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1. INTRODUCTION

Maharashtra State is the first State in India to introduce environmental legislation. The Maharashtra (Prevention of Water Pollution) Act was promulgated in 1969. Maharashtra State Board was established in 1970 under the provision of this Act. 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 this new Act.

Considering the challenges, the Board has strengthened itself in various capacities by developing infrastructure for laboratories and offices, following the practice of e-governance, engaging services of Professionals, Environmental Scientists and Engineers for specific projects and studies.

The Board has established twelve Regional offices, forty two Sub-Regional offices and eight laboratories across the State to safeguard natural environment and curb the pollution with necessary control measures.

To know the pollution potential the Board regularly analyzes Water samples, Air samples and Hazardous waste samples in the Central laboratory established at Navi Mumbai and seven Regional Laboratories at Nagpur, Aurangabad, Pune, Nashik, Thane, Chiplun and Chandrapur. The rate of sample analysis in these laboratories is 47000 samples per year.

To assess ambient air quality, water quality the Board has already strengthened its 'Monitoring' network. All the related data is compiled and updated regularly on Board's website. The 'Noise' levels monitored during festivals are regularly collected and updated on the website for the information of the people at large. Under the National Ambient Noise Monitoring Network Programme (NANMP) as per the proposed road map 5 continuous monitoring stations have been installed at Mumbai/Navi Mumbai/Thane area in the State.

As a part of Common Environmental Infrastructure for Environment protection, Common Effluent Treatment Plants (CETP) for treatment and disposal of industrial effluent, common facilities for treatment and disposal of Hazardous Waste and common facilities for treatment and disposal of Bio-Medical Waste have been established across the State.

To motivate the local bodies for treatment and disposal of Municipal Solid Waste, the Board had undertaken demonstration projects at five places in the State. 18 Municipal Corporation in the State have provided Sewage Treatment Plants of adequate capacities.

Through Integrated Management Information System (IMIS) the Board is computerizing its various processes and operations to maintain transparency with its constituents and to increase the overall efficiency. The system mainly designed for Consent Management, Waste Management, Cess Collection, Laboratory Management, Human Resource and Financial Management. For tracking Hazardous waste the Board has also developed a computer software program.

For creating general awareness among the people on environmental issues, it is the constant endeavor of the Board to conduct various awareness programmes throughout the State involving Press, Media, NGOs, Artist and students. Efforts are also being made to celebrate almost all festivals in eco-friendly manners.

2. CONSTITUTION OF THE BOARD

The Maharashtra Pollution Control Board comprised of Chairman, Members from the categories as shown below and a full time Member- Secretary, as 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:

1 **Chairman:** (Part time or full time)
2 **Representatives of the State Govt.** (not exceeding five)
3 **Representatives of local bodies** (not exceeding five)
4 **Representatives of companies or corporations of the State Govt.** (two)
5 **Members representing interests of agriculture, fishery or industry or trade etc.** (not exceeding three)
6 **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, members representing the local bodies (not exceeding five) and members representing interests of agriculture, fishery, industry, trade or any other interest are not yet appointed as per the composition given under the Act.

Constitution of M. P. C. Board during 2014-2015

Shri Jatinder Sinh Sahani Chairman, M. P. C. Board, Mumbai (till 31/10/2014)	**Chairman**
Smt. Medha Gadgil Principal Secretary Environment Dept. Government of Maharashtra, M. P. C. Board, Mumbai (from 01/11/2014 to 05/01/2015)	**Chairman, (Additional Charge)**
Shri Ajoy Mehta Principal Secretary Environment Dept. Government of Maharashtra, M. P. C. Board, Mumbai (from 06/01/2015)	**Chairman, (Additional Charge)**
Additional Chief Secretary Public Health Dept. Government of Maharashtra, Mantralaya,Mumbai	**Member**
Principal Secretary-II Urban Development Dept. Government of Maharashtra, Mumbai	**Member**

Principal Secretary Water supply and Sanitation. Government of Maharashtra, Mantralaya,Mumbai	**Member**
Secretary Home (Transport) Dept. Government of Maharashtra, Mantralaya,Mumbai	**Member**
Chief Executive Officer M.I.D.C., Mahakali Caves Road, Andheri (E),Mumbai	**Member**
Member-Secretary (Technical) Maharashtra Jeevan Pradhikaran Express Towers, Nariman Point, Mumbai	**Member**
Shri Rajeevkumar Mital Member Secretary, M. P. C. Board, Mumbai (from 30/08/2012 to 06/01/2015)	**Member**
Dr. P. Anbalagan Member Secretary, M. P. C. Board, Mumbai (from 07/01/2015)	**Member-Secretary**

3. MEETINGS OF THE BOARD

During the reporting year 3 meetings were held. The major decisions taken are as below

162nd meeting (30/06/2014)

- The Board approved for procurement of land for Regional Office Amravati admeasuring 20,000 sq.ft. at the cost of Rs. 59,47,936/-.
- To lay down suitable policy and guidelines for making decision on investment of surplus funds of the Board, it was decided to form a committee including experts in financial field and decided to review the status of investment quarterly.
- The Board has approved the direct recruitment process for vacancies on the Establishment of the Board as stated below

The following procedure is hereby defined for Direct Recruitment for Class I & II.

a) Applications will be called by advertisement for Class I & II irrespective of number of vacancies in any cadre.
b) Board will conduct Entrance Exam for selection of candidates.
c) Chairman/Member Secretary of the Board is empowered to take decision about Examination committee, Examination pattern and related issues including selection of institution for conducting such examination.
d) After Entrance Examination candidates equal to five times the number of vacancies to be shortlisted on merit and interviewed, with due regard to each reservation/ open category. The other candidates will be eliminated at that stage itself; however minimum cut off marks in examination for qualifying for interviews will be 50%. This limit can be relaxed by 10% for candidates from reserved categories in case requisite numbers (five times) are not available.
e) For final selection, weightage will be given to Entrance Examination and interviews in the ratio of 80:20.
f) Interviews will be conducted by panel selected by appointing authority.

The following procedure is hereby defined for Direct Recruitment for Class III

a) Irrespective of number of vacancies in any cadre, applications will be called by advertisement.
b) Board will conduct entrance exam for selection of candidates.
c) Chairman/Member Secretary of the Board is empowered to take decision about Examination committee, Examination pattern and related issues including selection of institution for conducting such examination.
d) Candidates successfully completing Entrance Examination on merit will be selected for appointment. No interviews will be conducted for Class III candidates.

- **The Board has decided to prepare its manpower structure (Akruti Bundh) with certain modifications as stated below.**

1. In terms of support services, the following wings/units may be considered-
   a) Project Planning and Monitoring division.
   b) Secretariate for Board.
   c) Data assessment and evaluation wing/research and analysis wing
   d) Creating of Technical Consultancy and Advisory Wing (to be filled on deputation basis).
2. A suitable analysis may be done regarding outsourcing of various activities.
3. The whole Akruti Bundh should be aligned with the 10 years strategic plan of the Board.
4. Suitable transition analysis involving age profiling and dynamics resulting from progression/exit of employees.

5. The job specifications for each post be also reconsidered and specified.
6. The suitable analysis with regard to career planning for 5-5 primary posts like FO, JSA, Jr. Clerk, Legal Asstt. Etc be carried out.
7. It is also important to include 15-20% leave reserve post in critical cadres for providing opportunities for suitable longer training (foreign / domestic reputed institutes) and deputation to reputed institutes to employees. These trainings may be made mandatory and linked to carrier progression of the employees.

• Taking in to consideration the directions of Hon'ble NGT dtd 15/01/2014, the proposal of IIT-B for Special Study on "Assessment of pollution load from various sources and preparation of Action Plan for pollution abatement of River Ulhas and Waldhuni" has been approved by the Board.

163rd meeting (03/02/2015)

- The Board approved the policy decision to regulate slaughter house activities having 10 or more than 10 animals per day slaughtering under separate grant of consent and less than 10 animals to be regulated by the concerned local bodies. Proper waste management is made compulsory for all types of slaughtering (whether more than 10 or less than 10) as per CPCB Guidelines.
- In order to see the trends, to identify the significant variations and also to find any co-relation with the inland activities, the coastal monitoring study is planned for one year. As this study will also help in developing integrated strategies for controlling coastal water pollution, the Board agreed to provide funds of Rs.2.44 crores.
- The request of Municipal Corporation of Greater Mumbai to allow additional time to upgrade their STPs at Bhandup, Ghatkopar, Varsova and Malad by March, 2019 so as to achieve further stringent standards / norms, on the basis of its present performance of STPs was approved.
- As directed by Hon'ble NGT Pune the proposal for conducting the study to assess the impact of Air Pollution on public health and agriculture in Wani area has been approved. The study will be carried out in two phases. The budget estimate of Rs.48.81lakhs for phase-I and Rs.59.91lakhs for phase-II of the project has been approved.
- Considering the CPCB's decision to monitor all group-A and group-B parameters (8 parameters) and to comply with National Ambient Air Quality Standards, the Board approved the capital cost of Rs.46.50lakhs towards monitoring of 8 parameters with 50% share of CPCB. The Board also approved the operation and maintenance cost as mentioned in with 50% share of CPCB. In respect of SAMP stations, the Board accorded its approval for 100% cost sharing.
- The draft guidelines for abatement of pollution from scrap tyre pyrolsis units and also ban on tyre burning in public places subject to post facto approval of the State Govt.has been approved.
- The Board decided to submit appropriate proposal to State Govt. in respect of relaxation of noise standards for police vans / ambulances / fire brigade vehicles during emergent situations.
- Board has decided to submit the guidelines prepared for RMC Plant with modification in noise standard during operation and distance criteria within Municipal limit to State Govt.
- In the state of Maharashtra the location of clamp type brick kiln unit is not fixed and it is not practicable to adopt the requisite technology i.e. fixed chimney and stipulate emission standards prescribed by the MoEF, GoI. Therefore the Board has resolved to follow following guidelines for clamp type brick kiln unit.

1. If the clamp type brick kiln unit is located in Municipal Corporation/ Panchayat jurisdiction and outside area having production capacity of manufacturing less than 50,000 bricks per batch, should comply with National Ambient Air Quality Standards dtd.18/11/2009.

2. If the clamp type brick kiln unit is located in municipal corporation/ Panchayat jurisdiction and outside area having production capacity of manufacturing more than 50,000 bricks per batch, should adopt the technology and standards prescribed in the Notification dtd.22/07/2009 and National Ambient Air Qual-

ity Standards dtd.18/11/2009, issued by MoEF, GoI.

- The Board has approved its Annual report and Annual Accounts prepared for the year 2013-14. Also approved the financial Budget prepared for the year 2015-16.
- The Board approved the Enforcement Policy in respect of initiating various legal actions against the defaulting industries, operations or processes.

164th meeting (25/03/2015)

- As communicated by Central Pollution Control Board for 10 no. of non-attainment cities in respect of Ambient Air Quality for particulate matter- PM10 in Maharashtra and request made for preparation of action Plan, the Board decided to outsource this activity to a reputed R & D Institutes / Educational Institutes for which an estimated cost ranging between Rs.44 to 50 Lacs / city is also sanctioned.
- The draft Recruitment Rules for the posts of Chairman & Member Secretary as provided under clause (e) of Sub-Section (2) of Section 64 of the Water (P&CP) Act, 1974, have been approved.
- The Board has revised the delegation of powers to Consider Reimbursement of Medical Expense Incurred by the Officer/ Employees of the M.P.C.Board.
- The Board has approved the Standard Operating Process to reduce the time span for processing the Consent/ Authorization applications and for grant of Consent / Authorization.
- The Board agreed to waive the condition of obtaining Environmental Clearance based on Built up Area 20000 sq.mtrs and above. The case in which condition of Environmental Clearance was imposed earlier purely based on the construction criteria of buildings involving construction of Built up Area 20000 sq.mtrs and above, is now withdrawn. However wherever EC conditions were imposed for the industrial activity/process, the same will be continued.

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 were in existence.

4.1 Consent Appraisal Committee (CAC):

During the reporting year, Consent Appraisal Committee is comprised of following members;

1.	Chairman, MPC Board, Mumbai.	Chairman
2.	Secretary, Home (Transport) Dept., Mumbai	Member
3.	Technical Advisor, MIDC, Mumbai	Member
4.	Member Secretary, MPC Board, Mumbai	Member Secretary
5.	Scientist & Head, NEERI, Mumbai	Special Invitee

TERMS OF REFERENCE

The CAC considers the 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. 75 crores.
'ORANGE' Category	:	Projects with capital investment above Rs. 500 crores.
'GREEN' Category	:	All Projects beyond Rs. 1000 crores/ All Municipal Corporations.

There were 32 Meetings of Consent Appraisal Committee held during the year 2014-15 and disposed off 835 applications.

4.2 Appellate Committee:

In exercise of the powers conferred under section 13 read with Rule 9(1) (b) of the Water (Prevention and Control of Pollution) Cess Act, 1977 and Rules made there under, the Appellate Committee constituted is comprised of following members.

1.	Chairman Maharashtra Pollution Control Board	Chairman
2.	Chief Executive Officer Maharashtra Industrial Development Corporation Andheri (E) Mumbai 400093	Member
3.	Member-Secretary (Technical) Maharshtra Jivan Pradhikaran Nariman Point Mumbai 400021	Member

The above Appellate Committee hear the appeals preferred against the orders of assessment made under section 6 or order imposing penalty made under section 11 of the Water (Prevention and Control of Pollution) Cess Act,1977 by the Assessing Authority.

59 Appeals come before the Appellate Authority since 1992. Out of these appeals, the Appellate Authority disposed off 55 Appeals & remaining 4 appeals are pending for final hearing. During the year no fresh appeal has been filed.

4.3 Consent Committee (CC):

The Consent Committee comprises of following members;

1.	Member Secretary Maharashtra Pollution Control Board	Chairman
2.	Water Pollution Abatement Engineer Maharashtra Pollution Control Board	Member
3.	Air Pollution Abatement Engineer Maharashtra Pollution Control Board	Member
4.	Assistant Secretary (Technical) Maharashtra Pollution Control Board	Member
5.	Shri. R. G. Pethe Retired WPAE. MPC Board	Member
6.	Dr. B. N. Thorat Prof. Chemical Engineering, Dept. of Chemical Engineering, UDCTI, Mumbai	Member

TERMS OF REFERENCE

The Consent Committee considers the 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. 25 Crores and upto Rs. 50 Crores.
'ORANGE' Category	:	Projects with capital investment above Rs. 200 crores and upto Rs. 300 Crores.
'GREEN' Category	:	Projects with capital investment above Rs. 1000 crores and upto Rs. 1500 Crores.
'Infrastructure Projects':		Projects with capital investment above Rs. 100 crores and upto Rs. 200 Crores.

There were 28 meetings of consent committee held during the year 2014-15 and total 656 applications were discussed and disposed off. Now, consent committee is following the same strategy used in Consent Appraisal Committee for achieving ZERO Pendency and compliance of consent condition. No Authorization under Bio-Medical Waste Rules has been granted during the year.

5. WATER AND AIR QUALITY MONITORING NETWORK

Environmental pollution is one of the greatest problems that the world is facing today, causing grave and irreparable damage to the earth. Environmental pollution includes basic types of pollution, namely, air, water, soil, and noise

Water pollution is caused due to release of industrial wastes into lakes, rivers, and other water bodies. Humans pollute water with large scale disposal of garbage, flowers, ashes and other household waste. Acid rain further adds to water pollution in the water. In addition to these, thermal pollution and the depletion of dissolved oxygen aggravate the already worsened condition of the water bodies. Water pollution can also indirectly occur as an offshoot of soil pollution – through surface runoff and leaching to groundwater. Environmental water quality, also called ambient water quality, relates to water bodies such as lakes, rivers, and oceans. Water quality standards for surface waters vary significantly due to different environmental conditions, ecosystems, and intended human uses.

Air pollution is the most harmful form of pollution in our environment. Air pollution is caused due to injurious emissions through cars, buses, trucks, trains, and factories, namely sulphur dioxide, carbon monoxide and nitrogen oxides. Even smoke from burning leaves and cigarettes are harmful to the environment causing a lot of damage to human being and the atmosphere. Evidence of increasing air pollution is seen in lung cancer, asthma, allergies, and various breathing problems along with severe and irreparable damage to flora and fauna.

Chlorofluorocarbons (CFC), released from refrigerators, air-conditioners, deodorants and insect repellents cause severe damage to the Earth's environment. This gas has slowly damaged the atmosphere and depleted the ozone layer leading to global warming.

Noise pollution and soil pollution are damaging the environment at an alarming rate. Noise pollution include aircraft noise, noise of cars, buses, and trucks, vehicle horns, loudspeakers, and industry noise, as well as high-intensity sonar effects which are extremely harmful for the environment.

Soil pollution, which can also be called soil contamination, is a result of acid rain, polluted water, fertilizers etc. Soil contamination occurs when chemicals are released by spill or underground storage tank leakage which releases heavy contaminants into the soil. These may include hydrocarbons, heavy metals, MTBE, herbicides, pesticides and chlorinated hydrocarbons.

To evaluate the trend in water quality, observe the pollutants in terms of their nature, concentration and also to know the extent of pollution control needed and study the effects of pollution control measures already taken it is essential to monitor the pollution level of water sources. As provided under section 17 of water (P&CP) Act, 1974 & Air (P&CP) Act, 1981, it is one of the important functions of the Board to collect & disseminate information regarding water & air pollution.

5.1 National Water Quality Monitoring Program

MPCB monitors and documents data for water quality under two programs of National Water Monitoring Programme (NWMP) of CPCB titled Global Environment Monitoring System (GEMS) and Monitoring of Indian National Aquatic Resources (MINARS). Under this, there are total 250 monitoring stations out of which, 156 are on river, 34 on sea & creeks, 10 on drains and 50 for ground water.

MPCB analyze the surface water samples monthly for 9 core parameters & 19 general parameters. Micro pollutants like trace metals (10 nos.) and pesticides (15 nos.) are analyzed twice in a year. The ground water samples are being analyzed twice in a year with all parameters including micro pollutants. All the Data is hosted on MPCB website and CPCB's Environment Data Bank (EDB) monthly.

MPCB is also monitoring & documenting data for water quality under State Water Monitoring Programme (SWMP) at 44 different locations. Out of these monitoring stations, 24 are on rivers, 2 on sea & creek, 2 on drains and 16 for ground water.

The region wise monitoring stations for water quality are shown in the following table.

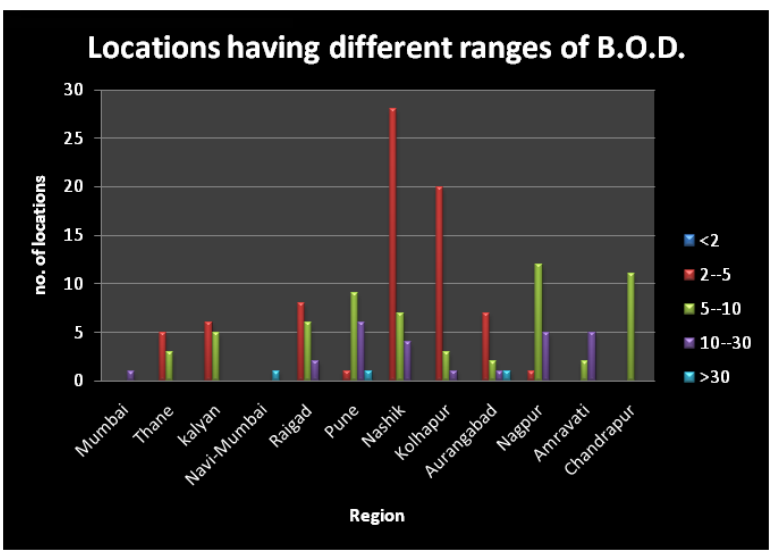
The data generated through these stations are useful in understanding the water quality trends and preparation of action plan to prevent and control the water pollution effectively.

Region	Water (NWMP)			Water (SWMP)	
	Surface Water		Ground Water	Surface Water	Ground Water
	MINARS	GEMS			
Mumbai	11	0	0	0	0
Navi Mumbai	3	0	0	1	2
Thane	26	0	5	0	0
Kalyan	10	0	0	0	4
Raigad	18	0	1	4	2
Pune	44	2	6	0	0
Nashik	31	0	6	4	1
Nagpur	10	0	9	5	5
Amaravati	6	0	2	0	0
Aurangabad	10	1	5	7	0
Kolhapur	16	1	13	7	2
Chandrapur	10	1	3	0	0
Total	**195**	**5**	**50**	**28**	**16**

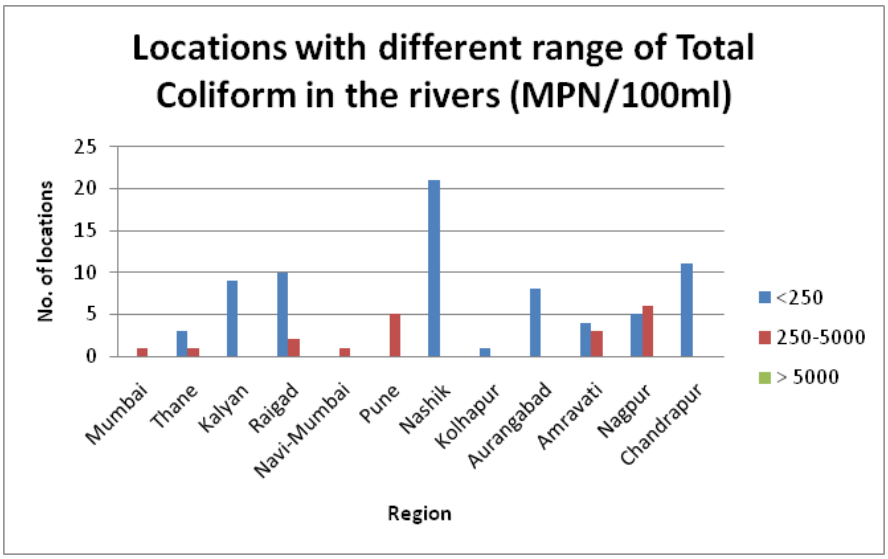
5.2 River water quality trend

The water quality trend of B.O.D., the organic parameter in major rivers in Maharashtra like Godavari, Bhima, Krishna and Tapi for last 3years is presented in following figures. It is seen that the maximum level of BOD is declining in all the rivers. In comparison to 2012-13, a decreasing trend in BOD level of Godavari river is noticed in Nashik region but in Aurangabad Region except 4 locations at Latur, u/s Paithan,Kaigaon toka and Jalna intake, there was decreasing trend in B.O.D. level at other locations. Declining trend in BOD level is also noticed in Krishna except at u/s Kolhapur on Panchganga river. However in respect of Bhima river the BOD level is increased during 2014-15 at few locations. A declining trend in B.O.D. level has been noticed at'vitthalwadi','Pargaon','Daund' and 'Ujani Dam'.

The Board has 12 Regions in the State of Maharashtra comprising different type of Water bodies like river water, lake water. The water quality analysis results of organic indicator (Bio-Chemical Oxygen demand) B.O.D. & Pathogenic bacteria (Faecal coliform) were obtained from all the Regions for all class of water. These are presented in the following figures.



- There were no locations having B.O.D. less than 2 mg/l during the year.
- There were 76 locations having B.O.D. values in the range of 2-5 mg/l. Nasik Region had the maximum locations (28) followed by Kolhapur (20).
- B.O.D. values found in the range 5-10 mg/l at 60 locations. Maximum locations (12) and (11) having B.O.D. level between 5-10 mg/l were observed in Nagpur & Chandrapur Regions during the year.
- At 25 locations B.O.D. was observed in the range of 10-30 mg/l during the year. Out of these, 6 locations were from Pune Region only.5 locations in Nagpur and 5 locations in Amravati were also having the same range of B.O.D.
- There were 3 locations which have shown B.O.D. values greater than 30 mg/l. Out of this Navi-Mumbai, Pune and Aurangabad has one location each.

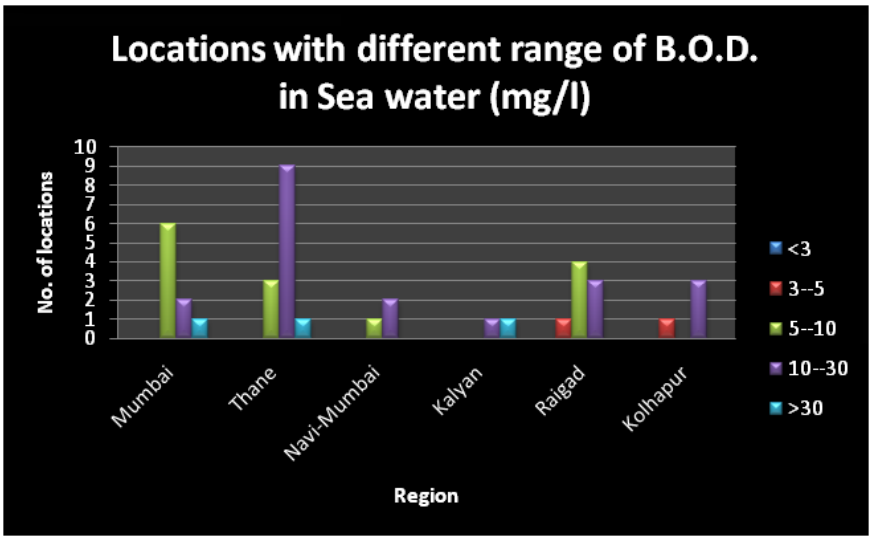


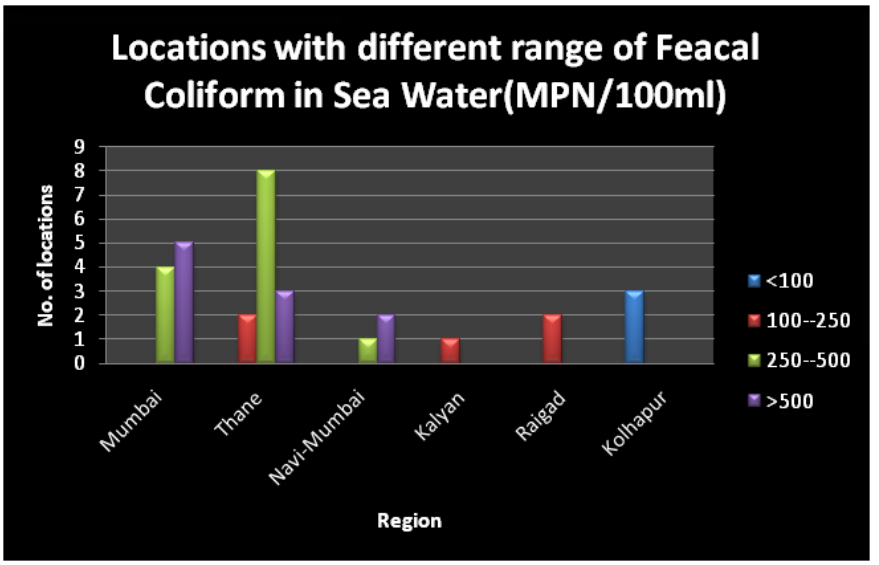
- There were 72 locations having Total coliform values less than 250 MPN/100 ml. Nasik Region had maximum locations with Total coliform level less than 250 MPN / 100 ml followed by locations in Chandrapur and Raigad Regions
- At 19 locations the Total coliform was found in the range 250-5000 MPN / 100 ml. Nagpur was the Region having maximum locations where Total coliform was found in the range 250-5000MPN/100ml.

5.3 Sea/Creek water quality trend

The State Board has 6 Regions having SW-II and SW-IV class of Sea/Creek water. The water quality analysis results of organic indicator (Bio-Chemical Oxygen demand) B.O.D. & Pathogenic bacteria (Faecal coliform) were obtained from all the Regions for this class of water. These are presented in the following figures.

- There were no locations having B.O.D. less than 3 mg/l during the year.
- There were 2 locations having B.O.D. values in the range of 3-5 mg/l. Of which one is in Raigad Region and another is in Kolhapur Region.
- B.O.D. values found in the range 5-10 mg/l at 14 locations. Of which 6 were in Mumbai and 4 were in Raigad Region.
- At 20 locations B.O.D. was observed in the range of 10-30 mg/l during the year. Out of these, 9 locations were from Thane Region only.
- There were 3 locations which have shown B.O.D. values greater than 30 mg/l. Out of these locations Mumbai, Thane and Kalyan is having one location each.





- There were 3 locations having Faecal coliform values less than 100 MPN/100 ml in Kolhapur Region only.
- At 5 locations the F.C. was found in the range 100-250 MPN / 100 ml. Out of these 2 were Thane, 2 were in Raigad and one was in Kalyan Region.
- At 13 locations of sea water the Faecal coliform concentration was ranging 250-500 MPN/100 ml. Out of these 8 locations are from Thane Region, 4 locations are from Mumbai Region and one location from Navi-Mumbai.
- Five locations in Mumbai, 3 locations in Thane and 2 locations in Navi-Mumbai were having Faecal coliform values beyond 500 MPN / 100 ml.

5.4 Water quality status of River Godavari

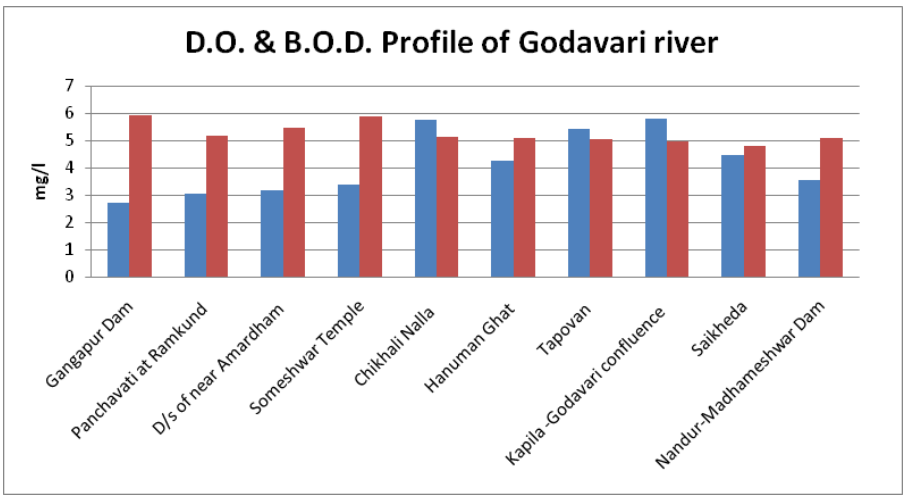
The Godavari river rises near the Trimbak in the district of Nasik in the Indian state of Maharashtra. The river is approximately 1,465 km long and has a total catchment area of 31 mha. It flows in the eastward direction through the states of Maharashtra and joins the Bay of Bengal in Andhra Pradesh. Godavari river holds the special religious importance in India. Godavari is one of the sacred river in India. There are several pilgrimage places on the banks of the river. Some of them in Maharashtra State include Trimbakeshwar – the ancient temple of Lord Shiva, Nanded Takht Sri Hazur Sahib, one of the sacred place among the Sikhs. River Godavari is under the serious threat as a result of the growing Urbanization and

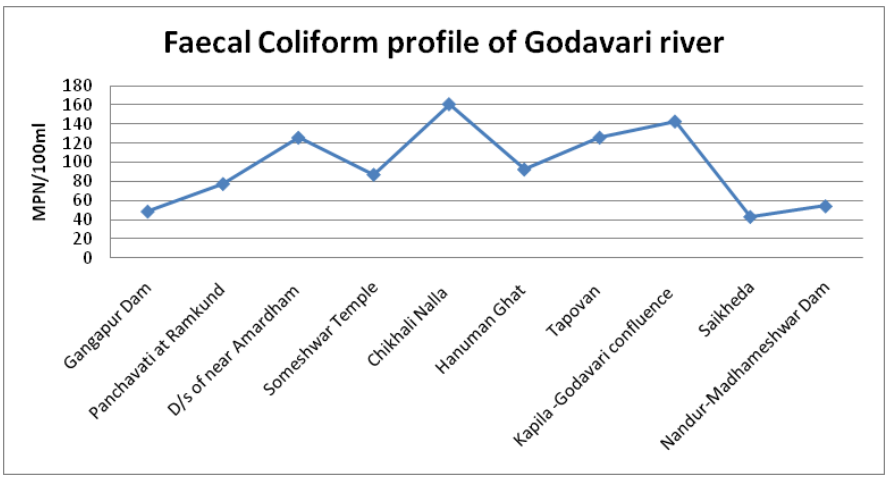
industrialization. The pesticides and chemical fertilizers used on agricultural fields are usually washed away into the river. These activities are responsible for deterioration of water quality of the river. It has got an overall impact on physical and chemical parameters of the water. The river has been dying at an alarming rate due to the pollution created by the factories. The growing problem of degradation and human activities on river ecosystem has made it important to monitor water quality of rivers to evaluate their state of pollution.

The entire stretch of Godavari river is divided into two Regions of Maharashtra for monitoring purpose i.e. Nashik and Aurangabad.

5.4.1 Nashik Region

There are major 10 locations on Godavari river in Nashik Region. These are regularly monitored under NWMP. The BOD, DO and Faecal Coliform concentrations observed during the year is depicted in following figures. It is seen that D.O. is ranging between 4.8-5.9 mg/l at almost all locations. However BOD exceeded the limit at Chikhali nalla, Tapovan and Kapila-Goda confluence. The Faecal coliform was ranging between 43-161MPN/100ml. 0f these locations the concentration of Faecal coliform was observed beyond 80 MPN/100ml at 6 locations. From Chikhali nalla to Kapila-Goda confluence more attention is needed to improve the water quality of the river.

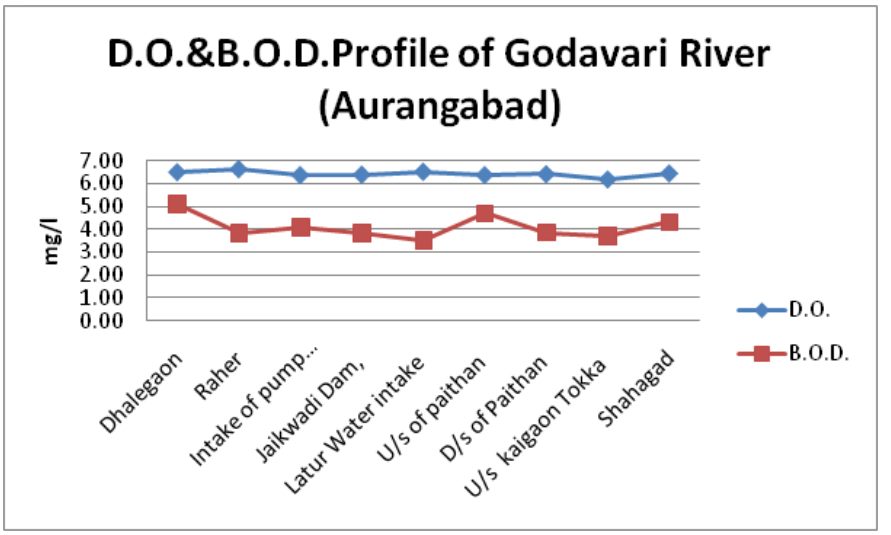


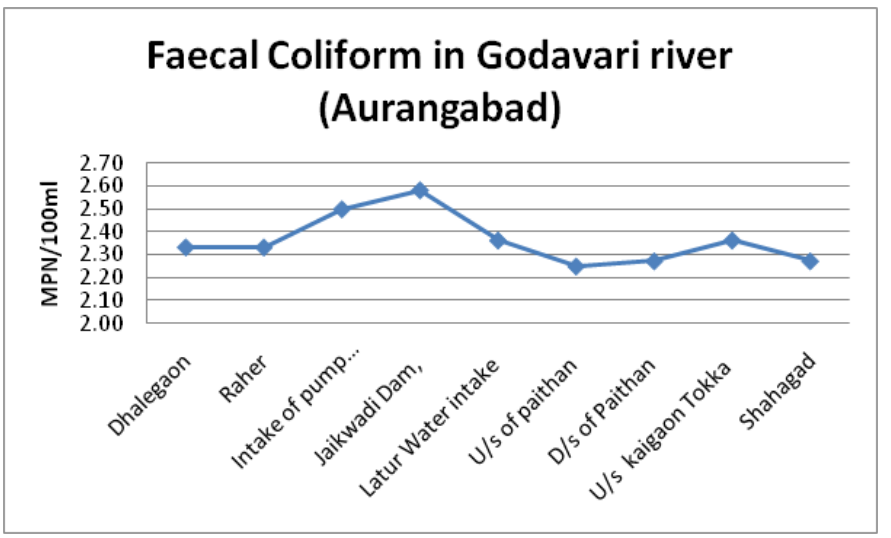


5.4.2 Aurangabad Region

In Aurangabad Region the river is monitored at 9 locations regularly under NWMP. It is clear from the following figure that part of Godavari river pertaining to Aurangabad Region is not much polluted. The values of BOD recorded at all locations were below 5 mg/l. and the Faecal coliform concentration was in the range of 2.20- 2.60 MPN/100ml.

There is no direct discharge of industrial effluent into the water bodies. The MIDC Aurangabad has provided Common Effluent Treatment Plant for the MIDC Waluj Industrial area, Aurangabad. Also the Major polluting industrial units have provided adequate treatment facility to treat their industrial effluent and its disposal is done in scientific way on land for gardening/ to CETP/ recycle and agriculture purpose etc. hence no waste is going to river and the river remain pollution free .



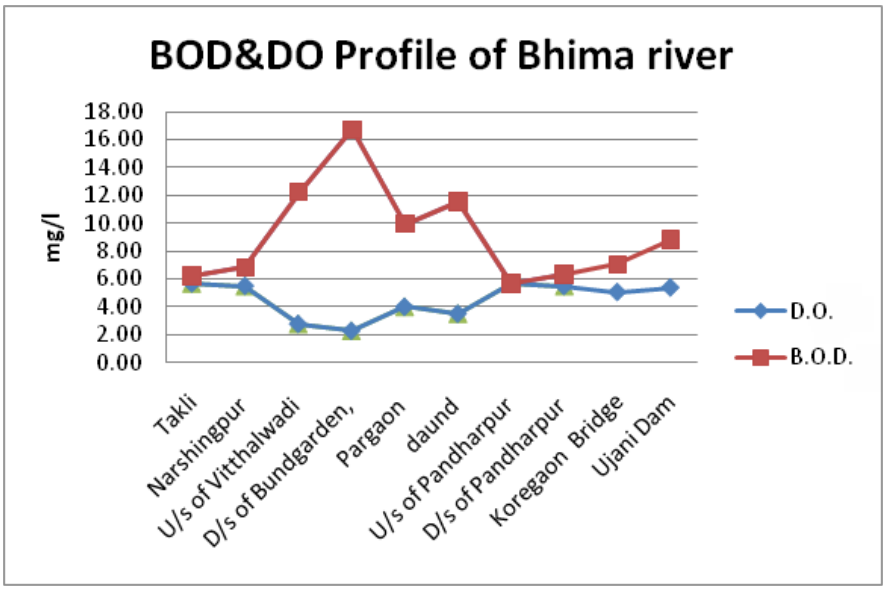


5.5 Water quality status of River Bhima

The Bhima River originates in Western Ghats in Maharashtra and flow south east and is most important tributary of Krishna river. These river confluences with Nira at Niranarsingpur. This river is considered as lifeline for entire Solapur district and water is utilized for agricultural industrial and drinking purpose. Because of human activities and due to the release of millions of liters of untreated sewage and industrial effluent into the river every day the river is getting heavily polluted.

The water quality monitoring results obtained from selected locations during the year is depicted

in the figure below. It is seen that the D.O. remained below 6mg/l at all stations. However BOD shows much variation and found in the range 5-17 mg/l.



The STPs are provided in various regions & are functioning to the best of their capabilities, however being inadequate, the hydraulic loads are not fully treated and thereby there is a need to augment the capacities of treatment in several areas. Comparing the trend of indicators, all of them show considerable variations from the point of limits which make these water bodies intolerable for diverse aquatic life.

The Bhima river action plan, prepared jointly by the district collectorate and the Maharashtra Pollution Control Board (MPCB), has stressed the need for efficient management of water supply and waste water treatment systems to save the rivers. The plan gives details of the causes of pollution of rivers like the Indrayani, Pavana, Mula, Mutha, Kukadi, Ghod and Bhama, which join the Bhima river.

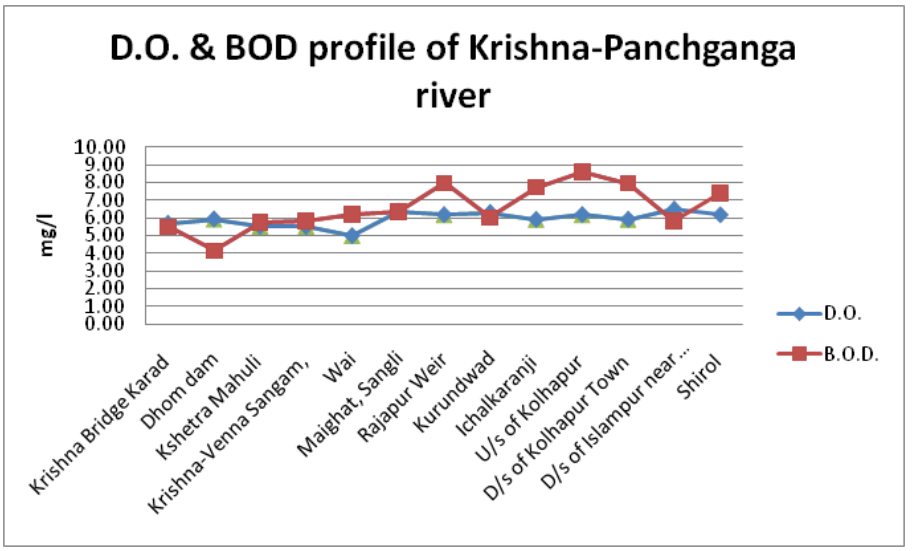
5.6 Water quality status of River Krishna-Panchganga

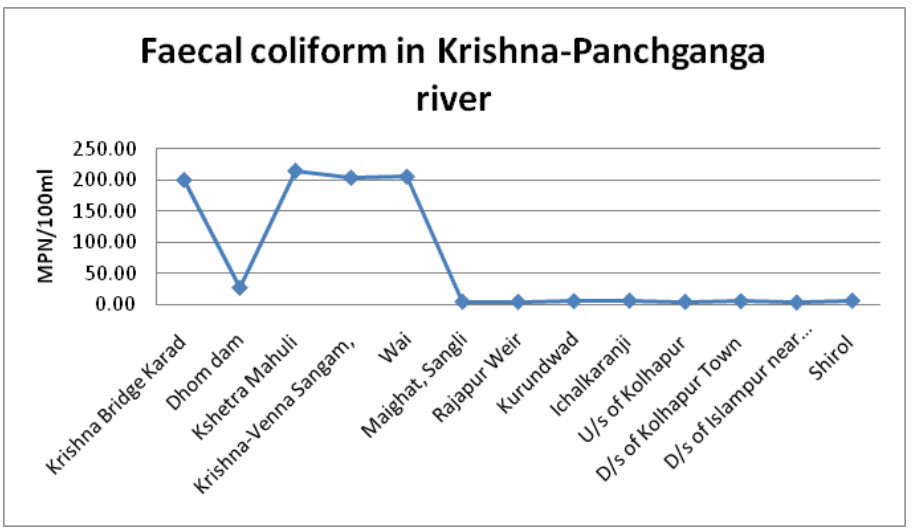
Krishna river is the main river in Sangli district. The flow in this river after monsoon is very less; however flow is maintained by release of water from Koyana dam. The river water quality is monitored regularly at Mai Ghat, Sangli, Bahe, Borgaon & Walwa, the stations under GEMS project sponsored by CPCB. Monitoring is done once in every month.

The area of Krishna River stretch in Sangli district is under A – II class of water. From the analysis results of the monitoring stations it seems that the quality of water in river is confirming with the standards of A – II. However the Total coliform was found in the range of 130 to 170 MPN/100ml & the fecal coliform in the range 4 - 12 MPN/100ml.

Panchganga meets Krishna river at Narsobawadi. The Panchganga River flows through the borders of Kolhapur. On the bank of Panchganga River there are 7 Sugar factories, 5 Distillery units and one MIDC area at Shiroli & Textile units located in Ichalkaranji city and nearby. The major source of Panchaganga river pollution is Kolhapur Municipal Corporation, Ichalkaranji Municipal Council and 174 Village Grampanchayats which are located on the banks. Panchganga River is the main tributary of Krishna River having 125 Km length.

Except Dhom Dam pertaining to Satara Sub-region the BOD exceeded the limit at all other locations. Though D.O. remained satisfactory at all the locations, an increasing trend in BOD concentration is seen from Karad to Shirol. The Faecal coliform level found beyond 200MPN/100ml at the locations Karad, Mahuli, Krishna-venna sangam and Wai in Satara-Sub-Region.





A report on Krishna River Action Plan & Panchganga river Action Plan have been prepared as per the instructions by the Environment Department Government of Maharashtra. These are being implemented for improvement of Water quality of rivers.

The Board has issued various notices & also initiated legal actions and filed a court case against Kolhapur Municipal Corporation & Ichalkaranji Municipal Council. Now the Kolhapur Municipal Corporation has received the funds under various Govt. schemes for the collection & treatment of sewage generated in the Corporation area. The civil, mechanical and electrical work of the 76 MLD capacity STP is almost completed and of which 24 MLD is brought under operation.

5.7 Air Quality Monitoring Network

The Ambient Air Monitoring Program through which, air quality samples are collected to judge attainment of ambient air quality standards. The information gathered through this is used to prevent or alleviate air pollution emergencies, to observe pollution trends throughout regions, and to evaluate the effects of urban, land-use, and transportation planning relating to air pollution.

During 2014-15, the ambient air quality has been monitored through 66 stations, including 56 monitoring stations under National Air Quality Monitoring Programme (NAMP), 4 stations operated under State Air Quality Monitoring Programme (SAMP) and 6 Continuous Ambient Air Quality Monitoring stations (CMS). A Regionwise distribution of total monitoring stations is presented in the following table

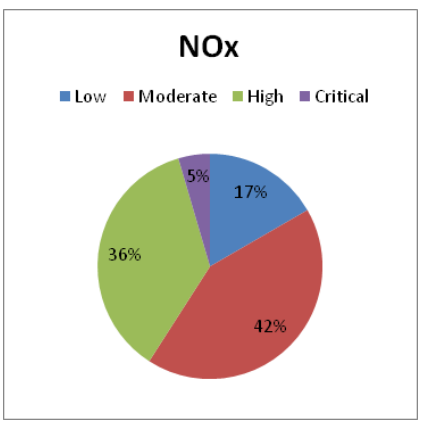
Region	Air Quality Monitoring Stations		
	NAMP	SAMP	CAAQMS
Mumbai	3	0	3
Navi Mumbai	6	0	2
Thane	6	0	0
Kalyan	5	4	0
Raigad	5	0	0
Pune	6	0	2
Nashik	7	0	0
Nagpur	7	0	0
Amaravati	6	0	0
Aurangabad	12	0	0
Kolhapur	8	0	0
Chandrapur	6	0	1
Total	**77**	**4**	**8**

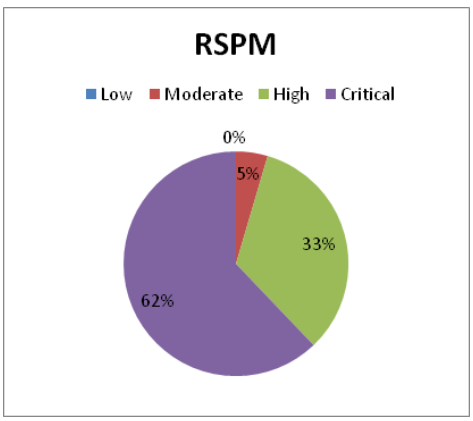
Ambient air quality monitored in different areas (class) under NAMP is as shown in the following table.

Class	Locations monitored	Locations where NOx exceeded the limit	Locations where RSPM exceeded the limit
Industrial	17	7	17
Residential	39	15	38
Commercial	10	4	10

In this table it is seen that Nox has been violated at 39% of the locations. The highest concentration of NOx in residential location was 90.73µg/m³ at Sion in Mumbai, while the highest concentration of NOx in industrial location was 82.6µg/m³ at MIDC Nanded. RSPM exceeded the standard at 98% of the locations. In industrial locations the highest value of RSPM, 185.6 µg/m³ was recorded at MIDC Nanded. At Vashi, a residential location in Navi-Mumbai, the RSPM concentration recorded was 169.7µg/m³. This was highest in all residential locations. In commercial areas the highest concentration 146 µg/m³ was recorded at college of Engineering Akola.

Based on the exceedence factor of the pollution parameter, the % of locations having low, moderate, high and critical level of pollution is given in the figures below.





The analysis of 66 Stations monitored during the year including Stations under NAMP; SAMP & CAAQMS for criteria pollutants indicate that, SO_2 remained within limit at all the locations except one industrial location in Nanded, where the level was critical. The level of SO_2 was also found moderate at 12 locations. The Nox level remained low at 11 locations, Moderate at 28 locations, high at 24 locations and critical at 3 locations which are places in Mumbai, Jalgaon and Nanded. As far as RSPM is concerned no location showed low level, at 3 locations the level was moderate and at 22 locations the level was high. The critical level of RSPM was observed at 41 locations, of these 28 locations are coming under Residential class.

Based on prevailing land use pattern the areas have been classified as industrial, residential, commercial and the air quality monitoring stations are fixed accordingly. The area wise pollution level in terms of parameter observed during the year is shown in the table below

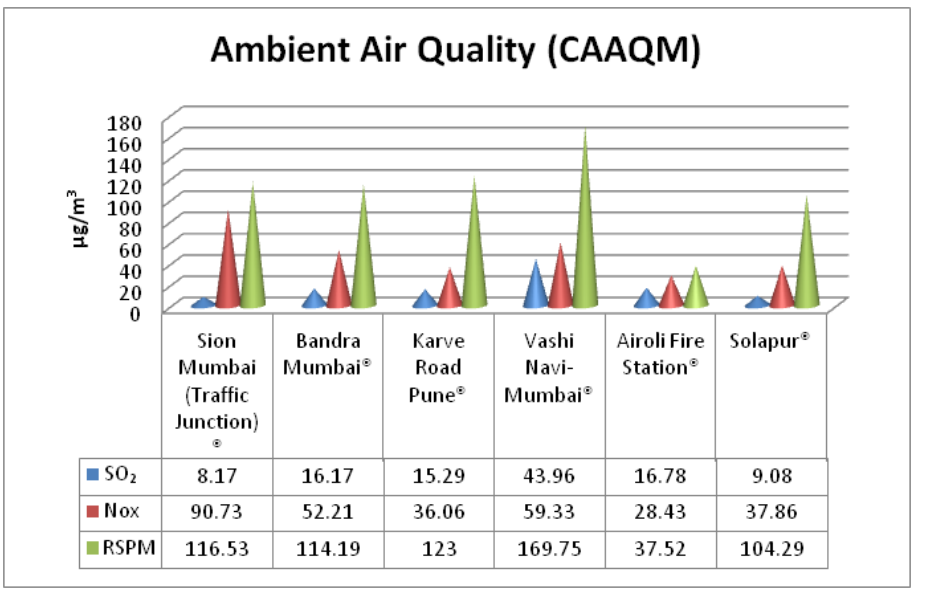
Class/Area	SO_2 µg/m³		NOx µg/m³		RSPM µg/m³	
	Min	Max	Min	Max	Min	Max
Industrial	4.79	81.62	10.29	82.63	70.92	185.61
Residential	4.66	28.0	8.36	90.73	60.39	148.42
Commercial	8.26	39.11	9.48	42.22	105.35	265.43

5.8 Continuous Ambient Air Quality Monitoring

Maharashtra Pollution Control Board is undertaking Continuous ambient air quality monitoring at 6 locations, Sion & Bandra in Mumbai, Vashi & Airoli in Navi-Mumbai, Karve Road in Pune and Solapur. The data of these stations are regularly uploaded to M.P.C.B. website.

The air quality observed during 2014-15 at Continuous monitoring stations at Mumbai, Solapur, Navi-Mumbai and Pune is given in following figure. It is observed that Nox exceeded the limit at Sion & Bandra in Mumbai and Vashi in Navi-Mumbai but Nox level has been reduced this year at 4 locations, Airoli in Navi-Mumbai, Sion in Mumbai, Karve Road in Pune and Solapur. The highest value of Nox has been recorded at 'Sion' in Mumbai. Compared to last year the RSPM levels are reduced at all locations. At Airoli station in Navi-Mumbai the level of RSPM has come down from108 µg/m³ to 53 µg/m³.

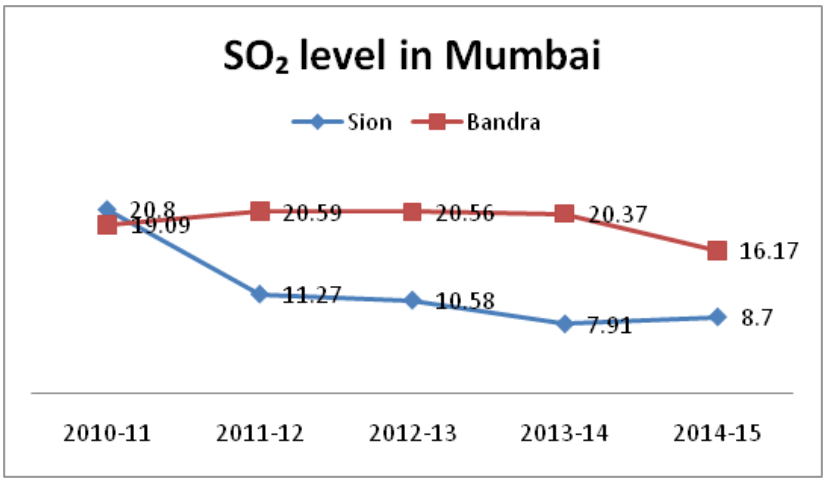
SO_2 though remained well within the standard at all the locations throughout the year; the increase has been noticed at all the locations during the year except at 'Sion' in Mumbai.



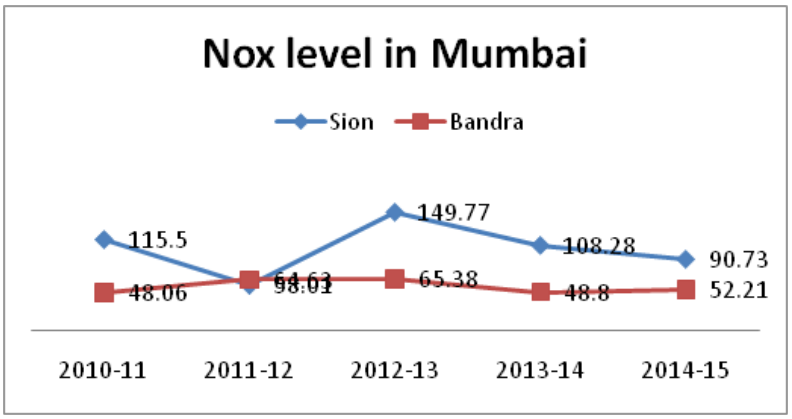
5.9 Ambient Air Quality in residential locations of various cities in Maharashtra

Mumbai

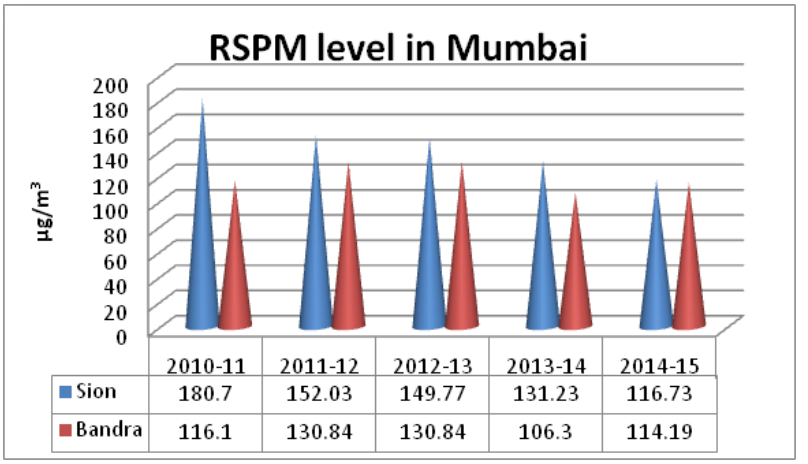
There are two residential locations in Mumbai, one is at Sion and the other is at Bandra. The annual average concentration of SO_2 obtained for the year 2010-11 to 2014-15 indicate a decreasing trend at Sion but fluctuating trend has been seen at Bandra. The observed annual average concentrations at both the locations were within the prescribed standard.



A fluctuating trend has been noticed in respect of annual average concentration of NOx at both the locations. The concentration exceeded the limit during last 5 Years at these locations. The highest annual average concentration of NOx (149 µg/m³) was recorded during 2012-13. Compared to Sion location the annual average concentration of NOx has been observed less at Bandra.



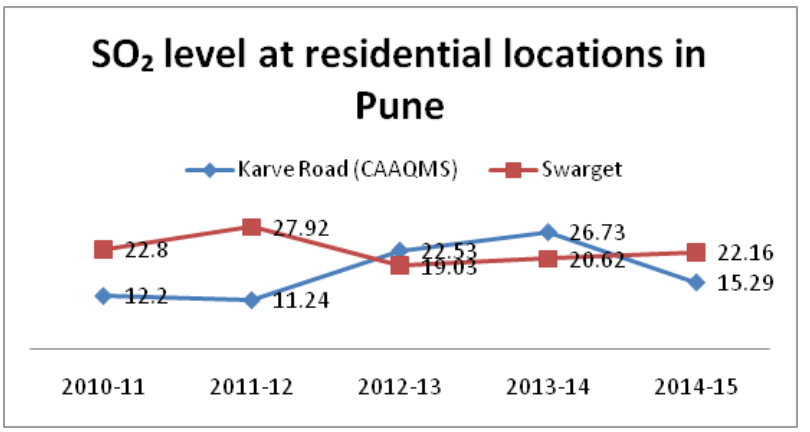
As regards to RSPM concentration a decreasing trend has been observed during last 5 years in annual average concentration of RSPM. However a concentration exceeded the standard during all the years. The maximum concentration of RSPM was recorded in the year 2010-11. This has been depicted in following figure.



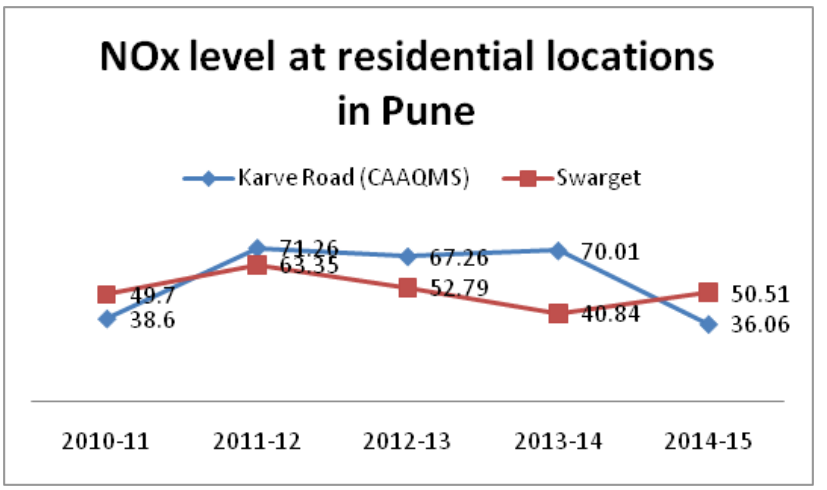
Pune

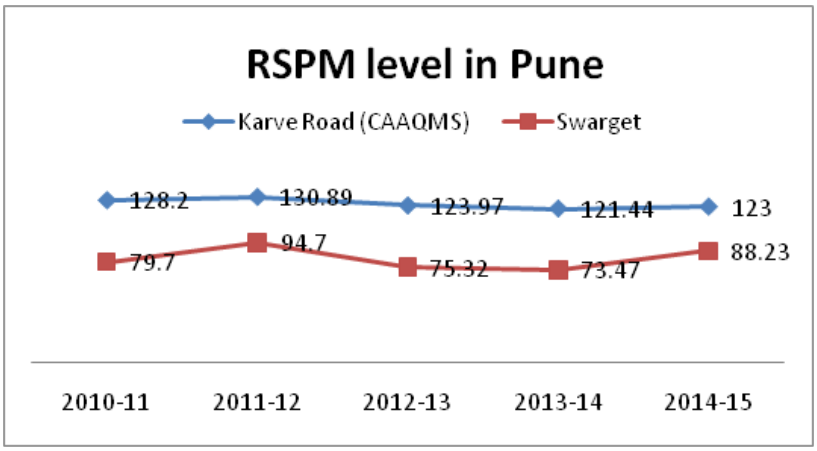
In Pune city Karve road and Swargate are two residential locations where Ambient Air Quality has been monitored.

The annual average concentration of SO_2 though observed within limit during last 5 years an increasing trend has been seen at Karve road, a station monitored under CAAQM. but a fluctuating trend has been seen at Swargate.



As regards to annual average concentration of NOx, the level exceeded the limit at Swargate during last 5 years i.e. 2010-11 to 2014-15. During 2010-11 and 2014-15 at Karve road the concentration was well within the limit. A declining trend has been seen at both the locations from 2011-12.





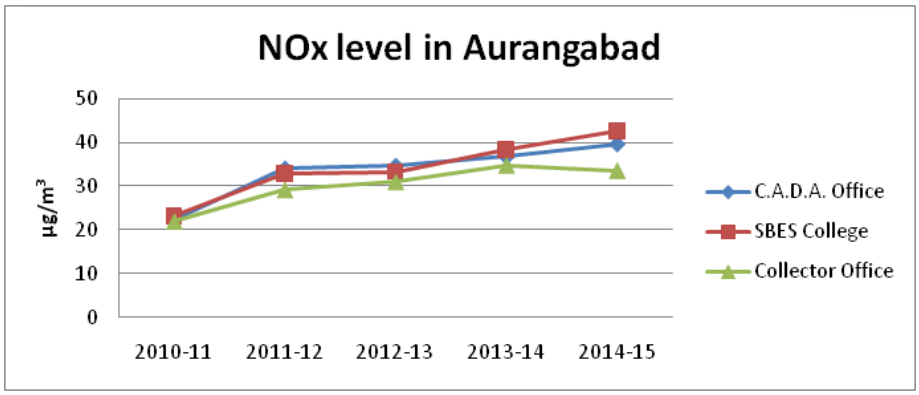
In respect of RSPM the Swargate has shown lesser values than Karve road. The RSPM level exceeded the limit at both the locations during last five years.

Aurangabad

The Ambient Air Quality has been monitored at three residential locations in Aurangabad city. At all this locations an increasing trend in annual average concentration of SO_2 has been seen over the last 5 years. However the SO_2 level not exceeded the limit.

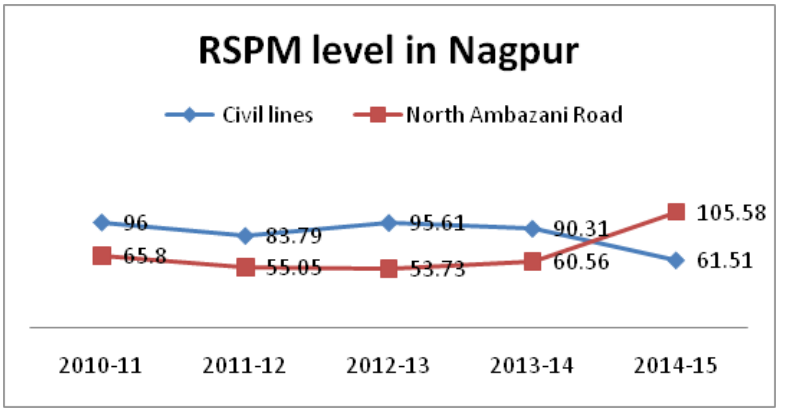
In respect of NOx also an increasing trend has been seen and the annual average concentration of NOx exceeded the limit at SBES College during 2014-15.

As far as annual average concentration of RSPM is concerned, the concentration exceeded the limit at all locations during 2010 to 2015. No specific trend has been seen over the 5 years. However higher concentration of RSPM was observed during last five years at SBES College than other locations



Nagpur

The annual average concentration of SO_2 observed during the years from 2010 to 2015 indicates an increasing trend in residential areas at Nagpur. However there is decreasing trend in concentration of NOx at "Civil Lines "in Nagpur. At North Ambazari the observed trend has been seen increasing over these 5 years. The annual average concentration of RSPM has shown a decreasing trend at civil lines while an increasing trend has been noticed at North Ambazari. The annual average concentration of SO_2 was within limit at both the residential ares. The annual average concentration of NOx also remained within limit at these locations. The annual average concentration of RSPM was observed within limit at North Ambazari only in 2011-12 and 2012-13. The highest concentration of RSPM was recorded at North Ambazari during 2014-15.



5.10 Performance of Board Laboratories:

MPCB has established Central Laboratory at Navi Mumbai and seven Regional Laboratories at Nagpur, Aurangabad, Pune, Nashik, Thane, Chiplun and Chandrapur. These Laboratories are carrying out analysis of Water, Effluent, Air (ambient and stack), Hazardous Waste, Bio-Medical Waste samples, etc., which are categorized as Environmental Samples, Joint Vigilance Samples (JVS) and Law Evidence Samples (LES).

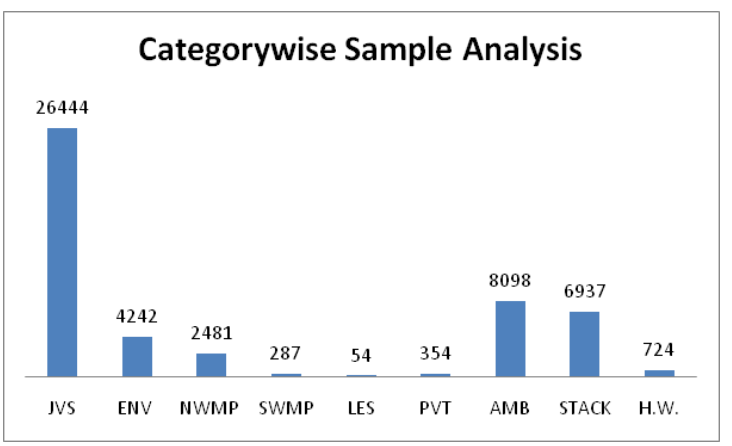
These samples are collected by Field Offices and are submitted to the respective laboratories. The samples submitted by the Field Offices are analyzed in the respective laboratories as per jurisdiction allocated to each of them.

All the Board Laboratories except Regional Laboratory Chandrapur are equipped for analysis of all types of samples i.e. Air, Water, Hazardous Waste and Bio-Medical Waste.

Water sample analyses include Physical, Chemical, Microbiological and Toxicological parameters. Air sample analyses include ambient air quality parameters such as RSPM, Suspended Particulate Matter, Sulphur-di-Oxide, Oxides of Nitrogen, Acid Mist, Benzene, Chlorine, Lead, Ammonia, VOC, etc. The Stack monitoring includes analyses of parameters, such as Total Particulate Matter, Sulphur-di-Oxide, Acid Mist, Chlorine, H_2S, HCl, Ammonia, etc. Hazardous Waste samples are analysed for Metals, Hydrocarbons, etc. Bio-Medical Waste samples are analyzed for spore test.

Compared to last year there is 4% increase in sample analysis but there is decrease of 1% in parameters analysis during the year. Except Central laboratory the percentage of sample analysis is increased in other laboratories in the reporting year. However reduction has been seen in analysis of parameters in Nagpur and Thane Laboratories though there is increase in samples in Nagpur and Thane Laboratories. The significant reduction in parameter analysis is seen in Thane laboratory.

The category wise sample analyzed in the laboratories of the Board during the year is shown in following figures. The maximum sample analysis is seen in JVS category.



6. PRESENT STATUS OF ENVIRONMENTAL PROBLEMS AND CONTROL MEASURES

6.1 Water quality Assessment

Water, an important factor essential for the health of human beings, if contaminated leads to serious health problems. As we all know the major sources of water include oceans, lakes, rivers and ground water. The major rivers of Maharashtra state are Godavari, Krishna, Bhima Tapi and Wardha-Wainganga river respectively. We can say that if pollutants are discharged directly or indirectly to this water bodies without proper treatment to remove the harmful compunds, then this water pollution occurs.

Some of the basic causes of water pollution include pathogens, chemicals, elevated temperature, discoloration, plant matter, manmade chemicals, detergents, food processing waste, insecticides, herbiciides, volatile organic compounds, chlorinated solvents, acid mine drainage, fertilisers, heavy metal from motor vehicles, soil erosion and sedimentation in water bodies etc. The idol immersion during Ganapati festival is also one of the sources of river pollution

6.1.1 Water Quality assessment of Godavari River

The Godavari River rises near the Trimbak in the district of Nasik in the State of Maharashtra. It flows in the eastward direction through the states of Maharashtra. Godavari is sometimes also referred to as the 'Ganga of the South'. After every twelve years, a major bathing festival called as Pushkaram is held on the banks of the Godavari River.

The River Godavari is the main source of water supply for Nashik city. Besides this it is used for industrial and domestic waste disposal. Beyond urban area, agricultural activities are carried out at a very large scale on both the banks of river Godavari. The pesticides and chemical fertilizers used on these agricultural fields are usually washed away into the river. These activities are responsible for deterioration of water quality of the river. It has got an overall impact on physical and chemical parameters of the water. The survival of aquatic life is in danger due to the chemicals discharged into the river. Toxins within water are harmful to aquatic ecosystem. The growing problem of degradation and human activities on river ecosystem has made it important to monitor water quality of rivers to evaluate their state of pollution.

In A-II zone the major source of river water pollution is discharge of domestic waste from municipal corporations and municipal councils in the area as well as occasional discharge of treated / untreated effluent from the industries.

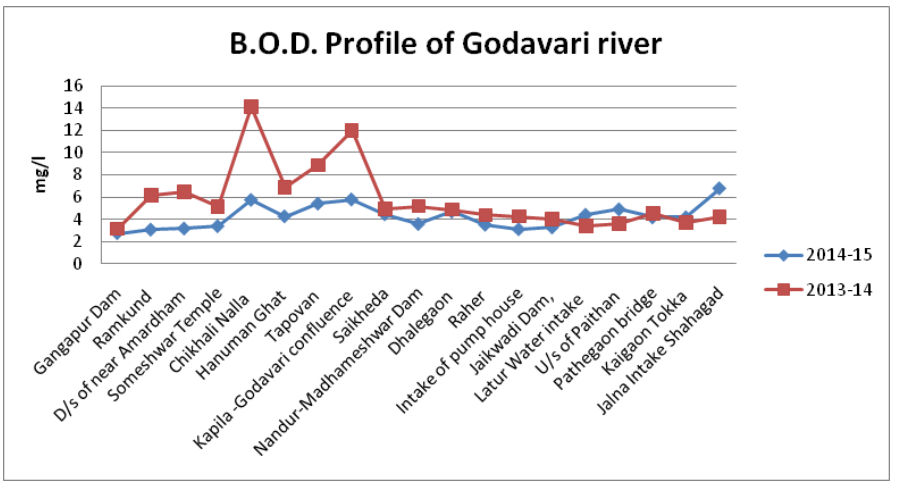
The part of river flowing through, Aurangabad Region is also assessed for water quality where there are industries like Sugar Factories, Distillery, Engineering units, Chemical, Bulk Drugs, Breweries & Pharmaceutical, Steel, Fertilizers, Electro plating units, Thermal Power Plant etc which are generating industrial effluent. The major industries in this Region are engineering units. The sugar factories are seasonally operated units and there is no direct discharge of industrial effluent into the water bodies. All the Sugar Factories have provided Effluent Treatment Plant and disposal arrangements as on land for irrigation purpose. Most of the Distillery Units have provided Bio Methanization followed by bio-earth composting for spent wash disposal. The effluent is mixed with the press mud for making compost and compost is utilized as manure. The rest of the units have provided Primary/ Secondary / Tertiary treatments for disposal of industrial effluent. The major tributaries of Godavari river in Aurangabad Region are Manjra, Bindusara, Kham and Sukna.

Some major units have also been joined to CETP Waluj, Aurangabad for disposal of industrial effluent. There is no deterioration of water quality observed during the year as compared to the previous year.

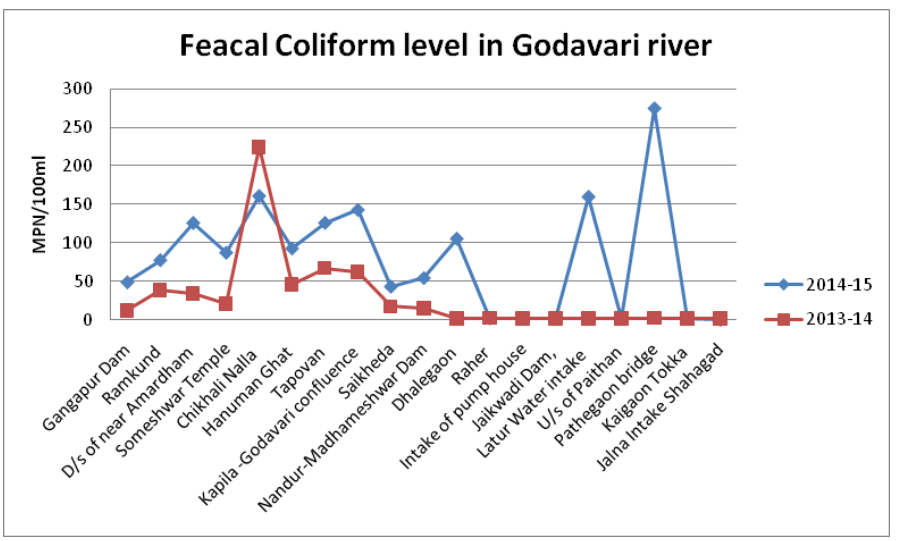
BOD & Feacal Coliform levels of Godavari River observed during 2013-15

From the analysis results of Godavari River it is observed that out of 19 monitored locations water quality at 4 locations exceeded the permissible level of BOD. The water quality meets the standard in terms of pH and DO for A-II Class of Water. The BOD exceeded the prescribed standard at Chikhali

Nalla, Tapovan, Kapila-Godavari confluence and Jalna Intake at Shahgad, and the level found was in the range 5.4 – 6.8 mg/l. The highest BOD was recorded at Shahgad in Aurangabad region. Compared to last year there is much reduction in BOD level from Ramkund to Saikheda in Nasik. From Dhalegaon to Kaygaon toka, the stations pertaining to Aurangabad Region, the water quality of river Godavari in terms of BOD was found more or less well within the standard. Action plan is prepared for improvement of water quality of Godavari river in Nashik City and being implemented. The water quality of Godavari River is comparatively improved than in the last year.



The feacal coliform concentration in river Godavari has increased during the year. The highest level 275MPN/100ml was observed at Pathegaon Bridge D/s of Paithan. There is much variation in the level of feacal coliform observed at these locations. However these levels in both the years are found well within the limit of A-II class of water. Compared to last year the feacal coliform level increased at almost all locations in Nashik except “Chikhali Nalla”. Increase in feacal coliform level is also seen at “ Dhalegaon”, “Latur intake” and at “Pathegaon Bridge D/s of Paithan” in Aurangabad Region.



6.1.2 Water Quality assessment of Bhima river

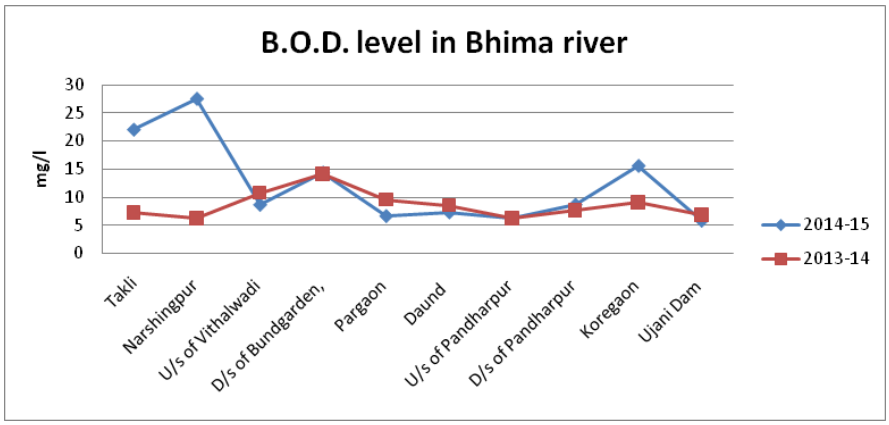
Bhima flows southeast for long journey of 861 km. During this long journey many smaller rivers flow into it. Of these Indrayani, Mula, Mutha and Pawana flow through Pune and Pimpri Chinchwad city limits and Nira the major tributary of the river meets Bhima at Narsingpur, in Malshiras taluka in Solapur district.

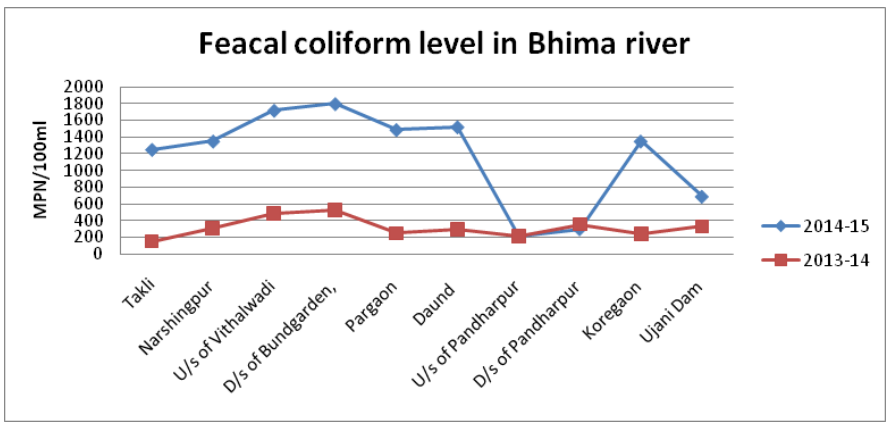
MPCB has extensively studied the pollution potential of Bhima River through monitoring and analysis of various environmental parameters of concern in the entire stretch of Bhima from the origin to Ujani Dam including its tributaries. Based on this, sectors having pollution potential have been indentified and short/ long term action plans have been prepared & forwarded for policy decisions to the respective authorities.

To improve the river water quality directions have been given to local bodies of Pune region from time to time. Also Pune Municipal Corporation (PMC) and Pimpri Chinchwad Municipal Corporation (PCMC) have been prosecuted for non treatment of total sewage generated. PMC proposes to install 9 no of STPs of capacities 364 MLD & PCMC propose to install STP of 90 MLD of capacity. Solapur Municipal Corporation is in process of installation of 3 STPs of collective capacity of 102 MLD. Daund Municipal council has installed STP of 10 MLD. Pandharpur Municipal council has installed STP of 15.5 MLD capacity.

The STPs have been provided in various regions and are functioning to the best of there capabilities, however being inadequate the hydraulic load is not fully treated and there by there is a need to augment the capacities of treatment. The parameter in river water shows considerable variations which make the water bodies intolerable for diverse aquatic life.

BOD & Feacal Coliform levels of Bhima River observed during 2013-15





From water quality analysis of Bhima River along with tributaries it is deduced that water quality does not meet the standards specified for the best designated use of water. Comparison of last two years data reveals that BOD level increased at 'Takli', 'Narsingpur' and' Koregaon'. The highest BOD concentration 27.5 mg/l was seen at'Narsingpur'. During the year the BOD level is also reduced at 'Vithalwadi','Pargaon','Dound' and'Ujani Dam'. The DO level was confirming to the standard at all the locations. This indicates deterioration in water quality in Pune which may be due to discharge of domestic

waste through Mula-Mutha rivers.

Except locations of Pandharpur, the feacal coliform levels increased at all other locations during the year. From Takli to Daund & at Koregaon the concentration of feacal coliform was above 1200MPN/100ml. the reason for this may be attributed to domestic discharge from local bodies.

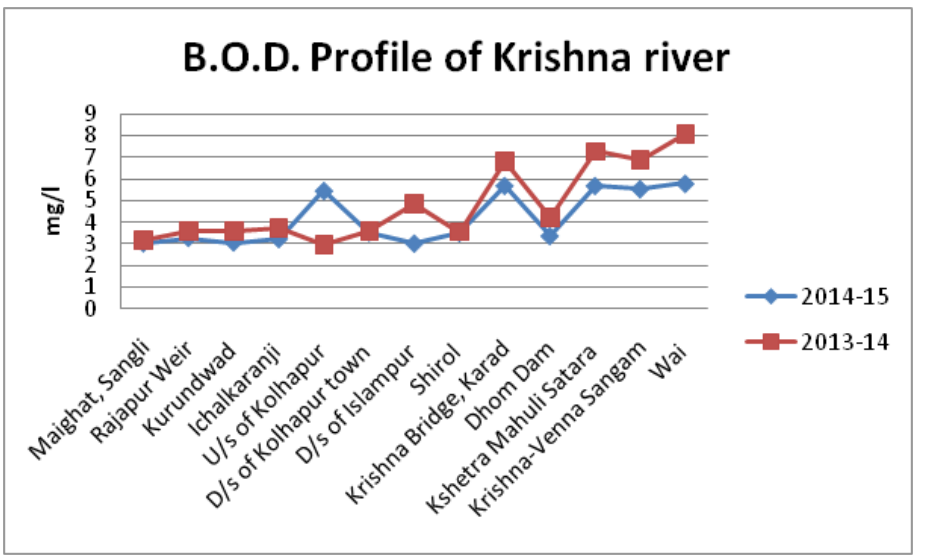
6.1.3 Water quality assessment of Krishna & Panchganga

Krishna Basin extends over an area of 258,948 km² which is nearly 8 % of total geographical area of the country, and flows for about 1400 km and outfalls into the Bay of Bengal. In Maharashtra the principal tributaries joining Krishna are Urmodi, Nira, Koyana and venna. Pilgrim places like Narsoba wadi and Ramling Temple are located on the bank of river Krishna

Panchganga River is the main tributary of Krishna River of 125 Km length. On the bank of Panchganga River there are 8 Sugar factories, 5 Distillery units and one MIDC area at Shiroli & Textile units located in Ichalkaranji city and nearby. The major source of panchaganga pollution is Kolhapur Municipal Corporation and Inchalkaranji Municipal Council and 174 Village Grampanchayats which are located on the bank of river. The quality of river is monitored on monthly basis at various locations shown in the following figure.

Krishna river basin is the only major river basin in Sangli district. The flow in this river after monsoon is very less; however flow is maintained by release of water from Koyana dam. The river water quality is monitored regularly under GEMS project sponsored by CPCB.

As per classification of River stretch the area of Krishna River stretch in Sangli district is under A – II class.



From the analysis results it is observed that River Water Quality is deteriorated at some places due to the discharge of sewage water through cities & village Grampanchayats. However compared to the analytical results of 2013-14 there is significant reduction in BOD level in 2014-15. Reduction in BOD level was seen at all locations except at u/s Kolhapur.

The DO level was confirming to the Standard during all the last 4 years. Increase in Faecal coliform was seen at all locations except the locations at Sangli,Islampur and Dhom Dam on Krishna river. The highest concentration was recorded at "Krishna Bridge Karad"(245MPN/100ml). The faecal coliform level at Mahuli Satara,Krishna-Venna Sangam, Wai and Karad was found above 170 MPN/100ml.

This Board has prepared "The Panchganga River Action Plan" as per the instructions of Environment Department Government of Maharashtra. The details about the causes of Panchaganga pollution and the actions plan with short term and long term plan to control the same has been incorporated in the action

plan.

Krishna River Action Plan is also prepared. Regular Monitoring of River water is carried out and intake of water from WTP of five local bodies at different places are also being collected regularly i.e.once in a month.

The Board has issued various notices & also initiated legal actions and filed court cases against Kolhapur Municipal Corporation & Ichalkaranji Municipal Council. Now the Kolhapur Municipal Corporation has received the funds under various Govt. schemes for the collection & treatment of sewage generated in the Corporation area. The civil, mechanical and electrical work the 76 MLD STP is almost completed and of which 50 MLD is brought under operation.

The Zilla Parishad has taken initiatives for the implementation of the sewage treatment plant in 39 villages and appointed an agency for the same.

The Sangli-Miraj-Kupwad Corporation has started the commissioning of 27 MLD capacity based on oxidation pond at Dhulgaon. The treated sewage is disposed on near land only. As such balance amount of sewage generated from Sangli city is being discharged in to Krishna river through Sheri Nala pumping station on D/s of K. T. Weir & through HaripurNala. The Corporation has also started civil work of new STP of 22.5 MLD capacity based on SBR technology at Miraj. Corporation has proposed to provide to additional STP of 15 MLD capacity for Kupwad .

6.2 Ground Water Quality Assessment

A groundwater pollutant is any substance that, when it reaches an **aquifer**, makes the water unclean or otherwise unsuitable for a particular purpose. Contamination also can occur from naturally occurring mineral and metallic deposits in rock and soil. Scientists have since realized that once an aquifer becomes polluted, it may become unusable for decades, and is often impossible to clean up quickly and inexpensively.

The groundwater contamination occurring due to either natural causes or anthropogenic activities need regular monitoring of water quality to device ways and means to protect it. Groundwater pollution caused by human activities usually falls into one of two categories: point-source pollution and nonpoint-source pollution. Point-source pollution refers to contamination originating from a single tank, disposal site, or facility. Industrial waste disposal sites, accidental spills, leaking gasoline storage tanks, and dumps or landfills are examples of point sources. Chemicals used in agriculture, such as fertilizers, **pesticides**, and **herbicides** are examples of nonpoint-source pollution because they are spread out across wide areas. Similarly, runoff from urban areas is a nonpoint source of pollution.

The Board has assessed ground water quality through 94 locations across the State. Total 195 ground water samples were analyzed during the year. No ground water assessment was carried out in Mumbai Region. The ground water monitored in Chandrapur,Aurangabad and Kalyan Region has shown no contamination in the water. The Board is now paying more attention towards polluted ground water locations, especially the locations in Kolhapur, Nagpur, and Pune. The necessary control measures are being taken.

The reion wise breakup of monitored stations and the stations where parameters violated the standard are depicted in the follwing figure. It is seen that 25% of the monitored locations were Polluted due to excess concentration of the pollutants.

Region	Locations Monitered	No. of Samples Analyzed	Locations where the limit Parameters Exceeded
Navi Mumbai	7	54	-
Pune	44	59	7
Kolhapur	12	24	5
Thane	8	9	2
Aurangabad	4	6	0
Nashik	5	8	2
Raigad	3	3	0
Nagpur	11	32	8
Chandrapur	3	6	0
Total	**97**	**201**	**24**

6.2.1 The status of ground water in some regions is summarized below:

Navi-Mumbai

The area is mainly dependent on the water supply through pipeline network provided by local bodies. Ground water i.e bore well or open well are seldom used at Uran. Regular monitoring of bore well water is carried out at common hazardous waste treatment and disposal facility i.e. at TTCWMA, Mahape &MWML, Taloja.This ground water is not used for drinking purpose.In this region 7 locations were monitored. At all the location, the parameters were meeting the standards of A-II class of water.

Pune

Pune region recorded higher ground water pollution load for sulphates. Hardness, a strong indicator of change in physicochemical characteristics, was also found significant. To assess ground water in Pune region 44 locations were monitored, of which one place in Pune, 2 places in Satara and one place in Solapur observed to be deteriorated due to increase in Total Hardness. The values of which were ranging between 550-1600 mg/l. At two locations in Solapur, Sulphate concentration exceeded the limit and was found as 550mg/l and 738mg/l. The chloride concentration exceeded in the limit in location of Pune and Pimpri-Chinchwad.

Kolhapur

In Kolhapur Region 18 locations were monitored for ground water. The water quality analysis results when compared with A –II class of water, it has been observed that the ground water is contaminated at 14 locations. In the ground water of Sangli and Ratnagiri area the Total Hardness is much increased & exceeded the limit at 5 locations and found in the range 750-1460 mg/l. The highest concentration was recorded at Savali in Sangli. The Chloride concentration in the ground water exceeded the limit at 1 location in Sangli i.e.at Savali,where Nitrate concentration is also exceeded the limit. Compared to last year though there is no significant rise in ground water cotamination during the year, the locations of ground water in Sangli especially at Savali remained polluted.

Thane

18 locations were monitored for ground water in the region. The deterioration was noticed in Tarapur area where 6 locations were monitored for ground water. Out of these at 2 locations the parameter, Total Hardness exceeded the limit. The other parameters remained well within limit. Compared to last year there is improvement in ground water quality.

Nashik

In Nasik region total 5 locations were monitored for ground water. The water quality deterioration was

seen at 2 places, Chitali and Gunjalwadi in Ahmednagar where Total Hardness, chloride,sulphate,fluoride & B.O.D. level in the water exceeded the limit . The highest values of the parameters recorded at borewell Gunjalwadi in Ahmednagar were, Total Hardness-854mg/l, chloride-2590mg/l. The highest value of sulphate, 144mg/l was found at Gujalwadi in Ahmednagar. No ground water deterioration is noticed in Nasik sub-region during the year.

Raigad

There were 3 locations monitored for ground water in Raigad Region. The analytical results showed that the D.O. concentration was much below the limit at borewell water near MSW site in Milgram Khalapur.

Nagpur

Out of 11 locations assessed for ground water quality, the fluoride contamination is observed at 7 locations in Nagpur and one location in Bhandara where fluoride concentration exceeded the limit and found in the range 3.1-4.9mg/l. the other parameters were well within limit.

6.3 Sea Water Quality Assessment

The seas and oceans receive the brunt of human waste, whether it is by deliberate dumping or by natural run-off from the land. In fact over 80% of all marine pollution comes from land-based activities and many pollutants are deposited in estuaries and coastal waters.

Maharashtra has a coastline of 720 km, of which about 320 km (about 44%) is subject to erosion. Coastal urban areas such as Mumbai have been severely affected by erosion, partly due to clearance of mangroves and associated vegetation along the shoreline and also due to construction of offshore and coastal infrastructure. The government of Maharashtra recognizes the need to address coastal protection in a more systematic manner. The state is interested in identifying alternative coastal protection methods that are compatible with the coastal activities and the environments that are to be protected, particularly innovative coastal protection interventions that can be structured into financially viable projects, especially through public–private partnerships.

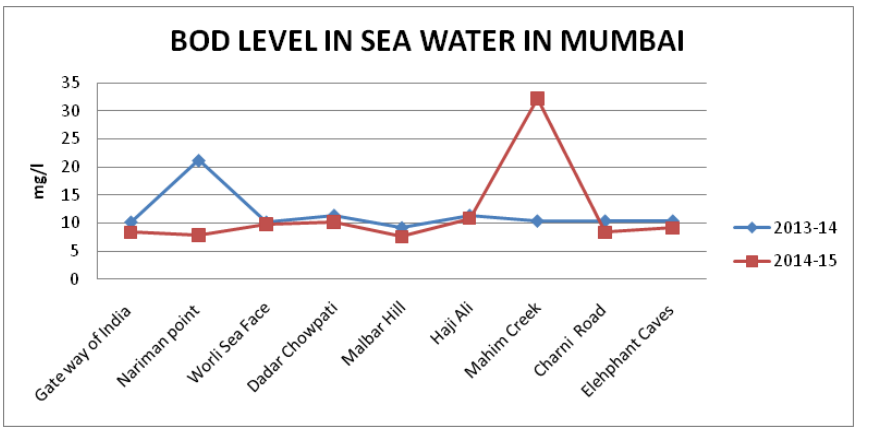
Pollution of the brackish water due to the industrial and sewerage discharge is serious along the coastal belt of Maharashtra. Increasing urbanization in the densely populated cities like Thane, Mumbai or fast developing cities like Alibag, Ratnagiri, Malwan is responsible for generation of huge quantities of sewage and disposal problems. Series of Industrial belts developed along Dahanu-Tarapur (Thane), Thane-Belapur (Mumbai), Alibag- Roha (Raigad), Lote Parshuram (Ratnagiri) has resulted in increased industrial effluents.

There are 6 Regions covering coastal area of Maharashtra i.e. Mumbai,Thane,Navi-Mumbai, Kalyan,Raigad and Kolhapur. The coastal water was monitored through 47 monitoring stations along the sea-coast of Maharashtra. The overall sea water quality indicates the BOD crossed the limit at all the stations, DO level was not confirming to the standard at all stations, excluding Ambet creek. At 31% of the locations Feacal coliform exceeded the limit. Maximum Sea Water contamination is observed at Dadar Chawpaty and Mahim Creek in Mumbai and Ambet creek in Mahad. Necessary steps are being taken to control sea water pollution.

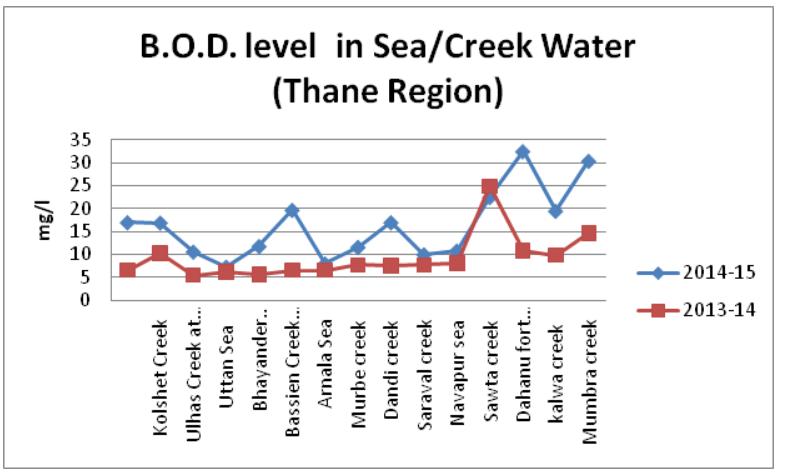
The sea water in Mumbai has been monitored at 15 locations during the year. The frequency of monitoring was monthly. Total 190 samples were analyzed for sea water quality. All the locations monitored have SW-IV class of sea water.

As far as Mumbai coast is concerned though the pH values were well within the limit, at all locations, the DO values were not confirming to the standard at Dadar Chawpaty and Mahim Creek. The BOD concentration exceeded the limit at all locations and was found in the range 7.5-32.2 mg/l. The highest annual average of BOD i.e. 32.2 mg/l was recorded at“Mahim Creek”. The COD level in sea water was found in the range of 137-182 mg/l. Except “Nariman Point”, “Worli” and”Haji Ali” there is rise in

COD level at other stations monitored in Mumbai Coast during the year. The Feacal coliform was in the range 393-658MPN/100 ml, which shows the level much beyond the standard, but compared to last year reduction in the level is also seen at most of the locations during the year. The highest Feacal coliform (658MPN/100ml) was noticed in the sea water at 'Worli Sea face'.



The coastal water of Thane Region was divided into two class 'SW-II' and 'SW-IV'. The monitoring was carried out at 11 locations of 'SW-II' class of water and 4 locations having 'SW-IV' class of water. It is seen that at all locations of 'SW-II' class the average concentration of BOD and Faecal coliform were not confirming to the standards and were in the range between 7-32 mg/l and 189-768 MPN/100ml respectively. This has also indicated that the BOD level and Faecal coliform remained more or less same during last two years. The concentration of BOD also exceeded the limit at all locations of 'SW-IV' class of water coming under Tarapur area. However the DO level was confirming to the standards at all these locations of 'SW-IV' class of water.



From the overall results of sea water quality, pertaining to Thane region, much deterioration is seen in coastal water of Tarapur.

In Navi-Mumbai region Vashi creek as well as part of Arebian Sea was monitored through 3 locations. It has been observed that though DO levels remained satisfactory the BOD and Feacal coliform levels exceeded the limit of SW-II class of water. The highest BOD was recorded at "Airoli Bridge" and highest Feacal coliform concentration was seen at M/s ONGC and recorded as 715 MPN/100ml. This may be due to discharge of treated effluent from M/s ONGC plant. Compared to last years data, reduction in BOD and Feacal coliform has been noticed at these monitoring stations.

At Panvel creek, Dharamtar creek, Ambet creek and part of Arebian Sea coast in Raigad region,the

BOD level exceeded the limit at all 8 locations and the highest level of BOD, i.e. 13 mg/l was recorded at D/S of Murud beach. The Feacal coliform was exceeded the limit at "Kharpada bridge" and " Panvel creek". The DO level was much satisfactory at all the locations, except at "Ambet creek" where it remained much below the standard.

Ulhas creek and Kamavari creek having SW-IV class of water have been monitored to assess the creek water pollution in Kalyan region. Around 29 samples were analyzed for different parameters. The Kamavari creek has shown much deterioration in water quality than Ulhas creek . However BOD and COD level increased in "Ulhas cree" during the year.

Ratnagiri and Chiplun areas in Kolhapur region have been monitored for sea water at 4 locations. It is seen from the results that DO and Feacal coliform levels are satisfactory. However average BOD concentration exceeded the limit at "Jodhale", "Bhagvati" and "Ganpatipule". Compared to last year there is rise in BOD and COD level.

6.4 Air Quality Assessment

Air quality in the State is assessed through routine and specific monitoring. From the analysis of monitoring results in 2014-15, it was noticed that though annual average of SO_2 remained within the standard at all locations except one industrial location in Nanded. At 96% of the monitored locations, the annual average levels of RSPM exceeded the standard. At 42% of locations annual average levels of NOx also exceeded the limit. The latter parameter exceedance can be attributed to source emissions and vehicular pollution.

The NOx level violated the standard at 28 stations including 15 residential stations. The highest Nox concentration of 90.73µg/m³ was observed at 'Sion' in Mumbai which is reduced by 15% than in the last year. While in commercial area the highest value 61.84 µg/m³ of NOx was recorded at 'Naupada' in Thane. There were eight industrial locations where the Ambient Air Quality Standard of NOx is violated and the highest value 82.63 µg/m³ was recorded at industrial area Nanded. The RSPM levels violated the standard at 64 stations including 39 residential stations. The RSPM values ranged between 70-146 µg/m³ in commercial area. In industrial area the values ranged between 70-185 µg/m³ and in residential area the values ranged between 37-169 µg/m³. Compared to previous year there is decrease in RSPM level in residential areas. Necessary measures are being taken by the Board to control air pollution especially industries are attended more and notices are served to the defaulting units. It has been noticed that the no. of locations where NOx level is found above 40 µg/m³are increased during the year. In respect of RSPM the situation remained more or less same as in last year.

In order to assess the Ambient Air Quality in respect of criteria pollutants as per National Ambient Air Quality standards, the data hosted on website is collected for the year 2014-15. The data is analyzed for SO_2, NOx and RSPM. The locations under different class / area like industrial, residential and commercial were monitored and the observations made are as below.

Air quantity Assessment in industrial areas.

Ambient Air quality has been monitored through 17 industrial location across the State under NAMP & SAMP project Avg. SO_2 level at 11 monitoring stations in industrial areas were les than 20 µg/m³. At 5 stations the Avg. SO_2 levels were in the range of 20-30 µg/m³. The Avg. SO_2 level exceeded the limit at industrial location in Nanded & the recorded value was 81.62µg/m³, which is at critical level. Compared to last year the rise in SO_2 concentration has been seen at 9 Stations. SO_2 levels remained low at 14 locations, moderate at 2 locations.

The Avg. levels of NOx exceeded the limit at 8 monitoring stations. There were 5 stations having Avg. NOx level in the range of 10-20 µg/m³ and 4 stations were having Avg. NOx level between 20-40 µg/m³. At 3 industrial stations in Thane, Dombivli and Nanded the NOx level crossed 60µg/m³. The highest concentration of NOx was observed at Nanded (82.63µg/m³). Compared to last year a rise in NOx level has been seen at 9 stations. The NOx levels were high at 'Bhosari' Pune, MIDC Jalogaon, Mahape Navi-

Mumbai,MIDC Taloja and Krishna Vally school Sangli. The NOx levels were critical at MIDC Nanded, Jalgaon,Balkum(Thane) and Dombivali.

As far as RSPM is concerned the concentration exceeded the limit at all stations. The lowest concentration was 70.92µg/m³. and was recorded at MIDC Chandrapur, were as the highest Avg. concentration of RSPM (185.61 µg/m³.) was recorded at industrial location in Nanded. Compared to last year the increase in RSPM level has been noticed at 11 locations. RSPM levels at VIP Nashik,MIDC Chandrapur and MIDC Latur were high whereas the levels remained critical at all other stations.

Air quantity Assessment in Commercial areas.

There are 11 locations monitored to asses Ambient Air Quality under NAMP and SAMP project. The results obtained indicate that there were only 3 locations having Avg. concentration of SO_2 less than 20 µg/m³. The highest concentration of SO_2 (39.11 µg/m³.) was observed that " Motha Chauk" Nanded and lowest value 8.26 was recorded at " College of Engineering" Akola. Compared to last year the SO_2 level though within limit has been increased at 8 locations.

The Avg. NOx levels were exceeded the limit at 4 locations. The highest concentration of NOx was observed at "Naupada" Thane and the value recorded was 61.84µg/m³. The minimum concentration of NOx was observed at "College of Engineering" Akola and the value was 9.48µg/m³. Compared to last year the increase in NOx level has been noticed at 8 locations. at Dabholkar corner Kolhapur, Nal-Stop Pune and Prematai hall Bhiwandi the levels of NOx were high whereas the level remained critical at "Naupada" Thane.

At these commercial locations the Avg. level of RSPM was observed in the range 70-146 µg/m³. The monitored level of RSPM was highest at "College of Engineering" Akola and the lowest concentration of RSPM was recorded at "Bhiwandi". At all locations the level exceeded the limit of annual Avg. of RSPM. Comparison of last year's data indicated increase in RSPM concentration at the locations excluding locations at Kolhapur, Thane and Akola. The levels were high at Nashik Municipal Corporation, Bhiwandi and MPCB Kalyan. The RSPM level remained critical at all other stations.

Air quantity Assessment in Residential areas.

Total 39 locations were monitored to assess the Ambient Air Quality under NAMP, SAMP Projects and through CAAQM stations.

At these locations SO_2 level, though not exceeded the standard found in the range 4-43 µg/m³.At 69% of the monitoring stations the annual Avg. concentration of SO_2 was observed less than 20 µg/m³. At 28% of monitoring stations the avg. SO_2 levels were recorded in range 20-40 µg/m³. The highest concentration of SO_2 (43.96µg/m³) was recorded at Vashi, Navi-Mumbai.

At 38% of the monitoring stations the annual avg. level of NOx exceeded the standard and found in the range 41-90 µg/m³. The highest level was recorded at "Sion" Mumbai whereas the lowest level was recorded at IGM hospital, Bhiwandi. There were only 4 stations where NOx levels were less than20 µg/m³. These are the stations in Latur, Amravati and Chandrapur. At 33% of the residential stations the levels of NOx were high, whereas the levels remained critical at 'Sion' in Mumbai and 'Kopri' in Thane.

Except "Airol Fire Station" at Navi-Mumbai the annual avg. concentration of RSPM exceeded the standard at all monitoring stations. The values of avg. RSPM concentration were lying between 60-169 µg/m³. The highest of RSPM was at Vashi, Navi-Mumbai and the lowest level was at "University campus" Kolhapur. At 38% of the monitoring stations the RSPM levels were high while at 54% of the monitoring stations the RSPM levels were critical.

The cities and Regions showing no. of locations having Low (L), Moderate (M), High (H) and Critical (C) level of Pollution are presented in following table.

Sr. No.	City/Region	SO2				NOx				RSPM			
		L	M	H	C	L	M	H	C	L	M	H	C
1	Mumbai*	2	¬	¬	¬	¬	¬	1	1	¬	¬	¬	2
2	Raigad	3	¬	¬	¬	¬	3	¬	¬	¬	¬	¬	3
3	Kalyan*	3	6	¬	¬	¬	3	2	4	¬	1	3	5
4	Thane*	3	¬	¬	¬	¬	¬	1	2	¬	¬	¬	3
5	Navi-Mumbai	4	¬	¬	¬	¬	4	¬	¬	¬	1	¬	3
6	Ratnagiri	2	¬	¬	¬	2	¬	¬	¬	¬	¬	¬	2
7	Kolhapur*	2	1	¬	¬	¬	2	1	¬	¬	¬	1	2
8	Pune*	5	¬	¬	¬	¬	¬1	4		¬	¬	1	4
9	Nashik	4	¬	¬	¬	1	3		¬	¬	1	3	¬
10	Sangli*	3	¬	¬	¬	¬	¬	3	¬	¬	¬	1	2
11	Solapur	3	¬	¬	¬	¬	3	¬	¬	¬	¬	2	1
12	Latur	3	¬	¬	¬	3	¬	¬	¬	¬	¬	2	1
13	Nanded*	1	1	1	¬	¬	2	¬	1	¬	¬	1	2
14	Chandrapur*	6	¬	¬	¬	3	2	1	¬	¬	1	1	4
15	Nagpur	4	¬	¬	¬	¬	4	¬	¬	¬	¬	1	3
16	Amravati	3	¬	¬	¬	3	¬	¬	¬	¬	¬	1	2
17	Akola	3	¬	¬	¬	3	¬	¬	¬	¬	¬	¬	3
18	Aurangabad*	3	¬	¬	¬	¬	2	1	¬	¬	¬	2	1
19	Jalna	2					2					1	1
20	Jalgaon	3					1						3

From above table it is clear that except **Nashik** at almost all places the RSPM remained in critical level. The locations having moderate level pollution indicate that standards are being achieved as of now but likely to exceed in future if pollution continues and no proper control measures are taken. The locations in high and critical category are not meeting the standards actually which needs proper attention. As shown in the above table cities like Mumbai, Thane, Kalyan, Kolhapur, Pune, Sangli, Nanded, Chandrapur and Aurangabad having high and critical level of pollution will have to be attended on priority.

6.5 Industrial Pollution Control

Maharashtra is one of the most highly industrialized States in India. With the rise in industrial estates in the State, areas like Mumbai, Thane, Navi-Mumbai, Kalyan, Nashik, Pune & Pimpri-Chinchwad that have a large number of pollution prone industries are facing chronic industrial pollution. In order to maintain safe distance between industrial units and river to avoid discharge of effluent in to Water bodies, the State has its policy which also states that no industry will be allowed to establish along a river bank. Industries are being encouraged to recycle and reuse the waste.

As per records, there are 82720 industries to which consents/Authorizations are granted. Out of these 18835are under RED category 17081 are under ORANGE category and 46804 are under GREEN category. To monitor compliance of Consent conditions, performance of ETP, ECS and other measures, the Board officials inspect the industries regularly. During the year 33471 industries have been monitored to observe the measures taken for compliance of pollution control norms and collected 44691 samples for analyses. There are 19345 industries having adequate treatment for effluent, 10498 industries have adequate treatment facilities for air pollution and 5113 industries have adequate facilities for treatment and disposal of Hazardous waste. There are 696 industries identified under Central Action Plan of which 91 industries are closed, 390 industries have complied with the pollution control norms and necessary action has been initiated against 215 non-complied industries. The following table shows region wise details of

these industries.

Status of Industries under Central Action Plan as on 31.3.2015

Sr.	Region No	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	4	0	3	1
2	Navi - Mumbai	33	0	31	2
3	Thane	24	4	20	0
4	Raigad	63	2	33	28
5	Kalyan	95	5	56	34
6	Pune	124	5	75	44
7	Nashik	110	19	43	48
8	Nagpur	40	7	14	19
9	Amravati	18	10	7	1
10	Aurangabad	102	27	68	7
11	Kolhapur	59	10	23	26
12	Chandrapur	24	2	16	6
	Total	**696**	**91**	**390**	**215**

6.5.1 Performance of Common Effluent Treatment Plants

The Ministry of Environment and Forest has undertaken a Centrally Sponsored Scheme for enabling the small scale industries (SSI) to set-up Common Effluent Treatment Plants (CETP) in the country. The SSIs are polluting the environment through their effluents but some of them are unable to afford installation of pollution control equipment. In order to encourage use of new technologies for CETPs for existing SSI clusters of units, a scheme for financial assistance has been formulated. This promotional scheme has been instituted and implemented during the Tenth Five Year Plan. Objectives of the CETP are enlisted here under;

- To achieve 'Economics of scale' in waste treatment, thereby reducing the cost of pollution abatement for individual factories
- To minimise the problem of lack of technical assistance and trained personnel as fewer plants require fewer people
- To solve the problem of lack of space, a centralized facility can be planned in advance to ensure that adequate space is available
- To reduce the problems of monitoring & to have a check at single point of discharge for pollution control boards
- To manage the disposal of treated wastes and sludge and also improve the recycling and reuse possibilities

Performance of CETPs operating in some of the Regions is illustrated below

The overall performance indicates that almost all CETPs are working well except one CETP in Raigad Region, two CETPs in Pune Region. In respect of reduction in B.O.D. and C.O.D. 21 CETPs have shown best performance. Reduction of these parameters was in the range 62-97%. In respect of TAN the performance of CETP at Mahad, Kurkumbh, Talegaon (Pune) Ranjangaon and Kagal was not satisfactory. CETPs at Dombivali and Kagal have shown very poor performance in respect of Oil & Grease.

Raigad Region

The 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 for further treatment through close pipe line provided by MIDC. PRIA CETP society has provided full fledged treatment facility of 15 MLD capacities to treat the effluent generated from industries of MIDC and non-MIDC area. The treated effluent from CETP is discharged into Dharmatar creek at Kharpada through close pipe line (about 8.5 Km length). The Outlet quality of CETP is monitored regularly & generally outlet quality is most of the time achieving the standards laid down in the consent. The total number industries having membership of CETP are 44 nos., out of which 26 are from outside MIDC area. Besides this there are 2 more CETPs operating in the Region one is at Roha and the other is at Mahad. Total 32.5 MLD effluents is being treated in these CETPs. Performance of these CETPs during the year is presented below. It is clear from the table below that RIA CETP performed well, where more than 78% reduction in B.O.D and C.O.D. at the outlet was noticed. 62% reduction in TAN concentration was also observed.

CETP	BOD		COD		TAN		O & G	
	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet
PRIA CETP	254	140	480	245	4.1	0.2	1.2	BDL
RIA CETP	733	152	1879	415	7.1	2.7	2.4	1.4
M.M.A.CETP	465.41	168.87	1128	408.28	1.85	1.16	4.25	2.43

Thane Region

The treatment capacity of CETP Tarapur is exhausted due to excessive quantum of waste water and pollution load. So survey of MIDC Tarapur was conducted in 2013 to find out defaulter industries. Accordingly, closure directions were issued 59 nos. industries and proposed directions were issued 23 nos. of industries. Now, it has been proposed to install additional CETP of 50 MLD as expansion of existing CETP. Environment Department, Government of Maharashtra has issued Environment Clearance for the proposed expansions vide its letter dtd. 24/03/2015. The work of additional CETP of 50 MLD is in progress and it will be made operational within period of 18 months. Following results show 71% reduction in B.O.D., 74% reduction in C.O.D. and 50% reduction in TAN and Oil & Graese.

	BOD		COD		TAN		O & G	
	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet
25 MLD TEPS,CETP MIDC Tarapur	843	239	2556	656	63	31	3.7	1.8

Navi-Mumbai Region

The region has two major MIDC industrial estates namely, TTC and Taloja and few industries scattered in Urantaluka. These industrial estates mainly comprises of Chemical, bulk drugs & intermediates, dye and dye intermediates, pharmaceutical, pesticide, Food Industries, Petrochemical, engineering goods and textile manufacturing industries etc.

All the major & medium industries have provided full fledge effluent treatment plants & the small scale industries have provided primary effluent treatment plants. The treated effluent is discharged into common effluent treatment plant (CETP) for further treatment & disposal and the treated effluent is discharged in to the creek. There are two no. of CETP's operated in the region one is operated in TTC industrial Area and second is operated in Taloja industrial Area. The capacity of CETP at TTC area is 27

MLD and that of Taloja CETP is 22.5 MLD. Here the reduction in B.O.D. at the outlet of CETP was observed in the range 75-87% the C.O.D. reduction was also in the range 74-83%.

	BOD		COD		TAN		O & G	
	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet
TTC	290.5	36.73	738.07	123.27	67.54	20.66	2.03	BDL
Taloja	924.1	222.5	2260	580.4	-	-	3.7	2

Kalyan Region

The industrial development is done in Dombivali (Phase-I & Phase-II) and some part in K.D.M.C. areas. The treated effluent arising from industries in these areas are treated in common effluent treatment plants, namely DBESA (Textile CETP) in Phase-I & DCETP (Chemical) in Phase-II having capacity of 16 MLD &1.5 MLD resp.

The MIDC has developed industrial areas in Ulhasnagar and Ambernath talukas known as, Ambernath Chemical Zone, Chikhloli – Morivali MIDC, Ambernath, Additional Ambernath and Badlapur MIDC. The industries developed in these areas are air & water pollution prone.There are 4 no. of CETPs functioning in the industrial area. Quantity of Industrial and domestic effluent generated in MIDC industrial Area is about 17 MLD, the treated effluent is finally discharged into the Diva creek. The Addl. Amberneth CETP was in operation since June-2012.The capacity of CETP in Addl. Ambernath MIDC is about 7.5 MLD.

Except CETPs in Dombivali, the other CETPs have performed well during the year as seen from the results presented in the following table.

Name of CETP	BOD		COD		TAN		O & G	
	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet
ACMA CETP	214.6	35.2	631.3	119.2	.--	.--	1.9	BDL
Chikloli Morivali	309.4	26.7	929.2	26.7	.--	--	4.9	1.6
Badlapur CETP	1773.3	18	4246.2	305	.--	.--	6.2	1.8
DBESA CETP (Textile)	523.7	193.4	1278.4	482.4	.--	.--	2.2	1.9
DCETP (Chemical)	440.8	137.8	1096.7	351.1	.--	.--	2.1	1.7
Additional Ambernath CETP	1840.6	170	4409	522.3	.--	--	6.3	1.9

Pune Region

Pune region harbors multi facet forms of industries ranging from IT & Biotech parks to complicated process & manufacturing industries. Overall, there are about 11034 industries categorized on the basis of scale & potential impact. Out of the twenty MIDC areas, five have common effluent treatment facilities. CETP at Ranjangaon which is considered to be a five star MIDC, surrounded by multinational industries along with small scale units, receives an incoming effluent quantity of about 3.0 MLD. CETPs performance at all these locations have been regularly monitored by comparing the inlet and outlet parameters, pH is maintained from 7 to 8.3. Though functioning at its best capacity, the CETP's at Ranjangaon, Chincholi & Akkalkot are not able to qualify the desired standards.

Name of	BOD		COD		TAN		O & G	
CETP	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet
Hydro Air Tectonics (PCD) Plot No.7, Talegaon Industrial Area, Tal.Maval,Dist. Pune	119.49	29.31	440.48	99.21	1.3	0.71	1.2	BDL
MIDC,Kurkumbh tq. Daund Pune	1770.94	157.42	5382.32	443.36	173.24	89.52	3.2	1.98
M/S.CETP,MIDC, Akkalkot Road, Solapur,Pune	447	265	2160	1250	.-- .	--	2.9	2
CETP, Ranjangoan MIDC, Tal.Shirur,Dist. Pune	362. 6	87.86	1140.76	299.84	5.5	4.2	4.46	1.77
Greenfield CETP Plant Pvt Ltd P-17,MIDC Chincholi, Dist.Solapur	180.00	78	620	185	.--	.--	2.7	1.5

Kolhapur Region

In the jurdication of Sub Region Kolhapur there are 04 Common Treatment Facility. The non-CETP individual industries have also provided ETP and made arrangements for its disposal on their own land for gardening/irrigation.

Industries located at Gane Khadpoli & Kherdi are having Primary & Secondary Treatment. Treated effluent is reused in the process & remaining is discharged on land for gardning/ irrigation purpose. Industries situated at MIDC Lote are having Primary & Secondary Treatment & some of them are having tertiary treatment. Also some industries have achieved zero discharge. The treated effluent is disposed to CETP for further treatment & disposal which is further disposed in to Karambavne Creek which is notified by NIO.

From the table below it is seen that there is 72-96% reduction in B.O.D. and 71-86% reduction in C.O.D. level at the outlet of CETPs. Except at Kagal and Jaysingpur the other CETPs have performed well in respect of TAN. Ichalkaranji CETP having 1 MLD capacity and CETP at Lote have shown 50% reduction in Oil & Graese. The other CETPs performance was very poor in this regard.

Name of	BOD		COD		TAN		O & G	
CETP	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet	Avg Inlet	Avg Outlet
L.K. Akiwate Industrial Estate, Jaysingpur (CETP) Dist: Kolhapur.	507.87	140.9	1143.12	316.7	100.45	59.32	4.28	2.9
Five Star M.I.D.C. Kagal	335.83	73	640.9	181.4	63.3	46.8	3.1	52.4
Chiplun Lote	1119.51	169.27	3221.75	427.75	9.21	2.95	7.92	3.84
Textile D. C. 12MLD Ichalkaranji	522.8 1	08.6	1206.2	258.87	86.88	40.48	4.46	2.61
Textile D. C. 1MLD Ichalkaranji	473.25	75.9	1083.9	179.3	217	44.8	4	2

The CETP at Waluj in Aurangabad and at Butibori in Nagpur have shown 95% and 83% reduction in B.O.D. respectively at the outlet. While the reduction in C.O.D. at the outlet was observed 87% and 85% resp.

6.5.2 Steps taken for cleaner technology

- The M/s. Thermax Ltd. has installed 100 CMD& 500 CMD capacities of RO System.
- The CIPLA Ltd. in MIDC Patalganga has installed Zero Discharge Plant consist of Reverse Osmosis (RO) in tertiary treatment of ETP and installed Multiple Effect Evaporator (MEE) for treatment of concentrate streams such as from RO. The treated effluent form RO has reused and recycle to the maximum extent and remaining has discharge into CETP for further treatment and disposal.
- In Tarapur MIDC area 21 nos. of industries have adopted clean technology by installing MEE, RO Plant, Caustic Recovery, Waste Pickle Recovery, Recovery of Ammonia Sulphate.

6.6 Environmental Problems

PANERI NALLA POLLUTION

Paneri Nalla is located near Palghar. On the bank of this paneri nalla there are three private industrial estates. The Industries located on the bank of Paneri Nalla as well as Palghar Municipal Council is discharging their effluent into the nalla resulting in severe pollution. Detail Survey of effluent generating industries was carried out in the month of February-2014 and actions have been initiated as below.

No. of Units Identified – 31
No. of Closure direction issued – 06
No. of Proposed direction issued – 10
No. of SCN issued – 15

PATALGANGA RIVER POLLUTION

There are no industries established in the stretch of Patalganga river from origin to Tata Hydro-Power House (A-I class). The industries located after Tata Hydro-Power House (A-II Zone) of Patalangaga River have been prohibited to discharge treated effluent into Patalagana River and send it into CETP.

However, the area under jurisdiction of Khopoli Municipal Council is located mainly after Tata Hydro-Power House (A-II Zone) of Patalganga River, which is a major source of pollution of Patalganga

river water and discharges domestic effluent of about 10 to 11 MLD (Average) into river without any treatment.

Most of the industries from outside MIDC Patalganga area 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.

In order to study the problems of Patalganga river pollution, a committee was constituted. After doing necessary inspections the committee submitted their study report along with recommendations.

DISPOSAL OF FOUNDRY WASTE IN KOLHAPUR REGION

The major problem in the MIDC Shiroli & Gokul Shirgaon in Kolhapur Region is disposal of Foundry waste sand/ Slag as MIDC has not provided Sewage Treatment Facility and other required infrastructure.

Now the Foundry industries has formed a cluster for recycling of burnt sand and the said project will be implemented very soon & about 60 % waste sand will be recycled.

7. ENVIRONMENTAL STUDIES AND SURVEYS

7.1 Ambient Noise Monitoring during Diwali Festival – 2014

In order to assess the ambient noise levels in the environment during Diwali festival period, Maharashtra Pollution Control Board (MPCB) has taken initiative to carry out Noise monitoring at 117 locations all over Maharashtra for 3 days period during Diwali Festival i.e. on 23rd (Lakshmi-Pujan), 24th (Balipratipada) and Maharashtra Pollution Control Board 10 25th(Bhaubeej) October, 2014 for 24Hrs. at various locations in different cities in Maharashtra The main aim of the project is to determine the trends and variations of noise levels at various areas of the city in different land uses and to create awareness about noise pollution through availability of scientific noise level data.

Methodology of the survey

The noise measurements were done using calibrated Sound Level Meters (Type II) made at the fast response mode keeping in view the quickly changing nature of noise levels, using „A" filter. The main purpose of noise monitoring was to find out the impact of noise generated during Diwali by various activities like bursting fire crackers, Sound systems, Music Systems etc. on human being and disturbance made in environment. The present study covered 12 cities having 117 locations all over the Maharashtra (Table 4.1). These locations comprised of mixed categories of area including Residential, Commercial and Silence zone.

Table 7.1: Noise Monitoring Locations in Maharashtra during Diwali Festival: 2014.

Sr.no.	City	NO. of Locations
1	Mumbai	45
2	Navi-Mumbai	12
3	Thane	5
4	Kalyan	3
5	Dombivali	3
6	Ambernath	3
7	Ulhasnagar	3
8	Nashik	5
9	Nagpur	10
10	Aurangabad	5
11	Kolhapur	8
12	Pune	15
	Total	**117**

Comparative Study of Noise levels

Comparative study of the last three years, i.e. 2012 – 2014 shows that when the noise level in some of the cities increased, in many cities it has also decreased. Comparative study shows the follwing results in different cities of Maharashtra.

Mumbai South: Mazgaon, Girgaon, Matunga and Kamathipura showed less level of noise during day and Mantralaya, Parel and Hindu colony showed lower noise level during night time on all three days during this Diwali festival as compared to the previous two years.

Mumbai Eastern Suburbs: The day time noise level on all three days at Mumbai eastern suburbs have increased compared to last two years. Ghatkoper east & west and Sewree region showed lesser noise level on all three days during night time.

Mumbai Western Suburbs: Versova and Dindoshi showed less noise level during day time and Santacruz and Borivali west showed less noise level during night time on all three days of noise monitoring of Diwali Festival.

Navi Mumbai: Ghansoli had lesser noise level both during day time and night time on all three days of noise monitored during this Diwali Festival. Also Koperkhairne showed less noise level during night time on all three days of noise monitoring carried out.

Thane: In Thane, the noise level was higher this year as compared to last two years during day time on all three days. Ghokale road and Pokaran showed lesser noise level during night time on all three days of noise monitoring of Diwali Festival.

Kalyan: In Kalyan the noise level was lesser this year as compared to last two years during night time on all three days. Birla College showed lesser noise level during night time on all three days of noise monitoring of Diwali Festival.

Dombivali: The noise level in Dombivali was high this year than the last two years. Only at Navpada there was slight decrease in noise level during night time on the last two days of noise monitroing carried out.

Ambernath: The noise level in Ambernath was more or less the same this year than the last two years.

Ulhasnagar: Shivaji Chowk of Ulhasnagar.showed lesser noise level this year as compered to last two years.

Nashik: The noise level in Nashik was high this year as obsereved in the previous two years. Bytco point showed less noise level this year than last two year.

Nagpur: The observed noise level was less this year at Nagpur as compared to last two year.

Aurangabad: The noise level in Aurangabad very less this year as compared to last two years. Gulmandi Chowk, City Chowk and Usmanpura showed lesser noise level this year on almost all three day of noise monitoring carried out.

Kolhapur: The noise level in Kolhapur was less this year as compared to last two years.

Pune:The noise level in Pune was very less this year as compared to last two years. Satara Road, Swarget, Mandai, Saras Bhag and Chichwad was observed with less noise level on all three days both during day time and night time

Conclusion

The study examines the noise pollution created during Diwali festival. While considering the festive trend, the noise levels are only slightly higher this time than the previous years. The noise created by crackers this year was very less. The noise level obtained also record the background sound including the traffic and other which is one reason for the increase in noise pollution. There was even less use of loud speakers this year which gave a great contribution towards lower noise levels.

Noise pollution in environments is unevenly distributed, with people of lower socioeconomic status suffering more than others even if it is caused due to festive celebration. In spite of legal standards in place and efforts of regulatory agencies, the noise levels could not be checked and controlled up to the desired levels. In order to make people aware of the noise pollution and its adverse effects on environment and health, a social mission supported by capacity building in the regulatory agencies for effective implementation of the noise standards is required.

7.2 Ambient Noise Monitored at Metropolitan cities – 2014

In order to assess the ambient noise levels in the environment during a working and a non working day, Maharashtra Pollution Control Board (MPCB) has taken initiative to carry out Noise monitoring at 25 locations in metropolitan cities of Maharashtra for 2 days period i.e. on 14th (Sunday) and 15th (Monday) of December, 2014 for 24Hrs. The main aim of the project was to determine the trends and variations of noise levels at various areas of the city in different land uses and to create awareness about noise pollution through vailability of scientific noise level data.

Methodology of the survey

The noise measurements were done using calibrated Sound Level Meters (Type II) made at the fast response mode keeping in view the quickly changing nature of noise levels, using 'A' filter. The main purpose of noise monitoring was to find out the impact of noise generated during a working and non working day at the same locations during both days and during the same period.

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 (a holiday) and 15th (a working day) of December, 2014. The monitoring was carried at the same locations during both days and during the same period. Noise standards for ambient noise level during day and night are different; hence noise levels were measured accordingly as follows:

- Day shift from 06:00 Hrs. to 22:00 Hrs:
- Night shift from 22:00 Hrs. to 06:00 Hrs.

Table 7.2: Noise Monitoring Locations in Maharashtra

Sr.no.	City	NO. of Locations
1	Mumbai	10
2	Nashik	3
3	Nagpur	3
4	Aurangabad	3
5	Kolhapur	3
6	Pune	3
	Total	**25**

City wise Observations:

Sr. No.	Date Monitoring Site	14/12/2014 Day Time (06AM-10PM) Values in dB(A)					
		Leq	**Lmax**	**Lmin**	**L10**	**L50**	**L90**
	MUMBAI						
1	Backside of High Court	68.2	75.9	58.2	74.1	71.4	64.7
2	Mumbadevi Temple	69.6	77.7	55.2	77.7	73.3	61.8
3	Borivali National Park	69.5	78.8	63.7	78.0	73.5	67.2
4	Antop Hill	67.1	82.1	51.0	78.0	69.5	59.6
5	Shivaji Park, Dadar	67.9	80.3	46.3	79.3	73.1	66.8
6	Santacruz Airport	67.3	82.9	51.6	79.3	66.8	58.6
7	Ghatkopar (W)	71.8	81.3	62.8	80.8	74.7	65.2
8	Vashi Naka, Chembur	68.2	81.7	55.4	81.0	73.8	57.5
9	Goregaon (E)	68.4	81.7	55.2	80.5	69.2	64.2
10	Charkop, Kandivali	67.7	79.0	41.0	77.1	70.8	62.6
	PUNE						
11	Nucleus Mall	63.0	80.0	50.2	76.2	71.0	59.8
12	Pune University	69.8	84.0	55.2	83.1	81.7	66.4
13	Kakade Angan	57.4	67.8	51.6	66.6	61.1	58.4
	NASHIK						
14	Dwarka Circle	70.6	74.3	68.4	73.6	71.5	69.7

15	Pandit Colony Near PMC	67.3	77.4	56.1	73.8	68.6	61.1
16	Pavan Nagar CIDCO	76.5	84.5	74.0	83.0	80.1	76.7
	AURANGABAD						
17	Ghati Hospital	62.2	68.6	58.2	65.4	61.7	59.5
18	Nirala Bazaar	67.4	72.4	62.1	70.2	67.2	64.7
19	CIDCO N-4	65.1	70.8	60.5	68.4	64.8	62.6
	NAGPUR						
20	Govt. Medical College	49.5	54.1	42.7	53.3	52.2	48.0
21	Sitabardi Police Station	70.6	79.4	62.4	78.0	74.9	70.4
22	Shivaji Nagar	62.9	74.8	56.9	71.8	67.8	61.6
	KOLHAPUR						
23	Collector Office	52.8	66.0	42.0	62.9	58.0	49.0
24	Shahupuri	68.6	89.0	55.0	86.6	78.0	68.0
25	Dasara Chowk	67.1	85.0	45.0	85.0	78.0	65.0

Sr. No	**Date / Monitoring Site**	**14-12-2014 & 15-12-2014 Night Time (10PM-06AM) Values in dB(A)**					
		Leq	**Lmax**	**Lmin**	**L10**	**L50**	**L90**
	MUMBAI						
1	Backside of High Court	64.4	75.0	51.6	74.6	69.0	51.7
2	Mumbadevi Temple	68.0	74.3	56.9	73.4	70.2	61.1
3	Borivali National Park	63.1	78.9	52.7	77.9	58.6	54.6
4	Antop Hill	63.4	82.2	51.7	73.2	61.9	54.1
5	Shivaji Park, Dadar	57.6	82.8	41.0	73.0	58.7	41.9
6	Santacruz Airport	65.1	77.2	56.3	74.3	62.2	57.1
7	Ghatkopar (W)	68.2	75.8	62.0	74.6	67.6	63.1
8	Vashi Naka, Chembur	62.1	73.0	30.8	70.6	65.9	51.5
9	Goregaon (E)	64.1	77.8	56.2	73.0	62.0	56.4
10	Charkop, Kandivali	65.2	73.5	57.4	72.0	64.6	58.2
	PUNE						
11	Nucleus Mall	50.9	58.7	45.8	55.8	50.4	46.2
12	Pune University	53.2	69.8	42.0	64.9	51.3	43.3
13	Kakade Angan	49.0	55.8	42.9	54.3	48.4	43.3
	NASHIK						
14	Dwarka Circle	69.2	76.8	60.5	75.5	68.7	63.0
15	Pandit Colony Near PMC	66.1	67.5	63.5	67.5	66.9	64.3
16	Pavan Nagar CIDCO	69.6	79.1	55.5	78.9	68.5	62.2
	AURANGABAD						
17	Ghati Hospital	51.6	57.7	45.7	55.5	51.3	48.2
18	Nirala Bazaar	57.4	64.5	51.6	61.3	56.5	52.1
19	CIDCO N-4	55.1	61.6	48.8	60.6	54.6	49.9
	NAGPUR						
20	Govt. Medical College	46.8	49.7	43.9	48.4	46.9	45.0
21	Sitabardi Police Station	62.3	70.7	56.7	68.8	62.3	57.1
22	Shivaji Nagar	54.4	61.2	46.2	59.2	55.8	47.2

	KOLHAPUR						
23	Collector Office	44.3	54.0	41.0	47.7	43.0	41.0
24	Shahupuri	48.0	74.0	40.0	56.0	45.0	41.2
25	Dasara Chowk	50.1	74.0	40.0	66.3	46.0	40.7
Sr. No.	**Date Monitoring Site**	**15/12/2014 Day Time (06AM-10PM) Values in dB(A)**					
		Leq	**Lmax**	**Lmin**	**L10**	**L50**	**L90**
	MUMBAI						
1	Backside of High Court	64.8	71.3	65.5	47.5	71.2	69.9
2	Mumbadevi Temple	56.3	70.8	41.5	41.6	66.8	57.1
3	Borivali National Park	64.8	89.0	48.6	37.3	87.9	69.4
4	Antop Hill	63.6	72.6	59.0	51.3	70.5	64.7
5	Shivaji Park, Dadar	68.3	83.2	59.2	49.7	80.9	74.2
6	Santacruz Airport	73.0	86.8	58.8	67.6	74.2	71.5
7	Ghatkopar (W)	60.7	82.1	50.4	40.0	79.6	63.2
8	Vashi Naka, Chembur	68.5	92.3	65.8	44.0	78.1	74.8
9	Goregaon (E)	67.1	89.9	57.2	45.1	82.9	69.5
10	Charkop, Kandivali	72.3	87.9	52.8	52.0	86.5	77.6
	PUNE						
11	Nucleus Mall	62.7	79.4	50.2	76.2	69.6	59.7
12	Pune University	67.1	84.0	55.2	83.0	73.4	62.1
13	Kakade Angan	58.6	69.4	51.6	68.3	62.8	58.8
	NASHIK						
14	Dwarka Circle	71.7	80.4	68.4	78.5	73.2	68.8
15	Pandit Colony Near PMC	68.1	78.7	60.2	77.9	69.2	62.6
16	Pavan Nagar CIDCO	69.3	76.8	64.6	75.9	68.8	65.4
	AURANGABAD						
17	Ghati Hospital	63.5	67.8	57.9	66.8	63.5	60.3
18	Nirala Bazaar	68.2	73.2	62.5	71.1	68.1	65.6
19	CIDCO N-4	64.5	68.9	60.6	67.2	64.6	61.9
	NAGPUR						
20	Govt. Medical College	56.0	67.8	51.8	64.6	59.2	57.1
21	Sitabardi Police Station	71.3	80.8	70.3	79.7	73.9	71.6
22	Shivaji Nagar	64.1	71.9	61.5	71.7	70.1	63.3
	KOLHAPUR						
23	Collector Office	58.4	81.0	42.0	77.0	67.0	47.5
24	Shahupuri	67.3	88.0	55.0	87.4	79.0	62.0
25	Dasara Chowk	69.5	89.0	45.0	88.0	82.5	65.0

Sr. No.	Date Monitoring Site	15-12-2014 & 16-12-2014 Night Time (10PM-06AM) Values in dB(A)					
		Leq	**Lmax**	**Lmin**	**L10**	**L50**	**L90**
	MUMBAI						
1	Backside of High Court	55.6	67.3	47.5	65.6	54.0	47.8
2	Mumbadevi Temple	54.2	71.4	41.6	64.5	53.4	43.3
3	Borivali National Park	54.6	80.6	37.3	79.3	47.6	38.0
4	Antop Hill	60.1	75.4	51.3	71.6	57.6	52.1
5	Shivaji Park, Dadar	57.0	78.1	49.7	65.4	51.5	50.3
6	Santacruz Airport	76.5	85.4	67.6	83.9	75.4	69.4
7	Ghatkopar (W)	50.7	78.7	40.0	63.7	46.6	41.6
8	Vashi Naka, Chembur	56.0	71.4	44.0	68.8	55.0	44.4
9	Goregaon (E)	58.2	87.9	45.1	76.5	51.8	47.6
10	Charkop, Kandivali	63.4	74.4	52.0	70.8	61.4	57.6
	PUNE						
11	Nucleus Mall	51.2	58.7	46.5	55.7	50.3	46.8
12	Pune University	55.4	69.8	44.8	67.3	53.4	46.0
13	Kakade Angan	50.1	55.8	43.1	56.0	50.3	43.9
	NASHIK						
14	Dwarka Circle	68.3	72.1	63.4	71.1	68.9	64.9
15	Pandit Colony Near PMC	65.8	69.7	61.0	68.3	66.5	62.6
16	Pavan Nagar CIDCO	67.9	69.9	65.7	69.7	68.0	66.0
	AURANGABAD						
17	Ghati Hospital	52.2	58.8	46.2	56.9	52.2	48.0
18	Nirala Bazaar	58.1	64.2	52.2	63.0	57.8	53.7
19	CIDCO N-4	55.0	60.6	47.6	59.8	55.5	50.4
	NAGPUR						
20	Govt. Medical College	47.7	50.3	44.2	49.7	47.9	45.4
21	Sitabardi Police Station	61.8	72.6	56.6	66.4	62.8	57.0
22	Shivaji Nagar	55.2	62.0	46.2	61.3	55.9	48.3
	KOLHAPUR						
23	Collector Office	44.2	54.0	42.6	51.9	42.5	40.0
24	Shahupuri	44.0	74.0	40.0	49.4	42.0	40.0
25	Dasara Chowk	51.9	74.0	40.0	76.4	44.0	40.0

Mumbai

A total of 10 locations were monitored continuously for two days from 14th to 15th December, 2014 for 24 hours. It was observed that, on 14th December, among all the 10 locations Santacruz Airport was found to have maximum noise level during day time with 82.9 dB(A) and Shivaji Park, Dadar with 82.8 dB(A) was found to have maximum noise level during night time and on 15th December, Vashi

Naka, Chembur was found to be have the maximum noise level during day time with 92.3 dB(A) and Goregaon (E) with 87.9 dB(A) was found to have maximum noise level during night time. The present study also shows that:

- In the silence zones, the average minimum and maximum sound level of 54.2 dB(A) and 69.6 dB(A)was observed at Mumbadevi Temple on 15th December during night time and on 14th

December during day time respectively.

- In the residential zones, the average minimum and maximum sound level of 57.6 dB(A) and 68.3 dB(A)was observed at Shivaji Park, Dadar on 15th December during night time and on 15th December during day time respectively
- In the commercial zones, the average minimum sound level of 50.7 dB(A) was observed at Ghatkoper (W) on 14th December during night time and average maximum sound level of 76.5 dB(A) was observed at Santacruz airport on 15th December during night time.
- In the industrial zones, the average minimum sound level of 58.2 dB(A) was observed at Goregaon (E) on 15th December during night time and average maximum sound level of 72.3 dB(A) was observed at Charkop, Kandivali on 15th December during day time.

Pune

A total of 3 locations were monitored continuously for two days from 14th to 15th December, 2014 for 24 hours. In all three locations, on 14th December, Pune University was found to have high sound level of 84 dB(A) and 69.8 dB(A) both during day time and night time respectively and on 15th December also Pune University was found to have high sound level of 84 dB(A) and 70.8 dB(A) both during day time and night time respectively. The present study also shows that:

- In the silence zone, the average minimum noise level of 42 dB(A) was found on 14th December at night time and the average maximum noise level of 84 dB(A) on 14th December during day time
- In the residential zone, the average minimum noise level of 42.9 dB(A) was found on14 December at night time and the average maximum noise level of 69.4 dB(A) on15th December in day time.
- In the commercial zone, the average minimum noise level of 45.8 dB(A) was found on 14th December at night and the average maximum noise level of 80 dB(A) on 14th December in day period.

Nashik

A total of 3 locations were monitored continuously for two days on 14th and 15th December, 2014 for 24 hours. It was observed that, on 14th December, among all the locations Pavan nagar was having the highest noise level at both day time and night time with 84.5 dB(A) and 79.1 dB(A) respectively. On 15th December, Dwarka Circle was found to be have highest noise level both at day time night time with 80.4 dB(A) and 72.1 dB(A) respectively. The present study also shows that:

- In residential zone, the average minimum sound level of 65.8 dB(A) was observed at Pandit Colony during night time on 15th December and average maximum sound level of 76.5 dB(A) was observed at Pavan Nagar and CIDCO during day time on 14th December.
- In commercial zone, both the average minimum sound level of 68.3 dB(A) and average maximum sound level of 71.7 dB(A) was observed at Dwaraka Circle at night time on 15th December.

Aurangabad

In Aurangabad also 3 locations were monitored continuously for two days from 14th to 15th December, 2014 for 24 hours. It was observed that on 14th December, among all the locations Nirala Bazar had the highest noise level at day time and at night time with 72.4 dB(A) and 64.5 dB(A) respectively. On 15th December, Nirala Bazar had the highest noise level at day time and night time with 73.2 dB(A) and 64.2 dB(A) respectively. The present study also shows that:

- In the silence zone, the average minimum sound level was 51.6 dB(A) and the average maximum sound level was 63.5 dB(A).
- In the commercial zone, the average minimum sound level was 57.4 dB(A) and average maximum sound level was 68.2 dB(A).
- In the residential zone, the average minimum sound level was 55.0 dB(A) and average maximum sound level was 65.1dB(A)

Nagpur

A total of 3 locations were monitored continuously for two days at Nagpur on 14th and 15th December, 2014 for 24 hours. It was observed that on both days, Sitabardi Police station was having maximum noise level at day as well as at night time. It was also observed that:

- At the silence zone the average minimum sound level was 46.8 dB(A) and the average maximum sound level was 56.0 dB(A).
- At the commercial zone the average minimum sound level was 62.3 dB(A) and average maximum sound level was 71.6 dB(A).
- At the residential zone the average minimum sound level was 54.4 dB(A) and average maximum sound level was 64.1 dB(A)

Kolhapur

A total of 3 locations were monitored continuously for two days from 14th to 15th December, 2014 for 24 hours. It was observed that, among all the locations Shahupuri was found to be having highest noise level on the 14th December both day & night time with 89.0 db(A) and 74.0 dB(A) respectively. On 15th December, Dasara Circle Chowk had the highest noise level at day time and night time with 89.0 dB(A) and 82.0 dB(A) respectively. It was also observed that:

- At the silence zone, the average minimum sound level was 46.8 dB(A) and the average maximum sound level was 56.0 dB(A).
- At the commercial zone, the average minimum sound level was 62.3 dB(A) and average maximum sound level was 71.6 dB(A).
- At the residential zone, the average minimum sound level was 54.4 dB(A) and average maximum sound level was 64.1 dB(A)

Conclusion

It is observed from the results that, the noise levels mostly exceeded the permissible limit on both days the 14th (holiday) & 15th (working day) December, 2014 in all the six Metropolitan Cities of Maharashtra.

The study reveals that Noise levels at many locations this year have tremendously decreased at many locations as compared to last year. All location of Pune, Aurangabad & Nagpur showed lower levels of noise frequency both day time and night time on both Working and holiday. It was observed that there was increase in noise levels in some locations such as Mumbadevi, Vashi Naka, Pavan Nagar and Pandit colony. It can be concluded that as year moves public is aware of the impact of noise generation and have taken steps to control the same.

8. ENVIRONMENTAL TRAINING

Learning of Environmental subjects is a continuous process. The latest advancements in understanding Environmental aspects are a provocation for continuous learning. To cope up with the increased responsibilities and to be aware of latest developments in the field, training is inevitable.

It is one of the functions of the Board to plan and organize training in various aspects of prevention, abatement and control of pollution. The Board deputes its Staff and Officers for training to acquire knowledge in various fields related to environment protection and pollution control, cleaner technologies, waste minimization and amendments in respective Acts and Rules to equip them adequately to discharge their duties efficiently.

Training is an essential ingredient for effective implementation of the stipulated pollution control norms.

During the year the Board had deputed 470 officials to attend training in technical, scientific and administrative courses as shown in the following table.

Sr. No.	**Particulars**	**No of official nominated during 2014-15**	
		National	**International**
1	Technical	408	4
2	Scientific	54	0
3	Administration & Accounts	4	0
	Total No of Officials	**466**	**4**
	Total Cost Rs	**7,16,295**	

The various training courses / workshops / seminars / lectures attended by the staff and officers of the Board held in India and abroad during the year 2014-2015 are summarized in ANNEXURE III.

9. ENVIRONMENTAL AWARENESS AND PUBLIC PARTICIPATION

For sustainable development it is necessary to promote and create environmental awareness among communities, businesses and governments. Therefore the Board organizes various environmental awareness programs across the State of Maharashtra. During the year the programs on environmental awareness conducted were as below.

9.1 World Environment Day

World environment Day a program to create environmental awareness was arranged in association with Environment Department GoM. This was celebrated at Yashwantrao Centre in Mumbai.

Hon'ble Chief Minister Shri. Prithviraj Chavan, Environment Minister Shri. Sanjay Devtale, State Minister for Environment Shri. Sachin Ahir, Principal Secretary Environment Shri R.A. Rajiv and Member-Secretary M.P.C.B. Shri Rajeev kumar Mital were present to grace this occasion,.

On this occasion in co-ordination with "Paryavaran Dakshata Manch", inauguration of film festival,Vasundhara Awards 2014, Announcement of Vasundhara short film festival competition, Prize distribution to the winners of Photothon 2014 at the hands of chief guest was observed. On the same day publication of "Air Quality report 2013-14", "Paryavaran Kawach", "Global warming coffee table book", ISO-9001, laboratory certification and EVA Conference by TERI were organized. This year the World environment Day was celebrated on 7th June 2014. A short film festival on environment was organized on 7th, 8th, and 9th June 2014

On these days environment information, information on new technologies, Eco-Ganesha , Noise pollution Rules, Regulations and Penalty were exhibited for public. The exhibition and program was attended by more than 200 environment lovers.

On 5th, 6th & 7th June, 2014, a film festival was organized in association with Environment Deptt. & with co-ordination of "Paryavaran Dakshata Manch" at Yashwantrao Chavan centre in Mumbai. During this period the Vasundhara Award winner films were exhibited. For this film festival more than 200 environment lovers were visited every day. A Workshop was held among the directors, producers, environment expert.

During these days, environment massages were published in special supplements in news papers like DNA, Hindustan Times and Mid-Day. Also messages on environment awareness were published in 21 Newspapers of Maharashtra State.

To organize various awareness programs like canvas painting giving environmental messages, discussions and other activities financial assistance was also given to the following institutions.

1. Bhamla Foundation "We Love India"
2. Environment Conservation committee Chandrapur
3. Yashwantrao Chavan Pratishthan Karad
4. Sai Foundation Aurangabad

Hon'ble Chief Minister Shri. Prithviraj Chavan, Environment Minister Shri. Sanjay Devtale, at the Inaugural function of World Environment Day 2014. Shri Rajivkumar Mital Member-Secretary delivering introductory speech.

Hon'ble Chief Minister Shri. Prithviraj Chavan(centre) State Minister for Environment Shri. Sachin Ahir (right), Environment Minister Shri. Sanjay Devtale, (left) inaugurating Environment exhibition at Y.B.Centre in Mumbai

9.2 Environment Friendly Festivals—

9.2.1 Ganesh Festival

- M.P.C.Board and Dainik Loksatta had jointly organized Eco-Friendly Ganesh decoration competition in Houses of Mumbai, Pune, Nashik, Nagpur, Ahmednagar, and Aurangabad. In this competition more than 2000 participants had participated.
- M.P.C.Board and Zee 24Tas had jointly organized a State level Eco-Friendly Ganesh decoration competition in Houses of Maharashtra State. In this competition more than 500 participants had participated.

- The Board, Environment Department GoM and Times Group had jointly organized Eco-Green Ganesha competition for big Public Ganesh Mandal and housing societies in Mumbai,Pune and Nashik. During this campaign various malls and cinema theaters in Mumbai city had spread environmental messages. Workshop on Eco-Friendly Ganaesh idol for school and college students was also organized. On the occasion of immersion of Ganesh idol cleanliness drive was observed at Girgaon Chowpaty, Juhu Beach and Varsova Beach. On this awareness a special film was prepared by Times group. During 15 days of celebration special articles were published in Times of India. The Program began at the auspicious hands of well known Actor Prabhudeva in presence of State Environment Minister in Lala Lajpatrai College.

- To celebrate Eco-friendly Ganesh festival in housing societies of main cities in Maharashtra State, a special awareness campaign was organized by M.P.C.Board in association with ABP Maza news channel. A special telecast of eco-friendly Ganesh festival celebration in housing societies of Mumbai, Pune, Nashik & Nagpur was shown as a part of news on news channel. ABP Maza had also organized a special "Talk Show" for half an hour duration, during the festival, in which a news bulletin on celebration of Eco-friendly Ganesh was shown.
  Cine artistes Aditya and Prajakta Mali had also contributed to this program by giving advertisement through promos in respect of eco-friendly celebration in individual houses.

- Eco Ganesh Traders Conference was organized by M.P.C. Board in association with Dainik Lokstta and Zee 24 Tass. Since last several years the Board is taking rigorous efforts for making Ganesh festival eco friendly. Last year with the initiation of M.P.C.Board, there were one lakh eco friendly Ganesh idols made available in the market of Mumbai and near by areas. In order to make available maximum eco friendly Ganesh idols to the general public a joint meeting of Ganesh idol makers, distributers, representative of social organizations and public organizations was conducted at Yashwantrao Chavan Centre in Mumbai. In the reporting year to fulfill the aim that the eco friendly Ganesh idol to reach maximum people, the **Eco Ganesh Traders Conference 2014** was observed. For this program Hon'ble State Minister for Environment Shri Sachin Ahir, Additional Chief Secretary Environment Smt. Medha Gadgil, various social organizations, representatives of Brihan Mumbai Public Organizations, Idol distributers and makers were present.

Hon. Chief Minister watching Eco-friendly Ganesh idols at Exhibition.

9.2.2 Dahi Handi

M.P.C.Board and Ideal Book depot had jointly organized Eco-Friendly Dahi Handi in Mumbai. On this occasion a rally was organized that toured from Shivaji Park Dadar across the city in the open roofless double Decker BEST Bus where in film stars, drama artist joined and conveyed message to reduce noise pollution. Before one day of Dahi Handi a rally was organized with street play artistes in Dadar and Lalbaug.

On this occasion in presence of Shri Nandumadhav,Smt. Veena Jamkar and famous TV serial artistes **Eco-Friendly Dahi Handi** was broken and spread message on importance of environment. A noiseless **Eco-Friendly Dahi Handi** was also broken at the hands of Cine-artiste drama- artiste at Chabildas Highschool in Dadar. Member Secretary and Public Relation Officer of the Board were present on this occasion.

9.2.3 Diwali Festival:

Diwali the **"festival of lights"** is an ancient Hindu festival celebrated in autumn every year. The festival spiritually signifies the victory of light over darkness, knowledge over ignorance, good over evil, and hope over despair. The festival preparations and rituals typically extend over a five day period, but the main festival night of Diwali coincides with the darkest, new moon night of the Hindu Lunisolar month Kartik. In the Gregorian calendar, Diwali night falls between mid-October and mid-November.

In order to celebrate pollution free Diwali a messages from Hindi and Marathi Cine artistes on awareness prepared by UFO Digital was shown in more than 350 digital cinema theaters in the State for one week. Songs on pollution free Diwali was broadcasted through F.M. Radio Channels in the State for 5 days.

A message like **"celebrate pollution free Diwali"** was also spread through various Marathi news channels like ABP Maza,IBN Lokmat,Star Pravah, Mi-Marathi, TV-9, Sam-TV and Jai-Maharashtra.

9.3 Awareness program organized at Regional office level

Kolhapur Region

The information on functioning of the Board & implementation of Rules were given to the students of Shivaji University Environment Department.

This office organized awareness programme & drama competition for the Kids/ Children's on Environmental problems & pollution problem caused by the Human activity.

Posters about eco friendly immersion of Ganesh idols & Noise pollution were displayed at different locations in the cities during the Ganesh festival.

During Ganesh festival Sangli office meets Ganesh Mandals for awareness regularly and observes "No Use of Plastic Bags". This year about 500 cloth bags have distributed to Citizens. Sangli office in collaboration with IMA, Colleges, MCED, MITCON attended seminars, training programs & lectures to create awareness amongst new entrepreneurs, students, etc.

Nashik Region

During Ganpati festival Nashik office had circulated the guidelines about immersion of idols. A wide publicity was also given through local leading news papers about the use of non metallic colors for idol painting and for immersing the idol in a safe place so as to avoid ground /surface water pollution. Noise monitoring was also carried out in the major cities of the region during day and night time. A report in this regards has been prepared. The noise monitoring report reveals that there is substantial impact on the local public for keeping noise level minimum especially after 10 p.m. in the night. Also many people had adopted the suggestions about idol immersion which has helped to have minimum impact on the water bodies.

Similarly during Diwali festival, this office had circulated the guidelines about minimum use of crackers that to having noise level within 110 dB only. Also a wide publicity was given through local lead-

ing news papers for use of less noise creating crackers. A cartoon CD on awareness for general public on noise pollution due to busting of crackers has been made available & was shown on the local news channels in Nashik. The noise monitoring report reveals that there is substantial impact on the local public for keeping noise level minimum especially after 10 pm in night. 200 no of posters / banners were distributed to 100 no. of schools for display showing the damages likely to be caused by fire crackers & to avoid use of fire crackers in Diwali festival.

10. IMPLEMENTATION OF THE RULES UNDER ENVIRONMENT (PROTECTION) ACT, 1986

10.1 Management of Hazardous waste

The Central Government has published Hazardous Waste (Management, Handling & Transboudary Movement) Rules, 2008 in supersession of the Hazardous Waste (Management& Handling) Rules 1989.

Every person who is engaged in generation, processing, treatment, package, storage, transportation, use, collection, destruction, conversion, offering for sale, transfer or the like of the hazardous waste shall require to obtain an authorization from the State Pollution Control Board.

10.1.1 Implementation of HW (MH&TM) Rules, 2008:

In order to manage /implement HW (MH&TM) Rules, 2008 a separate Cell is created at MPCB HQ, with following activities:

- Scrutiny of Annual Returns under Form 4 / Form 13 filed by industries/ Auctioneers (Conduct scrutiny of documents submitted and compare quantities of Waste generated with Inventory figures & verify the quantity disposed off at various disposal sites).
- Scrutiny of Returns under Form 6 filed by Registered Recyclers.
- Raising queries on report /application/return to ensure that Hazardous Waste generated is safely disposed off.
- Updating of the HW Inventory based on information / feedback received.
- Submit complied scrutiny on Annual Returns.
- Updating of the inventory of hazardous wastes from industrial sources based on information received from industries through representations / consents / Annual Returns / Site visits etc & submission of HW inventory of HW generating units to CPCB / MoEF every year.
- Compilation of Import of Hazardous Chemicals.

During the Year 2014-15 annual returns in form 4 in Hard Copies have been filed by 810 industries, while 720 Nos. have filed annual returns on-line. 60 Recyclers / Re-processors have filed annual returns in form 6 in hard copies while 13 have filed their returns on line.

The Board has already developed an online system for submission of form 4, 6 and 13 as provided under the Rules. The Board is receiving annual returns from the hazardous waste generator, recyclers/ reprocessors and manifest from occupier online.

10.1.2 Hazardous Waste Inventory:

While assessing the work of Inventory it needs to ensure the compliance to HW Rules, it was seen that the HW Inventory is dynamic since there are continuous changes in the inventory as industrial units expand / modernize / change their product mix or as new units get added or old units stop producing. The Board therefore decided to continue the scientific approach while preparation of Inventory by creating a HWM Cell – a unique model of Public-Private Partnership in environmental jurisprudence i.e. using process Chemistry / Technology Experts in conjunction with Board officials to monitor and manage effectively the HW situation in the state.

The HWM cell has been entrusted with various tasks such as updating and maintaining the Inventory, by monitoring the HW generation, transport and disposal on the basis of returns filed by the industries.

The updated Inventory report presenting HW generation as of March 2015 is prepared

As per the present inventory, total HW generation for Maharashtra State is 1703353.15MT /Annum of which about 41% is landfillable, 39% is recyclable and balance 20% is incinerable.

Region-Wise HW Totals (MTPA)
Hazardous Waste Generation Updation of 31st March-2016

Region wise Hazardous Waste generation				
Region	**Secured Landfillable**	**Recyclable**	**Incinerable**	**Total**
Navi Mumbai	77428.41	41698.26	75837.99	194964.65
Pune	98733.46	90601.17	126282.28	315616.91
Nagpur	42238.29	50469.80	8292.46	101006.55
Thane	65097.12	125308.93	21037.37	211443.42
Aurangabad	36180.81	20731.58	13780.24	70692.63
Raigad	79552.75	107634.70	31757.00	218944.40
Kalyan	73699.21	48008.28	10336.91	132044.40
Nashik	102174.20	33897.25	23220.74	159292.19
Amravati	6878.75	878.24	561.83	8318.82
Kolhapur	52748.78	15521.93	19112.15	87382.85
Mumbai	41955.59	132097.12	8408.15	182460.86
Chandrapur	17752.55	2726.02	706.87	21185.44
Total	**694439.91**	**669573.26**	**339339.98**	**1703353.15**

Hazardous Waste Generating Units – Region wise

Sr. No.	Region	Total No. of Units
1	Amravati	72
2	Aurangabad	324
3	Chandrapur	131
4	Kalyan	876
5	Kolhapur	357
6	Mumbai	380
7	Nagpur	340
8	Nashik	479
9	Navi Mumbai	690
10	Pune	1134
11	Thane	741
12	Raigad	348
	Total	**5872**

10.1.3 Functioning of TSDF(Treatment Storage & Disposal Facility) :

CPCB has published guidelines for operations of Common Hazardous Waste Treatment Storage and Disposal Facilities (CHWTSDF), which are required to be followed by CHWTSDF operators. In order to bring uniformity in checking compliance / monitoring the operations of TSDF by SPCB /PCC for assessing the compliance of guidelines, CPCB has framed "Protocol for performance Evaluation & Monitoring of the Common Hazardous Waste Treatment Storage & Disposal Facilities including Common Hazardous Waste Incinerators."

Operations involving treatment, storage and disposal shall comply with the guidelines / regulations issued by CPCB/MoEF stipulated in authorization under Hazardous Waste (MH & TM) Rules, 2008.

The Operator of CHWTSDF facility is responsible for:

- Accepting hazardous wastes at CHWTSDF from the generators authorized by SPCB/PCC.

- Establishing a system for optimal movement of hazardous wastes transportation, Treatment and disposal operations which may include resource recovery/ recycling as the case may be.
- Fingerprinting analysis to confirm the wastes shall be the responsibility of the Operator.
- Operating the CHWTSDF as per conditions stipulated in the authorization issued by SPCB/PCC.
- Ensuring waste treatment and/or disposal as per Hazardous Waste (Management,Handling & Trans-boundary Movement) Rules, 2008
- Undertake cleanup operation in case of contamination resulting from CHWTSDF pollution and the odour arising out of CHWTSDF Operations and subsequent abatement.
- Compliance of regulations concerning occupational safety and health of CHWTSDF employees.

10.1.4 CHWTSDF Sites in Maharashtra State

At present there are four CHWTSDF in operation where direct land filling, Incineration and land filling after treatment of H.W being carried out. From 5872 nos. of hazardous waste generating units 20, 31,766.75 MT of hazardous waste is received at all four sites. Four sites are in operation & details of those are, as under:

Sr	Criteria	Taloja (MWML)	TTC	Rajangaon	Butibori
1	Details of the facility	M/s. Mumbai Waste Management Limited, Plot No. P-32, MIDC, Taloja, Tal: Panvel, Dist: Raigad	M/s. Trans Thane Waste Management Association P-128, Shil-Mahape Road, Next to L&T Infotech Ltd. Mahape, Navi-Mumbai	M/s. Maharashtra Enviro Power Ltd. Plot No. 56, MIDC Ranjangaon, Taluka- Shirur, Dist – Pune.	M/s. Vidharbha Enviro Protection Ltd. Sr.No.7 to 15, 131 & 162, Butibori Industrial Area, Mouza-Mandawa,Taluka-Hingana, Dist- Nagpur.
2.	Consent to Establish issued on	02.01.2002	02.01.2002	27.10.2005	27.10.2005
3	In Operation / Under construction	Commissioned since 2001	Commissioned since Jan 2004	SLF- Commissioned Since Jan 2007 Incinerator- Commissioned since Nov-2008	SLF- Commissioned since Feb 2007 Incinerator- Commissioned since Nov-2008
4	Capacity of the Facility	SLF- 120,000 MT/ Year 1. INC - 2 .5 TPH. 2. INC- 2.5 TPH	SLF- 10,000 MT/Year INC-No Facility (Incinerable HW sent to Taloja)	SLF- 60,000 MT/Year INC-3 TPH	SLF- 60,000 MT/Year INC-3TPH
5	Total Waste Quantity received up to 31st Mach 2015 at CHWTSDF (since commissioning of the facility)	1188372.37 MT	333742.25 MT	393695.34MT	115956.79 MT

Picture III: Common HW Landfill site at M/s. Maharashtra Enviro Power Ltd, Ranjangaon Dist: Pune

Picture IV: Common HW site at M/s. Maharashtra Enviro Power Ltd, Ranjangaon Dist: Pune (Solidification and Stabilization Unit)

10.1.5 Registration for import of Metal and Metal-bearing wastes (Part-D of Schedule-III) on behalf of end user under Hazardous Wastes (Management, Handling & Transboundry Movement) Third Amendment Rules, 2010.

As per the Hazardous Waste Hazardous Wastes (Management, Handling & Transboundry Movement) Third Amendment Rules, 2010, imports of Metal and Metal-bearing wastes (Part-D of Schedule-III) on behalf of end user can be done only after obtaining registration from the state pollution control Board. It is now become mandatory to the importers to obtain registration form state pollution control Board for the import activity.

MPCB has issued registration to **475 nos** of importers for import of Metal and Metal-bearing wastes (Part-D of Schedule-III) on behalf of end user under Hazardous Wastes (Management, Handling & Transboundry Movement) Third Amendment Rules, 2010.

10.1.6 Ship breaking activity and Collection, reception, storage, transport and disposal of hazardous waste mentioned under Schedule-I of Hazardous Wastes (Management, Handling & Transboundry Movement) Rules, 2008.

The ship breaking activity in Maharashtra is limited at Lakri Bunder and Powder Works Bunder at Darukhana in Mumbai Port Trust Area. MbPT has earmarked 60 plots for ship breaking activity in Mumbai. MbPT has assured MPCB that the number of plots for ship breaking in their area shall not be increased in future. Besides, there is no regular allotment of plots to the ship breakers, as is being done in Alang, Gujarat, where the area is under the control of Gujarat Maritime Board.

The plots are given to the ship breakers on arrival of the ship for breaking. Generally, smaller ships arrive at Mumbai for breaking. The authorizations have been granted to ship breakers who operate in MbPT area. MPCB is keeping a strict vigil on this activity to ensure that there is no expansion of this activity at the existing location or on any other coastal stretches of Maharashtra. It has accordingly informed Maharashtra Maritime Board to comply with the direction of the Apex Court in this regard.

Till March 2015, MPCB has issued authorization to 58 nos of Ship Breakers for Ship breaking activity and Collection, reception, storage, transport and disposal of hazardous waste mentioned under Schedule-I of Hazardous Wastes (Management, Handling & Transboundry Movement) Rules, 2008.

10.1.7 Implementation of procedure for issuance of grant / renewal of registration of Industrial Units having Environmentally Sound Management facilities for reprocessing / recycling of the Hazardous Waste in MPCB.

Industrial units having Environmentally Sound Management facilities for reprocessing / recycling of Hazardous Waste listed in Schedule IV As per rules 8(1) & 9 of Hazardous Waste, (MH&TM) rules, 2008, requires to obtain registration from Central Pollution Control Board (CPCB), New Delhi as reprocess or / recycler of Hazardous Waste by submitting application in prescribed Form accompanied with a copy each of the following documents for grant or renewal of the registration.

a. Consent to establish granted by the State Pollution Control Board under the Water (Prevention and Control of Pollution) Act, 1974 (25 of 1974) and the Air (Prevention and Control of Pollution) Act, 1981 (21 of 1981).
b. Certificate of registration issued by the District Industries Centre or any other government agency authorized in this regard.
c. Proof of installed capacity of plant and machinery issued by the District Industries Centre or any other government agency authorized in this behalf; and
d. In case of renewal, certificate of compliance of effluent, emission standards and treatment and disposal of hazardous waste, as applicable, from the State Pollution Control Board or the Concerned Zonal Office of Central Pollution Control Board.

As per Rule 8 of Hazardous Waste (MH&TM) Rules, 2008 MPCB has constituted registration

committee involving experts in the field of environmental chemistry, Govt./State Govt Engineering Institutions, Industrial association representatives, Petroleum refinery Institutions for the grant / Renewals of registration of Industrial Units possessing Environmentally Sound Management facilities for reprocessing /recycling..

MPCB has **conducted 15** meetings of registration committee and registration have been granted to 155 units for the reprocessing of Used Oil, Waste Oil, E-Waste, Non Ferrous Metal & lead bearing wastes.

10.2 Bio-Medical Waste (M&H) Rules, 1998

Maharashtra Pollution Control Board is implementing Bio-Medical Waste (M & H) Rules, 1998 as amended in the State of Maharashtra. As per BMW Rule 8(1) every occupier of an institution generating, collecting, receiving, storing, transporting, treating disposing and / or handling Bio-Medical Waste in any form / manner, except such occupier of clinics, dispensaries, pathological laboratories, blood banks providing treatment service to less than 1000 patients per month shall apply the prescribed authority for grant of authorization.

CPCB vide letter dated 04/06/2012 has classified CBMWTSDF at Sr. No. 14 and HCEs at Sr. No. 26 in RED category. Therefore, it is mandatory to all HCEs and CBMWTSDFs covered under and generating and handling BMW to obtain Consent from the Board as per provision of Water (P & CP) Act, 1974 and Air (P &CP) Act, 1981.

To ensure effective implementation of process to grant Consent under Water (P & CP) Act, 1974, Air (P & CP) Act, 1981 and authorization under BMW (M & H) Rules, 1998 it is decided that all HCEs, industries generating, handling BMW and the CBMWTSDF shall be classified into Red category for the purpose of consent management. It was decided to grant Combined Consent and BMW authorization to HCEs.

In view of above, following powers are delegated to the committee/ officers of the Board for grant of combined consent and BMW authorization

Sr.No.	Category	HCEs Covered	Authority
1	Category-I	HCEs upto 25 beds (only bedded hospital)	Sub Regional Officer
2	Category-II	1) Pathological Laboratories treating more than 1000 patient per Month 2) HCEs having 26 to 50 beds	Regional Officer
3	Category-III	1) HCEs having 51 to 100 beds 2) CBMWTSDF other than Municipal Corporations.	HOD
4	Category-IV	1) 101 to 200 beds 2) CBMWTSDF situated in Municipal Corporations.	Consent Committee
5	Category-V	HCEs having 201 beds and Above	Consent Appraisal Committee

As per Bio-Medical Waste (Management and Handling) Rules, 1998– Schedule I, the waste is classified into 10 categories. HCEs are required to declare their BMW generation in these 10 categories. The treatment and disposal method for each of the categories is prescribed in Schedule I.

Every occupier, wherever required, shall set up requisite bio-medical waste treatment facilities like incinerator, autoclave, microwave system for the treatment of waste or ensure requisite treatment of waste at a common waste treatment facility or any other waste treatment facility. Practically it is not feasible for an individual Health Care Establishment to set up the above treatment and disposal facility in accordance

with the Rules. Hence, the concept of the common treatment and disposal facility come forward. Now it is the duty of the occupier to hand over segregated Bio-Medical waste generated in their HCEs to the common facility for proper treatment and disposal. Therefore, the common facility operator is responsible for proper collection, treatment and disposal of Bio-Medical waste.

Now, Board is granting Combined Consent Authorization (CCA) to hospitals having 51 beds and above, common facilities and industries generating BMW by imposing Bank Guarantee for Operation & Maintenance of Water Pollution Control system and Air Pollution Control system and to maintain waste records as per provisions of BMW Rules. To ensure uniform applicability of Bank Guarantee regime across the HCEs and ensure compliance while granting CCA, a Circular dated 10.04.2013 has been issued. Same is being verified on periodical basis and before renewal of CCA by Sub Regional Offices.

10.2.1 Status of Bio-Medical Waste Management in the State

There are in all 44730 Health Care Establishments (HCE's) in the State of Maharashtra. Out of these 23948 Health Care Establishments are having valid authorizations under the Rule. There are 36 common Bio-Medical Waste Treatment & disposal facilities. Out of these, 34 facilities are incinerations based and remaining 2 are having deep burial system.52508 Health Care Establishments are the members of these common facilities. The quantity of waste treated in these facilities is about 43828 Kg/day.

It is generally observed that rural hospitals and primary health centers have opted deep burial system for disposal of their Bio-Medical waste. However in some areas the govt. hospitals joined common Bio-medical Waste treatment and disposal facilities to treat their wastes. Almost all Health Care Establishments in Mumbai joined to Common Facility developed at Govandi area where the Facility has incinerators with scrubbing system and two stage chambers. The ash generated from incinerator is sent to common hazardous waste treatment facility at Taloja and for further use in land filling. To treat Bio-Medical waste generated from 8671 HCEs in Pune Region, 9 common facilities with treatment capacity of 11785kg/day BMW are developed. All these facilities have double chambered incinerators. Here the stack monitoring is conducted periodically and sludge generated is disposed at common hazardous waste treatment facility Ranjangaon. In Navi-Mumbai Region the Common Facility (M/s MWML) developed is collecting Bio-medical Waste from health care establishments located in Navi Mumbai, & Panvel area. The Bio-medical waste is segregated in color coded plastic bags at source and records are maintained by the generators. This waste is transported by MWML owned dedicated vehicles regularly. The vehicles are designed & colour coded as per the provisions of BMW Rules. The vehicles are also provided with Global Positioning System (GPS) to track movement of vehicles.

Board has allotted the Project entitled "Evaluation and Characterization of Microbial Flora and Environmental Status at Common Bio-Medical Waste Treatment and Disposal Sites" at M/s SMS Envoclean Pvt. Ltd., Govandi, Deonar, Mumbai and M/s Evergreen Environmental, Uran, Dist. Raigad. The work is allotted to Dr. Neetin S. Desai, Director, Amity School of Biotechnology, Panvel, Dist. Raigad on 08/12/2014.

Board has also constituted a Committee for Uniform Compliance of Primary Health Centers (PHCs) in the State of Maharashtra as there are about 1800 plus PHCs in the State and it is noted that these PHCs do not have dedicated fund available for Bio-Medical Waste Management and Handling and are proposing to construct deep burial pits at their hospital locations for disposal of Anatomical Waste, which will ultimately create additional hot spots in the State.

GEF-UNIDO-MoEFCC Project entitled "Environmental Sound Management of Medical Waste in India (Maharashtra)", is funded by UNIDO and with co-finance by Public Health Department, Government of Maharashtra. The Project envisages reduction of Dioxin and Furans emission in Bio-Medical Waste incineration processes. The project further intends to provide technical assistance to 28 hospitals in the State for scientific management and handling of Bio-Medical Waste and demonstrates non-burn technology for treatment and disposal of Bio-Medical Waste of selected categories at hospital site.

Following 4 CBMWTSDFs have been selected for demonstration of Non-Burn Technology:

i) M/s Passco Environmental Solution, Pune
ii) M/s Evergreen Environmental, Uran, Raigad
iii) M/s Govind Biomedical, Kudal, Sindhudurg,
iv) M/s Water Grace, Nashik.

Nashik District has been identified as "Model" District under the said Project.

The total funding of the project is, GEF component of US$ 2,75,000/- and co-financing by Government of Maharashtra through Public Health Department, of Rs. 10 Crores over 5 years period. So far MPCB has received US$ 4100 as UNIDO component. MPCB has entered into MoU with selected 26 hospitals and 4 CBMWTSDF.

10.3 Lead Acid Batteries Management

Ministry of Environment and Forests, Government of India in the Gazette of India was published Batteries (Management and Handling) Rule, 2001 on 16th May, 2001, amended on 4th May 2010 to regulate the manufacturing and recycling of lead content in the batteries. These rules are applicable to every manufacturer, importer, re-conditioner, assembler, dealer, recycler, auctioneer, consumer and bulk consumer involved in manufacture, processing, sale, purchase and use of batteries or components thereof.

Requirement of the Battery Rule –

Battery Rule is regulatory framework governing the Lead acid batteries. It streamlines the framework in an effort to increase recycling of batteries. Battery (Management & Handling) Rules, 2001, amended on 2010 fixed the Responsibilities of manufacturer, importer, re-conditioner, assembler, dealer, recycler, auctioneer, consumer and bulk consumer.

As per the rule, it is mandatory to file a half-yearly return latest by 30th June and 31st December of every year to the Maharashtra Pollution Control Board. For obtaining registration for importing the new Lead Acid Batteries applicant shall apply to the Ministry of Environment and Forests & for obtaining registration of facilities, possessing environmentally sound management proactive for recycling of used lead acid batteries applicant shall apply to the Maharashtra Pollution Control Board. As per the amendment of the Batteries (Management and Handling) Rules 2010, it is a responsibility of the Battery Dealers to apply for obtaining the registration from Maharashtra Pollution Control Board. Implementation of the rule will manage the hazardous waste in scientific manner & recycling of lead with the secured method can achieved.

The Battery Rule changed the regulatory framework governing Lead acid batteries. It streamlined the framework in an effort to remove the regulatory barriers to increased recycling of batteries. Responsibilities of manufacturer, importer, re-conditioner, assembler, dealer, recycler, auctioneer, consumer and bulk consumer are to comply the conditions of rule obey their duties & responsibilities by submitting their half yearly returns regularly to Board & manufacturers as applicable.

Enforcement Authority –

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

Need of Awareness of Recycling of Batteries

Public education and participation are keys to the success of any recycling program and are particularly important with materials like batteries that have not been commonly recycled. A public education program can heighten awareness of the recycling program, involve more individuals and businesses, and increase the number of batteries collected. EPA in consultation with Lead Acid battery manufacturers, consumer product manufacturers, and retailers has to establish a public education program on batteries

recycling, proper handling and disposal of used Lead Acid batteries.

Action taken by MPC Board –

Maharashtra Pollution Control Board plays an important role in developing and implementing a successful battery recycling program.

- MPCB has issued letters to identified Manufacturer, Re-conditioner, Assembler, Importer, Dealer, Recycler Bulk consumer & Auctioneer to comply by rules & submit Half Yearly returns in form I, IV,V, VII, VIII & IX resp.
- MPCB has issued directions to Regional officers, regarding stricter compliance of the Battery Rules in Maharashtra. MPCB is taking effective steps to achieve the compliance in this regard and needs more time to make appropriate inventory.
- Proposed directions issued to the stakeholders of the batteries.
- As per the amendment of the Batteries (Management and Handling) Rule was published in the Gazette of India on 4th May 2010, it is a responsibility of the Battery Dealers to apply for obtaining the registration from Maharashtra Pollution control Board. Dealers of the Batteries are applying for obtaining registration from Maharashtra Pollution Control Board & process is going on.
- Further, on the basis of a half-yearly return filed by the manufacturer, importer, re-conditioner, assembler, dealer, recycler, auctioneer, consumer and bulk consumer, it is noticed that most of them were not filing a half-yearly returns & some of them have filed half-yearly return irregularly. Regional Offices & Sub Regional offices of the MPCB are implementing the Amended Batteries (Management and Handling) Rule, 2010 more effectively. The work of registration of the Battery dealers is in process.

The information on the sale of batteries by the dealers throughout the State of Maharashtra has been collected by through Regional offices of MPCB. There are difficulties in getting correct information in this regard due to lack of awareness among the battery consumers. The paucity of manpower at MPCB is also an issue in ensuring compliance of the Battery Rules. However, efforts are being made by MPCB to overcome these difficulties.

Apart from the major battery manufacturers, there are few new lead acid batteries importers who have obtained registration from Ministry of Environment & Forest under the Rule 4 of the HW Rules for sale of lead acid batteries in India. There are 25 such importers of lead acid batteries in the State of Maharashtra registered in 2014 - 2015.

The information collected by MPCB on repurchase of lead acid batteries by the dealers and disposal of the batteries by the bulk consumers by auction, reveals that the percentage of the batteries returned to the dealers continues to be less as compared to the percentage of batteries auctioned by the bulk consumers. Although the percentage in respect of collection of batteries by the dealers appears less the number of batteries returned to the dealers. The percent compliance in respect of bulk consumers is more or less steady and they are complying.

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 & Tran boundary Movement) Rules, 2008 only to the authorized recyclers / re-refiners having EST along with valid registration from CPCB.

Till year 2015, 48 nos. of Lead acid Battery recycling units have been registered with CPCB / MPCB. During the year 2014-2015, 5 new recyclers have been registered. Most of the units have submitted half yearly returns on recycling of the batteries. The information from the remaining units is being collected. As per the records available till today 24 no. of battery dealers are registered as per the Battery Rules 2001 as amendment on 2010. During the year 2014-2015, 1 nos. of Battery dealer registered as per

the Battery Rules 2001 as amendment on 2010.

It has been observed that there is general lack of awareness among the consumers, dealers, bulk consumers, re-conditioners and assemblers of the batteries, importers and recyclers about the compliance of Battery (M&H.) Rules, 2001 Efforts are being made by MPCB through its Regional offices to create awareness among the various stakeholders to ensure that they comply with the Batteries Rules.

10.4 E-WASTE MANAGEMENT:-

Implementation of the E-waste (Management & Handling) Rules, 2011 -

- In the year 2005, a survey has been carried out to understand e-waste generation in Maharashtra especially in Pune, Mumbai and Navi Mumbai Area with the help of M/s. IRG Systems South Asia Pvt Ltd, New Delhi. It was estimated that E-Waste to the tune 20270.6 Tons /Annum is generated, only from computers.
- For effective implementation of the E-Waste (Management & Handling) Rules, 2011 a circular was issued on 20/07/2012 which is made available on MPCB website.
- A registration committee has been constituted for grant or renewal of registration under the E-Waste (Management & Handling) Rules, 2011 for Dismantling / Recycling of the E-waste using Environmentally Sound technology.
- The Board has granted authorization and registration under the E-Waste (Management & Handling) Rules, 2011, to 22 E-waste dismantlers and 5 E-waste Recycler having Environmental sound Management of E-Waste in the Maharashtra state.
- The Board has granted authorization under the E-Waste (Management & Handling) Rules, 2011, to 34 Collection Centers of E-Waste and 52 Producer of E-waste in Maharashtra State.

Details of authorizations issued under the E-waste (M&H) Rules, 2011 to Dismantlers /Recyclers/ Collection Center /Producers is as under :-

Status of E-Waste Generation and Recycling in Maharashtra State

No.	Types of Authorization/Registration Granted by Board	Authorization/Registration Granted by the Board (Nos)	Capacity of E-waste generation/collection Dismantling/Recycling (MT/A)
1	E-Waste Producers-Manufacturer	30	Not Applicable
2	E-Waste Producers-Importer	22	Not Applicable
	Total	52	Not Applicable
E-waste collection/ dismantling and recycling capacity/Centers			
	E-Waste Collection Centre's	34	Not Applicable
4	E-Waste Dismantlers	22	21970
5	E-Waste Recyclers	05	15340
	Total	**61**	**37,310**

II. MPCB authorized and registered E-Waste Recyclers Details:-

No.	Name of the Industry	Capacity for procurement of raw material	Registration for Recycling of E-waste is issued by MPCB Valid up to	Consent to Operate issued by MPCB Valid upto
1	M/s Eco Recycling Limited. Eco House, Near Top Glass Enclave, Bhoipada Vasai (East), Dist. Thane	7200 MT/A	19/05/2016	31/08/2014
2	M/s ECO Friend Industries , Plot No., A-205, TTC Industrial Area, MIDC Pawane, Navi Mumbai.	240 MT/A	21/10/2014	17/04/2017
3	M/s Evergreen Recylekaro (I) Pvt.Ltd. S.no. 63/4, Vill. Varle, Tal. Wada, Dist. Thane	200 MT/M	21/10/2014	31/10/2014
4	M/s E-incarnation Recycling Pvt. Ltd. Plot No. J-56, MIDC Tarapur, Dist. Thane	3000 MTA	31/07/2015	31/07/2015
5	M/s Ecocentric Management Pvt. Ltd. Universal Industrial estate, Sajgaon, Tal. Khalapur, Dist. Raigad.	2500 MTA	18/03/2016	18/03/2016

10.5 MUNICIPAL SOLID WASTE (MANAGEMENT & HANDLING) RULES, 2000.

The rapidly growing human population and shifts in life style have resulted in substantial increase in domestic solid waste generation. The MSW is being produced at increasing rate; while in non-metro areas the average per capita waste generation is estimated at 500 gm per day whereas in metro cities it is around 600 gm per day. The unscientific dumping of such waste leads to contamination of air, water and land resources and poses a serious human health hazard.

India too generates huge quantity of municipal solid waste every day. Realizing the need for proper and scientific management of solid waste the Ministry of Environment and Forest notified the Municipal Solid Waste Management Handling Rules, 2000 under the Environment Protection Act, 1986. The objective of the MSW Rules was to make every urban local body/municipal administration responsible for setting up and operating the infrastructure for collection, storage, segregation, transportation, processing and disposal within their jurisdiction.

In state of Maharashtra the total generation of municipal solid waste by the urban local bodies which includes Municipal Corporations and A,B,C class Municipal Councils is estimated around 26820.29 MT/day quantity of which only 5037 MT/day quantity is treated and the remaining is disposed in an unscientific manner. The overall percentage of treatment is around 19%.

Following table shows the generation of MSW from the Corporations, Councils.

Region wise Municipal Solid Waste generation in the state of Maharashtra (in MT/day)

Region	Corporation	"A" Class Councils	"B" Class Councils	"C" Class Councils	NP/Cant./ other
Amravati	320.0	30.0	175.22	113.0	--
Aurangabad	865.0	96.0	263.0	448.1	31.0
Kalyan	1170.0	98.0	53.0	--	---
Kolhapur	355.0	100.0	65.0	91.0	10.0
Mumbai	14500.0	-	-	-	--
Nagpur	800.0	70.0	89.0	81.0	--
Nashik	1115.0	47.0	151.74	94.0	33.5
Navi Mumbai	650.0	-	-	11.0	--
Pune	2596.0	86.0	140.5	100.0	57.0
Raigad	-	32.0	25.0	89.68	--
Thane	1430.0	--	37.0	3.0	--
Chandrapur	120.0	40.0	103.0	75.55	
Total	**23921.0**	**599.0**	**1102.46**	**1106.33**	**131.5**

Status of ULB's in Maharashtra

ULB	No.	MSW Generation (MT/D)	% of MSW Generation	MSW Treated	Approved Sites	Processing facility
Corporations	26	23,921.0	89.19	4,002.0	22	13
A Class	12	559.0	2.08	109.0	10	05
B Class	61	1,102.46	4.11	396.74	38	27 (Partially)
C Class	146	1,106.33	4.13	432.76	79	59 (Partially)
Others (Nagar Panchayat & Cantonment Board)	12	131.50	0.49	96.0	04	07 (Partially)
Total	**257**	**26,820.29**	**100**	**5,037.0**	**153**	**111**

- About 89% of total MSW is generated from 26 Municipal Corporations.
- Out of 26 corporations 9 corporations have provided scientific landfill site & processing facilities & remaining are dumping MSW in an unscientific manner.

Processing & Landfill Facilities in Maharashtra

- No. of Composting Plant :-101
- No. of Landfill Sites scientifically developed :-15 (Vasai-Virar, Nashik, Jalgaon, Pimpri- Chichwad, Navi Mumbai, Mumbai, Kolhapur, Nagpur, Panvel, Achalpur, Yavatmal, Bhusaval, Bhandara, Sindhkhed Raja). Duly approved by Dist.Collctor Committee, as per G.R. dtd.26/08/2003 issued by Water & Sanitation Deptt., GoM
- No. of RDF Plant :- 08 (Navi Mumbai, Mira-Bhayander,Vasai- Virar, Jalgaon, Pune, Pimpri-Chichwad, Nagpur, Nashik) (In operation-Navi Mumbai)
- No. of Bio-Methnation Plant :- 26 (Pune)
- No.of Waste to Energy Plant: - 02 (1-Pune & 1 Proposed- Kolhapur).

10.5.1 Role of MPCB for waste management:

The Ministry of Environment and Forest (MoEF), Government of India, has notified the Municipal Solid Waste (Management and Handling) Rules 2000 vide notification No. SO 908(E), dated 25th September, 2000, with duly define separate duties of Urban Development Department, Local Bodies, CPCB and MPCB. It is mandatory on part of MPCB to issue authorization after receipt of application in Form I from concern Local Body after verification of status authorization is issued. The Board is also responsible for monitoring the performance of the waste processing/ landfill sites. The Said Rules are notified under Environment Protection Act 1986. The details on implementation, Management and Handling, Specification for Landfill Sites and Standards for Composting, Treated leachates and Incineration are Scheduled separately at I, II, III, and IV respectively.

Management of Municipal Solid Waste:

1. Collection of Municipal Solid Waste: In all the Municipal area littering of MSW has been prohibited. Local bodies are having house to house collection, by using ghanta gaddies, provided collection bins. The waste from slaughter houses, meat & fish markets, fruit & vegetable market, which are biodegradable in nature, are disposed by composting.

2. Segregation of Municipal Solid Waste: The segregation of MSW generally carried out by the mode of source segregation or in the transportation vehicle itself by the workers or in some cases, at waste disposal processing facility by rag pickers. The recyclable waste finds its route for recovery/recycling. The inert material, construction debris are being disposed by land filling/leveling.

3. Storage of Municipal Solid Waste: The storage facility provided by ULBs in the form of RCC Bins, plastic bins, and containers. In some ULBs house to house collection is carried out & the collected waste is directly taken to dump site.

4. Transportation of Municipal Solid Wastes: Transportation of waste carried by vehicles. Mostly the tarpaulin cover is put on the waste while transporting and in some cases the vehicle are closed or pneumatic compactors are used in few corporation areas.

5. Processing of Municipal Solid Wastes: The biodegradable waste is processed by aerobic & anaerobic composting, vermicomposting, anaerobic digestion, etc. Most part of the non-biodegradable and recyclables are removed by informal sector/the rag picker in the bins or on the dump sites which is further sold to recyclers.

6. Disposal of Municipal Solid Wastes: Selectable landfill facilities have been provided by very few ULBs. However others are in the process of setting up of such facilities.

- **MSW Projects**

Navi Mumbai Municipal Corporation

NAVI MUMBAI (TURBHE) MSW PROCESSING SITE

TIPPING FLOOR

SEGREGATION UNIT

RDF UNIT

PLASTIC UNIT

Pune Municipal Corporation
PUNE MSW PROCESSING SITE
Waste to energy ROCHEM Plant

Disha waste management

Bio-methanization at Hadapsar

LEACHATE TREATMENT

Pimpri Chinchwad MNunicipal Corporation

PIMPRI-CHINCHWAD (MOSHI VILLAGE) MSW PROCESSING SITE

PIMPRI-CHINCHWAD (MOSHI VILLAGE) MSW CAPPED SITE

Nashik Municipal Corporation
NASHIK (PATHARDI) MSW PROCESSING SITE

NASHIK (PATHARDI) MSW PROCESSING SITE

10.6 Plastic Waste Management:

Maharashtra State has published the Maharashtra plastic carry bags (Manufactures & Usage) Rules, 2006, for manufacture & use of plastic carry bags, wherein it has defined the meanings of carry bag, commodities, containers. According to these rules manufacturing of plastic carry bags having thickness below 50 microns is completely banned by the State Government.

The MPCB for enforcement of these rules formed vigilance squad and carried out survey of plastic carry bags manufacture and those found manufacturing less than the 50 microns closure notice were issued. It was revealed from the survey carried out in Jan. and Feb 2015 that out of 271 industries 26 units were manufacturing the plastic bags with thickness below 50 microns also there were 56 units with invalid consents and registration. In this regard show cause notices and proposed directions were issued to 54

units and closure directions issued to 30 units. Maharashtra Pollution Control Board has directed all the Municipal Corporations & Local bodies of the A, B & C class for the Implementation of the plastic rules & compliance regarding Plastic Waste Management.

During the year 2014-2015, 41 nos. of units obtained the registration under Maharashtra Plastic carry bags (M & U) Rules, 2006. Also the Board has decided to focus on the awareness & plastic waste management projects and will be taking step for plastic free at pilgrim places in Maharashtra.

11. PROSECUTION LAUNCHED AND CONVICTIONS SECURED

11.1) Brief notes on some important decisions of the Hon'ble High Court/National Green Tribunal during the year 2014-15

1. Dileep Nevatia V/s State Of Maharashtra (Application No. 36 of 2011)

Shri Dileep Nevatia had filed an Application No. 36 of 2011 before Hon'ble National Green Tribunal as well as Misc Application No. 202 of 2013 praying to direct the concern deptt to specify the standards for horns, Multi toned horns and sirens. It was further prayed to direct that concern department not to allow vehicles plying on the road in excess of said specified standards for the horns, multi toned horns and sirens. The use of horns, multi toned horns and sirens shall be prohibited in Silence Zone and shall be allowed in only exceptional situation.

In compliance of the order passed by Hon'ble NGT dated 11/10/2013, the Board had constituted an expert Committee for fixation of standards vides office order No. E-1/2014 dated 1/1/2014 & Sub Group constituted by the Expert Committee for fixation of noise standards for sirens and sound signals.

It was decided that as recommended by the Expert Committee not more than 85 dBA uniform standards can be prescribed for sirens. The Board discussed the issue in the National Level Committee constituted for the regulation of noise and also to submit proposal thereafter to the CPCB for further taking decision as to whether the standards are to be laid down at State Levfel. After due consultation with the Stake holders and concern authorities, the Board has recommended standards to State Govt.

The Environment Deptt., Govt of Maharashtra had issued Notification dated 31/7/2014, in respect of Standards for Horns, Sirens and/or Multi Toned Horns for the vehicles plying in the State of Maharashtra and their use in exercise of powers conferred u/s 17(1) (g) of the Air (Prevention and Control of Pollution) Act, 1981 and the said notification shall be implemented in the entire State of Maharashtra with immediate effect from the date of publication of the Notification. The features of the notification are as below.

1. The Sirens and/or Multi tone horns shall be continued to be banned except for Police Van, Ambulance and Fire Brigades as prescribed under Rule 119 (1) and (3) of Central Motor Vehicle Rules, 1989.
2. Use of Sirens and Multi toned horns on vehicles should be continued to be prohibited in the silence zone and during night time in the residential zone as prescribed under the Noise Pollution (Regulation and Control) Rules, 2000 except during a public emergency as per Rule 5A(1) of Noise Pollution (Regulation and Control) Rules, 2000. It is further provided that in case Police Van/Ambulance/Fire Brigade Vehicle is not being used during the emergent public situation, the sirens and / or multi toned horns should not be used.
3. The noise level of horns including siren/multi toned horns should not exceed 10dB(A) louder than the noise levels of the vehicles engine sound for each category of the vehicles as specified under Part-E of Schedule-VI of the Environment (Protection) Act, 1986.
4. The Position of horns should be under the bonnet of the vehicle.
5. Irrespective of this norms stipulated in 1,2, and 3 above the following areas in the State of Maharashtra are declared as "No Honking Area/Zones" where in any kind of honking from the Motor Vehicle is prohibited at any given time except during extreme emergency situation.
   a. Entire Eco-Sensitive Zone/areas like Matheran, Mahabaleshwar, Pachgani Dahanu etc declared under Environment (Protection) Act, 1986 by Ministry of Environment and Forest, (MoEF) New Delhi.
   b. Reserved and Protected Forest, National Parks, Sanctuaries and Notified hill stations in the State.
   c. World Herigage sites such as Kass Plateau, Koyana Wildlife Sanctuary, Chandoli National

Park, and Radhnagri Wildlief Sancuary etc as delcated by UNESCO in the state.

d. Residential areas as indentified after due public consultation will be declared as "No Honking Zone" by concerned Local Body. No honking will be allowed in such area except for tings as stipulated by the Local Body.

6. Authorities responsible for implementation of these standards and their use in the State shall be Transport Deptt., Home Deptt., Revenue and Forest Deptt., Urban Development Deptt., District Collector, District Forest Officer, Municipal Commissioner of Municipal Corporations, Chief Officers of Municipal Councils for their respective jurisdiction and powers. The said notification dated 31/7/2014 is placed on the website of the Board.(http://mpcb.gov.in)

2. Application No.16/2014 filed by Bakerao Dhemese v/s Nashik Municipal Corporation and Ors. with Application No.58(THC)/2014 (WZ) filed by Narayan Namdeo Yadav & Anr. v/s The Municipal Corporation Nashik & Ors.

Both the Applicants have filed the above Applications before Hon'ble NGT, Pune against Nashik Municipal Corpn. and Ors. seeking directions for compliance of the MSW Rules, 2000 by Respondent No.1 in the matter of operation of the Garbage Processing Plant at Pathardi Shivar, Dist: Nashik and thereby causing health hazard to the life of above 18000 people residing in the nearby villages.

Hon'ble NGT vide order dtd.17/12/2014 directed the Nashik Municipal Corporation to deposit an amount of Rs.50Lakhs in the Escro Account of the Collectorate within 15 days.

3. Application No.32(THC)/2013 filed by Deshpande Jansamsaya Niwaran Samiti & Ors against the State of Maharashtra & Ors.

i) The Application was filed as Public Interest Litigation before the Hon'ble High Court, Nagpur which was transferred to the Tribunal, Pune. The Application is filed by residential colony regarding improper and unscientific operations at the Bhandewadi Municipal Solid Waste (MSW) dumping yard complex resulting in serious air and water pollution.

ii) The Hon'ble NGT vide Judgment dtd. 22/4/2014 has directed UDD to prepare a specific action plan and to ensure that the MSW processing plant is operational to its original capacity of 550MT/d within 16 weeks and waste accumulated at the site is also properly processed and treated in time bound program, NMC was directed to install & operate ETP for slaughter house within 3 months and MPCB to ensure closure directions for non-compliance, MPCB was also directed to take action under MSW Rules against Nagpur Municipal Corporation for not installing treatment plant. In compliance of the order dtd. 22/4/2014, the MPCB has filed prosecution against M/s.Hanjar Biotech Energies, operator of the facility at Bhandewadi MSW site, Nagpur before the JMFC on 16/11/2014.

iii) In compliance of various orders passed by the NGT, Pune , the Board has been taking action from time to time.

11.2) High Court matters:

1) Shri Tapgachiy Atma Kamal Labdhisuriswarji Gyanmandir Trust has filed PIL No.95/2009 with PIL No.162 /2009 before Hon'ble High Court, Mumbai against the Local bodies in the State of Maharashtra for operating the slaughter houses without Consent of the Board etc.

The Hon'ble High Court vide order dtd. 20/12/2014 directed the Board to initiate action in accordance with law in relation to the slaughter house which are being run without obtaining statutory consent, Municipal Authorities to ensure that a Veterinary Doctor is made available in each slaughter house and to apply for consent of the MPCB. In compliance of the Hon'ble High Court order, the Board in its 163rd Board meeting held on 3/2/2015 approved the policy decision, to regulate slaughter house activities having 10 or more than 10 animals per day slaughtering under separate grant of consent and less than 10

animals should be regulated by the concerned local bodies. Proper waste management is compulsory for all types of slaughtering (whether more than 10 or less than 10) as per Central Pollution Control Board guidelines. Accordingly the Board had initiated actions against defaulting local bodies.

2. Writ PetitionNo.176/2012 filed by Rajesh Pandit V/s State of Maharashtra & Ors. before Hon'ble High Court of Mumbai.

Shri Rajesh Madhkar Pandit & Ors. had filed a Public Interest Litigation bearing No. 176/2012 before the Hon'ble High Court. MPCB is Respondent No.3 in the matter. The said petition is filed to point out Godavari river pollution which is almost dead condition due to urban waste without being treated discharged into river and to take such necessary step to prevent futher pollution and clean up the river prior to Sinhastha Kumbhamela.

The petitioner also approached MPCB & sought information in respect of the pollution of Godavari river. The laboratory Report reveals that Godavari condition is almost in dead condition due to low level and at certain places nil D.O. as well as excess level of BOD. Therefore such water is harmful & unfit for consumption as well as any other use & became threat to the ecological balance of the Nashik city. In the said PIL, Hon'ble High Court vide order dtd.6/12/2012 issued directions as follows.

- In the light of minimum availability of flow in the river, the expected dilution, dispersion & decomposition of the treated wastewater is not occurring. This has resulted in non-compliance of the water quality standards for designated use as A-II. Most stringent standards for discharge of treated effluent should be imposed by MPCB.
- The list of industries generating wastewater in the MIDC zone alongwith the details of individual ETPs installed should be made available to NEERI by MIDC authorities.
- MIDC should construct a common effluent treatment plant for water polluting industries and its performance should be regularly monitored.
- The ETPs constructed & operated by individual industries within MIDC area should be monitored.
- The ETPs constructed & operated by individual industries within MIDC area should by monitored by MPCB.
- The disposal practices adopted, contribute toxic industrial pollutants either through nallas or through land application. The effluent disposal practices within MIDC area should be strictly monitored by MPCB.
- There is need to create an intercept point alongwith the nalla which carries industrial effluent so that it can be either lifted & treated or treated at the site.
- The directions issued by this Court to the concerned Respondents will require continuous monitoring. Therefore, we hereby constitute a Committee headed by the Divisional Commissioner of Nashik. The Divisional Commissioner shall by the Chairman of the Committee, which shall consist of following members.
  a) The Commissioner of Nashik Municipal Corporation.
  b) The Collector of Dist Nashik.
  c) A representative nomitated by the Maharashtra Pollution Control Board.
  d) An expert in the field appointed bythe Divisional Commissioner after consulting the Petitioners and the Municipal Corporation.
  e) A representation of NEERI nominated by NEERI.
- Nashik Municipal Corporation, MIDC & Maharashtra Pollution Control Board to scrupulously comply with the recommendations made by NEERI & implements the same within a period of two months from today, if not implemented till day.
- The order dated 20/8/2013 passed by this court records that in case of 10 defaulting industries in satpur and Ambad, action has been taken by the Maharashtra Pollution Control Board shall con-

tinue action against defaulting industries & submit a status report to this Court within a period of three months from today.

- We direct all concerned Authorities to take steps to implement the suggestions of NEERI.
- The committee appointed under this order shall examine the action taken by all concerned Authorities as regard the implementation of recommendations in the first two reports of NEERI and the directions contained in this order. The Committee shall sumit a report to this court on or before 5th May 2014.
- The Committee appointed by this Court shall submit periodical reports to this court after every two months as regards implementation of the directions issued by this court as well as implementation of the recommendations of the NEERI. The first report shall be filed as directed above on or before 5/5/2014.
- A Committee headed by the Divisional Commissioner, Nashik was appointed by the Hon'ble Court for continuous monitoring of the implementation of the interim directions issued by the Hon'ble High Court. The Committee has submitted 4 exhaustive reports recording in detail the actions taken by various public authorities involved including the Nashik Municipal Corporation. The Hon'ble High Court appreciated the performance of the Committee headed by the Divisional Commissioner, Nashik.
- The matter is still pending before the Hon'ble High Court.

3. PIL No.183/2012 filed by Dattatraya Hari Mane v/s State of Maharashtra & Ors. with PIL No.15 of 2010 filed by Kisan Murlidhar Kalyankar v/s State of Maharashtra & Ors.with PIL No.28 of 2010 filed by Prajasattak Samajik Seva Sanstha v/s State of Maharashtra & Ors. Order passed by Hon'ble High Court dated 27th March, 2015 :-

Shri Dattatraya Hari Mane had filed Public Interest Litigation No.183 of 2012 before Hon'ble High Court, having concern for pollution of Panchganga river. The Board had taken various actions against the defaulting sugar/distillery industries, which are responsible for pollution of Panchganga River. The Board had also issued various directions to the Kolhapur Municipal Corporation and Ichalkaranji Municipal Council in compliance of the various orders passed by Hon'ble High Court, Bombay.

The Hon'ble High Court had appointed NEERI to assess the Kolhapur, Ichalkaranji sewage pollution in Panchaganga River. The Board has also prepared Action Plan to prevent pollution of Panchaganga River. After going through the report submitted by NEERI the Hon'ble High Court was of the opinion to constitute a committee under the Chairmanship of Divisional Commissioner Kolhapur to monitor the progress continuously. The Chairman of the said Committee has taken review of the action initiated by the Board and orders passed by Hon'ble High Court Mumbai from time to time. The Hon'ble High Court has involved all the regulatory authorities to resolve the pollution problem of Panchaganga River.

The Hon'ble High Court has directed to State Government to take necessary steps to constitute Board in accordance with the provisions of Section 4 of the Water (Prevention & Control of Pollution) Act, 1974.

11.3) STATUS OF LEGAL ENFORCEMENT UPTO MARCH 2015

I) Status of cases filed before Trial Courts

A)	Name of the Act	No. of cases filed	No. of cases disposed off	No. of cases pending
1.	Water (Prevention & Control of Pollution) Act, 1974	460	400	60
2.	Air (Prevention & Control of Pollution) Act, 1981	149	149	NIL
3.	Environment (Protection) Act, 1986 & Rules made thereunder	210	18	192

II) Status of Writ Petitions before Hon'ble High Court of Judicature at Bombay Bench at Mumbai/Aurangabad/Nagpur

Sr. No.	No. of Writ Petitions /PILs filed	No. of Writ Petitions /PILs disposed off	No. of Writ Petitions pending
1	713	490	223

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

Sr. No.	No. of Special Leave Petitions filed	No. of Special Leave Petitions disposed off	No. of Special Leave Petitions pending
1	39	34	05

IV) Status of Appeal/Application filed before the National Green Tribunal, New Delhi and Pune

Sr. No.	No. of Appeals / Applications filed	No. of Appeals / Applications disposed off	No. of Appeals / Applications pending
1	117	68	49

11.4) Status of appeals filed under Water (Prevention and Control of Pollution) Cess Act 1977 and partly heard/Pending before the Water Cess Appellate Authority

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.

The Act provides for constitution of Appellate Authority comprising of Chairman (Chairman of the Board) and two members to be nominated by the Chairman from amongst the Board Members. The Appellate Authority 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.

Accordingly, Appellate Authority has been reconstituted vide order No.E-319/2006 dated 8/12/2006 to hear an appeals. 59 Appeals were pending before the Appellate Authority since 1992. Out of 59 appeals, the Appellate Authority has disposed off 55 Appeals & remaining 4 appeals are pending for final hearing.

11.5) Maharashtra Right to information Act 2005

The said Act provide for setting out the practical regime of right to information for citizens to

secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, the constitution of a central information commission and state information commission and for matters connected therewith or incidental thereto.

There were 106 applications pending as of March 2014.The applicants preferred 723 applications under section 6(1) of the Maharashtra Right to information Act 2005 during the year. Out of these applications, 737 applications were disposed off and 92 applications were pending as of March 2015.

Being aggrieved by the order passed by the Public Information Officer, the 71 appeals (including previous 18 appeals) were preferred by the Appellants under section 19(1) of the Maharashtra Right to information Act 2005 before the Appellate Authority. 67 appeals were disposed off and 4 appeals were pending at the end of March 2015.

FINANCE AND ACCOUNTS (2014-15)

MAHARASHTRA POLLUTION CONTROL BOARD
Receipt & Payment Account for the Year 2014-15

Previous Year 2013-14			Current Year 2014-15		Previous Year 2013-14			Current Year 2014-15	
Major Head	Sub Head	Receipt	Amount	Amout	Major Head	Sub Head	Payment	Amount	Amount
55655133.42		OPENING BALANCE	161794646.37				A) CAPITAL EXPENDITURE		
	55419476.55	i) Cash at Bank	161536993.95				I) Works		
	12190.00	ii) Cash in Hand	257652.42		12209693.67		ii) Fixed Assets		24867254.00
	223466.87	iii) Cash Balance Imprest Account & others	0.00			0.00	a) Land & Building	0.00	
						2124690.67	b) Laboratory Equipment	172163.00	
0.00		1) GRANT RECEIVED		0.00		3895593.00	c) Vehicle	16814200.00	
	0.00	a) From State Governement	0.00			574364.00	d) Furniture & Fixtures	495668.00	
	0.00	b) From Government of India	0.00			5615046.00	e) Scintific Instrument & Office Apply.	7385223.00	
	0.00	c) From other Agencies for Capital Exp.	0.00						
					302122251.00		B) SALARY		296741225.00
49282841.00		2) FINANCIAL ASSIATANCE from CPCB/MoEF					1) SALARY FROM CORE ACTIVITY SEGMENT		
				1030000.00					
						292348562.00	i) Pay & Allowances of Officers/Staff	285266982.00	
0.00		3) REIMBURESEMENT of CESS from MoEF.		512858378.00					
							2) SALARY FROM CESS ACTIVITY SEGMENT		
		4) FINANCIAL ASSISTANCE for CETP		0.00		9773689.00	i) Pay & Allowances of Officers/Staff	11474243.00	
0.00									
1706333960.36		5) FEES		1781873143.95	17038349.00		C) BOARD CONTRIBUTION TO CPF		22556550.00
	130458401.00	a) Analysis Charges	132495418.34			16262985.00	i) Core Activity Segment	21814537.00	
	1549198780.36	b) Consent Fees	1630048245.61			775364.00	ii) Cess Activity Segment	742013.00	
	2526104.00	c) Consent Form Fees	1330420.00						
	1700.00	d) Appeal Fees	36000.00		87535532.00		D) CONTINGENCIES		123711270.00
	19398429.00	e) Bio Medical Authorisation Fees	16932572.00						
	585249.00	f) Bio Medical Form Fees	294230.00		11358332.00		E) RUNNING EXPENDITURE OF LAB.		15516203.00
	631420.00	g) Hazardous Waste Analysis Charges	0.00						
	293820.00	h) Hazardous Waste Authorisation fees	256290.00		39954656.00		F) MAINTAINANCE & REPAIRS		30790387.00
	1666277.00	i) Registration Fees For Plastic	35600.00			10427489.00	i) Land & Building	7586368.00	
	1524530.00	j) Noice Pollution Monitoring Fees	0.00			752260.00	ii) Furniture & Fixture	544866.00	
	49250.00	k) Right to Information Fees	444368.00			12452688.00	iii) Scintific Instrument & Office Apply.	7346971.00	
						16322219.00	IV) Running Expenditure of Vehicle	15312182.00	
221673367.82		6) INTEREST ON INVESTMENT		704008596.64					
					3402350.00		G) LEGAL CHARGES		4483725.00
67973103.41		7) MISCELLENEOUS INCOME		71735304.00					
					3921185.00		H) AUDIT FEES		2878807.00
0.00		8) PROFIT ON SALE OF ASSETS		681986.00					
					2473605.00		I) PROFESSIONAL CHARGES		1619285.00
95011557.00		9) MISCELLENEOUS ADVANCES		9449592.00					
					0.33		J) CREDITOR		0.00
3722519932.45		10) INVESTMENT (MATURED)		7383392506.01					
					32755333.00		k) EXPENDITURE FROM CESS FUND		49214188.00
121661761.00		11) CURRENT LIABILITIES/Sundry Payables		2607964.00		0.00	i) Education Allowance	0.00	
						13144213.00	ii) Major Medical Reimbursement	9996858.00	
1820000000.00		12) AMOUNT TRANSFERRED with in Bank A/c		0.00		484018.00	iii) Reimb. of Interest on Housing Loan	519822.00	
						1322732.00	iv) Sport & Cultural Activity	1584311.00	
0.00		13) CREDITORS		780758.00		2002568.00	v) Canteen Allowance	1749750.00	
						5781429.00	vi) Performance Related Benefit	6452495.00	
2565750.00		14) Fund from United Nation Industrial Env		0.00		78441.00	vii) Laboratory Peon Allowance	27586.00	
		Sound Management of Medical Waste				818869.00	viii) Winter Assembly Expenses	1855806.00	
						9123063.00	ix) Gratuity	9481439.00	
							x) 6th pay Arrears	17546121.00	
					186726424.00		L) EXPENSES ON PROJECTS (Annexure - 4)		171373231.00
						186726424.00	i) From Cess Fund	171373231.00	
						0.00		0.00	
					99489834.00		M) MISCELLENEOUS ADVANCES		17895466.00
					120157671.00		N) CURRENT LIABILITIES/Sundry Payables		1975763.00
					1820000000.00				
					5007062565.00		O) INVESTMENT (New)		9687771031.74
					1010000.00		P) SECURITY DEPOSIT WITH OTHERS		86970.00
					115459625.46		Q) CLOSING BALANCES		178731519.23
						115237969.59	i) Cash at Bank	178476457.81	
						11807.87	ii) Cash in Hand	255061.42	
						209848.00	iii) Cash Balance Imprest Account & others	0.00	
7862677406.46				10630212874.97	7862677406.46				10630212874.97

MAHARASHTRA POLLUTION CONTROL BOARD
Income & Expenditure Account for the Year 2014-15

Previous Year 2013-14			Current Year 2014-15		Previous Year 2013-14			Current Year 2014-15	
Major Head	**Sub Head**	**Expenditure**	**Amount**	**Amout**	**Major Head**	**Sub Head**	**In come**	**Amount**	**Amount**
302122251.00		A) SALARY		296741225.00			1) GRANT RECEIVED		
							a) From State Governement		0.00
		1) SALARY FROM CORE ACTIVITY SEGMENT					b) From Government of India		0.00
	292348562.00	i) Pay & Allowances of Officers/Staff	285266982.00						
				49282841.00			2) FINANCIAL ASSIATANCE from CPCB/MoEF		1030000.00
		2) SALARY FROM CESS ACTIVITY SEGMENT							
	9773689.00	i) Pay & Allowances of Officers/Staff	11474243.00		0.00		3) REIMBURESEMENT of CESS from MoEF		512858378.00
17038349.00		B) BOARD CONTRIBUTION TO CPF		22556550.00	1706333960.36		4) FEES		1781873143.95
	16262985.00	i) Core Activity Segment	21814537.00			130458401.00	a) Analysis Charges	132495418.34	
	775364.00	ii) Cess Activity Segment	742013.00			1549198780.36	b) Consent Fees	1630048245.61	
						2526104.00	c) Consent Form Fees	1330420.00	
						1700.00	d) Appeal Fees	36000.00	
87535532.00		C) CONTINGENCIES		123711270.00		19398429.00	e) Bio Medical Authorisation Fees	16932572.00	
						585249.00	f) Bio Medical Form Fees	294230.00	
11358332.00		D) RUNNING EXPENDITURE OF LAB.		15516203.00		631420.00	g) Hazardous Waste Analysis Charges	0.00	
						293820.00	h) Hazardous Waste Authorisation Fees	256290.00	
39954656.00		E) MAINTAINANCE & REPAIRS		30790387.00		1666277.00	i) Registration Fees For Plastic	35600.00	
	10427489.00	i) Land & Building	7586368.00			1524530.00	j) Noice Pollution Monitoring Fees	0.00	
	752260.00	ii) Furniture & Fixture	544866.00			49250.00	k) Right to Information Fees	444368.00	
	12452688.00	iii) Scintific Instrument & Office Apply.	7346971.00						
	16322219.00	iv) Vehicles	15312182.00		626961326.94	221673367.82	5) INTEREST ON INVESTMENT	0.00	704008596.64
						405287959.12	Add: Interest on Renewal of Investment	704008596.64	
3402350.00		F) LAW CHARGES		4483725.00					
3921185.00		G) AUDIT FEES		2878807.00	67973103.41		6) MISCELLENEOUS INCOME		71735304.00
						8886262.00	a) Public Hearing Fees	15276244.00	
2473605.00		H) PROFESSIONAL CHARGES		1619285.00		51075448.00	b) Bank Guarantee Encashment	47114719.00	
						829228.00	c) Tender Form Fees	111000.00	
23632270.00		I) EXPENDITURE FROM CESS FUND		22186628.00		7182165.41	d) Misc Receipt	3953067.00	
	0.00	i) Education Allowance	0.00			0.00	e) Insurance Claim	0.00	
	13144213.00	ii) Major Medical Reimbursement	9996858.00			0.00	f) Penalty	100462.00	
	484018.00	iii) Reimb. of Interest on Housing Loan	519822.00		0.00		g) Sale of Scap	88408.00	
	1322732.00	iv) Sport & Cultural Activity	1584311.00				h) Royalty Charges	1803927.00	
	2002568.00	v) Canteen Allowance	1749750.00				g) Rent and Taxes received	3287477.00	
	5781429.00	vi) Performance Related Benefit	6452495.00						
	78441.00	vii) Laboratory Peon Allowance	27586.00						
	818869.00	viii) Winter Assembly Expenses	1855806.00				7) PROFIT ON SALE OF ASSETS		681986.00
186726424.00		J) EXPENSES ON PROJECTS (Annex-4)		171373231.00					
	186726424.00	i) From Cess Fund	171373231.00						
						0			
31370988.04		K) DEPRECIATION		33532181.06		0			
	8064609.78	i) Land & Building	9664370.77						
	3306079.53	ii) Laboratory Equipment	2793012.97						
	4414210.63	iii) Vehicle	4392831.42						
	8255458.59	iv) Furniture & Fixture	8869138.00						
	7330629.51	v) Scintific Instrument & Office Apply.	7812827.90						
1741015289.67	0.00	L) EXCESS OF INCOME OVER EXPENDITURE		2346797916.53					
2450551231.71				3072187408.59	2450551231.71				3072187408.59

MAHARASHTRA POLLUTION CONTROL BOARD
Balance Sheet at the Year 31st March, 2015

Previous Year 2013-14			Current Year 2014-15		Previous Year 2013-14			Current Year 2014-15	
Major Head	**Sub Head**	**Liability**	**Amount**	**Amout**	**Major Head**	**Sub Head**	**Assets**	**Amount**	**Amount**
1238095133.48		A) CAPITAL FUND		1262962387.48			1) WORKS (Form K-IV)		
		1) Grant received from Govt. for capital expenditure (Including capital value of assets transferred from Ex Directorate to MSWPIC & WHO Delhi)					2) FIXED ASSETS (Form K-V) (Schedule A)		
					471672737.39		a) Land & Building (A)-(B)		462008366.62
						578022494.37	Opening Cost of Land & Building	578022494.31	
	1225885439.81	Amount utilised up to end of previous year (Opening Balance)	1238095133.48			0.00	Add:- Purchase during the year	0.00	
						0.00	Less:- Sale during the year	0.00	
	12209693.67	Add:- Transfer from Excess of Income over Expenditure for Capital Expenses	24867254.00			578022494.37	Closing Cost of Land & Building (A)	578022494.31	
						98285147.20	Less: Opening Accumulated depreciation	106349756.98	
						8064609.78	Less: Depreciation During the year	9664370.71	
5668000.00		B) CAPITAL RECEIPT received from MoEF		5668000.00		106349756.98	Closing Accumulated Depreciation (B)	116014127.69	
2565750.00		C) Fund from UNIDO	2565750.00	2490467.00	25270973.55		b) Laboratory Equipments (A)-(B)		22650123.58
		Less :- Expenditure	75283.00			233793564.21	Opening Cost of Laboratory Euipments	235918254.88	
						2124690.67	Add:- Purchase during the year	172163.00	
		D) SUNDRY PAYABLES		14410133.65		0.00	Less:- Sale during the year	0.00	
11824254.65	11824254.65	1) EMD/Security Deposits/Payables	12456455.65			235918254.88	Closing Cost of Laboratory Equipments (A)	236090417.88	
		Less:- Unclaimed deposits credited to revenue account				207341201.80	Less: Opening Accumulated depreciation	210647281.33	
						3306079.53	Less: Depreciation During the year	2793012.97	
1172920.00		2) Creditors	1953678.00			210647281.33	Closing Accumulated Depreciation (B)	213440294.30	
0.00									
		E) RESERVE & PROVISIONS			23861286.74		c) Vehicle (A)-(B)		36282655.32
1334240461.57	1089290423.36	1) Opening Pension Fund	1334240461.57	1579322102.57		64583038.06	Opening Cost of Vehicle	68478631.06	
	119950038.21	Add:- Interest during the year @ 9%	120081641.00			3895593.00	Add:- Purchase during the year	16814200.00	
	125000000.00	Add:- Addition during the year	125000000.00			0.00	Less:- Sale during the year	0.00	
						68478631.06	Closing Cost of Vehicle (A)	85292831.06	
21859741.09	15982804.09	2) Opening Gratuity Fund	21859741.09	27378302.09		40203133.69	Less: Opening Accumulated depreciation	44617344.32	
	15000000.00	Add:- Addition during the year	15000000.00			4414210.63	Less: Depreciation During the year	4392831.42	
	9123063.00	Less:- Expenditure during the year	9481439.00			44617344.32	Closing Accumulated Depreciation (B)	49010175.74	
16077384.00		3) Provision for 6th pay commission		0.00	99450248.87		d) Furniture & Fixture (A)-(B)		91076778.87
	30000000.00	Opening Allocation	16077384.00			171932692.38	Opening Cost of Furniture & Fixture	172507056.38	
	13922616.00	Less:- Arrears Amount Paid	17546121.00			574364.00	Add:- Purchase during the year	495668.00	
		Add :- Transfer from I.& E. Appro. A/c.	1468737.00			0.00	Less:- Sale during the year	0.00	
						172507056.38	Closing Cost of Furniture & Fixture (A)	173002724.38	
5664111484.39		F) INCOME & EXPENDITURE APPROPRIATION ACCOUNT		7724567051.92		64801348.92	Less: Opening Accumulated depreciation	73056807.51	
						8255458.59	Less: Depreciation During the year	8869138.00	
	4181333310.60	Opening Balance (Excess of Income)	5664111484.39			73056807.51	Closing Accumulated Depreciation (B)	81925945.51	
	1741015289.67	Add:- Excess Income of Current Year	2346797916.53						
		Add :- Expenditure on UNIDO	75283.00		65163349.19		e) Scientific Instruments (A)-(B)		64735744.29
	13922616.00	Less :- Transfer to prov. for 6th pay comm. A/c	1468737.00			171509163.68	Opening Cost of Scientific Instruments	177124209.68	
	125000000.00	Less:- Transfer to Pension Fund	125000000.00			5615046.00	Add:- Purchase during the year	7385223.00	
	15000000.00	Less:- Transfer to Gratuity Fund	15000000.00			0.00	Less:- Sale during the year	0.00	
	12209693.67	Less:- Transfer to Capital Fund	24867254.00			177124209.68	Closing Cost of Scientific Instruments (A)	184509432.68	
	119950038.21	Less:- Interest transfer to Pension Fund	120081641.00			104630230.98	Less: Opening Accumulated depreciation	111960860.49	
						7330629.51	Less: Depreciation During the year	7812827.90	
						111960860.49	Closing Accumulated Depreciation (B)	119773688.39	
					110334401.97		3) MISCELLENEOUS ADVANCES		72445255.06
						110334401.97	Advances to Sub.Offices & Employee	72445255.06	
					1010000.00		4) SECURITY DEPOSIT WITH OTHER		1096970.00
					7383392506.01		5) INVESTMENT		9687771031.74
						6028614883.01	a) Fixed Deposits	9687771031.74	
						1354777623.00	b) Certificate of Deposits	0.00	
					115459625.46		6) CLOSING CASH & BANK BALANCE		178731519.23
						115237969.59	Cash at Bank	178476457.81	
						11807.87	Cash in Hand	255061.42	
						209848.00	Cash Balance Imprest Account & ors	0.00	
8295615129.18				10616798444.71	8295615129.18				10616798444.71

13. IMPORTANT MATTERS DEALT WITH BY THE BOARD

13.1 IMIS Project (e-Governance):

Maharashtra Pollution Control Board (MPCB) envisaged on the e-Governance project through implementation of the Integrated Management System (IMIS).

IMIS rendered the work processes of the Board such as Consent processing, Waste management, Stores and Assets management, HR management, Cess management and laboratory management into electronic modules. All these modules are integrated in a common database located at Data Center (C-NOC).

Network:

All the Regional / Sub Regional Offices and Central Laboratory / Regional laboratories are connected to the Centralized Data Center (C-NOC) located at the Head Office. The connectivity is established through MPLS-VPN network. All the field offices access internet through C-NOC. During the year 2014-15 the bandwidth of few locations likes HQ Office, RO Pune & Central Laboratory is increased due to over utilization. During the year 2014-15, MPLS connectivity was also established at few stand-alone SRO Office- Tarapur, Latur, Jalna, Dhule and Mahad.

H.O. at Sion has MPLS connectivity of 6 Mbps and an Internet of 10 Mbps to cater the need of locations connected to it.

Other IT related activity:

Special attention was given this year to both Infrastructure and website development Website Management.

Security Audit of the Board's website was conducted through a CERT empanelled agency to conform with IT norms.

Board's website has been enhanced by making 'Legal Matters' and 'Standing Orders' section more user friendly.

Infrasturcture:

The non IT equipments at the Data Centre has been updated as per Standard Security norms.

Boards HoDs and Laboratory In-Charges have been equipped with latest tablets a way forward towards green initiative i.e. paperless communication. Some of the old desktops have been updated with latest 4th generation desktops.

Further initiative:

Board has initiated Consent module enhancement with Auto-Consent Letter Generation. Board has initiated development of Web-Portal wherein various application forms will be made available online along with e-Payment Gateway.

Board has initiated the process of revamping existing Data Centre with latest State-of-the art technology by adopting virtualization.

13.2 Performance of MPCB Laboratories:

Maharashtra Pollution Control Board has established/ recognized a Central Laboratory and 7 Regional Laboratories at Pune, Nashik, Aurangabad, Nagpur, Chiplun, Thane and Chandrapur, respectively under sub-section 2 of Section 17 of the Water (P&CP) Act, 1974 and the Air (P&CP) Act, 1981. These laboratories are well equipped and approved by Ministry of Environment & Forest (MoEF), Government of India (GoI), Delhi under E(P) Act, 1986 and also ISO 9001:2008 and OHSAS 18001:2007 accredited.

MPCB laboratories functions as Board's laboratories as defined under Water and Air Act; and Environment (Protection) Act, 1986 and rules made there under to analyze the samples collected by field officers from respective region for analysis of Water, Air & Hazardous waste, Municipal Solid Waste, Biomedical waste samples and submit the reports to respective Sub Regional Office for further regulatory

action. Regional Lab Chandrapur analyzes only Air samples.

MPCB' laboratories are well equipped with modern sophisticated instruments and equipments like UV Spectrophotometer, Gas Chromatograph, Mass Spectroscopy, Atomic Absorption Spectrophotometer, IC, ICP, AOX, CHNS.

Analysis Performance of Board Laboratories for the year 2014-2015 is as below:

Analysis Performance of Laboratories (2014-2015)

Sr. No.	Laboratory	Total No. of Samples Received			Total	Total No. of Parameters Analyzed			Total
		Water	Air	H.W		Water	Air	H.W	
1	Central Laboratory, Navi Mumbai	11601	2756	289	14646	140847	17587	1586	160020
2	Regional Laboratory, Nagpur	4321	3424	151	7896	47599	9389	1749	58737
3	Regional Laboratory, Aurangabad	2507	1426	30	3963	26369	3991	155	30515
4	Regional Laboratory, Pune	5535	1655	26	7216	63440	7363	90	70893
5	Regional Laboratory, Nashik	3466	1563	61	5090	41301	4955	726	46982
6	Regional Laboratory, Chiplun	5188	2098	137	7423	59610	6394	1176	67180
7	Regional Laboratory, Thane	2201	1424	_	3625	15144	5055	_	20199
8	Regional Laboratory, Chandrapur	_	1145	_	1145	_	3475	_	3475
	TOTAL	**34819**	**15491**	**694**	**51004**	**394310**	**58209**	**5482**	**458001**

(-) Indicates Facility Not Available

Achievements of MPC Board Laboratories

A. ISO 9001:2008 and OHSAS 18001:2007 Accreditation:

Maharashtra Pollution control Board's Central Laboratory and Seven Regional laboratories located at Pune. Nashik, Aurangabad, Nagpur, Chandrapur, Thane and Chiplun are awarded ISO 9001:2008 and OHSAS 18001:2007 in March 2014 by BSCIC an accredited certification body by National Accreditation Board for Certification (NABCB) for its QMS and OHSAS certification services and accredited by foreign Direct Accreditation from by Joint Accreditation System for Australia and New Zealand (JASANZ) and continued in March 2015 after 1st surveillance audit.

B. 100% Performance in Inter Laboratory Proficiency Testing in analysis:

Central Pollution Control Board, Delhi conducts exercise through "Inter Laboratory Proficiency Testing" programme across the country for EPA approved laboratories including State Pollution Control Board's laboratories for Chemical, Biological and Microbiological analysis. During the year 2014-15 the Board's Central Laboratory and Regional Laboratory, Nashik, Pune, Aurangabad and Nagpur participated in these programme and achieved 100% performance.

C. Strong support in Judicial matters:

As per direction of High Court Bombay (No.PIL 17/2011 dt 01/03/2011) and order vide No. MPCB/

PSO/B-27 dt 02.03.2011, MPCB laboratories are completing weekly analysis of CETP Joint Vigilance Sample analysis across the state and submitting analysis report well within time for hoisting the performance of CETPs on MPCB web site

D. Time bound completion of analysis of samples collected under special projects:

During Ganesh Festival MPCB laboratories analyzes the samples pre and post immersion collected from lakes, River, Sea and Creek.

E. Training to Scientific Staff:

Maharashtra Pollution Control Board imparted **"Internal Auditor"** training as per ISO9001: 2008 and OHSAS18001:2007 to Scientific Officers and Regional Officers of the Board in the year 2014 and declared **twenty five** officers as qualified 1**'Internal Auditor'** for MPCB Laboratories.

Maharashtra Pollution Control Board imparted training to **thirty** Scientists on **"Air Quality Monitoring & Analysis"** in April 2014.Topics covered under training are **'Ambient Air Quality Sampling & Analysis', Real Time Ambient Air Quality Monitoring'** and , Source Emission Sampling & Analysis'.

13.3 Performance evaluation of Sewage Treatment Plant

Discharge of untreated sewage in water bodies both surface and ground water is the most important reason for water pollution in Maharashtra. Total sewage generated is about 7348 MLD. However treatment capacity exists for only about 4481 MLD. Thus there is a gap between generation and treatment of sewage in the State. Even the existing treatment capacity is not fully utilized due to operation and maintenance problem. Nearly 39% sewage remained untreated. These STPs are generally run by unskilled personals. In most of the cities the existing capacity of treatment plants remains underutilized while the large quantity of sewage is discharged without treatment to near by water course. Maximum capacity gap is in Nashik Region whereas lowest capacity gap is there in Navi-Mumbai and Raigad Region. As there is no STP in Chandrapur 100% sewage remain untreated

The Region wise sewage generation and its treatment are presented in the following table.

Sr.No.	Region	Quantity of Effluent Generated MLD	Treatment Capacity of STP MLD	Capacity Gap MLD
1	Mumbai	2671	2600	71
2	Navi-Mumbai	281	278	3
3	Thane	572	122	450
4	Kalyan	417	30	387
5	Raigad	51	14	37
6	Pune	1281	938	343
7	Nagpur	431	100	331
8	Nasik	803	130	673
9	Amravati	209	37	172
10	Aurangabad	310	93	217
11	Kolhapur	232	139	93
12	Chandrapur	90	0	90
	Total	**7348**	**4481**	**2867**

Based on inlet and outlet values of the parameters the Performance of some STPs has been illustrated below.

13.3.1 Status of STPs operating in Kolhapur Region

The Kolhapur Municipal Corporation & Ichalkaranji Municipal Council both are located on the banks of Panchganga River. These municipal bodies have provided partial treatment to the sewage gener-

ated from the city area. The total quantity of sewage generated from Kolhapur Municipal Corporation is about 96 MLD, out of which 43.5 MLD is being partially treated and remaining discharged directly into the Panchganga River through various nallas. Presently KMC has completed the work of new 76 MLD STP at Kasba Bawada and same is commissioned, where 50 MLD effluents is treated in the STP. The work of 17 MLD STP proposed at Dudhali nalla is in progress.

From Ichalkaranji Municipal Council the total sewage generated is about 32 MLD, out of which only 14 MLD is being treated in 20 MLD capacities STP & remaining is discharged directly into Panchganga River through various nallas.

The Board has issued various notices & also initiated legal actions and filed a court case against Kolhapur Municipal Corporation & Ichalkaranji Municipal Council. Now the Kolhapur Municipal Corporation has received funds under various Govt. schemes for the collection & treatment of sewage generated in the Corporation area.

The Zilla Parishad has taken initiatives for the implementation of the sewage treatment plant in 39 villages and appointed an agency for the same after the follow up by the Board.

In Kolhapur region the performance of two STPs located at Kolhapur & Ichalkaranji was monitored. The monitoring results are presented in the following table.

Name of the STP	pH		BOD		COD		O & G		S. S.	
	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet
Kolhapur Municipal corporation kasaba bawada kolhapur	7.35	7.42	46.5	27.66	94	81.33	BDL	BDL	171	23.33
Ichalkaranji Muncipal counsil Ichalkaranji kolhapur	7.36	7.72	95	27.93	232	78	BDL	BDL	24	30.33

It is clear from the performance of these STPs that there is 70% reduction in the BOD level at Kolhapur STP where as 30% reduction in BOD was noticed in STP of Ichalkaranji. In respect of COD the performance of Ichalkaranji was better than Kolhapur. However in respect of Suspended Solids the performance of Kolhapur is much better than the STP of Ichalkaranji. At both the STPs O & G were found below detection level.

13.3.2 Status of STP operating in Thane Region

Thane Municipal Corporation is generating domestic waste water to the tune of 220 MLD for which they have installed STP having capacity 120 MLD at Kopari. It has been proposed to install two separate STP's of capacity 100 MLD at Kalwa & 32 MLD at Mumbra. The quantum of waste water receipt at Kopari STP is around 30 to 40 MLD due to lack of sewerage line for collection of domestic waste.

From the table below it is clear that pH value increased by 4% at the outlet. However the reduction in B.O.D, C.O.D. and S.S. was 88%, 82% and 78% resp. at the outlet of STP

Name of the STP	pH		BOD		COD		O & G		S. S.	
	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet
Thane Municipal Corporation, Thane	6.9	7.2	54	6.2	135.6	24	1.4	BDL	56.6	12.6

13.3.3 Status of STP operating in Kalyan Region

K.D.M.C. generates 240 MLD of sewage from Kalyan & Dombivali. There are STP's of 25MLD & 40MLD capacity at Aadharwadi & Motagaon, Chinchpada STP of 40 MLD, Barave STP of 15 MLD, Titwala (E) STP of 2 MLD, Titwala (W) STP of 1 MLD. Out of these 3 are in operation, 2 are under commissioning & work of 1STP is in progress. KDMC has installed New 6 STP of having total capacity of 123MLD.

Table below gives the performance of STP and indicates 50% reduction of B.O.D., 40% reduction in C.O.D. and 57% reduction in S.S. at the outlet

Name of the STP	pH		BOD		COD		O & G		S. S.	
	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet
Barve STP	7.1	7.3	24.3	12.1	88	52	BDL	BDL	26	11

13.3.4 Status of STP operating in Mumbai City

Mumbai is a metropolitan city having mainly industrial and dense habitation. Domestic effluent generated from residential area is coming through drainage line provided by local body and treated in 8 STPs provided at different locations by MCGM. Total treatment capacity of STPs is 2600 MLD whereas domestic effluent received to these 8 STPs is 2028 MLD. An unauthorized settlements, some societies, slum area, small service industries, as they have not connected with drainage system hence effluent form these area is directly discharged in to near by nalla which ultimately meets to river or to creek. Hence it is necessary to bring entire Mumbai area under drainage system so as to treat these unattended effluent in 8 STPs. Board is taking follow-up with MCGM to overcome the problems.

Three new STPs on the bank of Mithi river have been proposed by MCGM having capacity of 11 MLD so as to reduce the pollution. Also it is planned to bring area under bank of Mithi river under the drainage system.

From the table below it is seen that no STP has performed well. The reduction in respect of B.O.D. at the outlet was observed in the range of 17% - 52%. The performance of Malad STP was very poor. The performance in terms of C.O.D. shows 16%-40% reduction at the outlet. The performance was very poor at Colaba & Charkop. The% reductions in S.S. at the outlet of these STPs were in the range 22-60. The STPs at Malad and Worli have not performed well in this regard.

Name of the STP	pH		BOD		COD		O & G		S. S.	
	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet	Avg. Inlet	Avg. Outlet
Varsova	7.4	7.35	48	34	120	72	BDL	BDL	56	22
Worli	6.99	7.32	310.33	146.87	622.66	352	3	2.2	80.66	62.57
Colaba	6.96	7.38	160	101.5	356	296.66	2.1	1.7	92	46
Malad	6.72	7.1	88	73	184	132	4.9	2.2	120	75
Charkop	7.2	7.3	135	85	225	185	4	3.2	135	78

13.3.5 Status of STP operating in Nashik Region

Nashik Municipal Corporation consumes 390.0 MLD of water & generates 280MLD of sewage. Nashik Municipal Corporation is having STP of capacity 270.50 MLD. However sewage is treated to the tune of 225.0 MLD. Nashik Municipal Corporation has also proposed to provide STP of capacity 142 MLD.

MPCB has directed to Nashik Municipal Corporation to avoid the untreated Sewage discharging into river. MPCB has issued consent to Nashik Municipal Corporation with condition to operate & maintain the STP's to achieve BOD level 30 mg/l to 10 mg/L. MPCB is monitoring river water quality as well as STP regularly.

There are 7 STPs in Nashik and one STP in Shirdi. Monitoring performance of these STPs indicate that except STP at Trimbakeshwar the B.O.D. load at the outlet was found within limit. At Trimbakeshwar 45% reduction in B.O.D. load was noticed at the outlet of STP. Excluding Tapovan STP the rise in pH level is also noticed at other STPs. The performance of STP in Shirdi in respect of B.O.D, C.O.D. and S.S. found satisfactory. 49% reduction in chloride & sulphate were also observed at the outlet of STP at Shirdi.

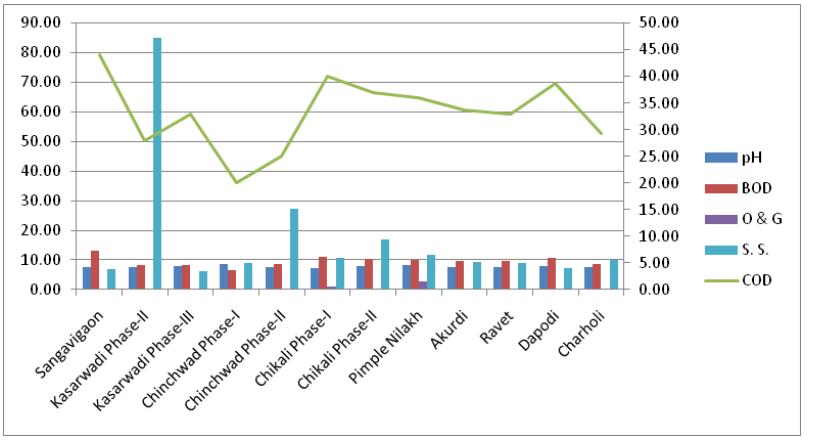
13.3.6 Status of STP operating in Pune Region

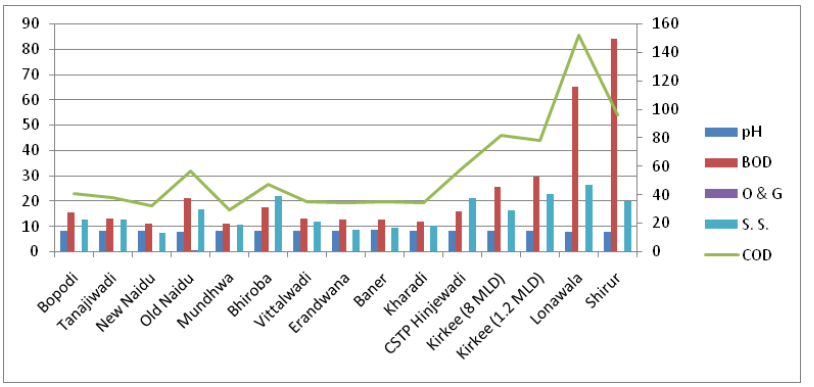
Pune Municipal Corporation alone generates 744 MLD of sewage, out of which 567 MLD is treated at present with the help of 10 Nos. of STP's provided at different locations. The Pimpri – Chinchwad Municipal Corporation (PCMC) has provided STP's at different locations to treat the sewage generated from the PCMC area. The treated and untreated wastewater is disposed off into the river. Within the Pune district, municipal council such as Lonavala, Shirur including Pune Municipal Corporation & Pimpri Chinchwad Municipal Corporation, have provided STPs, which are still insufficient to meet their present requirements. Therefore, domestic effluent generated flows into nearby nallas which ultimately meets the river directly/indirectly.

In the Pimpri-Chinchwad Municipal Corporation (PCMC) out of the 291 MLD sewage 230 MLD of sewage is treated. The Corporation has provided 13 STPs at various locations in a phase wise manner & the same are in operation and these treated and untreated wastewater is disposed off into the river. On the other hand, in Satara Sub-division, only Panchgani Municipal Council, Mahabaleshwar Municipal Council & Karad Municipal Councils have taken some steps to provide STPs. In Solapur sub-division, except Pandharpur, no other local bodies have provided STP facilities.

To improve the river water quality the Board has prosecuted Pune Municipal Corporation and Pimpri Chinchwad Municipal Corporation for non treatment of total sewage generated. PMC has proposed to install 9 no. of STPs of Capacities 364 MLD & PCMC proposed to install STP of 90 MLD capacity. Solapur Municipal Corporation is in process of installation of 3 STPs of collective capacity of 102 MLD. Daund Municipal council has installed STP of 10 MLD. Pandharpur Municipal council has installed STP of 15.5 MLD capacity.

The performance of STP in Pune is depicted in following figures.





Lonawala & Shirur Municipal Councils in Pune, Mahabaleshwar Municipal Council in Satara and Pandharpur Municipal Council in Solapur have not performed well in respect of outlet parameters. The B.O.D. load observed at the outlet of STPs of these Councils were exceeding the limit.

13.3.7 Status of STP operating in Aurangabad & Nagpur Region

In Aurangabad Region STPs are in operation in Aurangabad Municipal Corporation and Nanded –Waghala Municipal Corporation. The STP of 6.5 MLD capacity is operated at CIDCO Aurangabad, whereas 5 MLD STP is operational at Salim Ali sarovar HUDCO Aurangabad. At both these STPs it is observed that BOD at the outlet is not meeting the standard.

The Nanded Waghala Municipal Corporation operates 2 STPs of 87 MLD and 30 MLD capacities. At both these STPs the BOD is not confirming the standard at the outlet. The other parameters like COD, SS also have increased concentration at the outlet STP.

In Nagpur the Nagpur Municipal Corporation operates STP of 80 MLD capacity at Bhandewadi. The overall performance of STP was observed satisfactory. There is 82 % reduction in BOD level, 62% reduction in COD level and 85% reduction in SS at the outlet of STP. The BOD level was conforming to the standard at the outlet.

13.4 CEPI index of MIDC TARAPUR:-

- Tarapur MIDC is largest chemical zone in Maharashtra. CPCB has declared critically polluted area and cumulative CEPI index is 72.01 (Water CEPI: 56, Air CEPI: 60.75 & Land CEPI: 51.25). The major contribution in the CEPI was due to water pollution, air pollution due to use of carcioniginc chemicals, nearby locality and allied aspects.
- Action plan has been prepared to reduce the CEPI index. The implementation of which is under

progress.

- Most of the industries have installed advance air pollution control measures so as to limit process emissions. The industries are compelled to switch over to clean fuel so as to limit TPM, SOx levels due to burning of fossil fuels. The pipeline work of GAIL is under progress.
- Study of identification of industries from MIDC Tarapur using solvents & arrangement for solvent recovery provided by industries& its adequacy is to be carried out as a part of action point for CEPI.
- CETP has proposed to carryout expansion of existing CETP by installing additional capacity plant of 50 MLD which will reduce impact of water pollution so as to minimize CEPI score.
- Feasibility study is required for setting up sewage treatment plant (STP) in Boisar area.
- MIDC have proposed to develop site for scientific treatment and disposal of Municipal Solid Waste generated from industrial area and nearby villages. The development of treatment facility along with landfill site will improve CEPI score in the said area.
- It has been projected that CEPI score will improve in the following pattern after implementation of short term and long term measures which are more precisely elaborated in the action plan.

Particulars	**CEPI Score as declared by CPCB**	**CEPI score after short term measures**	**CEPI score after l ong term measures**	**Remarks**
Water CEPI Air CEPI Land CEPI	56 60.75 51.25	43 46.25 48	38 33.25 --	Implementation of action plan is under progress.

MAHARASHTRA

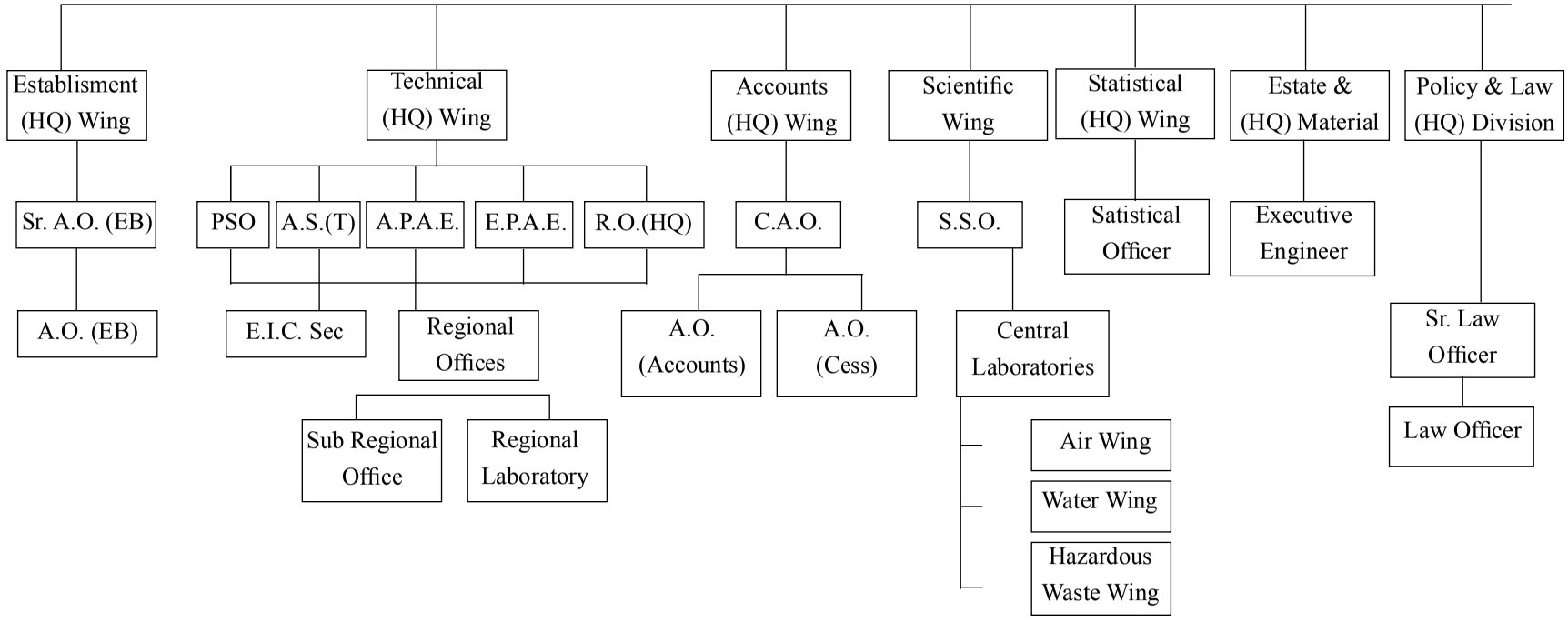
ANNEXURES

ANNEXURE –IA

ORGANIZATION STRUCTURE OF M.P.C.B.

Chariman

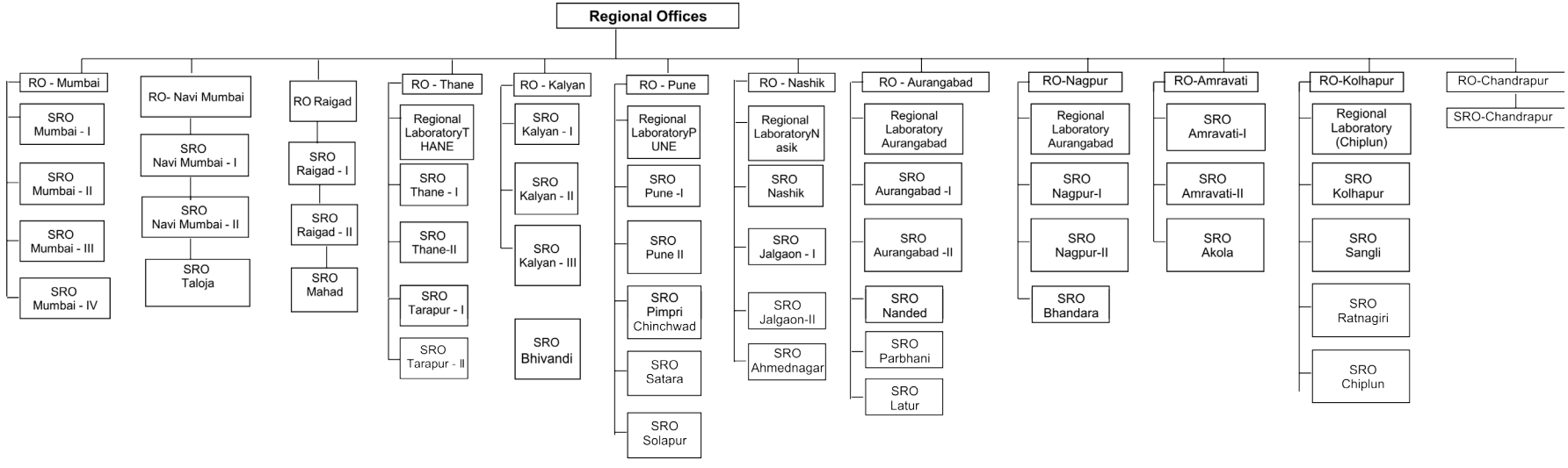
Member Secretary



Abbrievations Used :-

WPAE - Water Pollution Abatement Engineer
APAE - Air Pollution Abatement Engineer
RO (HQ) - Regional Officer (Head Quarter)
EIC -Environmental Information Center
PSO: Principal Scientific Officer
Sr. A.O. - Senior Administrative Officer
CAO - Chief Accounts Officer
AO (Cess) - Accounts Officer (Cess)
AO (Accts.) - Accounts Officer (Accounts)
SSO - Senior Scientific Officer

ANNEXURE –IB


Regional Offices
RO - Mumbai
SRO Mumbai - I
SRO Mumbai - II
SRO Mumbai - III
SRO Mumbai - IV
RO- Navi Mumbai
SRO Navi Mumbai - I
SRO Navi Mumbai - II
SRO Taloja
RO Raigad
SRO Raigad - I
SRO Raigad - II
SRO Mahad
RO - Thane
Regional LaboratoryTHANE
SRO Thane - I
SRO Thane-II
SRO Tarapur - I
SRO Tarapur - II
RO - Kalyan
SRO Kalyan - I
SRO Kalyan - II
SRO Kalyan - III
SRO Bhivandi
RO - Pune
Regional LaboratoryPUNE
SRO Pune -I
SRO Pune II
SRO Pimpri Chinchwad
SRO Satara
SRO Solapur
RO - Nashik
Regional LaboratoryNasik
SRO Nashik
SRO Jalgaon - I
SRO Jalgaon-II
SRO Ahmednagar
RO - Aurangabad
Regional Laboratory Aurangabad
SRO Aurangabad -I
SRO Aurangabad -II
SRO Nanded
SRO Parbhani
SRO Latur
RO-Nagpur
Regional Laboratory Aurangabad
SRO Nagpur-I
SRO Nagpur-II
SRO Bhandara
RO-Amravati
SRO Amravati-I
SRO Amravati-II
SRO Akola
RO-Kolhapur
Regional Laboratory (Chiplun)
SRO Kolhapur
SRO Sangli
SRO Ratnagiri
SRO Chiplun
RO-Chandrapur
SRO-Chandrapur

ANNEXURE –II

STAFF STRENGTH AS ON 31.03.2015

Sr. No.	CADRE	SANCTIONED	FILLED IN	VACANT
I	**A-TECHNICAL**			
1	Water Pollution Abatement Engineer	1	1	0
2	Air Pollution Abatement Engineer	1	1	0
3	Asst. Secretary (Technical)	1	1	0
4	Executive Engineer	1	1	0
5	Regional Officer	14	10	4
6	Sub-Regional Officer	53	39	14
7	Deputy Engineer	1	0	1
8	Field Officer	206	178	28
9	Statistical officer	1	1	0
10	Statistical Assistant	1	1	0
11	Draughtsman	1	0	1
12	Field Inspector	42	13	29
13	Asst. Draughtsman	2	0	2
14	Tracer	6	2	4
15	Electrician	2	1	1
16	Instrument Fitter	1	1	0
	TOTAL	**334**	**250**	**84**

Sr. No.	CADRE	SANCTIONED	FILLED IN	VACANT
II	**B-LEGAL**			
1	Senior Law Officer	2	0	2
2	Law Officer	2	1	1
3	Asst. Law Officer	3	2	1
4	Legal Assistant	4	2	2
	TOTAL	**11**	**5**	**6**

Sr. No.	CADRE	SANCTIONED	FILLED IN	VACANT
III	**C-SCIENTIFIC**			
1	Principal Scientific Officer	1	1	0
2	Senior Scientific Officer	3	1	2
3	Scientific Officer	9	7	2
4	Junior Scientific Officer	26	23	3
5	Junior Scientific Asst.	40	33	7
6	Laboratory Asst.	7	6	1
	TOTAL	86	71	15

Sr. No.	CADRE	SANCTIONED	FILLED IN	VACANT
IV	**D-Accounts & Administration**			
1	Chief Accounts Officer	1	1	0
2	Senior Administrative Officer	1	1	0
3	Material Officer	1	0	1
4	Private Secretary	2	1	1
5	Accounts Officer	2	1	1
6	Administrative Officer	1	0	1
7	Asst. Secretary	1	0	1
8	Asst. Accounts/Admin Officer	11	9	2
9	Head Accountant/O.S.	20	13	7
10	Senior Clerk	50	42	8
11	Junior Clerk	64	61	3
12	Senior Steno	5	5	0
13	Junior Steno	27	17	10
14	First Clerk	17	16	1
15	Daftari	14	9	5
16	Drivers	74	63	11
17	Roneo Operator	1	0	1
18	Naik	2	0	2
19	Chowkidar	20	14	6
20	Peons	88	58	30
22	Sweeper	3	3	0
	TOTAL	**405**	**314**	**91**

ABSTRACTS

A.	Technical	334	250	84
B.	Legal	11	5	6
C.	Scientific	86	71	15
D.	Accounts & Administration	405	314	91
	Member Secretary	1	1	0
	Chairman	1	1	0
	TOTAL	**838**	**642**	**196**

ANNEXURE-III

Training /workshops attended by officers and Staff of the Board during April 2014 to March 2015

Sr. No.	Training/ Workshop Date	Subject 3rd Annual Coference	Training venue	Name of Participant
1	21st April, 2014	or Industrial Water Management & Desalination	The Western Mumbai Golden City, Goregaon	Shri B.B. Nimbarte, JD(WPC)
2	19th May to 27 June, 2014	Rajiv Gandhi Centre for Contemporary Studies University Vidyanagari, Kalina, Mumbai (Water for All)	Sakal Media Group, Belapur, Navi Mumbai	Mrs. Madhurima M. Joshi, (F.O.), R.O. Mumbai
3	8th -14 th June,2014	Noise Monitoring System for development of Real Time Ambient/Noise Monitoring Network in India	MADRID, Spain	Shri S.C. Kollur, S.O. JD(APC) Section
4	7th Aug. to 11th Aug. 2014	"Developing Competencies of ES,PA,PS and Other Staff"	Hotel Alka, Shirkabadi, Udaipur	Shri Harshad Naik, Jr. Clerk, M.S. Section, Shri Tushar Shinde, Jr. Clerk, JD(APC)
5	11th August to 14th August, 2014	"Laboratory Management & Internal Audit as per SO/IEC 17025:2005"	Fine Finish Training School,MIDC, Taloja Navi Mumbai &	Shri N.A. Mogal, SSO & I/c. C.Lab, Mahape, Shri M.S. Rakh, JSO, R.Lab., Thane
6	23rd to 25th Sept., 2014	"Professional Development Programme on Curren Requirements in Environmental Impact, Assessment & Procedures (As per MoEF Guidelines)"	ESCI, Campus, Gachi Bowli, Hyderabad.	Shri Utkarsh Shingare, F.O. JD(WPC)
7	6th to 25th September, 2014	Workshop on "air Pollution Induced Health Effects, Development of Health risk Assessment Software and Demo"	NEERI, Nagpur	Shri Sharad Pawar, FO, JD(APC Mrs. Hema Deshpande, SRO, Nagpur, Shri S.D. Patil, SRO, Chandrapur & Shri Mahendra M. Pattebaha dur, F.O., SRO, Nagpur-II
8	15th to 17th Sept., 2014	Monitoring & Analysis of Non-Point Source of Pollution (NPS)-Agriculture in a rioverine system	National Institute of Hydrology, Roorke	Shri U.D. Yadav, FO, SRO, Raigad-II, Shri P.D.Jagtap, F.O., SRO, Navi Mumbai-IV
9	2nd to 6th Sept., 2014	"Water Quality Monitoring, & Management + Monitoring of Physical, Biogical/Microbial and Biomarkers/Toxic in Coastal Ambiant Water"	Engineering Staff College of India (ESCI) Campus, Old Bombay Road, Gachi Bowli, Hyderabad	Shri Prakash Tate, FO, SRO Kalyan-I, Pramod Lone, FO, SRO, Kalyan-III, Smt. Yamini Chachad, JSO JD(WPC) & Miss Shrutika Dalvi, F.O., RO(HQ).

10	18-20 Sept., 2014	"Oil Spill India, 2014", An International Conference	Holiday Inn Resort, Goa	Dr. Y.B. Sontakke, JD(WPC), (Speaker), Shri P.K. Mirashe, AS(T), Shri Ketan A. Patil, FO, AS(T) (Participants)
11	09-11 Sept.,2014	"Noise Monitoring Systems"	CPCB Head Office, New Delhi	1) Yogesh Gore, F.O. JD(APC) 2) Yogesh Deshmukh, FO, RO Mum. 3) Rajesh Nandgaonkar, FO, SRO, Mum-III
12	09-10 Oct., 2014	IFAT INDIA 2014 Trade Fair for Water Sewage ….. "Water 4 Crops"	Hall No.5, Bombay Exhibition Centre, Mumbai	Vikram Mane, F.O. RO-Navi Mumbai
13	3-17 Oct. 2014	Best prctices in Environmental Governance	sweden & Norvey	Ravindra Jadhav FO RO Nashik, Avinash Kadale FO RO Kolhapur, Sandeep Motegaonkar FO RO Kolhapur
14	28-29 Oct., 2014	"Stack & Ambient Air Monitoring, as per Hon. NGT (WZ),Pune Order in Application No.157(THC)/2013	Tata Power, Chembur, Mumbai	39 Field Officers
15	30-31 Oct., 2014	"Stack & Ambient Air Monitoring, as per Hon. NGT (WZ), Pune Order in Application No.157(THC) /2014	Reliance Power, Dahanu, Tal & Dist: Palghar	40 Field Officers
16	13-14 Nov. 2014	Training for "WTP/ WWTP/ STP Design operation and maintenance and water reuse -recycling zero liquid discharge"	Ocean Palm, Goa	Prashant Gaikwad FO, JD APC, Nitin Wagh, FO, MS Section, Santosh Chavan, FO, AST section, Mahesh chavan FO, JD WPC, Ajit Suryavanshi, FO, CAC-Cell, Sujit Dholam, SRO, TAC Cell, Deepak Bansod, FO, AST, Sangram Nimbalkar, FO, CC-CAC Cell
17	7-8 Nov., 2014	"Stack & Ambient Air Monitoring, as per Hon. NGT (WZ), Pune Order in Application No.157(THC) /2015	MEETRA, Nashik	37 Field Officers

18	11-12 Nov., 2014	"Stack & Ambient Air Monitoring, as per Hon. NGT (WZ), Pune Order in Application No.157 (THC)/2016	Koradi Thermal Power Station	24 Field Officers
19	13-14 Nov., 2014	"Stack & Ambient Air Monitoring, as per Hon. NGT (WZ), Pune Order in Application No.157(THC) /2017	Tata Power, Chembur, Mumbai	37 Field Officers
20	7-09 Nov., 2014	National Symposium on "Biodiversity & Climate Change & 37th All Botanical Conference 2014"	V.G.Vaze College, Mulund (East), Mumbai	Smt. Ragini Butale, JSO, MPCB, Mumbai, Shri Gopal Kadam, JSA,MPCB, Mumbai, Shri Sanjay Kavare, FO, SRO MPCB, Mumbai-II, Shri Darshan Mhatre, FO, SRO, MPCB, Kalyan-I & Shri Arvind Dhapate, FO, MPCB, SRO Navi Mumbai-II 120
21	18th to 20th November, 2014	Capacity Building on E-Waste & E-Waste Rules.	Centre for Science & Environment, T ughlakabad, New Delhi	Shri Kiran Malbhage, F.O. Jaiprakash Bhusara, FO, RO (HQ)
22	22nd November., 2014	Waste (International Summit & Expo) 4 RS, A way to Sustainability	Mahatma Mandir, Gandhinagar, Gujarat	Dr. Y.B. Sontakke, JD(WPC), Shri N.N. Gurav, I/c. R.O.(HQ)
23	17th to 21st November, 2014	Training on Environmental, Occupational Health & Safety (EHS) Management System & OHSAS as per ISO 14001: 2004 and OHSAS 18001:2007	Hotel Park Sheraton, Chennai	Smt. Ragini Butale, JSO, PSO Sec, MPCB, Mumbai,
24	18th Nov., 2014	Green Energy in India and Future Trends	Hotel Westin, Pune	Shri A.D. Mohekar, R.O., Pune, Shri A.F. Dehmane, SRO, Pimpri Chinchwad, Shri S.h. Padwal, SRO, Pune-I
25	02.12.2014 to 06.12.2014	Analysis of Water, Waste Water, Soil & Hazardous Wastes	G.P. Pant University, Pantnagar, Uttarakhand	Shri S.M. Taide, JSA & Salil Save, JSA, C.Lab. Shri D.R. Nanekar, JSA,R.Lab., Chiplun, Shri R.P. Raut, JSA, R.Lab, Pune

26	22-24 Dec, 2014	"Managing of Air Urban Quality"	Centre for Science & Environment, Tughlakabad, New Delhi	Gajanan Khadkikar, F.O. SRO, Nagpur-I, Sushilk Shinde, FO, SRO, Chandrapur, Bhagwan Makhanikar, FO, SRO, Nashik-I
27	22 to 24 Dec., 2014	Measurement Uncertainty	National Institute of Training and Standardizatoin (NITS), A-20-21, Institutional Area, Sector, -62, Noida, 201301.	Mrs. Sumitra Mahajan, JSO, R.Lab., Thane, Annappa Kurale,JSA, C.Lab., Mahape & Shailesh Kada, JSA, C.Lab., Mahape
28	12.01.2015 to 16.01.2015	Hands on Advance Instruments of Water Quality Testing	National Institute of Hydrology, Roorke	Dr. A.R. Supate, PSO, D.V. Nehe, JSO, JSO, R.Lab, Pune, S.K. Baviskar, JSO, R.Lab., Nashik, Ms. Ranjana Rane, JSA, C.Lab., S.S. Solunkhe, JSA R.Lab, Chiplun & Shri Abhijeet Wagh, JSA R.Lab., Nagpur
29	19.01.2015 to 21.01.2015	Current Reqiurements in EIA-Process & Proceduress as per MoEF Guidelines.	Engineering Staff College of India (ESCI), Campus, Old Bombay Road, Gachi Bowli, Hyderabad	V.G. Jadha, F.O., SRO, Ratnagiri & S.V. Sonawane, F.O. ,SRO Raigad-II
30	05.01.2015 to 09.01.2015	Pollution Control and Waste Management in Sugar & Distillary Units	Vasantdada Sugar Institute Manjari (BK), Tal: Haveli, Pune	Pramod Mane, SRO, Ahmednagar, R.A. Rajput, SRO, Latur, Jayant S. Hajare, SRO, Sangli, & D.P. Koparkar, SRO, Solapur.
31	19.01.2015 to 23.01.2015	Development Programme for Office Secretaries, Personal Assistants and Office Staff, Focus e-Age.	Delmon Hotel, Panaji, Goa	E.V. Dhanwate, Jr. Steno, AS9T) Sec. & B.C. Imade, Jr. Steno, E.B. Sec.
32	19 to 23 January, 2015	Laboratory Quality Management Systems & Inter nal audit as per IS/ISO/IEC 17025	National Institute of Training and Standardizatoin (NITS), A-20-21, Institutional Area, Sector, -62, Noida, 201301.	B.S. Gadhari, SO, R.Lab., Chiplun, S.D. Mali, JSO, R.Lab, Nashik & Mrs.Swati Muley, JSA, C.Lab., Mahape, N.M.
33	15th Jan, 2015 to 14th Feb., 2015	"Collection of Source (Stack) and Ambient Air sample by Fos of the Board	Various Places in Maharashtra	Field officers of the Board

ANNEXURE-IV (A)

Status of Consents Granted by Consent Appraisal Committee (2014-2015)

Sr. No.	Region	Consent to Establish	Consent to Operate	Renewals	Total Consents granted
1	Amravati	4	2	4	10
2	Aurangabad	22	19	25	66
3	Chandrapur	3	4	4	11
4	Kalyan	3	8	7	18
5	Kolhapur	15	15	36	66
6	Mumbai	30	22	13	65
7	Nagpur	14	7	37	58
8	Nashik	22	32	19	73
9	Navi Mumbai	14	8	29	51
10	Pune	105	81	135	321
11	Raigad	25	17	23	65
12	Thane	10	9	11	30
	Total	**267**	**224**	**343**	**834**

ANNEXURE-IV (B)

Status of Consents Granted by Consent Committee (2014-2015)

Sr. No.	Region	Consent to Establish	Consent to Operate	Renewals	Total Consents granted
1	Amravati	6	2	3	11
2	Aurangabad	4	5	22	31
3	Chandrapur	1	0	9	10
4	Kalyan	5	2	2	9
5	Kolhapur	9	7	32	48
6	Mumbai	81	13	7	101
7	Nagpur	9	18	27	54
8	Nashik	12	33	20	65
9	Navi Mumbai	4	2	22	28
10	Pune	112	43	62	217
11	Raigad	13	3	13	29
12	Thane	25	17	11	53
	Total	**281**	**145**	**230**	**656**

ANNEXURE-IV (C)

Status of Consents Granted by Regional offices(2014-2015)

Sr. No.	Region	Consent to Establish	Consent to Operate	Renewals	Total Consents granted	Authorizations granted under BMW Rules
1	Amravati	308	197	102	607	0
2	Aurangabad	545	534	85	1164	72
3	Chandrapur	104	178	0	282	0
4	Kalyan	142	298	0	440	0
5	Kolhapur	905	465	332	1702	0
6	Mumbai	51	455	0	506	78
7	Nagpur	304	397	243	944	57
8	Nashik	554	840	41	1435	44
9	Navi Mumbai	141	429	0	570	13
10	Pune	671	1085	197	1953	3
11	Raigad	82	92	79	253	44
12	Thane	135	503	9	647	24
	Total	**3942**	**5473**	**1317**	**10732**	**335**