.6	(+)65.13%	161.33	314.26	(+)48.66%
Taloja	317.7	98	(-)69.15%	817.4	300.8	(-)63.20%
TTC	326.9	60.1	(-)8.16%	895.8	182.4	(-)79.54%
Butibori	133.66	75.16	(-)43.76%	27.63	16.63	(-)39.81%
Jaysingpur	477	630	(+)24.28%	796	1261	(+)36.87%
Lote	3825	3550	(-)7.81%	7329.5	6237.5	(-)14.89%

Note : (-) decrease (+)increase

6.4.2 Status regarding treatment and disposal of Hazardous Wastes in certain Regions of Maharashtra

From Kolhapur sub region presently 61 no of industries are the member of CHWTSDF at Ranjangaon, Pune for disposal of hazardous waste. In Ratnagiri Sub-Region there are 13 industries which are generating hazardous waste. Out of these 7 industries are disposing their HW through CHWTSDF & 6 industries are selling out their HW to reprocessors.

Common Hazardous Waste Treatment, Storage & Disposal Facility is developed at Butibori near MIDC Butibori in Nagpur Region. The capacity for secured landfill is 60,000 T/Annum. About 25% is filled up with land fill Hazardous Waste. The facility has also installed incineration with latest technology i.e. plasma incinerator & same will be put into operation in April-2009. CHWTSDF facility has also space for storage of Hazardous Waste, which is either incinerable or require treatment before landfill. All industries generating Hazardous Waste are disposing their Hazardous Waste either by secured land fill at CHWTSDF or sent for recycle, reuse by authorized recycler / re-user. CHWTSDF is monitoring ground water quality at 9 locations

Almost all the units handling Hazardous Chemicals have prepared onsite and offsite plans.

Out of 37 industries in Amravati Region generating hazardous waste 26 industries are joined with common hazardous waste treatment & disposal facility developed by M/s. vidharbha Enviro protection Ltd. At. Butburi, Dist. Nagppur

All industries generating H.W. in Raigad Region are the member of CHWTSDF and sending there hazardous waste to CHWTSDF. All major industries have prepared onsite and offsite plans of management of Hazardous Chemicals and taken risk policies under PLI Act, 1991.

Kalyan Regional office issued 113 SCN to those industries which are sending less quantity of H.W to CHWTSDF. This has resulted in increased disposal of H.W quantity (In 2008-2009 H.W sent to CHWTSDF from Kalyan Region 13245.17045 T). Almost all large & medium industries in Kalyan Region have prepared onsite and off site plans for management of hazardous chemicals

M/s. Monarch Catalyst, Dombivali, Dist. Thane has. imported 256153 Kg. of hazardous waste

M/s Indian Oil Corporation Ltd.(LPG Bottling Plant) at Dhanaj,Tal Karanja Lad,Dist Washim , has prepared the onsite disaster management Plan.

6.4.3 Industries, which have adopted cleaner technology

M/s. Kolhapur Sugar Mills (Distillery Div) invested about rupees 8 crores for Five Effect Evaporation System with dryer.

M/s. Tatyasaheb Kore Warana SSK Ltd. (Dist. Div) has made an investment of Rs.14 Crores towards the additional 2 digesters & Seven Effect Falling Film Evaporator.

M/s. Vishwasrao Naik SSK Ltd., (Distillery Unit) has spend more than 6 Crore rupees for construction of Compost yard, Reverse Osmosis system etc. to achieve zero discharge as per CPCB guidelines.

Water pollution caused due to distillery effluent of M/s. Manganga SSK Ltd., (Distillery) was reduced after completion of impervious compost yard.

M/s. Sahyadri Starch & Industries Ltd., has spent Rs. 2 Crores for providing 500 m3 capacity Reverse Osmosis and second digester. The gas generated is utilized for Boiler. This has reduced the fuel cost.

There were number of complaints regarding smell nuisance against M/s. Gadre Marine Export Pvt. Ltd. Plot No. FP-1, MIDC Mirjole, Ratnagiri. This smell was due

to decomposition of scum receiving to ETP. Industry has now provided oil & grease traps in the fish processing plant which has resulted in very negligible scum load to ETP. The trapped scum is now dried & sold out to fish meal manufacturing units. The problem of smell is solved & now there are no such complaints of smell nuisance in the area.

Caustic Recovery plant and multiple effective evaporators is provided by M/s Raymond UCO Denim Pvt. Ltd MIDC,Lohara Yavatmal.

Bio-methanisation Plant is provided and commissioned by M/s Vaibhav Liquors Pvt. Ltd,Washim. The Methane gas generated is being utilized in Boiler as a clean fuel.

Thermal Power plant based on Bio-mass is installed by M/s Shalivahana Green Energy ltd, at chanaka Tal-Wani,Dist Yavatmal thereby the resource is being conserved (Coal fossil fuel).

Ballarpur paper mill has installed ODL (oxdelignification) as cleaner technology by investing Rs. 10 Crores to minimize the odor.

List of industries in Nagpur having adopted cleaner technologies are as below

M/s. Sunflag Iron & Steel Co. Ltd., Vill. Eklari (Warthi), Tq. Mohadi, Dist. Bhandara.

M/s. Ellora Paper Mill, Vill.Dewada, Dist. Bhandara.

M/s. Karan Distilleris, Vill. Navegaon, Post-Shahapur, Tq. & Dist. Nagpur.

M/s. Suryalaxmi Cotton Mill, Vill. Nagardhan, Tq. Ramtek, Dist. Nagpur.

M/s. Keltech Industries, Garamsur, Dist. Nagpur.

M/s. Bhaskar Exxoils Ltd., Vill. Wadoda, Tq. Kamptee, Dist. Nagpur.

M/s. Harjeet Steel Industries, Wanjara Layout, Kamptee Road, Nagpur.

M/s. Palal Ispat, Kamptee Road,Nagpur.

M/s. Orange City, Ranala, Kamptee Road, Nagpur.

M/s. Raja Polymers, Upplawadi, Nagpur.

M/s. Malu Paper Mill, Saoner, Dist. Nagpur.

M/s. Khamala Automobiles, Nagpur.

M/s. Diwadkar Bakery, Nagpur.

M/s. Hotel Heritage, Nagpur.

M/s. Sundaram Multi Paper, Kanhan, Nagpur.

M/s. Ashoka Extrusion, Kalamana, Nagpur.

M/s. Shiva Steel, Bhandara Road, Nagpur.

M/s. Hotel Airport Centre Point, Nagpur.

M/s. Shridhar Casting Pvt. Ltd., Takli Bhansali, Tq. Saoner, Dist. Nagpur.

M/s. Parshuram Ispat, Vill. Takli Bhansali, Tq. Saoner, Dist. Nagpur.

Industries in Nasik Region which have adopted Clean Technologies for waste minimization and thereby, reduced the pollution load and treatment cost are given in the following table.

Sr. No.	Name of the Industry	Technology adopted	Remarks
1.	Mahindra & Mahindra Ltd., Igatpuri, Dist. Nashik	Root zone technology i.e. bio filter provided to treat domestic effluent.	achieved zero discharge of industrial effluent.
2.	M/s. Atlas fine Chemicals,STICE , Sinnar, Dist. Nashik	Switch over to phytoremidation process for the treatment ofindustrial effluent	Minimized HW from ETP & achieved zero discharge
3.	M/s Tilaknagar Industries Ltd. Tilaknagar,	DTRO followed by multiple evaporation, concentration & incineration for spent wash.	Waste minimization by achieving zero discharge for spent wash
4.	M/s Somaiya Organo Chemicals,Kanhegaon	Reverse Osmosis followed by one time land application.	Waste minimization.
5.	M/s Sanjivani S. S. K. Ltd.Sahajanandnagar	Sulpher recovery from biogas	Waste minimization

6.4.4 Some initiations of the Board in reducing industrial pollution

- Frequency of inspection & monitoring of the industries of large, medium and small are fixed by the Board.
- Show Cause notices are issued to 10489 polluting industries. Proposed directions under section 33A of the Water (Prevention & Control of Pollution) Act, 1974 issued to 421 units and under section 31A of the Air (Prevention & Control of Pollution) Act, 1981 issued to 214 polluting industries. The closure orders were issued to 339 industries for non compliance. The Region wise break up of directions issued to defaulting industries is shown in the following table.

Directions Issued by Regional Offices during the year 2008-2009

Regional Offices	No. industries to whom direction are issued			
	u/s 33A of Water Act, 1974		u/s 31A of Air Act 1981	
	Proposed Direction	Final Direction	Proposed Direction	Final Direction
Mumbai	58	20	43	12
Navi Mumbai	54	24	8	4
Raigad	18	30	18	28
Thane	29	13	13	8
Kalyan	12	16	0	7
Pune	33	26	8	1
Nashik	16	4	2	3
Aurangabad	102	7	82	11
Nagpur	13	9	12	4
Amravati	13	25	13	18
Kolhapur	67	65	15	4
Chandrapur	6	0	0	0
Total	**421**	**239**	**214**	**100**

- The Board has taken very serious steps of closing down no. of industries under various sections for non-compliance of various standards; As a result, most of the industries have improved and are in the process of improvement of pollution control facilities. Bank Guarantee is also obtained from defaulting industries. The status is shown in the following table.

Status of Bank Guarantee during 2008-2009						
Region	Bank Guarantee Obtained		Bank Guarantee Forefited		Bank Guarantee Released	
	No. of Industries	Amount Rs.	No. of Industries	Amount Rs.	No. of Industries	Amount Rs.
Mumbai	30	1485000	0	0	43	1990000
Navi Mumbai	38	3165000	7	345000	30	555000
Thane	10	270000	0	0	0	485000
Kalyan	64	2865000	8	140000	2	100000
Raigad	20	4900000	10	845000	9	420000
Pune	34	5210000	4	325000	0	0
Nashik	24	6570000	1	300000	1	25000
Nagpur	75	8370000	14	1255000	6	1520000
Amravati	2	20000	0	0	0	0
Aurangabad	21	3945000	0	0	0	0
Kolhapur	149	11020000	2	325000	0	0
Chandrapur	0	0	4	475000	0	0
Total	**467**	**47830000**	**50**	**4010000**	**91**	**5095000**

- The Thane Region accommodated large no. of chemical industries & as such the hazardous waste generation is significant. There are 685 units which generate Hazardous Waste. The Hazardous Waste generated by these industries is about 40692 T/Year. All industries hoisted the display boards regarding the detail information of Hazardous Waste.
- In Tarapur area most of the industries were dumping Hazardous Waste on one vacant plot before establishment of CHWTSDF Site at Taloja. Hence, it was decided to carry out encapsulation of Hazardous Waste dumped on the plot. The Hazardous Waste dumped on other plots was also brought to this plot before final encapsulation. This encapsulation is done by adopting proper technology i.e. by using two layer systems for not allowing any leachets to leach into ground water.
- To tackle local complaints night vigilance was conducted in Tarapur MIDC. This has resulted in improving the quality of effluent discharge from small scale chemical units. The acidic discharge is now reduced to great extent
- As per the directions of Dahanu Environment Protection Authority and Hon. High Court M/s Reliance Energy Ltd. has installed FGD Plant to reduce so_2 emissions. 90% efficiency is being achieved with this Plant.

- Extensive survey has been carried out for the industries located on the bank of River Patalganga from MIDC Patalganga to Khopoli also at Kamothe JCIE. Industries are instructed to join CETP for disposal of effluent and un-consented industries from Kamothe area are instructed to obtain valid consent from Board
- Court Cases have been filed against 5 industries in Raigad Region
- Stringent action of closure has been initiated against air polluting industries in Nagpur Region especially stone crushers, mines and mineral processing units. Time has been given to the units to provide adequate air pollution control systems.
- The cement industries in Chandrapur have adopted cleaner technology by installing bag filters in addition to ESP and approached the Board for use of hazardous waste as secondary fuel for waste minimization.
- Chandrapur Action plan is being implemented. As recommended in the plan directions are issued to cement industries, sponge iron, mines and power plants. Accordingly these industries have taken necessary steps for improving pollution control devices and pollution level in general.

6.5 Environmental Problems:

6.5.1 The Board has carried out the survey of lime kilns located in the Rajur village of wani taluka,Yavatmal District as there is complaint about the air pollution due to these units. In Rajur area there are cluster of lime kiln units which manufacture the lime by burning the limestone and coal. Air emission from these lime kilns contains heavy particulates matter, CO and CO2 gas. Also huge quantum of solid waste is generated from these units. The problem of smoke nuisance also observed during the winter season due to incomplete combustion and inversion phenomenon. Board has directed all the lime kiln units to provide the hood, dust arrestor and chimney of adequate height and M.S. Material. Accordingly most of the kiln have provided with hood, chimney of adequate height and dust arrestor.

6.5.2 Chandrapur district is having large reserves of natural minerals, due to which mineral based industries are established in this area, these industries causes ancillary and secondary pollution arising from transportation of raw material and finished goods in the district. locations of few mines and industries near the habitation, burning of coal for domestic purposes, storing of coal along the road side as a coal depot, discharge of huge quantity of mine water causing damage of crops are the issues to be dealt by Board for action. A separate action plan is prepared for control of air pollution and being implemented for Chandrapur district.

6.5.3 Fish kill incidence in river Patalganga at Khopl took place in the month of Oct. 2008. This is due to overflow of effluent from collection tank due to power failure. Board Office has issued Proposed direction to the M/s. Alta Lab; Khopoli. The Industry has taken corrective measures as per Interim Direction issued

6.5.4 CETP is not provided for additional MIDC Ambernath leading to Waldhuni river pollution.

- STP's of Ulhasnagar Municipal Corporation and Ambernath Municipal Council are not functional leading to Waldhuni river pollution.
- Diversion of Khemani nalla is not done leading to Waldhuni river pollution.
- Effluent treatment plants are not provided for jean wash units operating in Ulhasnagar & Ambernath area.

- Water pollution caused by Jeans Washing industries in Ulhasnagar area.
- Illegal industrial units operating in Bhiwandi & Ulhasnagar residential area.
- Industrial effluent from outside area directly discharge in water bodies located in Kalyan region through tankers.
- Dumping of MSW carried out by, Bhiwandi Nizampur City Municipal Corporation, Kalyan Dombivali Municipal Corporation Ulhasnagar Municipal Corporation. Ambernath Municipal, council &Badlapur Municipal Council creating threat to environmental water bodies & health of people around.

6.5.5 Fish kill in Krishna River was seen in the month December 2008 due to discharge of spent wash from M/s Rajarambapu Patil SSK Ltd., Distillery) Sakhrale. Therefore action was initiated by the Board against M/s. Rajarambapu Patil SSK Ltd(Distillery). Now the industry has started modification of their distillery and they are going for vacuum distillation in which spent wash generated will be reduced to 5 lit/lit of alcohol instead of 12 lit/lit of alcohol production previously.

7. Environmental Studies and Surveys

Implementation of environmental regulations require solid base of science and technology with a back up of research and development activities. Board is required to undertake investigative research, develop and assess its policy programmes and initiatives. Board has taken up several such projects which are of great importance for the environment protection and public health.

Following is the list of important research based surveys/studies implemented by the Board either on its own or in collaboration with other scientific institutions:

7.1 Noise Pollution Survey

7.1.1 Noise Pollution during Ganesh Festival, 2008

Ganesha Chaturthi, the Ganesha festival, also known as 'Vinayak Chaturthi' or 'Vinayaka Chavithi' is celebrated by Hindus around the world as the birthday of Lord Ganesha. It is observed during mid-August to mid-September) and the grandest and most elaborate of them, especially in the western Indian state of Maharashtra,lasts for 10 days, ending on the day of 'Ananta Chaturdashi'. After 10 days, Ganesh idols are immersed in the water bodies. Large number of people participates in the festival and the immersion procession on the last day. Vocal music and musical instruments during the festival causes high levels of noise. In general, ambient levels of noise increase considerably. In order to assess the situation of noise levels in various cities across the state, Maharashtra Pollution Control Board has carried out the survey for 5 days during Ganesh festival from September 10th to 14th.

Objective

The objective of this exercise is to assess the problem faced by the residents when the noise level of their surroundings exceeds the permissible limit. Young generation (students) are to be involved who will act as messengers on environmental awareness and explain the passerby, who show interest in noise measurement

Noise Pollution and its effect on Environment

Noise is defined as the undesirable sound. Sound which pleases the listeners is music and that which causes pain and annoyance is noise. At times what is music for some can be noise for others. To some people the roar of an engine is satisfying or thrilling and to others it may be annoying. Noise is transient; once

the pollution stops, the environment is free of it. We can measure individual sounds that may damage human hearing, but it is difficult to monitor cumulative exposure to noise. The effect of noise pollution is multifaceted and inter related. The effect of noise pollution can lead to decrease in efficiency, lack of concentration, fatigue, increase in blood pressure, temporary deafness, could lead to abortion etc.

Methodology of the survey

The noise pollution monitoring was carried out from September 10th to 14th 2008. Noise level measurement was done from 18.00 hrs upto midnight (24.00 hrs). The Monitoring was carried out at a distance from Ganesh Pandals, closer to the residential buildings. The main purpose of this exercise was to determine how the environment is disturbed and what effect it has on a normal human being residing in that area or closer to the area. There were a total of 85 locations covered during Ganesh festival in Maharashtra

Conclusion:

It is observed from the results that the noise levels were exceeding the permissible limit during the Ganesh Festival from September 10 to 14, 2008 in all the cities. In spite of legal standards in place and efforts of the regulatory agencies, the noise levels could not be controlled under the permissible limit. The noise levels were ranging from 50.2 dB to107 dB. The detailed comparison of noise level in various cities in Maharashtra is as follows:

- In **Mumbai** 2008 were ranging between 50.2 dBA to 91.3 dBA. In 2007, the noise level ranged between 63.4 dBA to 102.7 dBA.onitoring
- In **Navi Mumbai** 2008 were ranging between 51.3 dBA to 95.8 dBA. In 2007, the noise level ranged between 85.9 dBA to 100.6 dBA.
- In **Thane**, 5 locations were monitored and the sound level during monitoring in2008 were ranging between 56 dBA to 96.5 dBA.
- In **Nashik**, 5 locations were monitored and the sound level during monitoring in 2008 were ranging between 41.9 dBA to 99.8 dBA. In 2007, the noise level ranged between 40.2 dBA to 89.3 dBA.
- In **Aurangabad,** 5 locations were monitored and the sound level during monitoring in 2008 were ranging between 51.3 dBA to 99.5 dBA. In 2007, the noise level ranged between 65.2 dBA to 114.1 dBA.

- In **Nagpur**, 5 locations were monitored and the sound level during monitoring in 2008 were ranging between 60.7 dBA to 85.9 dBA. In 2007, the noise levelranged between 62.2 dBA to 98.3 dBA.
- In **Kalyan**, 3 locations were monitored and the sound level during monitoring in 2008 were ranging between 59.6 dBA to 92.7 dBA. In 2007, the noise level ranged between 65.4 dBA to 103.8 dBA.
- In **Amravati**, 3 locations were monitored and the sound level during monitoring in 2008 were ranging between 59 dBA to 79.7 dBA. In 2007, the noise level ranged between 52.6 dBA to 93.6 dBA.
- In **Jalgaon**, 3 locations were monitored and the sound level during monitoring in 2008 were ranging between 60.0 dBA to 79.0 dBA. In 2007, the noise level ranged between 54.0 dBA to 102.9 dBA.
- In **Kohlapur**, 3 locations were monitored and the sound level during monitoring in 2008 were ranging between 65.0 dBA to 86.0 dBA. In 2007, the noise level ranged between 56.9 dBA to 105.4 dBA.
- In **Satara**, 3 locations were monitored and the sound level during monitoring in 2008 were ranging between 66.0 dBA to 100.0 dBA. In 2007, the noise level ranged between 62.5 dBA to 96.7 dBA.

It is observed that, there is significant change in noise levels in all the cities. There was a reduction of Noise this year in all the cities as compared to the previous years. Increasing awareness amongst masses and enforcement has resulted in reduction of noise levels this season.

7.1.2 Noise Pollution during Diwali Festival, 2008

Deepawali or **Diwali in India** is celebrated with lots of enthusiasm and happiness This festival is also known as the 'Festival of Lights'. Fireworks are always associated with this festival. The day is celebrated with people lighting diyas, candles all around their house. Lakshmi Puja is performed in the evening to seek divine blessings of Goddess of Wealth. Diwali gifts are exchanged among all near and dear ones.

The auspicious day of Diwali is decided by the moon position & according to the Hindu calendar, Amavasya or the "no moon day" is considered the perfect day for Diwali. The dark night comes after every fortnight & in the Hindu month of Kartik (October/November), it marks the festive occasion. The Diwali date holds an imperative meaning among the Hindus, since, the day is reckoned with Lord Rama's coronation ceremony as the King of Ayodhya after his return to the kingdom from 14 years of exile along with his wife Sita & brother Laxman after killing the demon, King Ravana. People celebrated this occasion by lighting diyas to drive away the darkness of amavasya.

Methodology of the survey

The noise pollution monitoring was carried out from October 28th to 30th 2008.Noise level measurement was done in two sessions; morning and evening. In the morning it was carried out from 0500 hrs upto 1100 hrs on the 28th and 29th October while the evening session was carried out from 1800 hrs upto midnight (2400 hrs) on the 28th, 29th and 30th October. The monitoring was carried out at locations closer to the residential buildings. The main purpose of this exercise was to determine how the environment is disturbed and what effect it has on a normal human being residing in that area or closer to the area. There were a total of 115 locations covered during Diwali festival in Maharashtra

It is observed from the results that the noise levels were exceeding the permissible limit during the Diwali Festival from October 28 to 30, 2008 in all the cities. In spite of legal standards in place and efforts of the regulatory agencies, the noise levels could not be controlled under the permissible limit. The noise levels in morning and evening sessions in various cities in Maharashtra are as follows:

Area	Locations monitored	Morning session Sound level in dBA		Evening session Sound level in dBA	
		Min. mean	Max. mean	Min. mean	Max. mean
South Mumbai	15	47.8	91.6	52.3	104.2
Mumbai Eastern suburbs	15	52	87.2	57.2	106.8
Mumbai Western surburbs	15	48	108.2	56.6	110
Navi-Mumbai	10	51	98.2	61.4	112.4
Thane	5	45.6	87.2	68.5	102.6
Pune	15	37	73	42	98
Nasik	5	54.2	82.7	56.2	85.9
Aurangabad	5	50.1	82.6	51.4	85.3
Nagpur	10	43	72.6	65	82.9
Kalyan-Dombivali	6	46.8	85.8	60	101.8
Ambernath-Ulhasnagar	6	54	85.4	60.6	100.9
Kolhapur	8	36	73	46	80

It is observed that, there is significant change in noise levels in all the cities. There was a reduction in noise level this year in all the cities.as compared to the previous years but in some places in Navi Mumbai there was a significant increase in the Noise level during the Diwali festival..

7.1.3 Noise Monitoring in Metropolitan Cities (December 2008)

Noise pollution in urban areas is now being recognized as a major environmental issue around the world. With increasing awareness of the adverse impacts of noise on human health, more and more people becoming less tolerant to environmental noise. According to World Health Organization, noise pollution is nowadays the third most hazardous environmental type of pollution, preceded only by air (gas emission) and water pollution. Noise Pollution in larger cities is an ever-growing problem due to the fact that the urban environment is becoming increasingly crowded, busy and noisy. The people living in the metropolis have leading sources of noise as Road Traffic Noise, Air Craft Noise, Noise from railroads, Resident & Community Noise and Construction Noise etc.

Therefore, in order to access the impact of noise on the citizen in six major Metropolitan cities for 24 hours across the state, Maharashtra Pollution Control Board has carried out the survey for two days on 14th & 15th December 2008.

Objective:

The objective of this exercise is to assess the impact of various noise sources on general citizen in two different scenarios (holiday and a working day) i.e. 14th (holiday) and 15th (working day) of December 2008 and to compare the noise levels with Ambient Noise Standards for the area. Further, to create the awareness and educate the public.

Methodology of Survey:

The Noise Level Monitoring in six Metropolitan cities for 24 hours continuously (16 hrs day time & 8 hrs night time) was carried out on 14th (holiday) & 15th (working day) December 2008. The monitoring was carried at the same locations during both days and during the same period. The distance of the monitoring station and the microphone height was also recorded accurately in the report. The monitoring stations selected include residential areas, silence areas, industrial and commercial areas, adjacent to major roads (traffic) areas and also extended to air and rail traffic. The Global Positioning System (GPS) was used to get the exact position i.e. Latitude and Longitude of the monitoring locations. This exercise may help in identifying the significant sources of Noise and finding & implement of remedies to reduce the Noise levels. There were a total of 25 locations covered in six major cities of Maharashtra state. The detailed list of cities and monitoring locations are shown in table:

Sr. No.	City	Location	Area
1	Mumbai	Backside of High Court	Silence
		Mumbadevi temple	Silence
		Borivali National Park	Silence
		Antop Hill	Residential
		Shivaji Park, Dadar	Residential
		Santacruz Airport	Commercial
		Ghatkopar (W)	Commercial
		Vashi Naka, Chembur	Commercial
		Goregaon (E)	Industrial
		Charkop, Kandivali	Industrial
2	Pune	Pune University	Silence
		Nucleus Mall	Commercial
		Kakade Angan	Residential

Sr. No.	City	Location	Area
3	Nashik	Dwarka Circle	Commercial
		Pandit Colony Near NMC	Residential
		Pavan Nagar CIDCO	Residential
4	Aurangabad	Ghati Hospital	Silence
		Nirala bazaar	Commercial
		CIDCO N-4	Residential
5	Nagpur	Govt. Medical College	Silence
		Sitabardi Police Station	Commercial
		Shivaji Nagar	Residential
6	Kolhapur	Collector Office	Residential
		Dasara Chowk	Silence
		Shahupuri	Commercial

It is observed from the results that, the noise levels mostly were exceeding the permissible limit during the both days on 14th (holiday) & 15th (working day) December 2008 in all the six Metropolitan Cities of Maharashtra except at Goregaon and Charkop in Mumbai,

In **MUMBAI**, the noise levels in all locations were exceeding the standards except at the industrial areas i.e. Goregaon & Charkop locations during both day time and night time. On comparing the noise levels during day time & night time, it shows that during day time the noise levels were higher on 14th December (holiday) and during night time the noise levels were higher on 15th December (working day). The noisiest place was VashiNaka having average value of 79.2 dB(A) during day time and 75.7 dB(A) during night time and least noisy place was High Court having average value of 65.0 dB(A) during day time and 60.6 dB(A) during night time for two days.

In **PUNE**, the noise levels in all locations were exceeding the standards. On comparing the noise levels during day time and night time, it shows that the noise levels were higher during both the day time & night time on 14th December (holiday). The nosiest place was Nucleus Mall having average value of 70.5 dB(A) during day time and 60.8 dB(A) during night time and least noisy place was Kakade Angan having average value of 62.4 dB(A) during day time and 48.4 dB(A) during night time for two days.

In **NASHIK**, the noise levels in all locations were exceeding the standards. On comparing the noise levels during day time and night time, it shows that during day time the noise levels were higher on 14th December (holiday) and during night time the noise levels were higher on 15th December (working day). The nosiest place was Dwarka Circle having average value of 74.7 dB(A) during day time and 70.6 db(A) during night time and least noisy place was Pandit Colony having average value of 72.3 dB(A) during day time and 63.7 dB(A) during night time for two days.

In **AURANGABAD**, the noise levels in all locations were exceeding the standards. On comparing the noise levels during day time and night time, it shows that the noise levels were higher during both day time & night time on 15th December working day). The nosiest place was Nirala Bazaar having average value of 80.1 dB(A) during day time and 74.8 dB(A) during night time and the least noisy place during day time was Ghati Hospital having average value of 78.8 dB(A) and during night time was CIDCO N-4 having average value of 70.4 dB(A) for two days.

In **NAGPUR**, the noise levels in all locations were exceeding the standards. On comparing the noise levels during day time and night time, it shows that during day time the noise levels were higher on 15th December (working day) and during night time the noise levels were nearly equal during both the days i.e. 14th December (holiday) & 15th December (working day). The nosiest place was Sitabardi having average value of 74.2 dB(A) during day time and 67.4 dB(A) during night time. And the least noisy place during day time was Government Medical College having average value of 64.6 dB(A) and during night time was Shivaji Nagar having average value of 61.8 dB(A) for two days.

In **KOLHAPUR**, the noise levels in all locations were exceeding the standards. On comparing the noise levels during day time and night time, it shows that during day time the noise levels were higher on 15th December (working day) and during night time the noise levels were higher on 14th December (holiday). The nosiest place was Dasara Chowk having average value of 70.1dB (A) during day time and 62.3 dB(A) during night time and least noisy place was Collector Office having average value of 61.8 dB(A) during day time and 50.3 dB(A) during night time for two days.

7.2 Monitoring of Coastal Marine and Estuarine Ecology of Maharashtra:

The Maharashtra coast that stretches between Bordi/Dahanu in the North and Redi/Terekhol in the South is about 720 km long and 30-50 km wide. The shoreline is indented by numerous west flowing river mouths, creeks, bays, headlands, promontories and cliffs. There are about 18 prominent creeks/estuaries along the coast many of which harbour mangrove habitats. Like elsewhere in the world, the coastal region of the State is thus a place of hectic human activity, intense urbanization in pockets and enhanced industrialization, resulting in degradation, directly or indirectly, of marine environment through indiscriminate releases of domestic and industrial effluents, reclamation, offshore constructions, movement of ships and loading and unloading of a variety of cargo at ports etc. Several coastal ecosystems along the west coast of India are now thus highly disturbed and threatened, encountering problems like pollution, siltation and erosion, flooding, saltwater intrusion, storm surges and other hazards. Hence, appropriate management strategies are needed to ensure the sustainable development and management of coastal areas and their resources.

Marine environmental management through proper assessment of water quality vis-à-vis the existing wastewater discharges, and reliable impact prediction on the coastal ecosystem due to ongoing activities are prerequisite for optimum utilization of marine areas without harming the ecosystem. A comprehensive programme for coastal area development in a sustainable manner, therefore, requires detailed information on levels of pollutants, quality and quantity of wastewater entering the system, physicochemical characteristics as well as biological productivity at different levels, the flora and fauna inhabiting the area and their community structure, sediment nature, circulation, dispersion potential, tidal flushing etc. Evidently, environmental data requirements are extremely high and it is necessary to adopt a Multidisciplinary approach for proper evaluation of ecosystems enabling corrective measures. With this view Maharashtra Pollution Control Board (MPCB) approached the National Institute of Oceanography, NIO (Mumbai) to undertake two seasons monitoring studies in order to assess the status of coastal ecology along the Maharashtra coast. NIO conducted these studies during February-May 2007 (premonsoon) and October-February 2008 (postmonsoon) as a part (Phase I) of the following long term objectives.

Objectives

(I) To monitor ecology of inshore and coastal areas in order to identify

changes, if any, in water quality, sediment quality and biological characteristics and utilize the findings to suggest suitable corrective measures (Phase-I).

(ii) To monitor for indicator pollutants in areas identified to be contaminated with specific pollutants and assess recovery of the ecosystems (Phase II).

(iii) To undertake predictive modelling of selective marine areas for planned disposal of industrial and domestic effluents (Phase III).

Study area

During the present study the sampling stations along the open coast were selected, to represent inshore (0 to 0.5 km), near shore (2 to 3 km) and offshore (4 to 5 km) region. Estuaries/Creeks were sampled at their lower, middle and upper zones and in many cases the transect extended to the open sea. At least one station on each transect was operated over a tidal cycle and the remaining stations were spot sampled in duplicate. Particular attention was given to sample marine and estuarine areas in the vicinity of significant urban, industrial or maritime establishments.

The Parameters selected for water quality, sediment quality and flora and fauna were as below

Water quality

Temperature, pH, salinity, Suspended Solids (SS), Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Nitrate (NO_3), Nitrite (NO_2), Ammonia (NH_4), Dissolved phosphate, Petroleum Hydrocarbons (PHc), Phenols.

Sediment quality

Texture, Organic Carbon (Corg), Phosphorous (P), PHc, Total Viable counts (TVC), Total coliforms (TC), Feacal coliforms (FC) etc.
Aluminium (Al), Chromium (Cr), Manganese (Mn), Iron (Fe), Cobalt (Co), Nickel (Ni), Copper (Cu), Zinc (Zn), Cadmium (Cd), Lead (Pb) and Mercury (Hg)

Flora and Fauna

Microbiology - TVC, TC, FC etc.
Phytoplankton - phytopigments, cell counts and total genera
Zooplankton - biomass, population and total groups
Macrobenthos - biomass, population and total groups


Coastal Water Monitoring
Survey Locations
Maharashtra Pollution Control Board
महाराष्ट्र प्रदूषण नियंत्रण मंडळ
N
Kilometers

Wastewater Influx

The nature of significant point releases of wastewater received at different Transects were as follows.

1. Dahanu - Industrial and domestic wastes
2. Tarapur - Industrial and domestic wastes
3. Bassein - Industrial and domestic wastes
4. Manori - Industrial and domestic wastes
5. Versova - Industrial and domestic wastes
6. Bandra - Domestic waste through marine outfall
7. Mahim - Industrial and domestic wastes
8. Worli - Domestic waste through marine outfall
9. Thane - Industrial, domestic and port-based wastes
10. Patalganga - Industrial waste
11. Amba - Industrial and port-based wastes
12. Thal - Industrial waste (RCF, DP)
13. Alibaug - Domestic (minor) waste
14. Kundalika - Industrial and domestic (minor) wastes
15. Murud - Domestic (minor) waste
16. Savitri - Industrial and domestic (minor) wastes
17. Vashishti - Industrial and domestic (minor) wastes
18. Enron - Industrial waste
19. Jaigad - Domestic (minor) and Port-based wastes
20. Ratnagiri - Industrial (minor), Port-based and domestic wastes
21. Bhatye - Domestic (minor) waste
22. Pawas - Domestic (minor) and port-based wastes
23. Vijaydurg - Domestic (minor) and port-based wastes
24. Deogad - Domestic (minor) waste
25. Malvan - Domestic (minor) and fishery harbour wastes
26. Vengurla - Domestic (minor) waste
27. Redi -Port-based waste

The general findings in phase-I studies are as below

(I) The data on Water quality as evaluated from various physico-chemical and biological parameters indicated that the coastal waters (unto 5 km) between Dahanu and Redi are healthy except for a few areas near highly industrialized centres of Mumbai along the north Maharashtra. Overall, most of environmental parameters showed normal values along the south Maharashtra coast compared to the north Maharashtra with noticeable deviations. Salinity was generally lower in creeks/estuaries and increase

towards open coastal waters. Also, surface waters had lower salinity which increased with the depth, thus indicating some influence of river discharge on coastal salinity. Salinity of the open coast, creek/estuary of north and south Maharashtra was closely comparable suggesting absence of significant freshwater influx to the coastal area during dry season.. The DO of both north and south Maharashtra open coastal waters and southern estuaries was in the range normally recorded for marine areas. However, the creeks/ bays of coastal Maharashtra as well as the estuarine of north Maharashtra indicated occasionally very low DO (<0.5 ml/l) suggesting the impact of organic load in them. BOD levels indicated that the organic load entering the open coast through various creeks/estuaries is effectively consumed and mineralized. The nutrients like PO4 3--P, NO3 --N, NO2 –N, and NH4 +-N indicated higher values in the creeks and some estuarine segments with considerable reduction towards the sea. The higher levels of NO2 --N and NH4 +-N in inshore waters along the north Maharashtra as compared to the south segment suggested high organic input to the northern coast through anthropogenic activities leading to severe deterioration in environmental activity in many instances. The values of PHc and phenols indicated relatively more petroleum contamination in the creeks/estuaries of northern than that of southern Maharashtra suggesting high industrial activities along northern shore. High bacterial counts in terms of TVC, TC and FC occurred in water and sediment along the coastal Maharashtra. In general, the bacterial counts were high in selected creeks and estuaries than the open coast suggesting high organic input to these coastal areas. Mumbai coast and the southern estuaries were more affected as compared to the rest of the coastal regions. Bed sediments were by and large free from anthropogenic trace metals except for Hg in some instances around Mumbai. Elevation from normal trend particularly Cr in the northern area and Cu in the south and occasional high values of Co, Zn, Cd and Pb appeared to be of lithogenic origin. Further 11 detailed studies including analysis of sediment from the catchment and a sediment core is necessary to resolve this issue. The low level PHc contamination in the sediments of selected coastal segments along Maharashtra was noticed.

The biological productivity in terms of phytopigments and cell counts indicated higher primary production potential for the northern coastal segments compared to the southern areas of Maharashtra. The generic

diversity of phytoplankton was relatively more along southern than that of northern coast. Such trend in high primary production along north shore was probably associated with the nutrient input through anthropogenic fluxes such as sewage. The zooplankton standing stock in terms of biomass and population was higher in the open coastal area of south than that of north Maharashtra. The creeks and estuaries of north Maharashtra however sustained high standing stock than that of south. The faunal group diversity of zooplankton was better along south than that of north coast. The benthic production in terms of biomass and population between southern and northern creeks/estuaries was comparable. However, the open coastal segment of south sustained higher benthic production than that of the north. The above trend in biological production suggested organic pollution induced productivity at different trophic levels at some zones. However, the food chain transfer efficiency in polluted areas seemed to be low due to low grazing pressure, dominance of pollutant tolerant organisms and carnivores. The spatial seasonal and temporal variations of biological parameters were in the range of naturally occurring levels.

(ii) During monsoon the high freshwater flow results in efficient flushing out of contaminants entering the creek/riverine/estuarine zones. The coastal system of Maharashtra experienced poor flushing during the dry season, since majority of rivers have dams and barrages constructed on them to impound freshwater and regulate the flow in many cases thereby starving the estuaries of fresh water to enhance seaward transport of pollutants.

(iii) The environmental conditions deteriorated considerably in creeks/estuaries due to weak flushing of inner segments leading to build-up of contaminants.

(iv) The tidal range (2.5 to 5 m) influenced the mouth segment of the estuaries/creeks along the coast by providing good potential for dilution during flood tide for the dispersal of contaminants entering this zone. The dilution was severely limited in the inner reaches of the estuaries/creeks where the ingress of sea water during flood tide was restricted. Moreover, due to unfavorable tidal excursion, the contaminants tend to oscillate within the estuarine segment that could lead to slow build-up of contaminants particularly during summer when the riverine fresh water flow is low or nonexistent. Hence, anthropogenic releases to the inner estuarine zones should be discouraged for any new industries likely to

set-up. In case of existing discharges, a detailed site-specific survey should be conducted to assess ecology of the estuarine segment receiving the contaminants. If the results, particularly of premonsoon periods are unacceptable the effluent release should be shifted to a suitable downstream location in the estuary where assured dilution is available and impacts on the ecology are minimized.

(v) Fish catch from the creeks/estuaries was much lower than the catch from the openshore waters. However, estuaries are the breeding/nursing ground for a 12 variety of commercially important fish and shell fish, therefore deterioration of their ecology could result in decline in marine fish production in the long run. Hence, while considering developments in the vicinity of these estuaries it should be ensured that their ecological quality does not deteriorate.

(vi) Release of effluents meeting MPCB/CPCB norms in the estuarine segment where tidal flushing is high, should be permitted only after proper studies to quantify initial and far-field dilutions as well as after examining the probable impacts of release on the estuarine ecology. Wherever feasible, the new industry should be persuaded to convey the treated effluent to the open sea at a properly identified site.

(vii) Organic waste, particularly sewage; has been the major contaminant in the Estuaries/creeks and costal waters along Maharashtra. Domestic sewage if treated and disinfected is not harmful to aquatic life provided its release does not cause DO depletion (except in the immediate vicinity of release), it is therefore vital to assess quantitatively the capacity of different segments of each creeks/estuary to assimilate organic waste. The best approach for this purpose is to model each creek/estuary using a proven numerical model with well-defined objectives. Numerical modelling of estuaries requires detailed information on bathymetry, tides, currents, salinity, freshwater inflow, DO, BOD, nutrients, chlorophyll, primary productivity etc of the entire creek/estuarine stretch. Though it is ideal to model a creek/estuary for different freshwater flow conditions, summer environmental setting must be considered for the creek/estuaries since it is the critical period with respect to effluent release. It should be appreciated that such a study would take 2-3 years to complete for each estuary but the output would be extremely useful to integrate plans for developments along the estuarine banks within acceptable impacts on the water quality.

(viii) The coastal water of Maharashtra has a high potential to dilute and disperse Contaminants and coastal industries should be encouraged to release the treated effluents meeting MPCB norms to the coastal waters and not in creeks/estuaries.

7.3 Assessment of Volatile Organic Compound (VOC) at Taloja and Mahad

Volatile Organic Compounds (VOCs) mostly industrial solvents which are used in Chemical Industries (Pharmaceuticals, Pesticide, Dye & Dye Intermediates & other Chemicals) are emitted in to the environment in most of the industrial estates. Some of them being known carcinogens can be identified as Hazardous Air Pollutants and needs special attention. Ambient air levels of VOC is required to be monitored primarily because of their role in adverse impacts on human health as well as ecology, and also on the adverse impact on atmospheric factors relating to other environmental changes (Ozone Layer Depletion etc) i.e. increases in levels of troposphere (ground-level) ozone and decreases in levels of stratospheric ozone. Most of the chlorinated VOCs may contribute for 35 – 55% of outdoor air borne cancer risk.

Taloja and Mahad is one of the critically polluted areas identified in Maharashtra by Central and State Pollution Control Board because of huge pollution caused by industries. The action plan for the problem area had been prepared and various efforts have been made to implement the action plan. The time targeted action plan was prepared to solve pollution related problems of the area. The industrial area Taloja and Mahad, which is mostly having chemical industries, attracts public complaints and receives attention from media primarily because of effluent problem as well as strong odour & colour in final discharge from the industrial estate. The odour nuisance may be because of raw materials used in the processes like Sulphur based compounds, some organic compounds and finished products.

Presently, criteria pollutants (SPM, RSPM, SO2 and NOx) are monitored regularly and other pollutants like NH3, Cl2, Acid mist etc are monitored occasionally to know ambient air quality in critically polluted areas as well as in other industrial areas and major cities. The MPCB, has carried out VOC monitoring as a step towards knowing which VOCs as Hazardous Air Pollutants (HAPs) are found in the ambient air in Chemical Industrial Area of Taloja and Mahad. The study is carried out in order to prioritize some potential HAPs for development of standards and subsequently enforcement.

METHODOLOGY:

Maharashtra Pollution Control Board had employed M/s. SGS India Private Ltd., Chennai for sampling at Taloja and Mahad Industrial Estate in Maharashtra.

The background information and dry data about industrial estate were collected from MPCB. The ambient monitoring locations were worked out on the basis of dry data collected and preliminary survey of the industrial estate. Locations for collection of effluent samples were identified on the basis of industrial effluent flow pattern and effluent management scheme of the industrial estates. Industries were selected from the inventory available with MPCB. Collection of relevant information from industries and detailed information of plant premises was carried out to finalize the important locations for monitoring from fugitive emission point of view.

The VOC monitoring study was carried out at ambient environment, selected industries, CETPs / effluent sumps. The monitoring covered following:

VOC monitoring at

- Ambient air quality monitoring was conducted across the industrial estate at five locations which covers up, down and cross wind directions and center of the industrial estate.

VOC Monitoring at Industries for

- Fugitive emission samples was collected near to the source
- Wastewater samples was collected from the inlet of the ETP
- Hazardous waste samples was collected in a composite manner from the available stock of distillation residue, spent carbon, ETP sludge etc.,

VOC Monitoring at CETP and Effluent sumps of Industrial Estate

- Samples were collected from the inlet sump and equalization tank of CETP at Mahad.
- The list of 60 VOCs which are identified for the sampling and analysis is enclosed as TABLE–A
- VOCs monitoring was carried out in association with the officials of MPCB and analysis was carried out in M/s. SGS Laboratory, Chennai.

TABLE - A

List of 60 Volatile Organic Compounds (VOC s)

Sr. No.	VOC	Sr. No.	VOC
1	Benzene	31	Trans-1,3-Dichloropropene
2	Bromobenzene	32	Ethyl Benzene
3	Bromochloromethane	33	Hexachloro-1,3-butadiene
4	Bromodichloromethane	34	Isopropylbenzene
5	Chloroform	35	Para-Isopropyltoluene
6	Bromoform	36	Methylenechloride
7	n-Butylbenzene	37	Naphthalene
8	Sec-Butylbenzene	38	2-Propylbenzene
9	Ter-Butylbenzene	39	Styrene
10	Carbon Tetra chloride	40	1,1,1,2-Tetrachloroethane
11	Chlorobenzene	41	1,1,2,2-Tetrachloroethane
12	2-Chlorotoluene	42	Tetrachloroethene
13	4-Chlorotoluene	43	Toluene
14	Dibromochloromethane	44	1,2,3-Trichlorobenzene
15	1,2-Dibromo-3-chloropropane	45	1,2,4-Trichlorobenzene
16	1,2-Dibromoethane	46	1,1,1-Trichloroethane
17	Dibromomethane	47	1,1,2-Trichloroethane
18	1,2-Dichlorobenzene	48	Trichloroethylene
19	1,3-Dichlorobenzene	49	1,2,3-Trichloropropane
20	1,4-Dichlorobenzene	50	1,2,4-Trimethylbenzene
21	1,1-Dichloroethane	51	1,3,5-Trimethylbenzene
22	1,2-Dichloroethane	52	Xylene
23	1,1-Dichloroethene	53	Meta-Xylene
24	Cis-1,2-Dichloroethene	54	Para-Xylene
25	Trians-1,2-Dichloroethene	55	Chloroethane
26	1,2-Dichloropropane	56	Chloromethane
27	1,3-Dichloropropane	57	Trichlorofluoromethane
28	2,2-Dichloropropane	58	Bromomethane
29	1,1-Dichloropropene	59	Vinyl Chloride
30	Cis-1,3-Dichloropropene	60	Dichlorofluoromethane

OBJECTIVE:

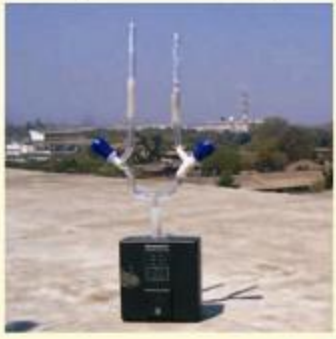
The Objectives of the study are as below:

- To identify and quantify the VOCs presence in the ambient air, surface water
- To identify and quantify the VOCs presence in the air (fugitive emission), raw wastewater and hazardous waste in the industrial units mostly pharmaceuticals, Pesticides, Dye & Dye Intermediates and other Chemicals.
- To prioritize the most toxic and most predominant VOCs in the Ambient air
- To generate the database for future monitoring and subsequent standard development for enforcement
- To develop a protocol for sampling and analysis method for VOCs in Indian context
- To address the complaints received from Public/NGOs

LIMITATIONS OF THE STUDY

This study is an attempt to develop the baseline data and profiles of the VOCs present in ambient air, industrial effluents discharges and hazardous waste generated. The methods adopted for sampling and analysis are developed by overseas international institutions and methods standardized for Indian conditions are not developed and notified yet. Considering the fact, the total numbers of samples are optimized to cover wide range with available infrastructure for handling management and transportation of the samples for analysis.

Photograph showing use of
ATD & CAT tubes in field monitoring



METHODS FOR SAMPLING:

Air sampling:

It is decided to follow EPA TO-17 and ASTM -3685 for sampling of Ambient Air Quality and Fugitive emissions using pre and post calibrated personal samplers.

The criteria of choosing the Method TO-17 & ASTM D-3685 for sampling are:

- Many compounds which boils at above 100oC also efficiently collected by these methods
- These methods have a flexibility of sampling the gas stream at a high flow rate of 1 lpm and at low flow rate of 0.1 to 0.5 lpm
- These methods have an option of sampling smaller volumes at lower flow rates and should be used when the boiling points of the VOCs of interest are below 35oC.
- The target detection limit of these methods is 0.1 µg/m3.

The selection of the method of sampling and analysis mainly depend on three important common factors.

- **Representation:** the extracted gases must be representative of the gas stream within the ambient air.
- **Integrity:** the extractive system and any sampling media used for grab sampling must be managed and operated in a manner which maintains integrity of the sample. If any of the VOCs are lost or changed during delay between sampling and analysis, then it must be known and understood both the extent and nature of these threats to sample integrity.
- **Validity:** The methods used for sampling and analysis must be valid, unbiased, accurate and precise within the ranges defined by the criteria of acceptance.

Water and Hazardous Waste Sampling:

Wastewater samples were collected from the identified locations of industries, CETP and Industrial estates. The water samples collected in purge & trap amber vials directly with neck full of samples which can avoid any head space formation. After collection the samples were preserved in cooler with proper identification mark and the same is sealed.

The hazardous waste samples were collected from the identified locations of selected industries. Representative samples were collected from various locations, well mixed and sealed in an aluminium foil followed by polythene cover.

For monitoring of ambient level of VOCs as well as Fugitive emissions ***Combined Adsorbent Tube- (CAT) and Active Thermal Desorption (ATD)*** combination tube were used.

Monitoring was carried out at following locations during 24/02/09 to 25/02/09

Ambient Air Quality Monitoring (AAQM) Locations at Taloja:

Up wind : Premises of Titan Organics Ltd., T-29, MIDC in the North West direction of industrial area.

Downwind : Premises of Sindhu Organic Ltd., J-61, MIDC in the South East of industrial area.

Cross - wind : Premises of Trans Vision Engineering, M-54, MIDC in North East direction of industrial area.

Cross - wind : Premises of Sanghi Industries in the South West direction of industrial area.

Centre : Premises of Dena Bank, MIDC Building (almost in the centre of industrial area).

Ambient Air Quality Monitoring (AAQM) Locations at Mahad:

Up wind : Premises of CETP, Near Collection Tank in the West direction of industrial area.

Downwind : Premises of Pearl Polymers Ltd., in the South side of industrial area.

Cross - wind : Premises of Titan Labs Pvt Ltd., in the North East direction of industrial area.

Cross - wind : Premises of Konkan Guest House in the South West direction of industrial area.

Centre : Premises of Perfect Proteins Ltd., (almost in the centre of industrial area).

Taloja Industries:

01. M/s HIKAL Ltd., [Pesticide]
02. M/s Asian Paints Ltd., [Chemical]
03. M/s Chemspec Pvt Ltd., [Pharmaceutical & Bulk Drug]

Mahad Industries :

04. M/s Privi Ltd., [Chemical]
05. M/s Astec Life Sciences Ltd., [Fine Chemicals]
06. M/s Anjenaya Biotech [Organic Chemicals]
07. Sandoz Pharma Ltd., [Bulk Drug]
08. Sidharth Colour Chem Ltd., [Dyes & Dye Intermediates]
09. Emmellen Bio-tech Pharma Ltd., [Bulk Drug]
10. CETP of Mahad

Observation and Findings

- The order of the pollutant in Ambient Air is Benzene, Chlorobenzenes, Toluene,Xylene and chlorinated alkanes etc.
- Presence of Benzene, Chlorobenzenes, Chlorinated Alkanes, Toluene and Xylene was observed at almost all the monitored locations.
- Concentration of Chlorobenzene, xylene. Dichloromethane, Dichloroethane and Toluene observed to be more in almost all the locations.
- The probable places of loss of VOCs are Centrifuging, filtration, glands, charging material into the reactors, solvent storage area, distillation and ETP area.
- Total 15 VOCs including highly toxic and suspected carcinogenic compounds are found during monitoring at Taloja and Mahad. The VOCs found are Benzene, Chlorobenzene, Chloroform, Dichloromethane, 1,2-dichloroethane, 1,2-Dibromoethane, Carbontetrachloride, 1,2-Dichlorobenzene, 1,3Dichlorobenzene, 1,4-Dichlorobenzene, Ethylbenzene, Toluene, o-Xylene, m&p–Xylene.
- ATD method found to have reported many compounds which are relevant to the industries used solvents and some have no relevance to solvents used in industries, because of may be the impurities in their used solvents.

- Mostly the concentration of VOCs found to be more in wastewater samples against the samples collected for fugitive emission and hazardous waste. The reasons for comparatively less concentration of fugitive & Hazardous waste could be fast dispersion/dilution of fugitive emissions and loss of VOCs due to evaporation in stored hazardous waste.
- The presence of solvents (VOCs) in the wastewater samples may be due to improper separation of intermediates/products/solvents at different unit process operations, which result in to high organic load in wastewater and difficulty in treatment.
- Generation of Hazardous waste can be minimized by better operating methods and systems as well as solvent recovery with effective condensation with which the concentration of VOC dispersing to atmosphere can be reduced.
- Normally the wastewater generated by the industries contains high VOCs and the industries are doing only primary treatment. During these processes some percentage of VOCs are dispersed into the atmosphere. After primary treatment the industries are pumping their effluent to CETP for further treatments. In CETP during aeration process, most of the VOCs are vaporized and dispersed into the atmosphere. These VOCs are directly impacting the Ambient VOCs concentration.
- Few Industries are following Zero effluents discharge.
- Chlorinated compounds escape at the higher rate in to the atmosphere which may increase the ground level ozone concentration.
- Companies change the products with respect to demand in the market accordingly the solvent type and quantity will also vary. Due to these variations the concentrations of VOC in AAQ, Fugitive, wastewater and solid waste may vary.
- Presence of VOCs in wastewater affects the ambient air quality, efficiency of the effluent treatment system and the quality of the final receiving body. VOCs (Solvents) are emitted in to the environment during various treatment unit operations particularly during aeration in equalization tanks and aeration tanks.
- In case of CETP at Mahad, the concentrations of Dichloroethane, Dichlorobenzene and Toluene were found to be very high as compared to other VOCs present in the influent.

CONCLUSIONS

Following conclusions are drawn from the field observations, monitoring results and above discussions:

- There is escape of VOCs from industries through fugitive emissions, effluent discharge and hazardous waste generation but units normally pay least attention to identify & quantify such losses & discharge of VOCs. Limited available analysis facility, absence of emission/discharge standards, no mandatory LDAR programme and cost involved in assessment & control are the major factors on part of the emissions of VOCs from industrial units.
- The Solvents used by the industries are matching with detected in samples. The probable reasons for escape of solvent in to atmosphere are:
  - Inadequate storage facilities for material. (e.g. leakages from store.
  - Use of small carboys for temporary storages of solvents and residues.
  - Inadequate closure of reactor vessels.
  - Crude temperature control methods for process.
  - Evaporation from filtration, centrifuge, layer separation due to improper equipment specifications.
  - Improper maintenance of pumps, flanges, valves, compressors, condensers, coolers.
  - Limited efficiency of reflux condensers.
  - Lack of awareness among labors/workers is also responsible on part of escape of VOCs in atmosphere due to human error or negligence.
  - Fume extraction systems of all the possible emission sources and that can be treated.

For developing the standard protocol, standards and guidelines for control of VOCs in ambient environment, it is required to generate data-base for substantial time-span in different industrial regions by similar type of studies.

7.4 Report on Statistical Analysis of Water Quality

MPCB has prepared a Statistical Analysis Report on Water Quality in association with NEERI, Mumbai. This document contains compilation and statistical analysis of water quality monitoring data collected through National Water quality Monitoring Program during 2005-07. Various statistical tools have been used for useful interpretation of the data. This analysis will help to prioritize the areas of concern and then facilitate future actions such as minimization of pollution loads and also development of preventive action plan. This is the first initiative of the Board to effectively use the statistical tools as a part of pollution control management. It is noticed that there are multiple principles and practices for analysis of water quality data and therefore attempts have been made to use the most widely used practices to compare the findings and arrive at most practicable analytical tools. The study has also identified various areas for strengthening the methodologies. MPCB has already initiated improvements in water quality monitoring and taken corrective steps. Major Conclusions & Recommendations of the report are as under:

1. At most of the sampling locations in the rivers, and creeks, BOD values have exceeded the CPCB standards for class 'B'and SW-II respectively.
2. Non-compliance to standards is mainly with BOD values.
3. Many townships are located at the bank of the rivers viz.

River	Major towns along the bank of the river
Godavari	Nashik, Ahemadnagar, Osmanabad, Bhir, Nanded, Parbhani, Jalna, Raher.
Krishna	Satara, Karad, Narsinpur, Islampur, Sangli, Kolhapur.
Bhima	Daund, Ujani, Pandharpur.
Tapi	Bhusawal, Burhanpur, , Shirpur.
Panchganga	Kolhapur and Ichalkaranji.
Patalganga	Khopoli, Khalapur, Turade.

All these townships and urban areas like Mumbai are the major sources of pollution of rivers and creeks.

4. Heavy Pollution in the downstream stretch of the river at major cities is observed indicating non-existence or poor performance of domestic wastewater treatment. The locations close to these cities invariably show non-compliance of standards.

5. Statistical analysis in terms of water quality index and trend analysis indicates that trend in WQI change was insignificant when four parameters were used. This trend shifted to significant when WQI was calculated using two or one parameter.
6. Microbial quality in terms of TC and FC varied greatly in monsoon and non-monsoon period and was not meeting the standards on many occasions in Krishna and Bhima rivers.
7. Detailed analysis for metals, pesticides etc. had indicated either absence or meager pollution of industrial origin at selected sampling locations.

Recommendations:

Improvement in sampling and analysis

1. Minimum Quarterly analysis for important, site-specific additional parameters should be carried out for surface waters as variable waste inputs in batches are frequently released leading to spontaneous deterioration occasionally and not all 365 days.
2. Since seasonal variation in water quality is observed, particularly in BOD, TC and FC, therefore representative sampling is recommended. Inter laboratory check with collection of parallel samples can lead to generation of precise and comparable data.
3. After calculating water quality index using NSF formula with 4, 2 and 1 parameter it is recommended that the method with 4 parameters should be adopted.
4. Normally BOD value less than or equal to 3 may not be possible to accurately determine with conventional method, the standards need to be reconsidered.
5. River water should be collected from the mid stream. Proper preservation and onsite analysis of basic parameters can be done.
6. During summer critical observation of river flow is essential to state whether sample represents the drain flow with minimum or no flow/ current in river. Such samples do not truly represent the characteristics of river water.

8. Environmental Training

It is one of the functions of MPCB to plan and organize training in various aspects of prevention, abatement and control of pollution.

The Board deputes its staff for training so that they may acquire knowledge in the various topics related to the environment field, to equip them fully to discharge their duties efficiently. Before deputing staff to any course, the nature of work and duties performed by them and the need felt by the Board is considered.

Training is recognized as an essential ingredient for the effective implementation of the stipulated pollution control norms. Thus, training is imparted not only to personnel of the Board, but also for workers in industries and local municipal bodies. Common topics for training generally include:

1. Planning, funding and execution of activities for state Board personnel.
2. Upgrading the knowledge and capacity of state Board personnel as and when new advancements are made in the field from time to time.
3. Efficient operation and maintenance of industrial effluent treatment plants and sewage treatment plants operated by industries and municipal-bodies respectively.

Additionally, with the new environmental norms coming into force recently, such as BMW Rules – 1998, MSW Rules – 2000 and HW Rules – 1989 / 2000/2003, it has become imperative to impart special training to the operators of these facilities for the correct treatment, storage and disposal of such wastes. Training is also needed to upgrade the knowledge and capability of officials already working in the Board and related fields.

Seminars and workshops:

Regional Office ,Maharashtra Pollution Control Board, Amravati has successfully conducted the awareness project through one day workshop cum training programme on the Bio-Medical Waste Management & Handling issues in coordination with All India Institute of Local Self Government (AIILSG) on 18/2/2009 at Dr. Panjabrao Deshmukh Krishak Prashikshan Kendra,Shri Shivaji Agriculture College, Morshi Road, Amravati.

The workshop was attended by 95 participants, among them Representative of District hospital Washim, L.K.Ayurved Hospital Yavatmal, Global Ecosave

System Badnera, Chief Officer,M.C.Chikali, Buldhana, Ayurved College,Karanjalad, Washim,Medical Supritendent, Sub-District Hospital,Shegaon, DHO office Amravati, Professor Medical College Amravati, Municipal Council,Nandura, RMO Ayurved rugnalay Pusad ,Medical Association Patur Akola.

Shri Arun Gor ,Sr. Consultant ,AIILSG,Mumbai made a presentation on understanding the solid waste and the mandate of the BMW(M&H)Rules,1998 and as amended.

Shri Rao , Sr. Consultant ,AIILSG, Mumbai delivered a lecture on identification of BMW generators ,their role in BMW Management, storage identifying centralized points for collection and transfer of waste to transporting agency, Objectives ,methodology ,equipment materials and monitoring for results.

The representative of M/s Global Eco Save System, Badnera, Amravati, Common Bio Medical Waste Treatment, storage and Disposal Facility agency had given a presentation on BMW collection, Processing and Disposal of BMW & rejects in a secured engineered landfill. Display of Plastic colour coded container /bins of BMW Collection, Needle cutters, Needle Burner,Sample colour coded plastic bags in accordance with BMW Rules, Wall Posters regarding segregation of BMW were arranged.

In the last session of the workshop, interaction and group discussions with the participants were held, in which suggestions, alternative plans, available Solution for present BMW treatment and disposal system and its improvement were discussed at length.

All Participants participated in the program with enthusiasm.

The various training courses / workshops / seminars / lectures attended by the staff and officers of the Board are summarized in **ANNEXURE III**.

9. Environmental Awareness and Public Participation

It is important that people are aware of the environment related issues affecting them. Mass awareness helps in creation of proper perception of the Board and its activities in society. Courts are also directing Board from time to time to engage in to mass awareness programs. Intensive efforts were made during last year in this area. Some of them are listed below:

9.1 World Environment Day

On the eve of World Environment Day on 5th June, 2008, Board had organised Three days Environment related Film Festival at Ravindra Natya Mandir auditorium, Prabhadevi, Mumbai from 5th June 2008 to 8th June 2008. The film festival was inaugurated at the hands of Hon'ble Shri Ganeshji Naik, Minister for Environment, Govt. of Maharashtra and in the presence of Hon'ble Shri Shyamlal Goyal (IAS), Secretary -Environment, Govt. of Maharashtra and Chairman, MPCB and Shri Sanjay khandare(IAS), Member Secretary, MPCB. The Film festival was inaugurated with special screening of Environmental awareness film on Global Warming - "An Inconvinient Truth" by Mr. Al Gore.

Hon'ble Shri. Ganeshji Naik, Minister for Environment ,Govt.of Maharashtra inaugurating the Film Festival on the eve of World Environment Day, 5th June 2008

(From L to R): Shri Sanjay Khandare (IAS), Member Secretary, MPCB ,Shri Shyamlal Goyal, (IAS), Secretary, Environment Department and Chairman, MPCB, Hon'ble Shri Ganeshji Naik, Minister for Environment, Govt. of Maharashtra ,

On this occasion environmental messages were published in the leading News Papers in the State. The theme declared by UNEP this year was "The Kick Co2 towards low carbon economy". in this regard a special article was published by the Board in a national level magazine "Business World". Some advertisements were also published in leading renowned News Papers.

9.2 Environmental Book Garden

To make youngsters and children aware about environmental protection and preservation and the need felt by the Board, a programme on Environmental Book Garden was organized for one month i.e. from 12/4/08 to 5/5/08 with the help of 'RANGASUGANDH' an Art lover organization in Mahad in Raigad District. The environmental book garden was arranged during morning and evening session at Hutatma Smarak Mandir premises, a central place in Mahad town. The children have much responded to this programme. This programme was organized by inviting Well-known speakers on various subjects like Positive stories of environment, environmental information, and information on wild life. To generate the consciousness about the environment among the students, essay writing, elocution, environmental songs and crafts competitions, nature tours, visits to various industrial establishments, different games, question-answer session, magic programme and a programme on knowing surrounding environment were arranged. Everyday about 300-400 students had participated in this programme.

9.3 Students and Public Participation

As directed by environment Dept. Govt. of Maharashtra, proposals were invited from institutions working for environment protection in rural areas and accordingly the Board has started following programmes with the help of under mentioned institutions

Sr. No.	Name of Institution	Programme
1	Zanzawat Multipurpose educational institute Nagpur	To prepare documentary film, posters on noise , Air pollution and awareness through training
2	Paryavaran Dakshata Manch Thane	Awareness programme to celebrate Diwali, Holi & other festivals
3	Impulse Institute Nasik	To prepare short film on air and noise pollution during Diwali festival
4	Agricultural Development Trust Pune	Awareness about different environmental parameters
5	Paryavaran Dakshata Manch Thane	Eco-friendly idol and water pollution
6	Sanskar India Foundation Mumbai	Environmental awareness expedition for students

9.4 Broadcast of 'Jagar Paryavaranacha' - program on Asmita Radio Channel.

'Jagar Paryavarancha' program on environment awareness was launched from 5th June 2008 on All India Radio's (AIR) channel - Asmita. The broadcasting of program was on every Thursday at 7:40 a.m. on Asmita Channel (Radio). The program was consisting of interviews of environmentalists, NGOs and technical experts in the field of environment. The programme was produced by MPCB and was conceptualised by Shri Sanjay Khandare (IAS), Member Secretary, MPCB. The program is designed with the advice and guidance from Shri Shyamlal Goyal, Secretary, Environment Department and Chairman, MPCB.

9.5 Eco Friendly Ganesh Festival :

1) In Maharashtra State Ganesh festival is celebrated with great enthusiasm. During this festival, the idol of Lord Ganesh made up of plaster of paris is worshiped on larger scale. Plastic & thermacol is used for decoration. During Arrival and immersion programme big band & noisy instruments are played, due to which noise pollution is created and Air Pollution is caused due to bursting of fire crackers. To have control over these and make the people aware a street play "Jagar Ganeshacha" was organized in Mumbai City by"Unast" Institution. Total 110 street plays were organized in schools, Colleges, Ganesh Mandal & Housing Societies.

2) To avoid use of plastic & thermacol for Ganesh Decoration and to promote for use of clay, wood or any other material which is not harmful for environment for making Ganesh idol, a Green Ganesh Award 2008 was organized in coordination with "Mumbai Mirror" English daily of "Times of India" for Housing Societies in Mumbai city. During this programme 5 Societies were declared as Eco Friendly Green Societies. More than 50 Housing Societies had participated in this programme.

3) In association with leading newspaper "Loksatta" during Ganesh Festival of this year Eco Friendly Ganesh Festival competition was conducted for public Ganesh Mandal and individual's House Ganesh idols. The main aim behind this competition was to create awareness among the people about the use of eco friendly material like leaves, flowers, fruits & paper for decoration and use of wood, metal, paper pulp or clay for making Ganesh idol. The competition was conducted in Mumbai, Pune, Nagpur, Aurangabad, Ahmednagar and Nasik. More than one thousand individuals and organizations had participated in this competition and the prizes were distributed to selected individuals & organizations.

4) In association with, Maharashtra Times a leading News paper, Eco Friendly Ganesh Festival photo competition was conducted for 8 days. During these days photos of Eco Friendly Ganesh decorations were published in" Maharashtra Times". Necessary information on eco-friendly material used for Ganesh decorations was also published. Selected individuals were felicitated & given prizes by Hon. Member Secretary of the Board.

5) Through "Zee 24 Hours", a News channel in Marathi, Telecast of Eco Friendly Ganesh Festival was done and the related information had been given in Daily special news.

6) In order to make Ganesh idol from paper pulp & use natural colors for painting the idol, a workshop was conducted by Paryavaran Dakshata Manch, Thane. During this workshop Eco- Friendly Ganesh idols were distributed in Thane.

9.6 Environmental Awareness Program during Pandharpur Yatra

During 1-31 July, 2008, in association with "Bhimashankar Parisar Pratisthan" an awareness campaign was conducted, which included programmes like Vriksha Dindi, Sapling distribution, awareness about pollution, importance of environment & effect of ozone depletion. During this compaign 50,000 trees were planted in the areas of Khed, Rajgurunagar, Junnar & Ambegaon of Pune District. Open essay

writing competition, elocution competition were conducted for the students of these area. 50 villages were covered during this campaign.

9.7 Loksatta Gatha Dnyanachi

"In order to give information to the school students on environment, changes in surrounding environment & human life, environment protection, pollution control, changing nature & it's effect on human being etc. a column "Gatha Dnyanachi" was started during, 09/08/2008 to 17/12/2008 in leading News paper "Loksatta". During these 90 days, environmental knowledge Bank was made open to the students.

Awareness in festivals

Messages in respect of Air pollution, Noise pollution were published in lending News Paper & Radio channels during Dewall festival.

During Navaratri festival awareness campaign was conducted at Tuljabhavani Temple, Tuljapur.

Through Electronic media

1) A Broadcast of 20 second jingles through F. M. Radio was done for creating environmental awareness.
2) To create awareness during Holi festival a film of 40 second in Hindi & Marathi was produced by Media Magic, Pune.

9.8 International day for Preservation of Ozone layer, 16th Sept 2008

The UN General Assembly on 23.01.1995 adopted a resolution 49/114 which proclaims 16th September as the International Day for the Preservation of the Ozone Layer, to commemorate the signing of the Montreal Protocol on the Substances that Deplete the Ozone Layer which was signed on 16th September, 1987.

What Is Ozone?

Ozone is a form of oxygen. Oxygen occurs in three different forms in the atmosphere: as oxygen atoms (O)., oxygen molecules (O2), and as Ozone (O3).

Ozone's unique physical properties allow the ozone layer to act as our planet's sunscreen, providing an invisible filter to help protect all life forms from the Sun's damaging UV (Ultraviolet) rays. Most incoming UV radiation is absorbed by ozone and prevented from reaching the Earth's surface. Without the protective effect of ozone, life on Earth would not have evolved the way it has.

What is Ozone Depletion?

Ozone depletion occurs when the natural balance between the production and destruction of stratospheric ozone is tipped in favor of destruction. Although natural phenomenon can cause temporary ozone loss, chlorine and bromine released from synthetic compounds is now accepted as the main cause of a net loss of stratospheric ozone in many parts of the world since 1980.

There is strong evidence that global ozone depletion is occurring. The evidence is in the observations of the Antarctic Ozone "hole" and atmospheric records indicating seasonal declines in global ozone levels.

International Action- Montreal Protocol:

The first international action to focus attention on the dangers of ozone depletion in the stratosphere and its dangerous consequences in the long run on life on earth was focused in 1977 when in a meeting of 32 countries in Washington D. C. a World plan on action on Ozone layer with UNEP as the coordinator was adopted.

The first proof of severe ozone depletion "The Antarctica Ozone hole" stirred the scientific community to take urgent remedial actions in an international convention held in Vienna on March 22, 1985.

This resulted in an international agreement in 1987 on specific measures to be taken in the form of an international treaty known as the Montreal Protocol on Substances that deplete the Ozone Layer. Under this Protocol the first concrete step to save the Ozone Layers was taken by immediately agreeing to completely phase out chlorofluorocarbons (CFC), Halons, Carbon tetrachloride (CTC) and Methyl chloroform (MCF) as per a given schedule.

Indian Scenario:

India become party to the Montreal Protocol in June 1992 and prepared the country program in 1993 for phasing out the Ozone Depleting Substances. Further,

various policy measures including National Awareness Campaign have also been adapted for smooth implementation of provisions of the Montreal Protocol.

Ozone Depleting Substances (ODS) used:

Chlorofluorocarbons (CFCs)-12 for Refrigeration, Chillers and Metered Dose Inhalers.

Hydro chlorofluorocarbons (HCFCs) – 22 for Air Conditioners.

Carbon Tetrachloride (CTCs) as solvent process agent mainly in the metal cleaning and textile industries. It is also used a feedback in the manufacture of CFCs and DV Acid Chloride.

The theme of this year's celebration was "Montreal Protocol – Global Partnership for Global Benefits", meant to celebrate the multifaceted approach pursued by the Parties in implementation of the Protocol. In fact, to date, the Montreal Protocol has reduced Ozone –depleting substances by over 95 percent, thereby protecting the ozone layer for this and future generations. The reductions achieved have also resulted in very large reductions of global warming gases, thereby, contributing significantly to the protection of the global climate system.

The productions and use of HCFCs in developing countries – particularly in air conditioning, the refrigeration sector and foam industries- have grown significantly over the past five years, and without early action this growth is expected to continue and it is necessary to take action as soon as possible to freeze their HCFC production and consumptions levels in 2013, and decrease by 10 per cent their productions and consumption of HCFCs by 2015.

Maharashtra Pollution Control Board in association with M/s. Environ Friend Institute had arranged a round table meeting at MPCB's, Central Laboratory, Nirmal Bhavan, Navi Mumbai for the concerned industries to phase out and know the present status of HCFC in industries like manufacturers of refrigerators, air – conditioners, foam industries and other related industries. The Board had also organized a three day exhibition of Ozone Story in the form of Poster, Pictures etc. at Central Laboratory of MPCB, wherein the discovery of the Ozone "Hole" in 1985 till latest development in the protection of Ozone Layer was displayed.

"Environ Friend – A National Magazine on Environment" – Photo edition on Ozone was published on this occasion by M/s. Environ Friend Institute, Mumbai- 400 001.

The officials from the Environment Department, Government of Maharashtra and Maharashtra Pollution Control Board were present in the meeting.

9.9 Exhibition and Conference:

1] 6th International Exhibition and Conference on Municipal Services, Urban Development and Public Works :

Board has participated in the Exhibition conducted by Municipal Corporation of Greater Mumbai on the above subject under the name of MUNICIPALIKA 2008, wherein Board has presented the activities of the Board, policies and programmes of our Department. This event has given the important platform for the exposure to the activities, especially in implementation of Municipal Solid Wastes (Management and Handling) Rules, 2000. The event was conducted from 29th to 31st January, 2009. The other issues like Integrated Water and Waste Water Management Practices and Good Urban Governance were also displayed in the exhibition. Board has extended financial support of Rs.1,84,000/- towards hiring of booth and registration fees of the participants.

2] Chemtech + Pharma World Expo 2008 :

The Department of Chemicals and Petrochemicals (Part of Ministry of Chemicals and Fertilizers), Ministry of Commerce and Industry, Ocean Development and Science and Technology of Government of India jointly organized an Exhibition on above with the help of Chemtech Foundation, an apex association of process industries, during 12th – 16th February, 2009 at NSE Ground, Goregaon, Mumbai. The aim of the Exhibition and Conference was to give exposure to the Clean Technologies, Water Conservation, Recovery, Recycle and Reuse Technologies, Industrial Safety, Energy Conservation,

Pollution Control Equipments and Services for Air, Water and Solid Wastes. In the Conference, the topics regarding Environmental Protection and Pollution Control were discussed in respect to Chemicals, Pharmaceuticals and Biotechnology Sectors along with the expertise from the various industrial sectors, which has given good exposure to Board officials, to get acquainted with good technologies available in the market. Board has extended financial support of Rs.3,90,000/- towards the exhibition and registration fees for the conference.

3] Purchase of Mobile Exhibition Van :

One of the obligations of the Board under the provisions of Water (Prevention and Control of Pollution) Act, 1974 is to carry out Public Awareness Programme to make aware all stakeholders about the importance of Environment Protection and to focus on the activities of the Board towards the implementation of the Acts. Mobile Exhibition Van is one of the media of Public Awareness Programme, which serves the purpose of Mobile Environmental Education unit to School children and others.

It was decided to purchase two no. of Vans. Total budget of Rs.1,22,40,000/- (Rupees One Crore Twenty two Lakh Forty thousand only) was approved in 148th Board meeting for Development, Design and Annual Maintenance Contract of two no. of Mobile Exhibition Vans from M/s. Centre for Environment Education (CEE), Pune, and MoU between MPCB and M/s. CEE, Ahmedabad was signed. Subsequently, process of development and design of the Mobile Exhibition Vans is under progress.

4] Pollution due to Mass bathing during the Guru-da-Gaddi Programme at Nanded during the year 2008-09:

On the event of 3rd Centenary of Guru Govind Singh Gurudwara at Nanded, in the year 2008-09, huge crowd was gathered in Nanded City. Awareness Programme and the monitoring of the water quality was conducted due to Mass Bathing during the Guru-da-Gaddi Programme. Action Plan was prepared and amount of Rs.32 Lakh (Rupees Thirty two Lakh only) was already sanctioned in the budget during the year 2008-09. A team of Field Officers and Scientists was deputed to conduct monitoring programme before and after the gathering of the holy event. Board has prepared report on the same.

9.10 Publications:

1) **Status of Environment Report**
2) **Statistical Report (07-08)**
3) **Status of Local Bodies Report**
4) **Water Quality Monitoring Network in Maharashtra**

10. Implementation of the Rules Under Environment (protection) Act, 1986

10.1 Management of Hazardous Wastes

In October 2003, the Hon'ble Supreme Court of India issued orders regarding management of hazardous wastes and expeditious implementation of the rules. The order, among other things, included time bound action for setting up of hazardous waste management facilities, closure of industries operating without authorization, preparation of inventory of waste generated, identification of illegal waste dump sites and removal of wastes from there to a safe place, mass awareness, dissemination of information, institutional capacity building etc. As per the order of the Apex Court, Supreme Court Monitoring Committee (SCMC) has been appointed by the Central Government. The SCMC is submitting quarterly Action Taken Report (ATR) to the Court. Based on the ATRs filed by the SCMC from time to time, the Court is passing further orders in the matter.

Action Taken Reports submitted by the Board are also placed on the website of the Board http://mpcb.gov.in

There are 4 Common facilities for management hazardous wastes set up at Taloja, T.T.C, Ranjangaon and Butibori Industrial Areas of MIDC in Maharashtra and two more CHWTSDFs are proposed at Shendre, in Aurangabad and Mahad, in Raigad. The Central Government in the Ministry of Environment & Forests, MPCB and MIDC have provided capital subsidy to these facilities so as to reduce the tariff and motivate the user industries for management of their waste in an environmentally sound manner. These 4 facilities cater the need of disposal of hazardous wastes from industries in Maharashtra.

Present Status of the TSDF Sites in Maharashtra

Sr. No.	Location	Capacity	Status
1	Taloja, Raigad	SLF: 120000 TPY First Incinerator : 2.0TPH Second Incinerator : 2.0 TPH	• SLF is in operation since (2002) • Incinerator is in operation since November 2004. • The first, second, third, fourth & fifth cell of TSDF are capped. Post closure monitoring is being carried out by the facility operator. • 6th cell is now in use. • MPCB has issued Consent to Operate for additional incinerator (2nd). • Construction of 7th Cell is under progress.

Present Status of the TSDF Sites in Maharashtra

Sr. No.	Location	Capacity	Status
2	TTC, New Mumbai	SLF: 10000 TPY	• SLF is in operation since (2004) • The cell being used for the disposal.
3	Buti Bori (Nagpur)	SLF:50000 TPY Incinerator: 2.0 TPH	• SLF is in operation since (Feb 2007) • MPCB has issued Consent to operate for land filling and storage of HW. Facility started receiving the hazardous waste and being disposed in SLF. • The work of erection of hazardous waste incinerator (Plasma Technology) is completed and incinerator is in operation.
4	Ranjangaon (Pune)	SLF: 50000 TPY Incinerator: 2.0 TPH	• SLF is in operation since (Dec 2006) • MPCB has issued Consent to operate for land filling and storage of HW. Facility started receiving the hazardous waste and being disposed in SLF. • The work of erection of hazardous waste incinerator (Plasma Technology) is completed and incinerator is in operation.
5	Shendre (Aurangabad)	——	• MIDC has reported that the proposal to develop satellite transfer station at Shendre (Aurangabad) is approved by MIDC. The plot admeasuring 10 acres is handed over to M/s S.M.S Ltd. • No further progress.
6	Mahad	——	• MIDC has reported that the proposal to develop satellite transfer station at Mahad is approved by MIDC. The plot admeasuring 10 acres is handed over to M/s MWML. • No further progress.

The hazardous wastes received at CHWTSDFs during April 08-March 09 is given in the following table

Sr. No.	CHWTSDF	Member Industries	Waste Disposal			Total in MT
			DLF	LAT	INC	
1	Taloja	2733	40109	36826	14940	91875
2	TTC	1300	11236.14	2060.26	..	13296.40
3	Ranjangaon	822	8910.105	4899.777	2789.244	16599.124
4	Butibori	367	3421.44	4696.59	437.79	8555.82

10.2 Hazardous Waste Incineration:

Before a full fledged Hazardous waste common incineration facility became operational in Maharashtra, MPCB had given permission to individual industry incinerators for designated utilization and disposal of the undesired solid / liquid / effluent arising out of their manufacturing processes and other activities. MPCB

initiated action against those individual incineration facilities provided by the industries which were not complying with emission standards as per the guidelines of CPCB.

MPCB has issued directions under Section 31(A) of the Air (P&CP) Act, 1981 to 69 industries having such incinerators. MPCB is also carrying out assessment of all those incinerators before taking any final decision regarding their continuance. 42 industries have reported that they have stopped their incineration facilities. MPCB has permitted few industries for using their individual incinerators for captive use after verification of the incinerators as per the guidelines of the CPCB for Hazardous waste incinerators.

As per the fresh assessment of the captive Hazardous Waste incinerators carried out by MPCB it is noted that there are only 15 captive incinerators which have followed the CPCB guidelines are in operation. MPCB is closely monitoring these incinerators and it is also directed to the industries that they should carry out the monitoring of the Dioxin & Furans by interval of every six months.

Hazardous Waste Generation In Maharashtra

Region wise Break-up of HW based on Disposal Method

Sr. No.	Region	Quantity of HW (MT/Annum)			Total
		SLF	RCL	INC	
1	Navi Mumbai	59060.86	23635.72	44,208.65	1,26,905.23
2	Pune	47652.82	28770.12	15835.33	92,258.27
3	Nagpur	62,245.44	48,266.30	12,492.88	1,23,004.62
4	Thane	123,114.99	83,141.57	10,086.97	2,16,343.53
5	Aurangabad	27,971.56	16,816.76	3,848.15	48,636.47
6	Raigad	71,186.59	69,351.96	25,932.22	1,66,470.77
7	Kalyan	66,411.44	179,588.66	6,689.86	2,52,689.76
8	Nashik	20,207.47	24,364.76	7,492.60	5,20,64.83
9	Amravati	7,340..49	690.82	556.84	8,588.15
10	Kolhapur	24,276.56	28,454.80	12,562.43	65,293.73
11	Mumbai	39,088.43	292,585.62	11,457.43	3,43,129.48
12	Non-Industrial Sources	19581.0	51,773.0	1627.8	72,981.8
	TOTAL	5,68,135.65	8,47,440	1,52,791.17	15,68,366.82

10.3 Lead Acid Batteries Management

The batteries, when thrown away can contribute to the toxicity levels of landfills and incinerator ash, as many of them contain heavy metals. Recycling of rechargeable batteries not only gives new life to discarded products but it also helps to prevent the release of hazardous constituents into the environment. In India more than 40, 90,194 nos. rechargeable batteries are purchased annually.

Government of India made Lead Acid Battery (Management & Handling) Rules, 2001. This rule represents a major step forward in the effort to facilitate the recycling of nickel-cadmium and lead-acid rechargeable batteries.

The Lead Acid Battery (Management & Handling) Rules, 2001 is applicable to battery product manufacturers, Assembler, Re – Conditioner, Dealers, Bulk Consumer, Auctioneers, Importer and Recyclers.

To implement Lead Acid Battery (Management & Handling) Rules, 2001 effectively in the state for collection, storage, and transportation of batteries covered by the Battery Rules 2001. Public education program on battery recycling and the proper handling and disposal of used batteries required to consult with manufacturers and retailers to carry out this initiative.

Enforcement Authority -

Authority for ensuring compliance of rule is the Central Pollution Control Board. The state Board is required to submit annual compliance status report to the Central Pollution Control Board.

Proper Disposal or Recycling is necessary for Lead Acid Batteries -

The toxic heavy metals, such as cadmium and lead, found in rechargeable Lead acid batteries perform critical functions within the battery. Heavy metals are contained within the battery's casing and pose no real risks while the battery is in use. But they can be of concern when discarded with ordinary municipal solid waste.

At present, approximately 73 percent of municipal solid waste is either land filled or incinerated. Neither of these methods is ideally suited for batteries that contain heavy Metals. In landfills, especially those without liners and controls, heavy metals have the potential to leach slowly into soil, ground water, and surface water. When incinerated, metals such as cadmium and lead can concentrate in the ash produced by combustion and enter the atmosphere through incinerator smokestack emissions. When disposed of, the metals in the incinerator ash can

leach into the environment. In the environment, certain types of heavy metals can also concentrate in the tissues of organisms and make their way up the food chain. Several metals, such as cadmium, are known carcinogens. The possible health effects associated with ingestion or inhalation of water, food, or air that has been contaminated with high levels of heavy metals range from headaches and abdominal discomfort to seizures, cancer, comas, and even death. The severity of the health effects are usually dependent on the total concentration of the metals to which one is exposed over time recycling programs for Ni-Cd and Lead acid batteries can address the potential risks posed by land filling or incinerating these batteries by diverting them from the waste stream. In the case of battery recycling, metals are recovered from the used batteries.

A public education program can heighten awareness of the recycling program, involve more individuals and businesses, and increase the number of batteries collected.

There are 58 nos. of Assemblers and Re-conditioners, 268 nos. of dealers, 50 nos. of Importers, 18 nos. of recyclers and 71 nos. of Bulk Consumers of the lead acid batteries in Maharashtra. The various responsibilities of the this toxic waste management and handling also goes to the Manufacturer, Importer, Assembler and Re-conditioner, Dealers, Recycler, Consumer or Bulk Consumer & Auctioneer of the Lead acid batteries.

The status of the compliance of Batteries (M&H) Rules, 2001

Table- A : Status of Lead Acid Battery Manufacturer, Re-conditioner, Assembler

Type of category	Total No of Manufacturer, Assembler, Re- Conditioner			Production of lead acid batteries in unit numbers/year			Collection of lead acid batteries in unit numbers/year		
	April 05 to March 06	April 06 to March 07	April 07 to March 08	April 05 to March 06	April 06 to March 07	April 07 to March 08	April 05 to March 06	April 06 to March 07	April 07 to March 08
Manufacturer Re-conditioner & Assembler	03	06	58	3340645	572475	530464	185955	73267	73559

Table- B : Status of Lead Acid Battery Dealer

Type of category	Total No of Dealers			Sale of lead acid batteries in unit numbers/year			Collection of lead acid batteries in unit numbers/year		
	April 05 to March 06	April 06 to March 07	April 07 to March 08	April 05 to March 06	April 06 to March 07	April 07 to March 08	April 05 to March 06	April 06 to March 07	April 07 to March 08
Dealers	146	277	268	157987	188023	208305	43411	57524	61555

Table- C : Status of Lead Acid Battery Bulk consumer, Auctioneer.

Type of category	Total No of Bulk Consumer, Auctioneer			Collection of lead acid batteries in unit numbers/year		
	April 2005 to March 2006	April 2006 to March 2007	April 2007 to March 2008	April 2005 to March 2006	April 2006 to March 2007	April 2007 to March 2008
Bulk Consumer, Auctioneer	51	54	71	8101	72,541	81058

Table- D : Status of Lead Acid Battery Recycler

Type of category	Total No of Battery Recycler			Collection of lead acid batteries in unit numbers/year		
	April 2005 to March 2006	April 2006 to March 2007	April 2007 to March 2008	April 2005 to March 2006	April 2006 to March 2007	April 2007 to March 2008
Recycler	18	28	28	6360	474498	4304

Table- E : Status of Lead Acid Battery Importer

Type of category	Total No of Battery Recycler			Collection of lead acid batteries in unit numbers/year		
	April 2005 to March 2006	April 2006 to March 2007	April 2007 to March 2008	April 2005 to March 2006	April 2006 to March 2007	April 2007 to March 2008
Battery Importer	26	27	50	10692	9692	—

As the Indian economy has grown, new types of hazardous waste are now becoming a concern. Electronic & electrical waste is one such example. biomedical waste and municipal solid waste also need priority, especially for improvement in urban areas.

In the State of Maharashtra, the major bulk consumers of lead acid batteries are Maharashtra State Road Development Corporation, Maharashtra Electricity Board, Airport Authority of India and Military establishments in and around Mumbai, Municipal Transport (BEST) and Railways. From the information gathered by the Board, it is seen that these bulk consumers generally auction used lead acid batteries as per the Hazardous Waste (Management & Handling) Amendment Rules, 2003 only to the authorized recyclers / re-refiners having EST along with valid registration from CPCB.

Landfills and incineration are only partial solution to the problem. Use of newer technologies to minimize the waste generation, recycle and reuse of waste remain the key objectives for a meaningful and long-term solution.

The awareness among the peoples about the use and reuse of lead acid batteries needs to be elaborated for protecting the bio-diversity.

Maharashtra Pollution Control Board (MPCB) in association with Central Pollution Control Board (CPCB) had organized workshop on "Mass Awareness on Implementation of Battery (Management & Handling) Rules, 2001 on 6th March, 2009 at Mumbai.

MPCB Official highlighted in particular the need for effective implementation of the rule and the hazards posed due to unscientific disposals/recycling.

It was also brought to the notice by MPCB officials on the need for change in approach from "Manufacturer to User" to "User to Manufacturer" so that the missing link can be effectively addressed. It was principally agreed to convey the need for restructuring of taxation. The need for public awareness through public campaigning videos, films were agreed upon by MPCB and industries.

Recommendations made by Board in the Workshop:

1) It was also raised that dealers shall be authorized by State Pollution Control Board and are made mandatory to file 6 monthly returns to the SPCB for streamlining the process.

   The specific software for implementation of these rules can be made available for on line filing of returns by respective SPCBs.

2) There shall be covering of many awareness campaigns at least at district levels and if possible it should be conducted at Tahsil level. The issue was discussed and decided that the concern Association shall conduct these awareness campaigns and Officers from Local MPCB office will attend it. The expenses incurred in conducting such workshops shall be borne by concern Association and MPCB equally.

3) MPCB will take necessary legal actions against unauthorized smelters operating such units. It was also appealed that the authorized smelters and stakeholders of the implementation of BMHR shall inform such things to the authority for further necessary legal action.

4) The imported batteries are recorded and permission is granted by the Authority but after importing no batteries are taken back from the dealers/end users and there is no binding for collecting back imported batteries. All the importers shall be made compulsory to file half yearly returns regularly.

5) There should be some provision for reporting bulk manufacturers to the MPCB for non-submission of the returns by dealers.

6) There should be some consideration for exemption in Excise duty and VAT for recovered batteries of used battery recovery.

7) While collecting the used batteries dealers and concern stakeholders shall take enough care for storage of used batteries. The special arrangements for storage of spent acid generated from emptying the batteries shall be stored in an acid proof container and shall be handed over to the reprocessor of spent acid.

8) The UPS used in computers and other electrical equipments shall be recorded and record of Imported UPS shall be maintained at specific levels at present there is no provision for filing any kind of returns for UPS.

9) The penalty shall be fix in the principle of polluters pay and shall be applied all defaulters in implementation of the BMHR rule.

10.4 Municipal Solid Waste Management

In the State of Maharashtra, there are 252 No. of local Bodies (Metro cities, Corporations, 'A'-class Councils, 'B' & 'C' class Councils, Cantonments Boards & Nagar Panchayats). The detail breakup of ULB's is as below:-

1	Corporations	22
2	'A' class Council	18
3	'B' & 'C' class Council	204
4	Cantonment Board	05
5	Nagar Panchayat	03
	Total	252

Maharashtra Pollution Control Board has prepared a summery statement of all local bodies indicating class, populations, Quantum of MSW generated, status of Authorization and submission of Form –II by the local bodies. The % in terms of total waste generation in the corporation area is 83.99%, A class council is 4.70%, B class council is 5.97 % and C class municipal council is 5.32 % respectively Statement of Municipal Solid Waste generation MT/day in the State is provided below.

Municipal Solid Waste generation MT/day in the State of Maharashtra.

Region	Corporation	'A' Class Council	'B' Class Council	'C' Class Council	Total
Amrawati	320.0	53.0	184	158.0	715.0
Aurangabad	450.0	256.0	144.0	218.0	1068.0
Kalyan	1135.0	75.0	-	52.0	1262.0
Kolhapur	355.0	60.0	79.0	55.0	549.0
Mumbai	9300.0	-	-	-	9300.0
Nagpur	770.0	205.0	190.0	91.0	1256.0
Nashik	761.0	51.0	282.0	155.0	1249.0
Navi Mumbai	500.0	-	-	8.0	508.0
Pune	1490.0	62.0	96.0	109.0	1757.0
Raigad	-	22.0	20.0	109.0	110.0
Thane	1050.0	120.0	100.0	1.0	1271.0
Total	16131.0	904.0	1147.0	1022.0	19204.0

The compliance achieved by the Board as per the time frame given in the Rules is submitted herewith as Summery statement on progress made by Municipal Authorities in respect of implementation of Schedule-I [Rules 4(3)].

Summery statement on progress made by Municipal Authorities in respect of Implementation of Schedule-I [Rules 4(3)]

Sr. No.	Compliance Criteria	No. of complied Local Bodies
1	Setting up of waste processing and disposal facilities (31.12.2003 or earlier)	1. Nashik M. Corp 2. Ambad M. Council 3. Navapur M. Council 4. Sonpeth M. Council 5. Murud-Janjira M. Council
2	Monitoring the performance of waste processing and disposal facilities (once in a six months)	1. Nashik M. Corp 2. Navi Mumbai M. Corp 3. Kolhapur M. Corp
3	Improvement of existing landfill sites as per provisions of these rules (31.12.2001 or earlier)	1- Nashik M. Corp
4	Identification of landfill sites for future use and making site(s) ready for operation (31.12.2002 or earlier)	252 (Sites were identified as on date.)

LIST OF COMPLIED LOCAL BODIES as per Schedule I:

1) Setting up of waste processing and disposal facilities-
   a) Nashik,
   b) Kolhapur and
   c) Mira Bhayander Municipal Corporation

   Have provided waste processing facility Nashik and Navi Mumbai Municipal Corporation has provided secured landfill cell.

   The MSW demo projects at
   a) Sonpeth M. Council, Dist: Parbhani,
   b) Ambad M. Council, Dist: Jalna
   c) Navapur M. Council Dist: Nandurbar
   d) Murud-Janjira M. Council Dist: Raigad

   are completed and working smoothly.
2) Monitoring the performance of waste processing and disposal-
   We are carried out environment monitoring as per schedule of Nashik Municipal Corporation facility.
3) Identification of landfill sites for future use and making site(s) ready for operations - 252 sites have been identified as on date with MSW for processing facility.

Summery statement or progress made by Municipal Authorities in respect of implementation of schedule-III [Rules 6(1) & (3), 7(2)]

The main constraint in effective implementation of MSW Rules & setting up of waste processing facility for local bodies is non-availability of suitable land. To identify & select landfill and waste processing sites District level committees under the Chairmanship of District Collector are formed. The Committee comprises of 10 members of various concerned department. The District level committee while identifying the suitable location for landfill and waste processing site, takes care that the site should be away from habitation clusters, forest, water bodies, monuments, wet lands and places of important cultural, historical and religious importance & CRZ areas. Almost all local bodies have provided internal roads for free movement of vehicles as well as Primary services such as drinking water, lighting at site, local bodies has planted in an around site to avoid soil erosion.

In the Maharashtra State, District level committee has so far finalized all MSW landfill / waste processing sites.

A Summary Statement On Progress Made By Municipal Authorities In Respect Of Implementation Of Schedule- Iv [rules 6(1) & 3, 7 (2)]

Out of 252 ULBs in the State of Maharashtra, most of the local bodies are treating their solid waste by composting to part of waste & rest goes for dumping. Pune M. Corporation and Pimpri-Chinchwad M. Corporation sanctioned fund from Central Government for Municipal Solid Waste management under 'Air Field Town' selected cities.

MPC Board has carried out Ambient Air Quality Monitoring in the vicinity of waste processing facility and ground water monitoring at few facilities. So far only Nashik and Navi Mumbai M. Corporation have carried out monitoring.

Scientific treatment facility provided by the local bodies:

Following are the local bodies that are having scientific treatment facilities for the treatment of MSW.

Sr. No.	Name of ULB	Capacity
1.	Ambad M. Council	5 MT/day
2.	Sonpeth M. Council	5 MT/day
3	Navapur M. Council	5 MT/day
4	Murud-Janjira M. Council	5 MT/day
5	Baramati M. Council	16 MT/day (Under process)
6	Jalna M. Council	50 MT/day (Under process)
7	Shri Shaneshwar Devsthan Trust, Shani Shinganapur.	2 MT/day
8	Latur Municipal Council	81 MT/day (Under process)
9	Nashik Municipal Corporation	210 MT/day
10	Kolhapur Municipal Corporation	165 MT/day
11	Mira Bhayander Municipal Corporation	400 MT/day

Status as per processing/partial processing/dumping of MSW

Sr. No.	Class of ULB	No. of ULB	Processing / Treatment	Partial treatment	Dumping
1.	Corporation	22	03	12	07
2.	A class	18	02	05	11
3.	B class	61	10	19	32
4.	C class	151	39	33	79
	Total	252	54	69	129

MSW processing Plants based on Nisargruna Technology:

Nisargruna Technology:- BARC developed the bio gas plant on Nisargruna technology for MSW. The plant is basically related to the processing of organic waste based on aerobic and anaerobic sequential process. This plant generates zero garbage, zero effluent, and minimum energy thus this plant is called cleaner and green technology. Total 28 Nos. (17-Completed & 11-Under construction) of ULB's have adopted this technology. Following are the name of ULB's where the plants are setup.

Sr. No.	Location	Capacity MT/day
1	BARC, Mumbai	1
2	Anushaktinagar, Mumbai	5
3	Govandi, Mumbai	5
4	Deonar abattoir, Mumbai	5
5	INS Kunjali, Colaba, Mumbai	1
6	INS Chilka, Mumbai	1.5
7	Hiranandani Estate, Thane	5
8	Pen M. Council, Pen	3
9	Malvan M. Council, Malvan	5
10	Chandrapur M. Council	1.5
11	TIFR, Colaba, Mumbai	1
12	Matheran M. Council, Matheran	5
13	Sawantwadi M. Council, Sawantwadi	5
14	Anjangaon M. Council, Anjangaon (Amravati)	1
15	Nanded M. Corporation, Nanded	2
	Total 15 Plants	**47**

Plants under Construction with NISARGRUNA Technology

Sr. No.	Location	Capacity MT/day
1	Aurangabad M. Corporation	3
2	Rahuri M. Council	2
3	Tata Thermal Power, Turbhe	3
4	Khopoli M. Council	5
5	Panvel M. Council	5
6	Pali M. Council, (Raigad).	1
7	Jaysingpur M. Council.	3
8	Tata Consultancy Services, Thane	1
	Total 8 Plants	**23**

Initiative taken/proposed by the MPC Board:

- The Board in consultation with AIILSG have prepared check list for identification of processing sites to facilitate the implementation of Rules.
- To speed up the process of grant of Authorization, MPC Board has delegated the power to respective Regional Officers for grant of Authorization in respect of 'B' & 'C' class ULBs.
- The Board has extended financial assistance to five local bodies for setting up model/demo MSW projects

Sr. No.	Name of ULB	Population	Capacity	Sanctioned Grant (Rs. in Lakhs)	Released Grant (Rs. in Lakhs)
1.	Ambad M. Council	35,000	5 MT/day	Rs. 96.5/-	Rs. 96.5/-
2.	Sonpeth M. Council	13,022	5 MT/day	Rs. 68.5/-	Rs. 68.5/-
3	Navapur M. Council	34,000	5 MT/day	Rs. 81.0/-	Rs. 79.0/-
4	Murud-Janjira M. Council	12,551	5 MT/day	Rs. 75.0/-	Rs. 75.0/-
5	Baramati M. Council	51,342	16 MT/day (Under process)	Rs. 75.0/-	Rs. 36.0/-
6	Jaina M. Council	2,35,529	80 MT/day (Under process)	Rs. 75.0/-	Rs. 16.33252/-
7	Shri Shaneshwar Devsthan Trust, Shani Shinganapur.	2,700	2 MT/day	Rs. 23.364/-	Rs. 23.364/-
8	Latur Municipal Council	2,99,985	81 MT/day (Under process)	Rs. 191.67480/-	Rs. 100.0/-

The projects at Sonpeth Municipal Council, Ambad Municipal Council, Navapur Municipal Council & Murud-Janjira Municipal Council are working satisfactory. Baramati Municipal Council has obtained land for developing facility for demo MSW projects and they are in process to start the work, also they have completed tendering process.

MPCB has conducted awareness programmes, workshop/seminars of MSW management.

- Continuous and strict follow up taken by MPCB has resulted in establishment of large no. of Municipal Solid Waste facilities may be to part of the Municipal Solid waste. This will be further extended to their complete municipal waste generated.

- Board is not only support the finance to the Municipal Council but actively take participation in Workshop to make the local body responsible for better implementation of Municipal Solid Waste (M &H) Rules, 2000. The Board has participated in such workshop organized in the year of 2008 and 2009 (Municipalika Exhibition- January, 2009).

NAVAPUR MSW DEMO PROJECT

SONPETH MSW DEMO PROJECT

10.5 Implementation of Bio-Medical Waste Rules.

Bio-Medical Waste (M&H) Rules, 1998 have been enforced in the State of Maharashtra. The rules stipulate a time bound action plan for providing treatment and disposal facility for the bio-medical waste generated in their establishments. It is necessary in the larger interest of public health to properly treat and dispose the bio-medical wastes in the most appropriate scientific manner as prescribed in the said Rule.

There are in all 22,089 Health Care Establishments (HCE's) which can be covered for regulations under the management of Bio- medical Waste Rules, 1998 as amended. The Board has granted authorization to 14355 HCE's. Out of these 13598 have become the members of Common Bio-Medical Waste treatment and disposal facility in their region. Board has issued Show Cause Notices to defaulting HCE's who have not applied for authorization, obtained authorization but not joined to CBMWTSDF and member of CBMWTSDF but not sending Bio-Medical Waste. The Bio-Medical Waste generated through these Health Care Establishment is 2175MT/M and 94% is treated through CBMWTSDF and individual treatment facilities.

Board has taken proactive measures in facilitating the development of 36 Common treatment and disposal facilities for the management of BMW in different cities in Maharashtra.

Initiatives taken for effective Implementation of Bio-Medical Waste Rules.

1. MPCB has already delegated powers to Regional Officers to grant / renew authorizations to the HCEs with bed capacity 50 and below.
2. MPCB has prepared a format to obtain undertaking on Stamp paper from the HCEs providing service / treating less than 1000 patient per month to ensure that Bio-Medical Waste Management is done in proper manner through CBMWTSDF.
3. MPCB is coordinating with Govt. agencies such as Department of Public Health Services, Labour Department, Municipal Corporation / Councils, etc. to address the issues of Bio-Medical waste management. The meetings are also held with these officials regularly to apprise them about the necessity to achieve better compliance of the Rules. The meetings are also held with Indian Medical Associations, Indian Medical Consultants, Association of Hospitals and other associations to spread awareness about Bio-Medical Waste management issues.
4. MPCB has completed the work of region wise inventorization of bio-medical waste generating units by conducting the physical survey through outsourcing. Board has also initiated action against defaulters health care establishments identified during the survey.
5. Board has under taken a project of microbial flora evaluation at CBMWTSDF through educational institutions.
6. Board is also in process to award the work of preparing specific guidelines to the expert agencies in the field of environment to decide on the issue of levying reasonable charges on health care establishments by the common facility operator.
7. In commensurate to the draft action plan of CPCB, Board is discouraging to develop the deep burial pits at common sites.
8. In order to ensure that entire waste is treated adequately Board has resolved to extend the financial assistants to set up new CBMWTSDF on Incineration system at five places and for conversion of common deep burial site into common incineration system at one place.
9. New CBMWTSDF consisting of integrated waste treatment facility is established at Deonar in Mumbai. The facility consist of double chamber incinerator with ventury scrubber (two number of 250 Kg/Hr. capacity each).

10. Board has determined frequency of inspection and monitoring of CBMTSDF, healthcare establishments and other establishments generating bio-medical waste.

11. MPCB has carried out awareness program (one day work-shop) at 11 different places in the state of Maharashtra in coordination with all India Institutes of Local self Government. Board has circulated training manual to the participants viz. representatives of health care establishments, medical association, local bodies and health department officials. Board has also educated the journalist by apprising them the issues of biomedical waste management. Board is also making awareness through print media.

10.6 Plastic Waste Management

Plastics are synthetic substances produced by chemical reaction. Almost all plastics are made from petroleum except few experimental resins derived from corn and other organic substances.

The Govt. of Maharashtra issued "Maharashtra Plastic Carry bags Rules, 2006" in March, 2006 under "Maharashtra Non- biodegradable Garbage Act, 2006". MPCB and Industry Department of state (DIC) are authorized to take action against manufacturers and recyclers of plastic carry bags and containers.

The Status of Plastic units and action initiated by M.P.C.B

I.	No. of units registered at DIC	1208
II.	No. of units not registered at DIC(Identified by MPCB)	98
III.	No. of total Plastic units in Maharashtra	1326
IV.	No. of consents granted	704
V.	No. of units (Carry bag virgin/ Container virgin) registered	439
VI.	No. of PD/ Show-cause notices issued	76
VII.	No. of closer directions issued	207
VIII.	No. of closers withdrawn after compliance	52
IX.	Fine collected	1,10, 000/-




Following actions are taken by the MPCB:

i) Published Public Notice in Leading News Papers such as Maharashtra Times, Dainik Lokmat, Mumbai Samachar (Gujrathi), DNA, Inclab (Urdu), on 14/03/2006, Under the Maharashtra Plastic Carry bag (M&U) Rules 2006.

I) In response to the public notice, applications were received from Manufacturer & 439 units got registered with MPCB up to March 2009.

ii) The 207 closers were issued against the defaulters and fine collected from defaulters was Rs. 1, 10,000/-. However out off 207 closers, 52 closers were withdrawn after compliance.

iv) Organized a workshop on segregation of plastic waste & measurement of thickness of plastic carry bags, at Mantralaya in association with Environment Department for Municipal Commissioner, District Collectors and Officers of local bodies to make them aware of new Plastic Rules, 2006 and to implement the rules in effective manner.

v) Organized workshop on "Implementation of Maharashtra Plastic carry Bags Rules, 2006" for Regional Officers and Sub-Regional Officers of MPCB, for effective implementation of rules.

11. Prosecution Launched and Convictions Secured

11.1 Appeals under Water (prevention and Control of Pollution) Cess Act 1977

The Water (prevention & Control of Pollution) Cess Act 1977 was enacted by the Parliament on December 7, 1977. The main object of the Act is levy and collection of cess on water consumed by persons carrying on certain industries and by local authorities and to augment the resources of Central pollution Control Board and State pollution Control Boards.

AS provided under the Act the Appellate Authority comprising of Chairman (Chairman of the Board) and two members to be nominated by the Chairman from amongst the Board Members has been constituted and is empowered to entertain appeal against the order of assessment of order imposing penalty. The Appellants are required to prefer an appeal within 30 days.

59 Appeals were pending before the Appellate Authority since 1992. Out of 59 appeals, the Appellate Authority disposed off 33 Appeals & remaining 29 appeals are pending for final hearing. A List of pending Appeals is enclosed.

Partly heard/Pending Appeals filed before the Water Cess Appellate Authority

Sr. No.	Name of the Appellants	Total No. of Appeals	Status
1	M/s NRC Ltd, Mohane, Kalyan	14	Part heard
2	M/s Tata Power Company Ltd. Chembur, Mumbai	11	Part heard
3	M/s Tarapur Automic Power Station, Boiser, Thane	01	Pending (To be referred to MOEF for advice)
4	M/s BILT Power Ltd. Dist-Chandrapur	01	Pending
5	M/s BILT Power Ltd. Dist-Chandrapur	01	Pending
6	M/s BILT Graphic Ltd., Dist- Chandrapur	01	Pending

11.2 High Court Matters.

I) PIL No. 98 of 2005 filed by Shri. Vasant Mhatre against Navi Mumbai Municipal Corporation & Ors.

Shri. Vasant Mhatre, a Citizen of India and resident of Navi Mumbai had filed the above Public Interest Litigation before the Hon'ble High Court of Judicature at Bombay, wherein Maharashtra Pollution Control Board is one the respondent.

1) The petition is mainly filed for illegal dumping of garbage at survey No. 376 to 379 at Turbhe, stating that the aforesaid site has been reserved for quarrying in the development plan.

2) Maharashtra Pollution Control Board had filed total 4 affidavits and pointed out that Navi Mumbai Municipal Corporation shall submit a concrete proposal for implementation of waste processing facilities for the Municipal Solid Waste generated from the Navi Mumbai area in a time bound manner, duly supported by Bank Guarantee. It was also pointed out that Navi Mumbai Municipal Corporation has made submissions for providing waste processing facility without submitting any concrete proposal in respect of providing 250 MT + 250 MT processing of Municipal Solid Waste for production of high quality manure and fuel palette plus production of Bio-Fertilizer liquid plant nutrient based as stated by them.

Taking into consideration overall facts and circumstances of the case, the court was of the opinion that the writ petition has an element of petitioner's interest. The petitioner cannot be permitted to proceed with this public interest litigation. But the subject matter rose in the writ petition concerns dumping of garbage, solid waste and other material on survey nos. 376, 377, 378 & 379 at Turbhe are a serious issue of environment affecting health of civilians and the cleanliness of the surrounding area.

Therefore, in the interim order dtd.26.7.2006 passed by the Hon'ble High Court, to appoint Mr. R.D. Soni as amicus curiae to assist the court in the matter directed to study the case and crystalise the issues that need consideration by the court. After appointment, Shri. R.D. Soni, amicus curiae has filed a report indicating the gravity of the situation arising out of dumping of solid wastes at the point indicated in the petition.

The Hon'ble Court directed the Commissioner, of Navi Mumbai Municipal Corporation by passing an order on 16.8.2007 to hold a meeting presided over by him personally where the representatives of all the concerned departments

as well as from the Pollution Control Board were asked to present. The Hon'ble Court also gave liberty to the petitioner to be represented through his counsel in the said meeting.

Hon'ble Court also directed the Commissioner to invite the amicus curiae appointed in the present case to be the observer in the meeting. Discuss all possible aspects of this problem in the meeting and take immediate steps to prevent further enhancement of the hazardous problem and also to file report before the Court and a responsible officer from the Corporation to remain present with the records. It was further directed that in case of any default of compliance of this order, the Commissioner himself to remain present in Court on next date of hearing i.e. on 13.9.2007

After observing certain reports Hon'ble High Court of Judicature at Bombay passed an order dtd. 4th October 2007 (Coram Swatanter Kumar CJ and Dr. D.Y. Chandrachud J) and directed Navi Mumbai Municipal Corporation as follows:-

a) To finalize the agency for processing of Municipal Solid Waste at landfill site

b) To do house to house garbage collection, segregation and transport to the landfill site.

c) To submit concrete proposal for implementation of above facility in a time bound manner duly supported by Bank Guarantee.

Hon'ble High Court also directed to hold a joint meeting within two weeks, with the Secretary, Public Health Department, Govt. of Maharashtra, Commissioner, Navi Mumbai, Municipal Corporation, Secretary, Environment Department, Member Secretary of the Maharashtra Pollution Control Board. Since, Secretary – Incharge of Urban Development Department, Government of Maharashtra is having overall responsibility for the enforcement of the Municipal Solid Waste (M & H) Rules, 2000 in the Metropolitan cities, it was decided to invite Secretary, Urban Development Department, Govt. of Maharashtra for the joint meeting.

Hon'ble High Court specifically observed that the State Government as well as the Corporation have miserably failed to regulate, control and take proper measures for disposal of solid wastes including discharge from the industries located near the residential colonies and thereby a number of persons getting sick and dying as a result of inaction on the part of State Government and Corporation. Therefore, various aspects of the problem facing the residents of Navi Mumbai asked to be discussed in the joint meeting and an affidavit was to

be filed stating immediate measures, short term and long term required to be taken to prevent further damage with specific time bound program implementation and affidavit to be filed by the concern Secretary. It was also stated that immediate steps should be taken as the monsoon has come to an end.

Present status report was called from the Regional Officer, Navi Mumbai. The report specifically stated that since dumping of Municipal Solid Waste is in an unscientific manner, due to non-installation of waste processing facility for Municipal Solid Wastes and no concrete proposal was being submitted by the Navi Mumbai Municipal Corporation for the Management of Municipal Solid Waste, the Board had not renewed authorization.

Interim Order passed by Coram : Swatanter Kumar, CJ & J.P. Devandhar, J. dtd. 27.3.2008 :-

The Hon'ble Judges passed an Interim Order, wherein it was directed that since the Committee appointed by this Court has already stand dissolved after submission of its report, the City Engineer of the Corporation, Engineer from MPCB and the Amicus Curiae shall form a Committee. The Committee was to visit the site in question and report, whether the present site was capable of taking any further load as a dumping ground. The report was to consider whether the garbage dumped therein was capable of being disposed off or not and even after a period of nine years, non disposal of the garbage has left any scope for continuation of the same site as a dumping site or not? The committee was to inspect the new site and make a report whether the same can be made operational immediately and if so with what precautions?

The Secretary,. Environment Department was the Chairman of the above Committee and to visit the sites in question and inform the Court as to whether the present site is adjacent to the so-called new site or the new site is in different survey numbers at different place? The committee was to make observations in regard to possibility of utilization of entire area as a dumping ground and its effect on the inhabitants living in the surrounding area. The representatives of the parties were also permitted to visit the site.

Interim Order passed by Coram : Swatanter Kumar, CJ & A.P. Deshpande, J. dtd. 24.7.2008 :-

Hon'ble Judges directed the learned counsels for the parties to file comparative statement referring to the recommendations of the first committee, second

committee and the third committee and what is the physical position on the site and what further measures can be taken to ensure disposal of the garbage as per law?

Interim Order passed by Coram : Swatanter Kumar, CJ & S.A. Bobde J. dtd. 28.8.2008 :-

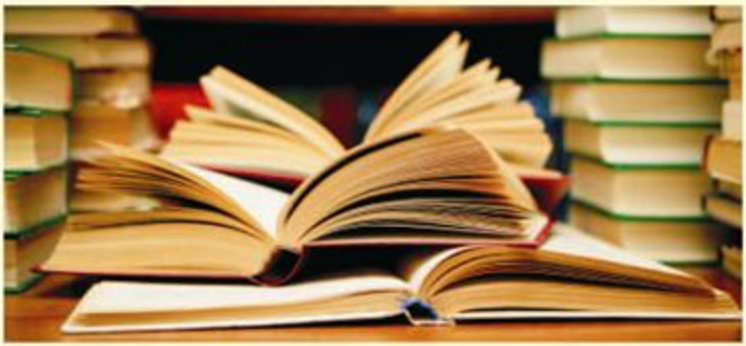
The Hon'ble Judges directed the Commissioner of Navi Mumbai Municipal Corporation to remain present in Court on 11.12.2008.

Interim Order passed by Coram : Swatanter Kumar, CJ & S.A. Bobde J. dtd. 11.12.2008 :-

During the course of hearing the learned Counsel for the Petitioner referred to the reports of the Committee, which were prepared in the year 1999 or immediately thereafter. The Learned Counsel for the Corporation stated that the site is proper site with sufficient area and infrastructure for disposal of garbage of that area.

The Hon'ble Judges again directed the Learned Counsel for the petitioner as well as the Respondents to collectively visit the site in question in presence of officers of the corporation as well as Environmental Engineer from MPCB by conducting a joint inspection with regard to the feasibility of the site for collection and disposal of garbage as well as effect on the persons living around that area. As agreed by learned Counsel appearing for the parties, joint inspection team visited the site on 23rd December, 2008 and submitted its report to the Court on 29.1.2009.

Status : The matter is pending



II) Note on W.P. No. 4564 of 1988 filed by Bombay Environmental Action Group V/s Union of India before the Hon'ble High Court of Judicature at Mumbai

The Bombay Environmental Action Group is a Non-Governmental Organization working in the field of environment protection. They have filed a writ petition in the High Court of Judicature at Mumbai on 9th of August, 1988. The petitioner filed another Writ Petition bearing No. 4695 of 1992 on 10th Nov. 1990 on the same cause of action i.e. pollution of River Patalganga. This petition was withdrawn as the Hon'ble Court allowed the petitioners to amend the earlier petition.

The Brief backgrounds of the W.P. are as follows :-

The Patalganga river originates in the Sahyadri hills near Khandala and meets the Arabian sea near Dharmtar after flowing about 65 kilometers. The area of the basin of the said river is 1090 sq. Kilometers. The flow of water of the said river fluctuates from 250 million litres per day to 1500 million litres depending on the requirements of the Tata Hydro Electric Power Station at Khopoli and frequently the flow dwindles to a negligible quantity whenever the power station is closed. The said river descends the Sahyadri Ghats at Khopoli through an aquaduct / pipe and thereafter flows through a natural water course till it ultimately meets the sea near Dharamtar

Approximately 14 major industries are located at Khopoli which discharge their effluents in the river. The domestic waste of the Khopoli town is also discharged into the river. All these wastes and effluents are discharged into the river at upstream of the water intake point of the Chawna Water Supply Scheme.

The petition was admitted on 7.12.1988 and the Rule was directed to be issued. The Respondent Nos. 1to 6 waived the service and the petition was peremptorily kept for final hearing on 23.1.1989 and the same remained to be disposed of till amendment made therein.

The petition was therefore amended in 1995 incorporating various industrial units located in Patalganga as the respondents.

Main Prayers of the petition :-

1) The respondent No. 9 to 28 and 5 to 7 (all industries) shall operate their Effluent Treatment plants continuously and no effluent shall be discharged without treatment.

2) They shall meet the prescribed norms

3) No new industries shall be permitted. Industries to install separate electricity meters and holding ponds

4) The Khopoli Municipal Council shall be directed to provide sewage treatment and disposal facilities.

Board's Stand :-

The Board had filed detailed affidavits on 17th Nov 1988, 30th August, 1996, 18.10.97 and 6th January, 1998 respectively.

The matter came up for hearing on couple of occasions, the last time in the month of March, 2001, when Khopoli Municipal Council filed Civil Application requesting the court to add "Maharashtra Jeevan Pradhikaran" as a necessary party.

Thereafter, the matter came up for hearing on 30.11.06 & 22.4.2008 after long period of time and adjourned on 28.4.2008 for final hearing.

Interim Order passed on 30.4.2008 (Coram : Bilal Nazki, & A.P. Bhangale, JJ):

The Hon'ble High Court of Judicature at Bombay Bench had passed an Interim order on 30.4.2008 that:

1. Many orders passed in this petition and several orders passed during the last 10 years have taken care of some of grievances. According to the learned counsel for the petitioners, only two grievances remain, the first being that the tankers carrying chemicals are being washed in the river, which creates pollution in the river and the second grievance being that there is no system of sewerage in place created by the concerned Municipal Corporation.
2. So far as the first grievance is concerned, we direct the Maharashtra Water Pollution Control Board to ensure that no tankers carrying chemicals are washed in the concerned river. About the second grievance relating to creation of sewerage facility, the Municipal Corporation shall file an affidavit, stating therein as to when this facility will be created. The affidavit shall be filed by the Municipal Corporation within next four weeks
3. The matter was adjourned on 18.6.2008

Board's Stand :-

The Respondent Board had filed affidavit on 16 June, 2008 before the Hon'ble

High Court at Mumbai alongwith the statement showing the results of samples collected from CETP for last one year at final outlet. The Respondent Board also filed results of river monitoring which are normal.

Interim Order passed on 24.6.2008 (Coram : Bilal Nazki, J & S.S. Shinde,J):-

The Hon'ble Judges passed an Interim Order that the Municipal Corporation shall construct a sewerage system within a period of one year from the 24.6.2008. It was further directed by Hon'ble High Court that any organization which may be responsible for providing finance, including the State Government and the Union of India, under any

Scheme, rule, law or norms, shall provide finance to the Municipal Corporation. If they fail to do so, they will also be answerable to the Court along with the officers of the Municipal Corporation. The Commissioner of the Municipal Corporation shall report to the Hon'ble Court about the progress of the project after six months. The matter shall come up on board after six months.

Present Status :-

The Progress Report prepared by our Sub-Regional Officer, Raigad-I as on 20.11.2008 regarding Drainage network, Pump house, STP, MSW management in respect of Khopoli Municipal Council is handed over to our Panel Advocate Mr. R.V. Govilkar for further doing the needful in the matter and the matter is pending.

III) Note on PIL NO 41 of 2006 and 32 of 2006 filed by Consumer Welfare Association and Others V/s State of Maharashtra and Others alongwith Mumbai Medwastes Action Group V/s State of Maharashtra and Others

Background of the Petition

The Consumer Welfare Association and Others and Mumbai Medwastes Action Group, both the NGO's had filed aforesaid public interest litigations against the State of Maharashtra and Others, praying for direction, the respondents to implement Bio-Medical Wastes (Management and Handling) Rules 1998 by them. The Board had filed 9 affidavits in the aforesaid Public Interest Litigation. The Hon'ble High Court has directed to the MPCB to co-ordinate with BMC and other Departments to prepare an inventory of various Health Care Establishments including Nursing Home, Pathalogical Laboratory, Clinics, and Hospitals.

Bio-Medical Wastes (Management and Handling) Rules 1998

Every Occupier of an institution generating collecting, receiving, storing, transporting, treating, disposing and /or handling bio-medical wastes in any other manner except such occupier of clinics, dispensaries, pathological laboratories, blood banks providing treatment /service to less than 1000 (One thousand) patients per month shall make an application in the form I to the MPCB. The Maharashtra Pollution Control Board is the prescribed authority under rule 7 of the Bio-Medical Wastes (Management and Handling) Rules 1998.

Compliance of Hon'ble High Court Order dated 11th Sept 2008

i) The Hon'ble High Court had directed to the Municipal Corporation of Gr Mumbai to furnish complete details of all such dental/pathological labs, centers, which have been permitted by them to operate in different parts of Mumbai and after receipt of such list, the Board and State Govt shall collectively take steps to ensure that on all these sites due adherence is made as per rule relating to collection and disposal of medical waste.

ii) To prepare an index of all medical/dental/pathological and other centers dealing with health care. The said index is to be prepared by the Board in co-operation and co-ordination with the State agencies. The State Govt was directed to provide larger infrastructure, financial help to the Board to exercise this activity.

iii) The Board has prepared Tender Documents for outsourcing the inventorisation of the institutions generating Bio-Medical Waste and was published through public notice in various Newspapers such as Hindustan Times and Indian Express as well as 'Lokmat' , 'Sakal' and 'Loksatta' in Marathi dated 31.10.2008 for giving wide publicity to the Tender Document and submitted common Tender notice for engaging regionwise external agencies to do proper inventorisation by physical survey with appropriate terms of reference in compliance of BMW Rules 1998.

Iv) After issuance of Tender Notice response received from the all 11 Regions by way of submission of appropriate financial and technical bid. The Committee consisting Regional Officer, Sub Regional Officer and other officials and the representative of Public Health Services and Civil Surgeon, Medical Officer for Selection of appropriate agency in conformity with the terms and

conditions of Common Tender Documents was formed to ensure proper qualified agency to be selected. The said survey has been completed by the Board and identified 12719 Establishments by the selected agencies.

v) The Board has instructed to all District Civil Surgeons, Medical Officers-Health Services of all Municipal Corporations, Chief Officers of the Municipal Councils and all District Health Officers to ensure that all the Health Care Establishment are registered with the Maharashtra Pollution Control Board and obtained necessary authorization. In case of Non compliance, necessary action shall be initiated under the Bombay Shops and Embellishments Act 1948 and Bombay Nursing Home Registration Act 1949, including incorporating this conditions suitably in their registration.

vi) The Board has further communicated the Secretary, Animal Husbandry, Dairy Development and Fisheries Govt of Maharashtra, Mumbai pointing out the one of the source of generating Bio-Medical Wastes in the form of animal waste and micro-biology /bio-technology waste, which are covered under the Waste Category numbers 2 and 3 of Schedule-1 of Bio-Medical Wastes Rules 1998 .

vii) The Board had extended financial assistance to M/s Chhatrapati Pramila Raje Hospital at Kolhapur to provide demonstration sewage treatment plant by extending 90% finance of the total expenditure.

Legal action by the Board :-

i) The Board had issued directions of closure to 17 non complied Health Care Establishment. After verification of said compliance 16 Health care Establishment were allowed to restart.

ii) The Board had issued proposed directions under section 5 of the Environment (Protection Act 1986 against Health Care Establishments throughout Maharashtra for non compliance such as improper segregation, transportation and not obtaining authorization from the Board and directed to secure compliance within 15 days time, failing which the Board will initiate further stringent actions against them.

iii) The Board has strengthened monitoring of the existing Common Bio-Medical Waste Treatment, storage and Disposal facilities. The Board had issued show cause notice to the facilities which are not being operated properly.

iv) The Board has decided to discourage deep burial facilities to be established in

the State of Maharashtra by refusing authorization to the new BMW HCE's for deep burial at satara and Sangli District namely M.s Vaduj Medical Association.

v) It was decided that to all the local Supervisory Authorities under the Bombay Nursing Home Registration Act, 1949 under the provisions of the Shops and Establishment Act 1948 to ensure that all the concerned Nursing Homes or Maternity Homes to obtain authorization under Bio-Medical wastes (Management and Handling) Rules 1998, by giving them notice to get itself registered with MPCB,.by Authorization and to become a member of Common Bio Medical Wastes Treatment and Disposal facility or provide its own facility for proper wastes management.

vi) The Directorate of Health Services Mumbai has planned to organize training for the Bio-Medical Wastes Management. The Board has not only complied with the various Hon'ble High Court Orders, but also taken all effective steps to ensure that all the institutions generating bio-Medial Wastes are properly monitored and also established proper co-ordination and co-operation with the other Govt Department and stake holders. The Board has taken pro-active steps to create awareness amongst all stake holders to ensure optimum compliance of the Said Rules.

Compliance of Hon'ble High Court Order dated 9th Jan 2009 and 26th Feb 2009

I) The Hon'ble High Court has directed to State Govt to sanction 31 posts, to Maharashtra Pollution Control Board to effectively implement BMW Rules, 1998 by its Order dated – 9th Jan 2009. The Hon'ble High Court had directed to the MPCB to submit a proposal to Environment Department, State Govt of Maharashtra by 12th Jan 2009 and Govt Shall take decision immediately. The Proposal was sent to the Environment Department, Govt of Maharashtra, by MPCB on 12th Jan 2009 and the Environment Department, had granted approval to 31 posts under the provisions of the Bio-Medical Wastes (Management and Handling)Rules 1998 for the first time, the Posts are sanctioned by the State Govt on the establishment of the Board on account of the directives given by the Hon'ble High Court . Pursuant to the Hon'ble High Court Order dated 26th Feb 2009, the Board has completed the work of inventorisation of the institutions, generating bio-medical wastes in the State of Maharashtra and Index of Health Care Establishments for various regions

has been prepared. The Respondent Board has identified 33100 Health Care Establishments during the survey. The Board has issued 5427 number of Show cause Notices to the Health care establishments which had not obtained authorization.

ii) The Board had communicated to all Municipal Corporations and all the Municipal Councils not to issue any fresh permission to any Medical Pathological Laboratory or any other unit generating bio-Medical Wastes unless and until arrangement for its disposal is made in accordance with the Bio-Medical Wastes (Management and Handling) Rules 1998.

iii) The Board has not granted fresh authorization to the non complying institutions generating Bio-Medical Wastes which have not made any arrangement for its disposal in accordance with the BMW Rules 1998.

iv) The Board in its 148th Meeting held on 25.2.2009 and 12.3.2009 has considered promotion of Common Bio-Medical Wastes Treatment Storage and Disposal Facilities (CBMWTSDF) based on the incineration in the remote places, where such common facilities are required to be set up. The Board has called proposals from the existing CBMWTSDF Operators to set up new incineration based CBMWTSDF facilities at 5 places in the State of Maharashtra. The Board also taken a policy decision to extend 15 % financial assistance to those 5 identified site provided they obtained necessary allotment of land in their names.

v) The Board has planned a comprehensive programme for creating awareness in respect of implementation of BMW Rules 1998. The Board has sanctioned Rs.7,14,500 /- for conducting Region –wise Bio-Medical Wastes Awareness programme at 11 places. The Board has conducted awareness programme at 11 places. Total 1000 participants have actively participated in such workshops wherein participants like the Medical Associations Members, the representatives of Local Bodies, the representative of Common Facility Operators and representative of Health Care Establishments were present. The Board has not granted Fresh permissions to non complying units.


IV) Note on Public Interest Litigation No.35/2007 and 36/2007 filed by

Harit Vasai Suraksha Samiti

v/s

State of Maharashtra and Ors.

in the High Court of Judicature at Mumbai

The Petitioner Harit Vasai Surakshsa Samiti is registered under the provisions of the Society's Registration Act, 1988, filed the Public Interest Litigations bearing Nos.35/2007 and 36/2007 against the State of Maharashtra and Ors. regarding unauthorized construction all over Vasai Taluka in Green Zones, No Development Zones and Reservation etc. The Maharashtra Pollution Control Board is Respondent No.16 in PIL No.35/2007 and Respondent No.10 in PIL No.36/2007.

Grounds of Public Interest Litigation:-

1. Vasai Taluka falls in Thane District. 72 villages are covered in Vasai Taluka. CIDCO has been appointed as a Special Planning Authority for preparing and execution of Development Plan of Vasai Taluka. The CIDCO has submitted the draft Development Plan to the State Govt. in the year 2003. However, the State of Maharashtra has not finalized the Development Plan for the Vasai Taluka.

2. Petitioner further submits that the Development Plan is divided in two parts i.e. urbanisable and unurbanisable. Certain portions of urbanisable areas are earmarked for Residential Industrial usages. There are reservations for garden, school, hospital, play ground and other amenities as required for the proper infrastructure and development of the city. There are other regions, which are not urbanisable, which predominantly comes under Green zones and Non-Development Zones.

   Due to non finalization of Development Plans by the State Govt. and frequent changes in the I.D.P and D.D.P. published by CIDCO, there has been growth by leaps and bounds of unauthorized constructions in Vasai Taluka, thereby, causing Irreparable damage to the green Vasai.

3. Unauthorized structures comes under Western Express Highway in 'No Development Zone' and 'Green Zone' , along with coastal belt structure area, in the CRZ area and other unauthorized structures all over Vasai Taluka in 'Green Zone' and 'No Development Zone'.

4. Unauthorized industrial estates have also been constructed in these areas. The MSEB has also granted power supply to the said industries without approval from the Directorate of Industries.

Prayer in brief :

1. To direct the Respondents that all the existing illegal, unauthorized, irregular constructions of industrial commercial nature should be immediately identified and demolished
2. To direct all the officials of the Respondents, who are responsible for illegal, unauthorized, irregular constructions and who fail to control such constructions, be removed from the service and damage done by their actions, omissions be assessed and recovered from them.
3. To issue interim orders to the Respondents not to issue occupation certificate, building permission, new connection, NOC regularization etc.

The MPCB has taken following actions:

1. The Maharashtra Pollution Control Board has filed 1st Affidavit on 7/10/2008 stating that the MPCB has not given any permission for construction activity as the said issue does not comes under the purview of the MPCB. The permission for the said constructions is given by the concerned Councils/Corporation/CIDCO except the construction activities for which, the Environmental Clearance required under Environment Impact Assessment Notification dtd.14/09/2006.

   The Respondent Nos.9 to 12 i.e. Vasai, Virar, Nallasopara and Navghar-Manikpur Municipal Councils were obligatory to provide various sewage treatment plants (STP) to collect, treat and properly dispose off sewage effluent generated from their jurisdiction and accordingly, the MPCB has issued show cause notices dtd.21/07/2007 to the above Municipal Councils for not providing STPs.

   Based on the affidavit filed by the MPCB, Hon'ble High Court passed an order dtd.15/10/2008 directing the Board to take action against the above Municipal Councils for discharging effluent waste in Vasai creek under the provisions of the Water (Prevention and Control of Pollution) Act, 1974.

2. In compliance of the above order, the Board has filed 2nd Affidavit on 23/01/2009 before the Hon'ble High Court, stating that the Board has filed 4

Criminal Complaints bearing Nos.228/2009, 229/2008, 230/2009 and 231/2009 under the provisions of the Water Act, 1974 against Vasai, Virar, Nallasopara and Navghar-Manikpur Municipal Councils respectively and their erring officials before the Chief Judicial Magistrate, Thane on 21/01/2009. The matter is still pending before the Hon'ble High Court.

11.3. Lower Court Matters.

Criminal Case No.276/1999 (MPCB v/s M/s.Pudumjee Pulp and Paper Mills Ltd., Pune)

The Board has filed Criminal Complaint bearing No.276/1999 against M/s.Pudumjee Pulp and Paper Mills Ltd. u/s 41, 43, 44 and 45A read with Section 24, 25/26, 33A of the Water (Prevention and Control of Pollution) Act, 1974 for not providing pollution control devices and discharging effluent into Thergaon nalla , which meets Pawna river.

After hearing both the parties, the Hon'ble Chief Judicial Magistrate, Pune has passed the following order dtd.21/10/2008..

ORDER

"Accused Nos.1 to 4 are hereby convicted u/s 248(2) of Criminal Procedure Code for the offence punishable u/s 41 and sentenced to pay fine of Rs.10,000/- in default of payment of fine, the accused shall undergo simple imprisonment for one month".

"Accused Nos.1 to 4 are hereby convicted u/s 248(2) of Criminal Procedure Code for the offence punishable u/s 43 and sentenced to pay fine of Rs.10,000/- in default of payment of fine, the accused shall undergo simple imprisonment for six months".

"Accused Nos.1 to 4 are hereby convicted u/s 248(2) of Criminal Procedure Code for the offence punishable u/s 45A and sentenced to pay fine of Rs.10,000/- in default of payment of fine, the accused shall undergo simple imprisonment for one month".

11.4 Status of cases filed before Trial Courts

Water (Prevention & Control of Pollution)Act 1974

1. No. of cases filed – 451
2. No. of cases disposed off – 360
3. No of cases pending – 91

Air Prevention & Control of Pollution) Act 1981

1. No. of cases filed – 149
2. No. of cases disposed off – 149
3. No of cases pending – Nil

Environment (Protection) Act 1986

1. No. of cases filed – 48
2. No. of cases disposed off – 04
3. No of cases pending – 44

Status of Writ Petitions / PILs filed before Hon'ble High Court of Judicature at Bombay

Bench at Mumbai/Aurangabad/Nagpur as on

1) No. of Writ Petitions filed = 307
2) No. of Writ Petitions disposed Off = 195
3) No. of Writ Petitions pending = 111

Status of cases before the Hon'ble Supreme Court of India

1) No. of Special Leave Petitions filed = 30
2) No. of cases dismissed = 21
3) No. of cases pending = 09

Appeals filed under section 28 of the Water (Prevention & Control of Pollution) Act 1974 & u/s 31 of the Air (Prevention & Control of Pollution) Act 1981 - 84

Appeals disposed off under section 28 of the Water (Prevention & Control of Pollution) Act 1974 & u/s 31 of the Air (Prevention & Control of Pollution) Act 1981- 82

Appeals pending under section 28 of the Water (Prevention & Control of Pollution) Act 1974 & u/s 31 of the Air (Prevention & Control of Pollution) Act 1981- 2

12. Finance and Accounts 2008-2009

The Board's actual receipts for the financial year are Rs 9437.34 Lakhs.

The same are classified as under :

Figres: Rs. in lacs

Sr. No.	PARTICULARS	WATER	AIR	TOTAL
1.	Grant - in - Aid from State Govt.	0	0	**0**
2.	Reimbursement of Water Cess received from Central Govt.	2597.37	0	**2597.37**
3.	Interest on Investment	956.13	0	**956.13**
4.	Receipt from Central Board for analytical work	217.06	41.80	**258.86**
5	CETP	306.50	0.00	**306.50**
	TOTAL (A)	**4077.06**	**41.80**	**4118.86**
	NWMP	₹ 1654214		
	TERI	₹		
	UNEP TIE	₹ 0		
	A'BAD MUN CROP	₹ 1000000		
	Suprem Court Committee	₹		
	C.H.W.T.D.S.F	₹ 16000000		
	E- WASTE (B&FMS)	₹ 249932		
	SPCB/PCC'S	₹ 2100000		
	Workshop for mass awareness Battery	₹ 90000		
	GODAVARI (water quality restoration)	₹ 611900		
	Total (water)	₹ 21706046		
	NAMP	₹ 4180833		
	Total (AIR)	₹ 4180833		
	GRAND TOTAL	**₹ 25886879**		
6.	**Other Receipts**			
	Consent Fee	3654.62	1013.73	4668.35
	Consent Form Fee	12.58	3.20	15.78
	Analysis Charges	260.57	24.16	284.73
	Laboratory Fee		0	0
	Appeal Fee	0.01	0	0.01
	Misc. Receipt	95.11	0	95.11
	Hazardous Waste	1.16	0	1.16
	Hazardous Waste Form Fee	3.22	0	3.22

Figres: Rs. In lacs

	Hazardous Waste Analysis	14.78	0	14.78
	Hazardous Waste Remending	2.96	0	2.96
	Bio Medical consent Fee	222.37	0	222.37
	Bio Medical Form Fee	8.80	0.00	8.80
	Env. Dev.	0.00	0	0
	Env Planning Report	0.00	0	0
	Regn. For Plastic	0.22	0	0.22
	Noise Pollution	0.83	0	0.83
	Fine & Forefiture	0.00	0	0
	Profit on sale of Asset	0.00	0.00	0.10
	Spl. Env Act	0.00	0	0
	Right Of Information	0.16	0	0.16
	Previous Yr. Adj			0
	Total (B)	**4277.39**	**1041.09**	**5318.48**
	Total A+B	**8354.45**	**1082.89**	**9437.34**

The total expenditure of the Board was Rs. 4312.14 Lacs. Out of this an amount of Rs. 522.02 Lacs for capital expenditure and an amount of Rs. 3790.13 lacs for revenue expenditure. The details are as under :-

Figres: Rs. In lacs

Sr. No.	EXPENDITURE	WATER	AIR	TOTAL
I.	**CAPITAL EXPENDITURE**			
	I) Land & Building	0.50	0	0.50
	ii) Lab Equipment	13.70	0	13.7
	iii) Vehicle	68.6	0	68.6
	iv) S.I.& O.	309.79	0	309.79
	v) Furniture & Fixture	129.43	0	129.43
	TOTAL	**522.02**	**0**	**522.02**
II.	**REVENUE EXPENDITURE**			
	A. ADMINISTRATIVE			
	I) Salary	513.37	25.82	539.19
	ii) Contribution to staff Provident Fund	23.39	1.65	25.04
	iii) Office contigencies	364.9	0.02	364.92
	iv) Financial Assistance (CPCB)	179.57	2.10	181.67
	v) Financial Assistance (Cess)	547.39	0	547.39
	v) L.S.& P.C.	0.10	0	0.10
	TOTAL	**1628.72**	**29.59**	**1658.31**

Figres: Rs. in lacs

B.	EXECUTIVE			
I)	Salary	962.93	77.11	1040.04
ii)	Contribution to staff Provident Fund	57.51	5.13	62.64
iii)	Office contigencies	173.58	0.08	173.66
	TOTAL	**1194.02**	**82.32**	**1276.34**
C.	Running Expenditure of Laboratory	22.06	0	22.06
D.	Running Expenditure of vehicle	116.39	0	116.39
E.	Maintainance & Repairs	102.16	0	102.16
	Education Allowance	0.01	0	0.01
	Law charges	4.66	0	4.66
	Professional charges	62.56	0	62.56
	Misc. Expenditure	18.66	0	18.66
	Audit Fee	26.22	0	26.22
	HBAR	4.41	0	4.41
	Depreciation	442.23	37.24	479.47
	Magazine Allowance	0.40	0	0.4
	Canteen Allow & Medical Allow Refund Of Lab Fee	18.48	0	18.48
	TOTAL	**3640.98**	**149.15**	**3790.13**
	TOTAL (I) & (II)	**4163.00**	**149.15**	**4312.15**

The total expenditure of Rs. 4162.99.lacs under Water Pollution Control activities is inclusive of Rs. 442.23 lacs on account of Depreciation Charges during the year (2008-2009).

The total expenditure of Rs. 4162.99 lacs against the income of Rs. 8047.95 lacs (Rs. 8354.45 lacs Rs. 306.5 lacs of CETP) & Rs. 522.02 lacs of Income over exp. transferred to capital expenditure during the year resulted in excess of income over expenditure of Rs 4406.97 lacs. Out of the total balance of excess of income over expenditure amounting to Rs 11978.43 lacs Provision for Gratuity Rs30 lacs & adding previous year adj of Rs. 42.10 lacs(CETP Amt), is made, keeping the balance of Rs. 11990.52 lacs.

The total expenditure of Rs. 149.15 lacs under Air Pollution Control Activities includes Rs. 37.24 lacs on account of depreciation for air. The total expenditure of Rs149.15 lacs against the income of RS 1082.89 lacs resulted in excess of income over expenditure for Rs. 933.74 lacs. Summary of the account for 2008-2009 is as under.

WATER POLLUTION CONTROL ACTIVITIES :

Figres: Rs. In lacs

PARTICULARS		CAPITAL	REVENUE	TOTAL
	CETP		199.18	199.18
	GRATUITY**		34.89	34.89
Bal 07-08		0	8093.47	8093.47
Amt trns.		522.02	-522.02	0
* Amt Trns to income		522.02	7571.45	8093.47
	CETP		306.50	
	GRATUITY**		30	30.00
Income		0.00	8047.95	8047.95
	CETP		505.68	
	GRATUITY**		64.89	64.89
TOTAL	Income	522.02	15619.40	16141.42
	CETP		223.50	223.50
	GRATUITY**		32.59	32.59
Expenditure		522.02	3640.98	4163.00
Bal. for 2008-2009	CETP	0.00	240.08	240.08
Bal. for 2008-2009	GRATUITY**		32.30	32.30
Bal. for 2008-2009		0	11978.42	11978.42
Add Previous Year Adj		0	42.10	42.10
		0	12020.52	12020.52
Provision for Pension 2008-2009		0	0.00	0.00
		0	12020.52	12020.52
Provision for Gratuity **		0	30.00	30.00
Balance for 2009-2010		0	11990.52	11990.52

AIR POLLUTION CONTROL ACTIVITIES :

Figres: Rs. In lacs

PARTICULARS	CAPITAL	REVENUE	TOTAL
Bal 08-09	0	753.92	753.92
Income 2008-2009	0	1082.89	1082.89
TOTAL	0	1836.81	1836.81
Expend	0	149.15	149.15
Balance for 2008-2009	0	1687.66	1687.66

WATER 2008-2009

Figres: Rs. In lacs

Excess of Income over expenditure	8093.47
Less : Excess of income transferred to for Capital exp.	522.02
TOTAL 2008-2009	**7571.45**
Add Excess of income over expenditure for 2008.2009	4406.97
	11978.42
Less : Provision for Gratuity	30.00
	11948.42
Add Previous Year Adj	42.10
Excess of Income over expenditure for 2009-2010 C/F	**11990.52**

AIR 2008-2009

Excess of Income over expenditure	753.92
TOTAL	753.92
Add Excess of income over expenditure for 2008-2009	933.37
Excess of Income over expenditure for 2008-2009 C/F	**1687.29**

13. Important Matters Dealt with by the Board

13.1 Public Hearing:

Ministry of Environment and Forests, Govt. of India has issued amendments to the Environmental Impact Assessment notification dated 27/01/1994 on 4-5-1994. The Notification No.318 (E) introduces the procedure for conducting the Public hearing in respect of projects requiring environmental clearance from the Govt. of India. The notification No. 319 (E) delegates powers of grant of Environmental clearance to certain categories of Power Plants to the State Government.

As no administrative, financial and procedural outline has been given in the said Notifications for conducting the Public hearing, The Board has therefore, laid down the procedure for conducting the Public hearing as decided in the 118th meeting of the Board held on 20-11-1997.

Ministry of Environment & Forest has amended EIA Notification 1994 on 07.07.2004 in which New Constructions projects and Industrial Estates have been included. The new construction projects of following categories require public hearing and Environment Clearance:

a) The project investment exceeding 56 Crore

b) Occupancy load exceeding 1000 no. of persons

c) Effluent discharge exceeding 50,000 Ltrs

d) Completing plinth level of the construction after the target dt. 07/07/2004.

The new industrial estate or expansion of the industrial estate also requires public hearing & Environment Clearance, if the total area of the land exceeds 50 Hect. and also having high pollution potential. The Hazardous waste generating industrial estate irrespective of the area requires the public hearing and Environment Clearance. 56 public hearings were conducted during 2008-2009 for different Projects in Maharashtra.

13.2 Electronic Waste

Initiatives taken by Maharashtra Pollution Control Board

The Mumbai -Pune industrial belt is one of the manufacturing hubs of the country. As a result, Mumbai is not only the port of import for new and used electronics; it is also home to a large user and manufacturer base, both generating large volumes of e-waste. There is hardly any attention paid to the management of the e-waste

generated in this industrial belt which incidentally also houses large number of Info tech parks in New Mumbai and Pune. In order to derive mechanism on the collection, treatment and disposal of the e-waste, MPCB has taken certain initiatives to create awareness among various stake holders.

Considering the large potential on e-waste generation in Mumbai Metropolitan Area and within the Municipal Corporation areas of Pune and Pimpari- Chinchawad, which support a very large number of corporate offices, IT industries and government establishments, Maharashtra Pollution Control Board (MPCB) has taken the initiative by establishing an "Expert Group" at state level. MPCB under part funding from United Nations Environmental Program (UNEP) has further taken the initiative to establish the e-waste inventory by commissioning the E-waste city assessment studies for Mumbai and Pune. An agency appointed for assessment studies M/s. IRG, Systems South Asia Ltd., New Delhi has submitted the inception report before the expert group, appointed by the Board to monitor the progress of the work on the e-waste study. This includes assessment of the current scenario, quantification of e-wastes generated, their characteristics, methods of collection, transport and final disposal, projections for next 10 years regarding consumption and waste generation of the electronic goods, comparison of the regulatory mechanisms in OECD and non OECD countries in relation to Indian conditions for regulation of the imports, possibility of setting up a proper collection system and enacting legal instruments. MPCB is now working on establishing WEEE Guidelines for managing the e-Waste. "Advisory Committee" for e-waste was formed on 22.01.2009 for establishing policy guideline and road map for handling e-waste problems in MMR. M/s. IRG systems South Asia Pvt. Ltd ,New Delhi has submitted proposal for feasibility study and Business Model for E-waste management for Mumbai Metropolitan Region.

13.3 Recovery of the balance amount of interest of Rs. 69,37,199/- from the Janata Co.Operative Bank Ltd. and investment written off in respect of short term deposits kept with the Chetna Co-Op.Bank Ltd.

The Board had kept Rs.2.25 crores in the Chetna C-Op.Bank ltd. as a short term fixed deposits in the year, 1993, which was matured and due in the financial year 1993-1994. However, the Chetna Co-Op.Bank Ltd. did not pay either principal amount or interest thereon. Therefore, the Board had taken decision to initiate appropriate legal action for the recovery of the same alongwith interest thereon. But

in the meantime, the Chetna Co-Op.Bank Ltd. has gone into liquidation and the Liquidator has been appointed on that bank. The matter in respect of the recovery of the fixed deposits from Chetna Co-Op.Bank Ltd. (Liquidator) was discussed in 143rd Meeting of the Board held on 07/11/2006. The Board had come to the conclusion that there is no possibility of recovery of an amount of Rs.2.25 crores alongwith the interest thereon towards the fixed deposits from the Liquidator of the Chetna Co-Op. Bank Ltd.

The Internal Auditor for the MPC Board in his Internal Audit Report for the year, 2005-2006 observed that the Board had made fixed deposits of Rs.2.25 crores with the Chetna Co-Op, Bank Ltd., which was matured and due at the end of the year 1993-1994. The Auditor suggested that a reserve for bad and doubtful recoveries be created for an amount of Rs.2.25 crores alongwith interest thereon for the fixed deposits with the Chetna Co-Op.Bank Ltd. It was specifically observed that during the year, no amount was received of fixed deposits amounting to Rs.2.25 cores with the Chetna Co-Op. Bank Ltd. and no accounting on interest is done for the fixed deposits. Therefore, it was suggested that 100% provision for deposit being outstanding over the 3 years after the due date be made. Accordingly, the short term deposits on investment amounting to Rs.2.25 crores have been written off in the Revised Balance Sheet as on 31/03/2006.

The Comptroller of Auditor General also sent a draft report on account of the Maharashtra Pollution Control Board for the year, 2005-2006 and specifically reported in para 1.5 that a deposit of Rs.2.25 crores was written off.

Similarly, the Board had kept the short term fixed deposits with Pune Co-Op.Bank Ltd., which had also failed to make payment on the date of maturity and therefore, the Board had to file Summery Suit No.192/1993 before Hon'ble High Court, Mumbai, for the recovery of Rs.1 crore from Janata Co-Op.Bank Ltd. with whom Pune Co-Op.Bank has been merged, which has been decreed in favour of the Board on 20/01/1997. The Board has also filed one more suit No.2964/1996 for the recovery of Rs.50 Lakhs from the Janata Co-Op. Bank Ltd. towards the fixed deposits kept with Pune Co-Op. Bank Ltd. The said suit is still pending.

In the meantime, due to persuasions made by the then Law Officer and the Chief Accounts Officer of the Board, the Janata Co-Op.Bank Ltd. had made payment of Rs.2,45,01,370/- crores, the principal amount of fixed deposits, amounting to Rs.1 crore and Rs.50 Lakhs alongwith the interest thereon upto 30/06/1997, vide their letter dtd.22/01/2002. However, it did not pay the interest on the principal amount

for a period from 01/07/1997 to 21/01/2002 and therefore, the Board had to file execution proceeding before Hon'ble High Court.

M/s.Janata Sahakari Bank Ltd., Pune has written letter dtd.22/07/2008 to the Member Secretary of the Board, wherein it is stated that they are ready to pay the balance amount of Rs.69,37,199/-. Also they have requested to withdraw the cases filed against them and to issue letter regarding no dues from M/s.Janata Sahakari Bank Ltd., Pune. If agreed they are ready to pay the balance interest amount of Rs.69,37,199/- within three days period of time.

Accordingly, this office has put up the case for approval of the Authorities for accepting the balance amount of interest from M/s.Janata Sahakari Bank Ltd., which was approved by the Member Secretary of the Board subject to placing an agenda for information of the Board. M/s.Janata Sahakari Bank Ltd. has given balance amount of Rs.69,37,199/- on 30/07/2008 and the receipt of the same was given by the Chief Accounts Officer on the same day.

The Execution Application filed by the Board in the Summary Suit No. 1921 / 1993 & Suit No. 2964 of 1996 was withdrawn by our Panel Advocate M/s Vigil Juris, after obtaining necessary approval from the authorities of the Maharashtra Pollution Control Board. Accordingly, both the matters are disposed off on 2nd February, 2009

Thereafter, the matter was put up before the 148th Board Meeting of the Maharashtra Pollution Control Board held on 25.2.2009, which is noted by the Board Members.

13.4 Financial aid from the Ministry of Environment & Forests, Government of India for Laboratory Equipments and other Projects:

Under the Scheme of Assistance for Abatement of Pollution, Funding for the Laboratory Equipments and other Projects, Ministry of Environment and Forests (CP Division), Government of India had called the proposals. Accordingly the Board has submitted the proposals to MoEF, GoI for funding of about Rs.11 Cr. (Rupees Eleven Crore only) for strengthening and smooth functioning of Board's Laboratories. MoEF has sanctioned budget under the above scheme to the extent of Rs.3.5 Cr. (Rupees Three Crore Fifty Lakh only). However, it was informed that the financial assistance can be considered in a phased manner.

In this regard, first installment of Rs.70.85 Lakh (Rupees Seventy Lakh Eighty five

thousand only) is sanctioned and 50% of the same, i.e. Rs.35.40 Lakh (Rupees Thirty five Lakh Forty thousand only) is about to release after completion of due procedure for purchase of the equipments / instruments. The work of the same is under process.

13.5 Purchase of Millipore Water Purification System:

Central Laboratory and other Regional Laboratories of the Board are equipped with the sophisticated instruments, such as AAS, TOC Analyzer, HPLC, IC, ICMS, etc. Laboratory needs pure water for various laboratory analysis processes, reagent preparation, rinsing of glass wares and for other special purposes. The Millipore Water Purification System available in the laboratories are very old and beyond repairable. In this context, for smooth functioning of the laboratories, tenders were called for purchase of 9 (Nine) no. of Water Purification Systems and Purchase Order was issued to M/s. Millipore India Pvt. Ltd., who have offered the best price and also discount for buy-back with the improved version of the model 'ELIX-10' which save cost of Rs.1, 88,700/- (Rupees One Lakh Eighty eight thousand seven hundred only) per unit.

13.6 Status regarding implementation of Pune Action Plan

In 1995 there was a public interest litigation filed in the Supreme Court regarding pollution in Pune city. To comply with the directives of the Supreme Court, Environment Pollution Control Authority was appointed and Maharashtra Pollution Control Board was appointed as coordinator in this regard. On the basis of information received from Maharashtra Pollution Control Board and other Government Departments, an Action plan was prepared under the guidance of Environment Pollution Control Authority.

A Task force in this regard was formed under the Chairmanship of Principal Secretary, (Environment). This includes following Departments and organizations.

1) Pune Municipal Corporation, Pune
2) Managing Director, Maharashtra State Road Transport Corporation.
3) Transport Commissioner, Mumbai
4) Principal Secretary, Food and Civil Supply, Govt. of Maharashtra.
5) Managing Director, Maharashtra State Road Development Corporation.
6) Oil Companies Co-ordinate, M/s. Bharat Petroleum Ltd.
7) M/s. GAIL.
8) M/s. National Highways Authority of India
9) Divisional Commissioner, Pune
10) District Collector, Pune

To bring down the pollution level, the Environment Pollution Control Authority has directed the concerned Government Departments and time period was fixed for implementation. The status during the reporting year is presented below.

- 7 CNG Stations (one Mega Mother Station & 6 Daughter Booster Stations) are commissioned in Pune, Pimpri- Chinchwad and adjoining areas.
- CNG Supply to about 1200 vehicles, which include 85 Buses of Pune Maharanagar Parivahan mahamandal Limited (PMPML).
- The daily average sale of CNG is about 8,000 Kg.
- Two Mother Stations are under construction.
- 3 Daughter Booster Stations are under construction.
- Laying down of Steel Pipeline (12", 10", 6" size) is under progress to set up more Mother/Online CNG Stations within the city. About 30 kms of Steel Pipiline has already been laid down.
- Apart from above, MNGL is planning to set up 2 Mother Stations and 3 Online Stations & 2 DBS for supply CNG to vehicles and planning to lay down about 40 kms of Steel pipeline in 2009-10.

Sr. No.	Action Plan	Status
1.	Availability of CNG	PMC to supports MNGL on various issues. Total of 7 CNG Stations have come up in Pimpri and pimpri chinchwad .four more stations are expected to come up for which the laying of CNG pipe line is in progress.
2.	Conversation of auto rickshaw to LPG	The pre 1991 auto rickshaw to be converted to LPG. RTO has directed pre 1991 rickshaw owners to follow the directive .PMC facilitates the Retro fitment of LPG kits by giving a subsidy of 2500 per conversion. The status of application received and processed Total No. of autorikhsaw in pune converted in LPG-3627. • No. of application received by PMC ——1353.

Sr. No.	Action Plan	Status
3.	BRT-Bus Rapid Transit.	CIRT (Central Institute of Road Transport, Pune) + IIT Delhi prepared a master plan for BRT and cycle track network for city. JNNURM has sanctioned the first phase of BRT in Pune. The construction of BRT pilot and first phase of BRT project is under progress. BRT pilot project is in the final stages of completion. The length of pilot rout is17 km which connects three major terminals Karjat-swargate-Hadapsar. The system has dedicated central bus lanes. 2.5 m wide concrete paved cycle tracks and 2m wide footpaths are constructed on either side of the BRT route. Six BRT terminals are constructed with parking facilities on the pilot rout. Under the JNURM scheme, 97.5 kms of road proposed and the first phase of BRT sanctioned with an estimated cost of 476.15 crores. Phase I of the proposed plan includes 61.70 kms.
4.	Enforcement of parking Provisions	Pay & Parks for 4 wheelers on street parking is implemented on more than 20 roads. New proposal has been sent to general body for approval regarding enhancement of parking charges and augmentation of pay & park parking for 2 wheelers.
5.	PUC Audit	Complied. PMC along with RTO and ARAI carried out the PUC centre audits.
6.	Shifting of Bus Stations	Plan being formulated for inclusion of pick up services by public transport simultaneously with shifting of bus stations out of pune city. PMC, Police department and MSRTC had series of discussion on the subjects matter. However Bus terminal location has not yet been finalized by MSRTC and hence the details planning have not been carried out.
7.	Augmentation of public Transport	The PMPML –Pune Mahanagarpalika Parivahan Mahayana to phase out old buses and replace them with new buses of Euro-III standards. The bus fleet of PMPML is as follows: • Bus fleet owned by PMPML=1174 • Hired buses=292 • Total=1466 Under JNNURM fund, 650 new buses will be purchased in future. Out of 650 buses ,200 will be ultra low floor (zero steps at door) and 450 will be semi low floor (2 steps at door) **CNG operated buses:** Out of 1466 buses, 85 buses operate on CNG which were purchased during common wealth youth games-2008. 450 new CNG buses will be purchased under JNNURM by December2009. **Proposed Metro:** DPR for pune Metro report being prepared by Delhi Metro Rail Corporation. The draft copy of DPR is submitted to PMC in March2009.

13.7 Chandrapur Action Plan

The Board was appraised about the background of developing the Chandrapur Action Plan and also initiatives taken by MPCB related to sectoral approach, strengthening of air quality monitoring and improved enforcement and compliance. Chandrapur Action Plan (CAP) envisages strengthening and capacity building of MPCB activities in Chandrapur through;

- Opening of Regional Office at Chandrapur to cover Chandrapur, Yatvamal and Gadchiroli Districts.
- Opening of Regional Laboratory to cater the requirements of Chandrapur, Yatvamal and Gadchiroli Districts.
- Capacity building of MPCB in air quality monitoring and modeling Considering the future industrial growth in Chandrapur, a detailed plan has been worked out for expanding MPCB activities including required man power and cost of other operational parameters and its relation to control the pollution problems. The same is as under:

Industrial Development:

Chandrapur Districts accommodates predominantly the mineral and natural resource based industries. The industrial statistics for Chandrapur and Gadchiroli District is as below:

Category	Large	Medium	Small	Total
Red	77	11	53	141
Orange	NIL	NIL	188	188
Green	NIL	NIL	626	626
Total	77	11	867	955

Following types of major industries are established in district

- Coal mines. (28 nos).
- Cement. (4 nos).
- Coal washeries. (9 nos).
- Sponge Iron. (6 no).
- Thermal Power Plant. (1)
- Mineral processing Industries.(1)
- Pulp & Paper. (1)
- Paper Units. (3)

In addition to this there are other industries like Rice Mills, Stone Crushers, Hot Mix Plants, Waste Paper based, Board Mills, Engineering Units and also some Chemical industries. Due to availability of the coal, lime stone, Iron Ore, many new major units like coal based thermal power plants, cement mills and Sponge Iron Plants are proposed in the area. It is expected that this influx of large investment in the basic manufacturing industries in Chandrapur Dist. will put additional stress on the local environment and therefore, it is urgently required to prepare a road map to deal with this proposed massive industrialization of the area.

In order to ensure the proper enforcement, compliance and to reduce the time gap in taking suitable legal actions, it was proposed in the Chandrapur Action Plan that Board should have a Regional Office and also a Regional Laboratory in Chandrapur. This will facilitate the early analysis of the samples, early reporting of the non compliance and thereby effective enforcement and compliance will be achieved.

There is a significant scope for additional air monitoring activities in Chandrapur district which will improve the enforcement and compliance besides generating substantial revenues. With the increased air monitoring activities, it is observed that most of the industries have improved their air pollution control arrangements and the emission levels have come down substantially. It is expected that increase in air monitoring activities will definitely improve the enforcement and compliance in the region

The Chandrapur Dist. has predominantly air pollution potential industries like Thermal Power Plant, Mines, Cement Plants and Sponge Iron Plants and therefore natural focus of environmental monitoring in Chandrapur is on air quality monitoring. MPCB presently has ambient air monitoring stations under National Air Monitoring Program at

1. Gram Panchayat Office, Ghugus
2. MIDC (Industrial Area), Chandrapur
3. Nagar Parishad Chandrapur (Commercial Area)

MPCB also 3 ambient air quality stations under State Air Monitoring Program at

1. Gram Panchayat Office, Gadchandur.
2. MIDC, Tadali (Industrial Area) Chandrapur
3. Nagar Parishad Ballarpur (Commercial Area)

Beside this MPCB also has a sophisticated automatic continuous ambient air quality monitoring stations located at Sub Regional Office, Chandrapur. The air quality monitored at all these locations is regularly hosted on MPCB website for public awareness.

MPCB has identified various sources of air pollution including industrial sources, sources like coal transportation, road dust, open coal etc. The contribution of each of these sources in the ambient air quality is not scientifically estimated so far. It is therefore proposed that in the coming years Board can undertake studies for conducting the source profiles for coal based thermal power plants, Sponge Iron Plants, Open Coal burning etc. It is also proposed to study for emission inventory in the district. This will also help in understanding the ambient air quality configuration. Though there are significant improvements in the air pollution control system in the industrial sources, the ambient air quality still remains the major challenge in Chandrapur. With the strengthening of MPCB offices in Chandrapur and also capacity building in the air pollution monitoring and modeling, it is expected on that the down word trend in the air quality will be achieved, inspite of the future industrial growth in the area

13.8 Integrated Management Information system (IMIS) at MPCB

MPCB is an organization under the Department of Environment, Govt. of Maharashtra and is responsible for ensuring all norms under the Pollution Control Acts as stated by the rules that are adhered to by all establishments in Maharashtra, which can, influence the natural environmental conditions through their operations or processes. This involves a lot of documentation, interaction and the operations spread over a large geographical boundary across the state. This has made it necessary for bringing in automation in a large way. MPCB is currently looking at computerization and automation of its various processes and operations with an aim to increase the overall efficiency of the organization and have transparency with its constituents and customers and hence make MPCB a model organization in the Country.

To achieve this, the Board has decided to implement E-governance project i.e. implementation of IMIS, at MPCB.

MPCB initiated the procurement process in Februay'04 and M/s. Microline India Pvt. Ltd., Pune was selected as Project Management Consultant (PMC) to conduct System Requirement Study (SRS) and prepare Detailed Project Report (DPR) by following the procedures. PMC held several rounds of discussions with MPCB officials and other concerned and prepared System Requirement Study (SRS) and Detailed Project Report (DPR) in June'04. After following the procedure of bid evaluation, M/s. Ashtech Infotech Pvt, Ltd., being the most responsive bid, was awarded the contract on 30th March, 2007

The SSA between MPCB and M/s. Ashtech Infotech Pvt, Ltd. was entered on 20th April, 2007. The IMIS project included development of an enterprise solution of the Board's multi-disciplinary functions including Consent Management, Waste Management, Cess collection, Laboratory Management and HR / Accounts functions. The main feature of the project is to integrate Laboratory functions in the regulatory mechanisms and waste management for the effective control of pollution and improve environmental compliance. The Laboratory Information Management System (LIMS), which is a market available product (of the shelf), also needs to be integrated to suit the functions of the Board. Integration of Consent Management and Waste Management will improve the enforcement of the standards and Compliance of norms. This integration is the key element in the proposed enterprise solution. The project includes the roll out of the Solution in all MPCB Regional Offices in a phased

manner. The scope of the project also includes hands on operation and maintenance of the System for three years and it also includes training, as well. The digitization of all the technical data is also included in the scope of the project.

The major benefits of IMIS implementation that would accrue to the Board are;

- An estimated reduction of 35% in the time taken to process Consent Application
- Increase in the CESS revenue of the board, due to timely bill generation of the CESS BILL and accurate information on the outstanding CESS Collection
- Proactive planning to handle environmental hazards or disorders, resulting in increased security to residents of various cities/the states.
- Decision Support System on various aspects of the functioning of the board due to in time & correct data availability.
- Accurate & clinical testing of Samples at the Laboratories of the board. A possible area of revenue enhancement for the board
- Timely Compliance with information requests, if received under RTI act.

Project Implementation Preparedness:-

Board has appointed M/s. Microline India Pvt. Ltd. as PMC to assist implementation of IMIS project and a detailed agreement has been signed on 21st May'07 with the firm.

Board has also formed an Expert Committee comprising; Director General , Science and Technology Park, Pune, Technical Director, NIC, Delhi, Representative of M/s. BPCL and I.T. Professor from VJTI, Mumbai and Project Management Group comprising Senior Board officials for successful implementation of the project.

E-governance training to various technical, Scientific and non-technical staff is also initiated.

Present Status:-

The C-NOC (Data Centre) is operational at the HQ Office, Sion(E) and is connected to all the Regional Offices through MPLS-VPN (WAN) network.

The Software Design Document (SDD) is prepared after discussion of Software Developer's with various MPCB officials and PMG members. The final SDD is approved by the PMG on 15th December 07.

- **Enterprise Infrastructure :**

1. All the Regional Offices are connected live via MPLS-VPN network with the C-NOC at the HQ Office, Sion.
2. All the hardware procured under IMIS project have been satisfactorily delivered and installed at all the Regional Offices, Central Lab. & HQ Office.
3. All the locations (RO, C-lab & HO) have been provided with LAN facility and UPS back-up facility for Servers.

- **Application Software :**

1. **FTS & Complaint Modules:** have been rolled out at H.O. on 1st December 2008 and have been rolled at Regional Offices during March 2009.
2. **Cess Module:** The Cess module is ready to go live at Head Office and currently Cess outstanding data entry is under process.
3. **HR Module:** is on trial mode at Head Office from 16.03.09 and will be made live after data updation(data entry)of leave balances by M/s Ashtech Infotech Pvt. Ltd.
4. **Consent Module :** The consent module is rolled-out at RO-Pune and at Aurangabad
5. **Authorisation & Waste Module:** Authorisation module is live at HO, RO-Pune & RO-Aurangabad Waste module is ready to go live at Head Office.
6. **LIMS:** AAQ & Water Modules are rolled out at Central -Lab and Water & Hazardous waste modules are nearing completion. LIMS training for Pune and A'bad Scientific staff is conducted
7. **Asset & Stores Modules:** The UAT for these modules is done and Master creation is under process.

- **Data Digitisation :**

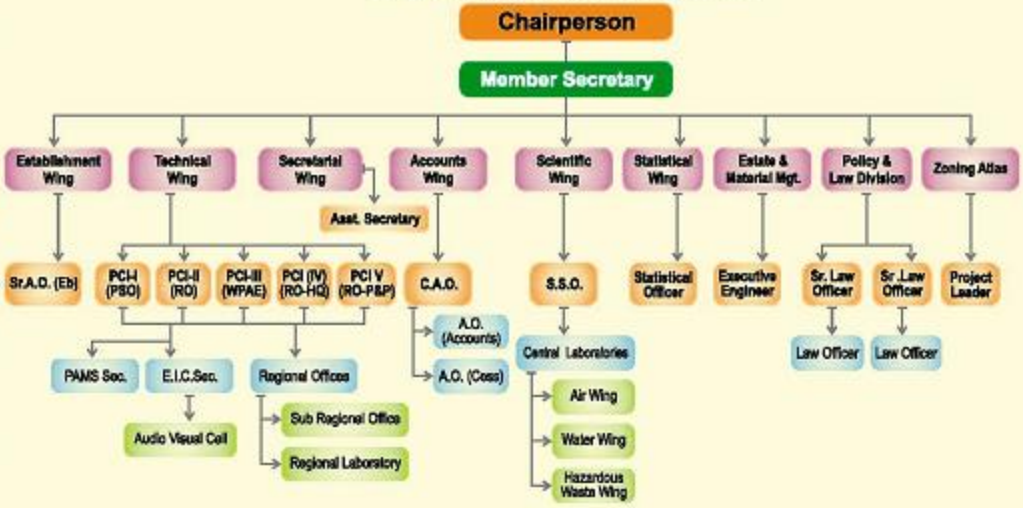
The data entry of technical information about Industries (approx. 60,000 nos.)in Maharashtra is to be done by M/s Ashtech Infotech Pvt. Ltd. as a part of IMIS scope. Accordingly, data entry for Pune, Aurangabad & Mumbai locations is complete and for Navi Mumbai, Raigad, Thane and Kalyan locations it is under process.

- **Email Management :**

The dedicated, independent Email facility has been developed for MPCB on GOV.IN domain through MPCB's Exchange Server.As on date, 123 email users have been created which includes all the Controlling officer's email Ids and department's email ids.

Annexure

Organization Structure of M.P.C.B.



Abbrievations Used :-

WPAE	- Water Pollution Abatement Engineer	Sr. A.O.	- Senior Administrative Officer
APAE	- Air Pollution Abatement Engineer	CAO	- Chief Accounts Officer
RO (HQ)	- Regional Officer (Head Quarter)	AO (Cess)	- Accounts Officer (Cess)
PCI	- Pollution Control & Implementation	AO (Accts.)	- Accounts Officer (Accounts)
RO (P&P)	- Regional Officer (Project & Planning)	SSO	- Senior Scientific Officer
EIC	- Environmental Information Center	PAMS	- Pollution Assesment Monitoring & Surviliance
PSO	- Principal Scientific Officer		

Organization Structure of M.P.C.B.

ANNEXURE II

Staff Strength as on 31.03.2009

A - Technical

Sr. No.	CADRE	SANCTIONED	FILLED IN	VACANT
1.	Air Pollution Abatement Engineer	1	0	1
2.	Water Pollution Abatement Engineer	1	0	1
3.	Asst. Technical Secretary	1	0	1
4.	Regional Officer	14	11	3
5.	Executive Engineer	1	1	0
6.	Sub-Regional Officer	54	49	5
7.	Deputy Engineer	1	0	1
8.	Field Officer	120	88	32
9.	Statistical Officer	1	1	0
10.	Statistical Asst.	1	1	0
11.	Draughtsman	1	1	0
12.	Field Inspector	42	40	2
13.	Asst. Draughtsman	2	1	1
14.	Tracer	6	6	0
15.	Electrician	2	1	1
16.	Instrument Fitter	1	1	0
	Total	249	201	48

B - Legal

1.	Senior Law Officer	2	1	1
2.	Law Officer	2	2	-
3.	Asst. Law Officer	3	2	1
4.	Legal Asst.	4	4	-
	Total	11	9	2

C - Scientific - A

1.	Principal Scientific Officer	1	1	0
2.	Senior Scientific Officer	3	3	0
3.	Scientific Officer	9	9	0
4.	Junior Scientific Officer.	26	25	1
5.	Junior Scientific Asst.	37	36	1
6.	Laboratory Asst.	7	6	1
	Total	83	80	3

D - Accounts & Administration

Sr. No.	CADRE	SANCTIONED	FILLED IN	VACANT
1.	Chief Accounts Officer	1	0	1
2.	Sr. Administrative Officer	1	1	0
3.	Material officer	1	0	1
4.	Private Secretary	4	4	0
5.	Accounts Officer	2	2	0
6.	Administrative Officer	1	0	1
7.	Asst. Secretary	1	1	0
8.	Asst. Accounts Officer	2	2	0
9.	Head Accountants	20	20	0
10.	Senior Steno	5	5	0
11.	Junior Steno	27	25	2
12.	First Clerk	17	17	0
13.	Senior Clerks	50	47	3
14.	Junior Clerks	64	52	12
15.	Daftari	14	12	2
16.	Drivers	74	74	0
17.	Roneo Operator	1	0	1
18.	Naik	2	1	1
19.	Chowkidar	20	20	0
20.	Peons	88	83	5
21.	Sweeper	3	3	0
	Total	**396**	**367**	**29**
Abstracts				
A	**Technical**	249	201	48
B	**Legal**	11	9	2
C	**Scientific**	83	80	3
D	**Accounts & Administration**	396	367	29
	Member Secretary	1	1	0
	Chairman	1	1	0
	Total	**741**	**659**	**82**

ANNEXURE III

Environmental Training

Name of the Institute & Venue	Training Date	Subject	Participant Name
YASHADA, Pune	1.04.2008 to 03.04.2008	Software Development Proposal	Shri Dinesh Sonawane, Asstt. System Officer Shri Jadhav, J.R.F. – EIC
Engineering Staff College of India	21.04.2008 to 25.04.2008 (5 days)	RS & GIS Application in Water, Waste Water Storm Water & Solid Waste Management	Shri Salil Save, Jr. Scientific Asstt.
Engineering Staff College of India, Hyderabad	9.04.2008 to 11.04.2008	Environmental Legislation in India Interpretation & Implementation	Shri S.K. Purkar,Law Officer
YASHADA, Pune	28.04.2008 to 30.04.2008	IT Security	Shri Dinesh Sonawane, Asstt. System Officer Mrs. Sujata Save, A.O.
National Institute of Industrial Engineering Mumbai at NITIE, Mumbai	21.04.2008 to 25.04.2008	Industrial Waste Minimisation & Cleaner Production	Shri S.R. Deshmukh, S.R.O. Kalyan- Shri B.D. Wadde, S.R.O. Navi Mumbai
Engineering Staff College of India, Hyderabad ESCI Campus, Gachi Bowli, Hyderabad	9.06.2008 to 13.06.2008	Municipal Solid Waste Management Collection Handling, Disposal & Recovery Options	Dr. Anant Kamble, S.R.O. Mumbai-II Shri M.G. Igave, F.O.
Dept. of Industry, Policy & Promotion Ministry of Commerce & Industry, Govt. of India at Taj Mahal Hotel, New Delhi	24.04.2008 & 25.04.2008	Industrial Waste Management	Shri P.P. Nandushekar, P.S.O Shri Anil Patil, J.S.A. Central Lab.
Coast Guard Pollution Response Team (W), Shed No. 3, New Ferry Wharf, Mumbai – 400 009	5th-7th May, 2008	IMO Level-1 Training Schedule for the Year 2008-09	Shri S.A.Deshpande, S.R.O.Navi Mumbai-II Shri Upendra Kulkarni, F.O.(HQ)
	26th-28th August, 2008	– do –	Shri Anant kamble, S.R.O. Mumbai-II Shri Ravi Andhale, F.O., S.R.O.,Taloja
	18 to 20 Nov, 2008	– do –	Shri V.B. Kahirsagar, S.R.O. Raigad-II Shri Thakare, F.O. R.O.,Mumbai
	21st-23rd October, 2008	– do –	Shri Khedkar, S.R.O. Raigad Shri D.P. Waghmare, F.O. R.O.,Mumbai
	20th – 22nd January, 2009	– do –	Shri N. Wagh, F.O. R.O. - Thane Shri S.H. Waghmare, F.O., S.R.O. - Thane-II
Conference Hall, Central Laboratory, Nirmal Bhavan, Mahape	14th, 16th & 21st May, 2008	Internal Training Programme to all F.O.'s	All F.O.'s of M.P.C. Board
ESCI Campus, Gachi Bowli, Hydrabad	28th to 30th May, 2008	Industrial Waste Water treatment with reuse and recycle option	Shri V.V. Shinde, S.R.O. Kalyan-II Shri Ashok Jadhav, F.O. (HQ)

Name of the Institute & Venue	Training Date	Subject	Participant Name
ESCI Campus, Gachi Bawli, Hydrabad	21st-23rd July, 2008 (3 days)	Professional Development Programme (DM Projects Conceptualization to Marketing)	Shri A.D. Saraf, RO(CO)
ESCI Campus, Gachi Bawli, Hydrabad	25th-27th June (3 days)	Instrumentation & SCADA applications Water & Wastewater Management	Shri A.S. Fulse, S.R.O. Pimpri-Chinchwad Shri V.N. Patil, S.R.O., Kalyan
ESCI Campus, Gachi Bawli, Hydrabad	28th July to 30th July, 2008	Professional Development Programme on Bio Medical Waste Management	Shri Satale, F.O.. Shri A.N. Kalole, F.O. Shri Manish Holkar, F.O.
C.P.C.B. New Delhi	12th-14th July, 2008	Environmental Impact Assessment Studies	Shri P.K. Mirashe, R.O. Pune Shri A.T. Fulmali, S.R.O. (HQ) Shri Prakash Munde, F.O.
YASHADA, Pune	30th-2nd July, 2008	Training on Computerized office administration	Mr. Hasabnis F.O., R.O., Pune Mr. Pradhan, Jr. Steno., R.O. Pune
Indian Institute of Toxology Research	21st to 25th July, 2008	Concept & Application of Advanced Instrumentation	Shri S.R. Bande, JSO Shri A.R. Patil, JSA
Indian Institute of Toxology Research	11th to 13th August, 2008	Analysis of Toxic Metals in Envt. Samples	Ms. Ragini Butale, JSO Mrs. Archana Landeuit., JSA
Indian Institute of Toxology Research	20th to 24th Oct., 2008	Analysis of Pesticides & Other Organic Chemicals in Environmental Samples	Shri V.B. Deshmukh, JSA Shri Sanjay Kawale, JSA
National Water Academy	8th-18th July, 2008	Applications of Geoinformatics (Remote Sensing/GIS/GPS) in Water Sector	Shri Joy Thakur, F.O. Shri V.V. Kiledar, F.O., Shri Sujit Dholam, F.O. (HQ)
Indian Institute of Technology, Kanpur	4th-8th August, 2008 (5 days)	"Air quality Modelling"	Shri Pramod Mane, F.O., S.R.O. Kolhapur Miss Viju Shirsat, F.O.
Indian Institute of Toxicology Research (IITR), Lucknow	6th-8th August, 2008 (3 days)	Mercury Management in Fluorescent lamps	Shri Y.B. Sontakke, R.O.(HQ) Shri P.P. Dhaigude, S.R.O. Sangli
NITIE, Mumbai	11th-15th August, 2008 (5 days)	Management Development Programme in Environment Legislation	Mrs. Vaishali Sathale, Mrs. Netra Chaphekar, A.L.O.
Envt. Policy Division, Confederation of Indian Industry, India Habitat Centre, Sumville Banquet Rooms, Royal Room 9, Annie Besant Rd, Worli, Mumbai	25th June, 2008	CMZ Notification, 2008 & Reach Regulation of EU	Shri D.T. Devale, SLO Shri G.N. Mohite, R.O. Mumbai Shri S.K. More, R.O. Raigad, Shri B.B. Nimbarte, R.O.Kalyan
ESCI Campus, Gachi Bawli, Hyderabad	18th to 20th August, 2008(3 days)	Environmental Issues in Mining Sector-Legal & Statutory	Shri N.G. Nihul, RO, Amravati, Shri V.V. Shinde, SRO, Chandrapur

Name of the Institute & Venue	Training Date	Subject	Participant Name
M/s. Spinco Bio Tech Pvt. Ltd., Mumbai Shimadzu (Asia Pacific) Pvt. Ltd. Singapore	14th July-19th July, 2008	High Pressure Liquid Chromatograph	Shri R.B. Sorte, S.O. Pune Shri V.H. Thakur, S.O., Aurangabad
Centre for Science & Environment Office, New Delhi	28th July- 1st August, 2008	Environment Impact Assessment – Mining Projects	Shri V.V. Shinde, S.R.O. Chandrapur Shri Sujit Dhokan, FO(HQ)
Central Pollution Control Board	26th-30th August, 2008	"Air Quality Monitoring Network. Design, Sampling, Analysis & Quality assurances	Shri Anant N. Harshvardhan, S.R.O., Mumbai
Central Pollution Control Board	22nd-26th Sept., 2008	Municipal Solid Waste Management	Shri N.S. Lohalkar, SRO Thane Shri L.T. Bhingardive, FO, Navi Mumbai
Indian Association for Air Pollution Control at Delhi	23rd August, 2008	Hazardous Air Pollutants: Monitoring & Control	Shri S.C. Kollur, S.O, PAMS Div. Shri Anil Patil, JSA, C. Lab.
Centre for Training & Social Research "The Connaught" 37, S. Bhagat Singh Marg,New Delhi	27th Aug to 29th August, 2008	Administrative Vigilance in Govt. Deptts., Automous Bodies & PSos	Shri S.R. Banate, S.A.O.
ESCI Campus, Gachi Bowli, Hyderabad	29th September to 1st October, 2008	Latest Trends in Environmental Impact Assessment (EIA)	Shri R.M. Wankhede, S.R.O. Shri B.G. Aradwad, S.R.O.
ESCI Campus, Gachi Bowli, Hyderabad	16th Sept to 18th Sept, 2008	Management Pharmaceutical & Chemical Industries	Shri B.J. Kale, SRO Mahad Shri T.G. Yaav, FO Taloja
National Safety Council	8th & 9th Sept.	NSC-UNEP EC Port Tsunami Project	Shri N.H. Shivangi, SRO Ratnagiri Shri B.D. Wadde, SRO Thane-II
CPCB & NGRI, Hyderabad	12th Sept. 2008	Assessment of contaminated plumes of the H.W. dumping wrong mass transport modeling for remediation of HW dumpsite	Dr. Y.B. Sontakke, RO(HQ)
C.P.C.B. at CSIR Science Centre (Vigya-Kendra) Lodi Gardens at New Delhi	18th Sept., 2008	Urban Air Quality Management : New Directions	Shri P.K. Mirashe, R.O. Pune Shri K.N. Hasabnis
ESCI Campus, Gachi Bowli, Hyderabad	23rd-25thSept., 2008	Municipal Reforms in Envt. Services	Shri A.D. Saraf, ROCO)
IIT Mumbai	13th-17th Oct., 2008	Envt. Management in Industries	Shri Shankar Said FO(HQ) Shri V.N. Patil. FO Kalyan
Indian Institute of Technology at Roorkee (C.P.C.B.)	13th-15th Nov., 2008	Hazardous Waste, Battery Waste & E-Waste Management	Shri Gadve, S.R.O. Nagpur Shri Shirsare, S.R.O. Pune
Indian Green Building Council at Grand Hyatt, Mumbai	25th-27th Sept., 2008	Green Bldg. Congress 2008	Shri J.R. Jagtap, Ex.Engr. Shri Sandeep Tope, F.O.

Name of the Institute & Venue	Training Date	Subject	Participant Name
C.P.C.B. at Indian Statistical Institute, SQC & OR Unit, Delhi	4th-6th Mar, 2009	Interlab Comparison and Proficiency Testing Programme for Environmental Testing Laboratories	Shri T.V. Gude, SSO, NM Smt. C.P. Kamble, SSO, Nagpur
E.S.C.I. Campus, Gachi Bowli, Hyderabad	4th-6th Nov., 2008	Selection, Design, Operation & Maintenance of Air Pollution Control Equipment	Shri J.S. Hajare,F.O. Shri Prashant Bhosale, F.O.
National Level Management at New Delhi	30th Sept - 1st Oct., 2008	Prepared for dealing with Chemical accidents	Dr. Y.B. Sontakke, RO Dr. A. Harshavardhan, SRO, Mumbai
C.P.C.B sponsored at Dhanbad, Jharkhan	10th-14th Nov., 2008	Environmental Management of Mines	Shri Kotwal, S.R.O., Amravati
NEERI at Nagpur	18th Nov., 2008	Workshop on Development of National Implementation Plan in India on measures in relation to unintentionally produced DoPs (Dioxins & Furnas)	Shri Ajay Fulmali, R.O. Smt. C.P. Kamble, SSO Shri S.C. Kollur, SO Shri S.S. Dholam, FO
USEPA & WHO EPTRI, Gachibowli, Hyderabad	13tht-16th Oct, 2008	Training Program on Physico Chemical & Microbiological Methods for Water Quality Testing	Shri Dhananjay Manekar, JSA Shri Salil Save, JSA
C.P.C.B. at Hotel Connaught, New Delhi	22nd - 24th Oct., 2008	Human Resource & Personal Development	Shri P.D.Nandgaokar, HA Shri S.S. Mote, H.A.
M.O.E.F., GOI Hotel Centre Point 24, Central Bazar Road, Nagpur	23rd - 24th Oct, 2008	Prevention & Management of Chemical Accidents in Industries of achieving environment Safety Culture	Dr. Y.B. Sontakke, RO(HQ) Shri V.M. Motghare, RO Nagpur
CENC Department of Zoology, Patna University	15th-19th Nov., 2008	Hazardous Waste Characterization minimization treatment & disposal	Shri D.K. Khedkar, SRO Kolhapur, Shri Kendule, FO RO, Amravati
Ministry of Agriculture (Dept. of Agriculture & Co-operation), Mumbai Waste Management Ltd. Plot No. P-32, MIDC Taloja	7th Nov. 2008	Disposal of Pesticides (Incineration)	Shri Y.B. Sontakke,RO(HQ) Shri S.A. Deshpande, SRO Taloja, Shri S.R. Bande, JSO Shri S.D.Patil, JS A
E.S.C.I, Hyderabad	12th-14th Nov., 2008	Total Quality in Purchase Function	Shri S.S. Bandekar, Store Supdt. Shri S. No. Bandekar, Draftsman
National Accreditation Board for Testing & Calibration Laboratory DeptLof Science & Technology, Delhi	25th- 28th Nov. 2008	Laboratory Quality Management System & Internal Audit as per ISO 17025	Shri A.R. Supate, I/c. Central Lab. Ms. Ragini Butale, J.S.O. Mrs. S.D. Patil, J.S.A.
Indian Habitat Center, Agna foundation New Delhi	26th-28th Nov. 2008	Seminar on IInd World Aqua Congress	Shri Madhukar Lad. S.R.O. Raigad

Name of the Institute & Venue	Training Date	Subject	Participant Name
National Safety Council, Hotel West End, Mumbai	17th-19th Dec. 2008	Training Programme on Hazardous Waste Management	Shri Ravi Andhale, F.O.
E.S.C.I., Hyderabad	2nd-4th Dec.	Training Programme in CDM & Carbon Trading	Shri Joy Thakur, F.O. Ms. Viju Sirsath, F.O.
YASHADA, Pune	29th-31st Dec.	Training Programme on IT Procurement & Maintenance from 29th to 31st December, 08	Shri B.R. Jagtap, Ex. Engineer Sri Shyamkumar Patil
YASHADA, Pune	22nd-24th Dec.	Training programme on website development with RTI proactive disclosure	Shri D.B. Patil, SRO Shri Mandavkar, JSO Shri Purkar, Law Officer
Certificate computer of Technology at Thane Institute	From 15th Dec. 2008 (6 months) 3 days in a week	C.C. of Technology	Mrs. Deepali Joshi
Envt. Management & Policy Research Institute, Bangalore	5th-7th Jan, 2009	Pollution control in slaughter houses	Shri Arvind Joshi I/c. SRO, Bhiwandi
Industrial Management Academby, Hotel Vikram, New Delhi	19th-20th Jan, 2009	Right to Information Act, 2005 – Obligations & Strategies	Shri P.P. Nandusekar, PSO Shri D.T. Devale, S.L.O. Shri V.B. Waghjale, I/c. APAE
E.S.C.I. Hyderabad	19th-23ad Jan. 2009	Environment Management for power plants	Shri V.V. Shinde, SRO Chandrapur Shri Ashok Kare, FO, Nashik Shro S.D. Patil, FO Amravati
NITIE, Mumbai	27th – 31st Jan. 2009	Solid in Hazardous Waste Management	Shri A. Deshmande, SRO-Mumbai Shri R.M. Wankhede, SRO, Nagpur
NITIE, Mumbai	16th-19th Jan. 2009	Finishing School on Envt. Management	Shri N.H. Shivangi / D.B. Patil, D.H. Khedkar/P.M. Joshi / J.B. Sangewar/B.D. Wadde/Shankar Said/N.D. Toke/Viju Shirsat/ Sachin Adkar/N.G. Nohu/B.B. Nimbarte/P.K/ Mirashi/A.T. Fulmali
K.J. Somaiya College of Science & Commerce	23rd & 24th Jan, 2009	Environmental Management Watch your carbon footprint	Shri B.S. Gadhari Shri S.M. Talde, JSO
E.S.C.I., Hyderabad	19th-21st Feb. 2009	Hazardous Waste Management Shri V.M. Motghare	Shri V.M. Motghare
Centre for Atmospheric & Instrumentation Research University of Hordfordshire Colelge Lane, Hadfield	24th-27th March, 2009	Participation in the 7th International Conference on air quality science application (air quality-09) Islamabad	Shri P.K. Mirashe, R.O. Pune Shri S.A.Deshmukh, S.R.O. Kalyan-II

Name of the Institute & Venue	Training Date	Subject	Participant Name
Centre for training and social research at New Delhi	—	Staff Development Improving Enhancing enhancing efficiency and Behavioural skills of P.S. & P.A. and other office staff	Mr. Mirkute, Jr. Stenographer Mr. Tamhankar, Jr. Stenographer Mrs. Nerurkar, Jr. Stenographer
E.S.C.I., Hyderabad	25th–27th Feb.2009	Profitability Environment Management through Cleaner Production	Mrs. Viju Sirsath, FO Mrs. Seema Saswade, FO, A'bad
E.S.C.I., Hyderabad	3rd-7th March, 2009	Environmental Management Systems for Cement Industries	Shri K.P. Pusadkar, F.O.
Centre for Science & Envt., New Delhi	2nd- 6th March, 2009	Clean Air Imperatives in South Asian Cities with Special Focus on vehicles & Urban Transport	Shri V.D. Shirure, SRO, Pune Shri L.S. Bhad, F.O., SRO Solapur
Indian Chemical Council in association with Ministry of Chemicals & Fertilizers at Mangolia Hall in India Habitat Centre, Lodhi Road, New Delhi	5th March, 2009	Conference / Programme on Chemical Weapons Convention	Shri A.T. Fulmali I/c. RO PAMS
E.S.C.I., Hyderabad	10th–12thMar, 2009	CDM Projects Conceptualization to Marketing	Shri S.R. Said, SRO

ANNEXURE IV (A)

Consents / Authorizations Granted by HQ during (2008-2009)

Sr. No.	Region	Consent Granted			Total	Authorizations granted under the Rules BMW
		To Establish	To Operate	Renewal		
1	Mumbai	13	8	22	43	10
2	Navi Mumbai	7	9	15	31	2
3	Thane	8	6	22	36	3
4	Kalyan	15	19	13	47	1
5	Raigad	10	8	15	33	4
6	Pune	40	29	13	82	6
7	Nagpur	23	21	18	62	1
8	Nashik	10	24	18	52	5
9	Amravati	12	2	4	18	0
10	Aurangabad	18	15	13	46	1
11	Kolhapur	11	17	17	45	2
12	Chandrapur	0	0	5	5	0
	Total	167	158	175	500	35

ANNEXURE IV (B)

Status of Consents / Authorization Granted by Regional / Sub Regional Offices (2008-2009)

Sr. No.	Region	Consent to Establish	Consent to Operate	Total Consents granted	Authorization granted under BMW Rule
1	Mumbai	42	729	771	795
2	Navi Mumbai	171	718	889	197
3	Thane	250	971	1221	555
4	Kalyan	345	882	1227	530
5	Raigad	155	376	531	273
6	Pune	737	1531	2268	1041
7	Nagpur	587	1535	2122	808
8	Nashik	914	1557	2471	1321
9	Amravati	735	768	1503	1031
10	Aurangabad	887	979	1866	949
11	Kolhapur	1484	1661	3145	876
12	Chandrapur	5	15	20	23
	Total	6312	11722	18034	8399