

REPORT ON
ENVIRONMENTAL STATUS OF
PUNE REGION
2004 - 2005



MAHARASHTRA POLLUTION CONTROL BOARD

KALPATARU POINT, SION CIRCLE, SION (EAST)
MUMBAI

STATUS REPORT – PUNE REGION

1. PREAMBLE :

Pune Region is consist of Pune, Satara and Solapur districts. There are three SROs in Pune District and one each at Satara and Solapur District. Under Sub Regional Office, Pune-I, Bhore, Velha, Baramati, Indapur, Purandar, Daund Tahsils and area of Pune Municipal Corporation is covered.

Under Sub Regional Office, Pune-II, Khed, Ambegaon, Junnar, Mulshi, Shirur, Haveli and Maval Tahsils area is covered.

Under Sub Regional Office, Pimpri Chinchwad, Pimpri Chinchwad Municipal Corporation area is covered.

For Satara Sub Regional Office, the area of district Satara is covered and for Sub Regional Office, Solapur, the area of Solapur district is covered.

Bhima and Nira are two main rivers in Pune district. Bhima river originates at Bhima Shankar in Sahyadri hills and flows towards east side in Pune and Solapur district. Nira river originates in Sahyadri hills in Bhore Tahsil and flows through Bhore, Baramati, Indapur Tahsils. The confluence of Bhima and Nira river is at Narsingpur and then flows as Bhima River in Solapur District. The Krishna river originates in Sahyadri hills at Mahabaleshwar of Satara District. Khadakwasla, Panshet, Varasgaon, Bhatghar, Vir, Ujani and Koyna dams are the main water sources for drinking and irrigation purposes in the Pune region. The climate of Pune and Satara district is warm and dry and cool in hilly area while in Solapur district, the climate is dry and hot. The temperature in Pune region, rises to 40°C in summer and about 8°C in winter. The average rainfall in Pune District is 1150

mm, in Satara District 1035 mm and in Solapur District , 620 mm. As we move towards east, the rainfall drops.

In Pune Region, mainly agro based industries are predominant especially sugar, distilleries, dairy, paper etc. Particularly, in Pune District, automobile industries plays a vital role.

In Solapur District, textile industries are predominant. In Pune region, MIDC industrial areas are developed mainly at Pimpri Chinchwad, Bhosari, Chakan, Jejuri, Ranjangaon, Baramati, Satara, Karad and Solapur etc. In Pune Region, software parks are also developed at Talawade and Hinjawadi. In Ranjnagoan, automobile and food industries are developed. MIDC has developed a chemical zone at Kurkumbh in which pharmaceuticals, chemicals and other auxiliary units are in operation.

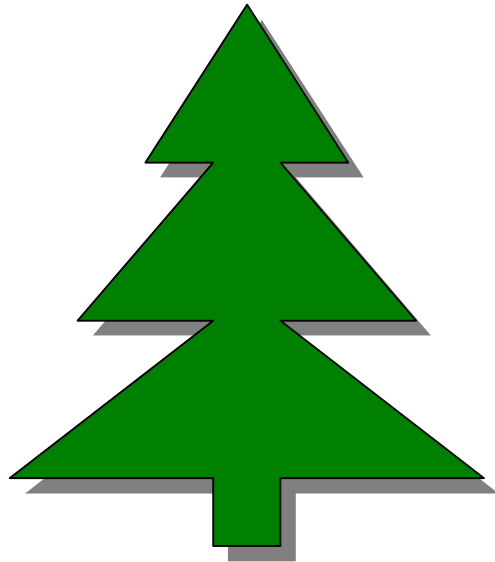
CETP is provided by MIDC in Kurkumbh industrial area and common primary treatment facility is provided at Five Star Industrial Area in Ranjangaon.

The districtwise status of Pune, Satara and Solapur districts is incorporated in this report.

ENVIRONMENTAL STATUS REPORT

2004-2005

PUNE - DISTRICT



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1) INTRODUCTION



1. INTRODUCTION

Pune district is situated at 18° to 19.2° latitudes and 73.2° to 75.1° longitudes. The area of this district is 14642 sq.kms which is 5% of area of entire Maharashtra. As per census 2001, population of Pune District is 72.24 lakhs which is 17.5% of total population of Maharashtra. The population density of this district is 462 per sq.km where as the population density of rural area and urban area is 2000 and 6756 per sq.km. respectively. In the Pune district, the highest population density is in Haveli Tahsil which is 14,658 while the minimum population density is in Velhe Tahsil which is 111 per sq.km.

Pune district includes 14 tahsil viz Haveli, Shirur, Velhe, Mulshi, Maval, Bhore, Baramati, Purandar, Pune city, Daund, Junnar, Khed, Indapur and Ambegaon. The urban area of this district in which 2 no. of municipal corporations 11 nos of municipal councils and three nos of cantonment boards are in existence.

The climatic conditions of the district generally found as, warm and dry. The minimum and maximum temperature is found 10 °C and 41°C. The average rainfall at western ghat is 115 cm and as we move toward eastern side, it decrease upto 60 to 70 cms. Out of total area 1562 thousand hectors falls under agriculture land, where are 171 thousand hectres falls under forest land. 167 thousand hectors is available as barren land, which is not useful for cultivation. Out of total agriculture land, only 291 thousand hectors is irrigated.

The river Bhima is the main river of this district & originates from Bhima Shankar which is situated at western side of Sahyadri ranges. It flows towards south east and enter into Solapur district. The tributories of this river are Ghod, Bhama, Indrayani, Mula, Mutha and Pawana. Besides this river, another Nira river which originates at Sahyadri ranges of Bhor Tahsil. Gunjawani, Pushpawati, Shivganga are tributories of the Nira River. The confluence of Bhima and Nira river is at Narsisngpur in Solapur district. Generally, there is atleast one river flowing in each tahsil of Pune District. However, none of these river are perinnial. There are major and medium irrigtion projects in existence such as Khadakwasla, Panshet, Varasgaon, Bhatghat, Vir. Chaskaman. These are the main water sources for drinking and irrigation.

As far as crop pattern is concerned, the major area of land is covered under jawar crop which is 37% of total crop in Pune district. Remaining area is under cultivation of Bajara, Wheat, Pulses, Sugar Cane, Maize etc. Now a days, horticultural activities are increasing particularly fruits of orange, sweet limes, grapes, banana etc. The consumption of chemical fertilizers was 1,76,332 MT during the year 2000-2001 whereas during year 2001-2002, it was 1,84,200 MT which seems to be increasing.

There are 10 no. of MIDC in Pune district viz Pimpri Chinchwad, Ranjangaon, Chakan, Kurkumbh, Jejuri etc. There are co-operative industrial estates at Pune, Baramati, Bhor tahsil. The co-operative sugar factories in Pune District plays important role. Agrobased industries such as dairy and food processing units are also contributing important role for development.

2) RIVER POLICY



2. RIVER POLICY

Govt. of Maharashtra has declared the river policy. In the policy, river stretches have been classified as A-I, A-II, A-III and A-IV, depending on the classification, criteria for sitting of industries is declared. In Pune District, main rivers are Mula, Mutha, Pawana, Indrayani, Bhama, Bhima, Ghod, Kukadi etc. All the rivers flowing eastern pattern. The detailed classification and best designated uses are given below :-

TABLE NO. P-1

Sr. No.	Classification	Designated Best Uses
i)	A – I	Drinking water without conventional treatment but after disinfection. Point from where the river originates upto first designated notified dam/weir.
ii)	A – II	Drinking water source with conventional treatment followed by disinfection. River stretch below first designated/notified dam / weir upto A-III/A-IV Class of waters.
iii)	A – III	Fish and Wild Life Propagation.
iv)	A – IV	Agriculture, Industrial cooling and process.

B) CLASSIFICATION OF WATER :- UPPER BHIMA RIVER BASIN :-

TABLE NO. P – 2

Sr. No.	Name of River	STRETCH OF		
		A-I Class	A-II Class	A-IV Class
1.	Pushpawati River	Origin to Pushpawati Bandara	Pushpawati Bandara to confluence with Kukadi	--
2.	Are River	Origin to Pimpalgaon Dam	Pimpalgaon dam to confluence with Puswhpawati River	--
3.	Kukadi River	Origin to Manikdoh dam	Manikdon dam to confluence with Ghod river	--
4.	Mina River	Origin to Waduj dam	Waduj dam to confluence with Ghod river.	--
5.	Ghod River	Origin to Dimbhe dam	Dimbhe dam to confluence with Bhima river.	--
6.	Vel River	--	Origin to confluence with Bhima river	--
7.	Bhima River	Origin to Chaskaman Dam	Chaskaman dam to confluence with Nira river	--
8.	Bhama River	Origin to Askheda dam	Askheda dam to confluence with Bhima river.	--
9.	Andhra River	Origin to Vadivale dam	Vadivale dam to confluence with Indrayani river	--
10.	Kundali River	Origin to Shirwati dam	Shirwati dam to confluence with Indrayani river	--
11.	Indrayani river	Origin to Lonavala dam	Lonavala dam to confluence with Bhima river	--
12.	Pawana River	Origin to Pawana dam	Pawana dam to Ravet weir	Ravet weir to confluence with Mula
13.	Mula River	Origin to Mulshi dam	Mulshi dam to Wakad Bandhara	Wakad Bandhara to confluence with Mutha river
14.	Mutha River	Origin to Khadakwasla dam	Khadakwasla dam to Vithalwadi weir	Vithalwadi weir to confluence With Bhima river

3) DOMESTIC POLLUTION



3. DOMESTIC POLLUTION

ENVIRONMENTAL SCENARIO:

In Pune District Two Corporations, Eleven Municipal Councils & Three Cantonment Boards are in existing. Pune Municipal Corporation, Pimpri Chinchwad Municipal Corporation, Kirkee & Pune Cantonment Boards are the main contributors of domestic pollution. The main rivers are Mula, Mutha, Pawana, Indrayani, Bhama, Bhima, Kukadi, Ghod and other small rivers in Pune District. Out of which the Mula Mutha, Pawana and Indrayani are the main tributaries of Bhima River flowing through the city of Pune and Pimpri Chinchwad. The details of population, water supply and sewage effluent generated are as follows.

TABLE NO. P 3

Sr. No.	Name	Population	Source of Water supply	Water consumption in MLD	Sewage / effluent generation in MLD
1	Pune Mun. Corpn.	3100000	Khadakwasala Dam	791	451
2	Pimpri Chinchwad Mun. Corpn.	1185631	River Pawana.	200	160
3.	Bhor Mun. Council	17000	Bhatghar Dam	1.3	0.9
4.	Saswad Mun. Council	16531	Kara river, Veer dam	0.21	0.18 .12..
5.	Jejuri Mun. Council	13693	-do-	0.15	0.13
6.	Baramati Mun. Council	51342	Nira left Bank cannel	5.0	2.88

7.	Indapur Mun. Council	21585	Ujawani Dam, Taranjiwadi Lake	1.4	0.68
8.	Junner Mun. Council	24760	Mina River	1.0	0.8
9.	Shirur Mun. Council	26999	Ghod River	1.4	1.2
10.	Daund Mun. Council	19807	Bhima River	1.5	1.2
11.	Talegaon Mun. Council	40344	Indrayani River	7.0	6.0
12.	Lonavala Mun. Council	55650	Indrayani River	17	15
13.	Alandi Mun. Council	17561	Indrayani River	0.9	0.7

A. CORPORATIONS:

PUNE MUNICIPAL CORPORATION:

Pune city is located about 150 km. East of Mumbai , the State Capital of Maharashtra. The city is situated on the banks of Mula, Mutha River in a gentle rolling valley with small hillocks and off western Ghat ranges all around the city. The average height from SL is between 560 meters to 660 meters. The city is known for its moderate climate throughout the year. Being on the Lee wind side of the western ghat and mountain ranges, even the summer maximum temperature rarely exceeds 40°C and the winter minimum is roughly 10° to 11°C.

The area under the jurisdiction of Pune Municipal Corporation has increased due to merger of 38 villages around Pune City into Corporation Limits. The 147 sq.km. of area within the old Pune Municipal Corporation limits has now increased 430 sq. km.

POPULATION – WATER SUPPLY & DOMESTIC POLLUTION

As per the census 2001 population of Pune city is 2700,000 (27 lacks) and projected population upto 2005 will be 34,60,875. At present requirement of water is 750 MLD which is taken from Khadkwasala dam. Pune city generate about 451 MLD sewage water. For the treatment of sewage Pune Municipal Corporation has constructed STP's. Some of the STP's are in operation and the work of other STP is in progress. The details of STP are as under :

TABLE NO. P – 4

Sr. No.	Name of the STP	Method of Treatment	Capacity in MLD	Remarks
1.	Naidu Hospital	Conventional sewage treatment with activated sludge process.	90	Commissioned
2.	Bhairoba	-do-	130	Commissioned
3.	Bopodi	-do-	18	Commissioned
4.	Erandwana	-do-	50	Commissioned
5.	Tanajiwadi	-do-	17	Commissioned

From the above table it seems that, out of 451 MLD sewage only 305 MLD sewage is being treated and rest is directly discharged into the River Mula Mutha. The Corporation also has not provided draining network for collection & treatment of sewage for entire area. As a result about 196 MLD sewage quantities is still goes through open gutters and Nallas into the River Mula & Mutha without any treatment. It leads to an adverse impact on the environment in the surrounding area.

However, Pune Municipal Corporation has prepared a master plan upto year 2025 for water supply and sewage collection & treatment for entire 430 sq.km. area. The main features of this master plan are given below :

1. Project area Old PMC limits and 38 villages
2. Total project area 430 sq.km.
3. Population in
Year 2001 27,00,000
Year 2005 34,60,875
Projected population in
Year 2015 47,45,800
Year 2025 66,61,000
4. Water supply in MLD :

TABLE NO. P – 5

	Phase I	Phase II	Phase III
Water supply	2005	2015	2025
	791	1074	1506
Sewage Generation	451	622	875

5. Construction of sewage carrying system along the major Nallas in the Pune City.
6. Sewage collection lines in newly merged 23 villages.
7. To implement core and non-core systems in which to complete balance sewage treatment facilities, river development, development of Katraj and Pashan lake.

Pune Municipal Corporation also prepared a proposal under National River Action Plan to clean the rivers. Though they have made the master plan to improve the quality of river water, it is very much essential to develop the pressure and to expedite the matter earlier on Pune Municipal Corporation by Govt. side, public etc. For improvement of quality of river water Maharashtra Pollution Control Board has filed the criminal case in the CJMFC Pune. & also, instructed PMC by giving directions to improve the quality of sewage water on various occasions.

PIMPRI CHINCHWAD MUNICIPAL CORPORATION:

The Pimpri Chinchwad is adjoining city of Pune. The Pimpri Chinchwad Municipal Corporation has developed very fast in terms of industrial, commercial and residential growth. The MIDC has also set up

industrial centers in the area known as Chinchwad, Pimpri, Bhosari region. The knowledge based industries and Automobile Industries in Pimpri Chinchwad Municipal Corporation region have attracted huge investment from local and foreign institute. There new set ups have ushered a new set of mind in the working population, resulting in enormous growth of industrial and residential area. The Pimpri Chinchwad Municipal Corporation area has become the automobile center of the country.

Geographically, the area falling in Pimpri Chinchwad Corporation is situated in between River Mula & River Indrayani. The River Pawana flows from the city area. These rivers originate from Sahyadri Hill Ranges having eastern flow pattern. The beautiful ranges of Sahyadri and the cool soothing climate through out the year has already made Pimpri Chinchwad as the most preferred habitable place. The rainfall is within the range of 150 – 200 cm, which suddenly drops to 40 cm. The day temperature drops 10 - 11 degrees in winter and reaches its peak in summer going up to 40 to 43 degrees. On an average, it is observed that Pimpri Chinchwad area is a soothing and habitable like Pune City.

WATER SUPPLY & ITS DISTRIBUTION NET WORK :

The Pimpri Chinchwad Municipal Corporation is having 36 zones. The main source of water is River Pawana. The Corporation draws 200 MLD of water, MIDC draws 75 MLD of water and M/s Pudumjee Pulp & Paper Mills draws 11 MLD of water. The scheme of 100 MLD additional water supply is in progress and completed by 2004. The MIDC is supplying water to industries and partly to Residential zone. Also, M/s Pudumjee Pulp & Paper Mills using

water for the industrial purpose as well as supply to residential zone in and around the industry. The other source of water is Bore well / wells, which are not measured. It is estimated that these water supply schemes will meet the requirement of 11 lakh and above population ensuring 145 liters of water supply per person per day. The Corporation is having good water distribution and supply network i.e. the area for Residential and Industrial Zones. Presently, all water supply schemes are having water treatment facilities at their respective water supply centers.

At present, Pimpri Chinchwad Municipal Corporation has completed the works of laying of pipe line., i.e. 452 kms. Length and sewage carrying capacity is 121 MLD. The work of laying the pipelines / drainage net works, collection sumps is found in progress.

The Corporation has six No. of STPs at following locations. The details of STP and treatment capacity is given below :

TABLE NO. P - 6

Sr. No.	Name	Capacity in MLD	Quantity of sewage treated in MLD
1.	Chikhli – I	16	11
2.	Chikhli – II	16	12
3.	Chinchwad	30	23
4.	Kasarwadi – I	40	16
5.	Kasarwadi – II	40	21
6.	Sanghvi	15	11
	TOTAL	157	94

It is to be noted that 63 MLD of sewage is not taken to STP for treatment, though they have facility to treat the same quantity.

From the Corporation area 15 Nalls and No. of minor drain carrying untreated sewage waste about 170 MLD into the River Mula, Pawana and Indrayani. Corporation is discharging 94 MLD of treated sewage water into River Pawana and Indrayani. About 4 MLD of treated sewage is used for irrigation at Chikhli area. Also, 2 – 3 MLD of treated sewage is used for gardens etc. Observations on the performance of STP and efforts taken by Maharashtra Pollution Control Board.

After having close look at the working of STP, drainage and collection network, it is noticed that some of the common laps in relation with performance of STP, unit operation. The same are given below :

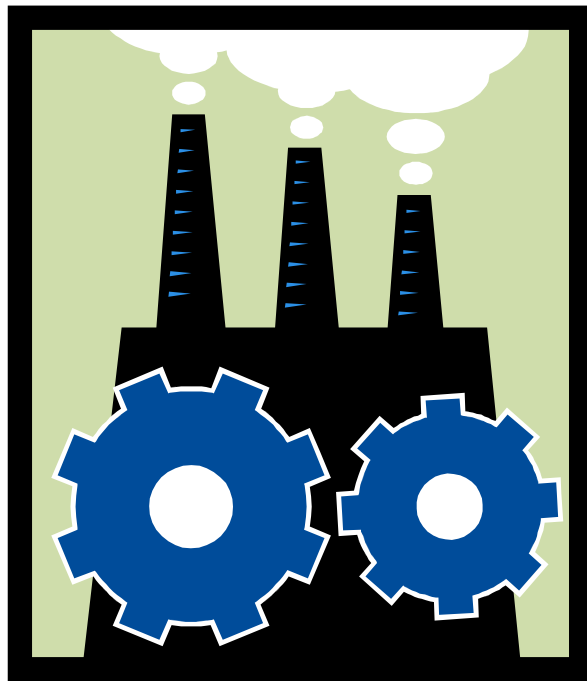
1. Presently all STPs are being operated under capacity.
2. Operation of Sanghvi, Chikhli-II & Kasarwadi – I & II and Chinchwad is fairly good.
3. The STP at Chikhali –I is under maintenance.
4. Maximum quantity of treated sewage effluent is discharged into River.
5. The maximum quantity of untreated sewage is also discharged into River.

The Maharashtra Pollution Control Board has prosecuted the Pimpri Chinchwad Municipal Corporation and filed criminal case in the Court of Law at CJMFC, Pune.

MPCB officers have carried out extensive survey of the sewage quality, river water quality at designated point of discharge by locating water monitoring stations, Water Supply Drainage net work and performance of STP & submitted the Action plan to Authority. Further Board Authority has issued directions to Pimpri Chinchwad Municipal Corporation.

Apart from this Municipal Corporation other Municipal Councils have not provided sewage treatment facilities. Their untreated sewage enters into the river directly or indirectly thereby polluting the river water. Efforts are also essential to strengthen the Municipal Councils by way of providing funds to STP's and public awareness.

4) INDUSTRIAL POLLUTION



4. INDUSTRIAL ACTIVITIES AND POLLUTION

Pune has emerged as a major industrial centre in the State and in our country. This industrial growth barely started three decades ago and was initiated by the establishment of Kirloskar Oil Engines in 1946. It was further facilitated by the proximity and easy accessibility of this area to Mumbai, the commercial capital of India. Today, the automobile industries like M/s TELCO Ltd., M/s Bajaj Auto Ltd., M/s Bajaj Tempo Ltd., dominates the automobile scene in India. The city also houses big industries like Kirloskar Cummins, Alfa Laval, Sandvik Asia, leading industries in forging activity i.e. Bharat Forge, Kalyani group. High value defence establishments like High Explosives Factory, Ammunition Factory etc. The speed of industrial development on various considerations part from pollution angle. The infrastructure provided by State Govt. is very encouraging due to which no. of industries are coming up in Pune District.

For rapid growth and industrialisation of the industries, the State Govt. has developed following MIDCs in Pune District :-

- 1) Pimpri Chinchwad;
- 2) Bhosari;
- 3) Ranjangaon;
- 4) Kurkumbh;
- 5) Jejuri;
- 6) Baramati;
- 7) Chakan;
- 8) Indapaur (Proposed);

- 9) Infotech Park at Hinjwadi;
- 10) Talwade;

Apart from these MIDCs, there are no. of Co-Op. Industries i.e. sugar and distilleries, private indl. estates are in existence. Also, no. of industries established in rural areas like Bhor, Saswad, Baramati, Mulshi, Maval, Khed, Ambegaon, Haveli, Daund, Shirur, Indapur talukas etc.

In the district, about 3,602 no. of industries have obtained consent from MPCB. Out of which 222 no. of large, 218 no. of medium and 3162 no. of small scale industries are in existence. The total quantity of effluent generation is 82,460 CMD. The 1,902 no. of industries are not generating trade effluent. The categorywise chart of industries are given below..

TABLE NO. P - 7

STATUS	RED	ORANGE	GREEN	TOTAL
LARGE	164	21	37	222
MEDIUM	84	54	80	218
SMALL	753	569	1840	3162
TOTAL	1001	644	1957	3602

MAJOR INDUSTRIES :-

Sugar Industries	-	13 nos;
Distillery units	-	04 nos
Paper units	-	03 nos;
No.of units covered under CAP	-	50 nos

INDUSTRIAL ESTABLISHMENT AND POLLUTION :

PIMPRI CHINCHWAD ZONE :-

In the area, total 816 no. of industries granted consent. Out of which, large scale is 46, medium scale is 46 and small scale is 724 from these industries, 13,181 CMD industrial and 17,960 CMD domestic effluent is generated. The large and medium scale industries have provided treatment facilities for the treatment of domestic and industrial effluent. These units have provided primary and secondary treatment and some units provided tertiary treatment facilities. The small scale units have provided primary treatment and some units provided secondary treatment facilities. The units like Bajaj Auto, Exide, SKF Bearing Ltd., have connected sewage effluent to Corporation drainage line for treatment in the Corporation Sewage Treatment Plants.

MAJOR POLLUTING INDUSTRIES :-

1) PAPER & PULP :-

M/s Pudumjee Pulp & Paper Mills and M/s Pudumjee Agro Ltd., are the Paper manufacturing units. M/s Pudumjee Pulp and Paper Mills Manufactures pulp and paper. The paper units uses maximum water for the process. The said unit has provided treatment facilities such as aerobic followed by anaerobic. Though they have provided ETP, the main problem is of lignin recovery. The industry is unable to install lignin recovery plant and hence Board has issued closure directions to stop pulping activity, recently. Now the industry is using readymade pulp for the manufacturing of paper.

It is confirmed that due to fast urbanisation, the industry is not having adequate land for irrigation and hence need to direct industry for achieving recyclable standard and use the treated effluent in the process.

2) PHARMACEUTICAL INDUSTRY :-

In the area, one unit viz M/s Hindustan Antibiotics Ltd., is in existence. The unit is Govt. undertaking. They have provided primary and secondary treatment for the treatment of trade effluent. But the facilities are inadequate and needs to upgrade suitably. Presently, the unit is running intermittently. The BIFR has declared the unit as sick unit.

The other pharmaceutical units are mostly formulations base and have provided treatment facilities.

3) AUTOMOBILE INDUSTRIES :-

Mainly M/s Bajaj Auto Ltd., M/s SKF Ltd., M/s Telco Ltd., and M/s Bajaj Tempo Ltd., are the major industries and they have provided treatment facilities. The performance of ETP observed fairly good.

4) ELECTROPLATING INDUSTRIES :-

These units are small scale units. They have provided primary treatment and some units provided secondary treatment facilities. It is seen that these units are not achieving standards.

The officials are continuously taking follow-up with electroplating units to provide full-fledged treatment/upgrade ETP. But the progress is not considerable. Recently, the representative of metal finished association has discussed problems with Hon'ble Member Secretary. This office also called meeting of all electroplating units to aware the newly added legislations and to promote the industries for the provisions of CETP.

From the observations, it is seen that the most of the units are not having adequate land for the use of treated effluent.

5. LEGAL ACTION :-

The Board has filed prosecution cases against three industries and Pimpri Chinchwad Municipal Corporation in the Court of Law viz

- a) M/s Pudumjee Pulp & Paper Mills Ltd.,
- b) M/s Exide Industries Ltd., and
- c) M/s Hindustan Antibiotics Co. Ltd.,

POLLUTION PROBLEMS OF DISTILLERY & SUGAR FACTORIES :-

In the Pune District, four distilleries and 12 sugar factories are in existence.

SUGAR FACTORIES :-

The sugar factories requires more water for the process etc and hence all the sugar factories are established in the catchment of river and canals.

All the sugar factories have provided primary and secondary treatment facility. The operations of sugar factories are seasonal. The effluent generated from the sugar factories is treated by way of activated sludge process. This process requires one to two months for stabilisation and hence the under treated effluent used for irrigation purpose resulted into ground water and soil pollution. Also some of the sugar factories are discharging substandard effluent into the nalla or on land which further meets to river thereby polluting the river water. It is very essential to utilise the industrial effluent as per the charter responsibility guidelines.

DISTILLERY UNITS :-

There are four distillery units. Except, M/s Jubilant Industries, all the distilleries established adjacent to sugar factories. The effluent generated from distilleries is not easily treatable because of high concentration of BOD, COD and related parameters. Due to lack of technology as such, factory has failed to provide adequate treatment facilities, as a result they are storing it in katcha lagoons and thereby causing pollution to environment. Previously, as per the new guidelines, it is obligatory on the part of distillery units to provide pucca pit for storage of spent wash. Also, the effluent should be used for composting in scientific manner. All the distillery units trying to achieve the latest trend of technology for treatment. However, the complaints regarding water pollution are still coming due to storage of spent wash in kutchha lagoons. M/s Jubilant Organosis Ltd., Nimbut has constructed pucca lagoons for storage of spent wash. They empty out/scrapped out the old lagoons due to which percolation from old lagoons have been reduced to the greater

extent. Due to continuous follow up and issuance of directions, factory achieved this goal. It is an achievement for MPCB and a factory.

MPCB is continuously taking follow up with industries to upgrade pollution control devices. The Board has issued directions from time to time and also filed prosecutions proposal in the Court of Law. Apart from all exercise, the Board has conducted high level meeting in presence of Hon'ble Chief Minister and Chairman of sugar and distillery units. The issues/problems are discussed in details and Board has directed the sugar/distillery units to adopt latest technology.

PAPER UNITS :-

There are two paper units located in the Indapur and Bhor Taluka. The said units are using ready pulp for the process. Industry in Indapur taluka is M/s Ballarpur Paper Industry Ltd., formerly known as M/s Sinar Mas Paper. The industry has provided primary, secondary and tertiary facility to treat the effluent and the operation of ETP is fairly good. Industry in Bhor Taluka is M/s Indo Afrique Paper Industry Ltd., It has upgraded Effluent Treatment Facility from primary to secondary and tertiary. Its operation is also a fairly good.

KURKUMBH INDUSTRIAL AREA :-

MIDC has developed industrial area for chemical industries in the year 1995. In this area, total 111 industries have granted consent, out of 111, only 39 no. of industries are in operation. Large / medium scale industries are 9 no. and small scale industries are 30. The large and medium scale

industries has provided primary and secondary treatment and some industries have provided tertiary treatment.

The MIDC authorities planned to provide CETP for treatment and disposal of effluent. Accordingly they completed the CETP in 2001. In between 1995 to 2001, the industries were discharging under treated/treated effluent on their own land/premises. As a result, the under treated/treated effluent percolated in surrounding area and polluted the ground water / well water. Due to which, the pollution complaints from the surrounding area was started.

To cope up this problem, the MPCB had carried out extensive survey and initiated action against defaulter industries as well as MIDC. The criminal cases were filed in the Court of Law against M/s Parakh Foods Ltd., M/s Hindustan Polyamides, M/s Cipla Ltd., M/s Tasc Pharma, and against Ex. Engineer, MIDC Kurkumbh CETP. In addition to this, bank guarantees of M/s Alkali Amines and Tasc Pharmaceuticals amounting to Rs. 50,000/- and One lakh respectively have been forfeited. .

Considering geography, chemical industrial growth and present scenerio, its need to upgrade CETP suitably and avail adequate land for the purpose of irrigation. Also, need to dispose the treated industrial effluent on ear-marked area at Roti Village scientifically. Efforts in this respect are essential to solve this problem. This office is taking all efforts in this respect.

MIDC AREA – BARAMATI :-

In the area, total nine industries are in existence. The industries are mainly dairy, metal finishers and textiles. No chemical units are in this area.

All the units have provided treatment facilities by way of primary and secondary. No complaint regarding environment pollution is received so far.

MIDC AREA – JEJURI :-

The units located in the area is pharmaceuticals, metal finishers and foundaries. Total large/medium scale units are 12 nos. and other units falls under small scale category. The industries provided treatment facilities such as primary and secondary. As such, no complaint received regarding environment pollution.

MIDC AREA – RANJANGAON :-

This industrial estate known as “Star Industrial Estate.” Total 21 industries are in existence, out of which 11 industries are large scale, 02 industries are medium and 08 industries are in small scale. The industries are mainly automobile, electrical and electronics in nature and no chemical unit is in existence.

All the industries have provided primary and secondary treatment facilities. The total quantity of effluent generation is 1200 CMD. Some units are using treated effluent on land for irrigation on their own land. The MIDC has provided drainage system and CETP for further effective treatment and use of total effluent for irrigation purpose.

MIDC AREA – HINJAWADI :-

The area located at west side of Pune city and known as software park. Mainly units are engaged in the software business. The total industries are nine nos. The MIDC has provided STP to treat the sewage effluent.

MIDC AREA – CHAKAN :-

In the area, total 11 no. of industries are in existence. The industries mainly manufacturing automobiles, engineering, forging etc. Other than MIDC area, there are scattered units which are mainly engineering and metal finishers. The industries have provided treatment facilities which consists of primary and secondary treatment. The treated effluent is used on land for gardening. The unit viz M/s Yoshika Engg., M/s Micron Ind., M/s Tirupati Bright Bars, M/s Tejonidhi Industries are having inadequate treatment, due to which, the under treated effluent is discharged on land/nalla. The percolations of the effluents resulted into pollution of well and surrounding environment. The Board has issued directions to the said industries to upgrade the ETP.

Considering the location, geography and nature of industries, it needs to provide CETP and total treated effluent shall be used on land. Otherwise, the accidental pollution will cause the pollution problems to environment.

5) RIVER WATER POLLUTION



5) RIVER WATER POLLUTION :-

In Pune District main rivers are Mula, Mutha, Pawana, Indrayani, Bhima, Bhama, Ghod, Kukadi etc. All these rivers flowing eastern pattern. To judge the quality of river water monitoring of the rivers are being carried out at various locations time to time. The results of the same are reproduced as under:

6) GROUND WATER POLLUTION



6. GROUND WATER POLLUTION

Due to industrial activities and lack of proper disposal facilities, problems of ground water pollution is created in the following areas of Pune District :-

1) WALCHANDNAGAR AREA :-

M/s Ashok Alco Chem Ltd., is located at Walchandnagar. It is a distillery unit.

This unit has provided ETP in the form of primary treatment and bio-digester and bio-filter to treat the spent wash. After treatment, spent wash is being stored in the katcha lagoons/pucca lagoons. Due to kaccha lagoons, effluent is percolated nearby area causing the ground water pollution. Continuous complaints from the villagers of Salunke Wasti have received by this office. MPCB has issued directions to the industry and also filed a prosecution in the Court of CJFC, Pune.

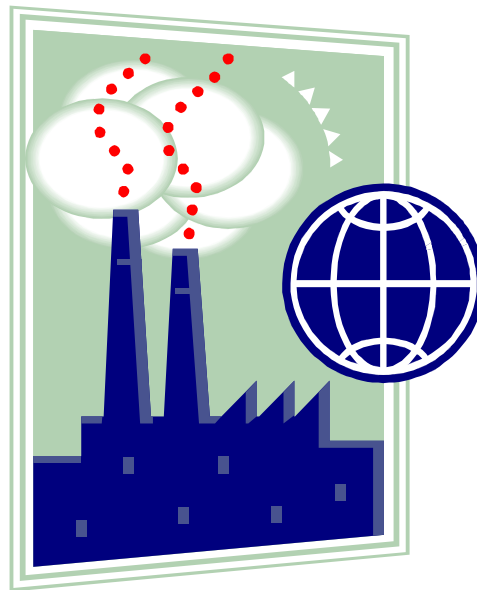
2) SIMILAR AND OTHER AREA :-

- a) Kurkumbh area – Ground water pollution due to industries located at MIDC Kurkumbh
 - Complaints from Parandhwadi and Kurkumbh.
- b) Ground water pollution due to industries located at Kharabwadi
 - Complaints from Kharabwadi;
- c) Groundwater pollution due to Malegaon SSK Ltd.,
 - Complaints from nearby residents.
- d) Ground water/River pollution due to Jubilant Organosis

- complaints received from Nimbut/Nira residents.

To minimise ground water pollution, this office has collected samples from time to time and suitable directions have been issued to the concerned industries.

7) AIR POLLUTION



7. AIR POLLUTION

In Pune District about 3602 industries have been recorded to whom consent have been granted by the Board. Out of 3602 industries about 514 industries are noticed as a air polluting industries, they are located at MIDC, Pimpri Chinchwad, Bhosari Chakan, Markal and Kurkumbh area. Industries have provided Air Pollution Control Devices. The main air pollution source is due to vehicular emission. The details. of vehicles registered in Pune district are given under

TABLE NO. P - 17

Category wise Registered Vehicles up to March, 2004 *

Sr. No.	Category	Pune Region	Pimpri Chinchwad Region
1	Motor Cycles	445617	157359
2	Scooters	264931	78235
3.	Mopeds	157396	35725
	TOTAL	867944	271319
4.	Cars	109035	24233
5.	Jeeps	29756	9843
6.	Stn. Wagons	949	72
7.	Taxies Cab	5151	953
8.	Auto Rickshaws	57253	5588
9.	State Carriage	5099	362
10.	Contract Carriage	1838	519
11.	School Buses	224	31

12.	Pvt. Ser.Vehicles	1235	550
13.	Ambulances	740	236
14	Trucks & Lories	23215	4788
15.	Tankers	2897	290
16.	Del. Van (4W)	13128	7350
17.	Del. Van (3W)	14622	6450
18.	Tractor	13946	4762
19.	Trailers	11917	2423
20.	Others	1486	179
	TOTAL	1160435	339948

T O T A L

15,00,383

* In addition to this figure, there is increase in 300 nos of vehicles every day approximately in Pune District.

From the above, it seems that, no. of registered vehicles in the Pune district is very high. To monitor the air quality in Pune City, Pimpri Chinchwad with the help of Central Pollution Control Board and Pune Municipal Corporation following stations have been fixed.

1. Jog Center,
2. Nal Stop
3. Swargate
4. Kamgar Adda.
5. Bhosari.

Separate sheet enclosed for ambient air quality. From the air quality, it is seen that the level of SPM is exceeding. To control the air pollution in Pune and Pimpri Chinchwad Corporation, Maharashtra Pollution Control Board has prepared a Pune Action Plan with the co-ordination of PMC, PMT, PCMC, Oil Companies, RTO, Police Deptt., Road Transport Authority etc. The implementation of this action plan is initiated. The main features of this action plans are given below :

1. Invention of vehicular pollution.
2. Introduction of clean fuelled vehicles like CNG / LPG & Battery etc.
3. Introduction of fuel matching Bharat State – II, III and IV etc. in consultation with MOP & NG
4. Supply of Low Benzene containing petrol.
5. Supply of low sulphur containing diesel.
6. Ban on supply of loose 2T Oils at petrol pump.
7. Ban on supply of loose 2T Oils at Petrol Pump.
8. Checking of fuel alteration.
9. Introduction of alternate fuels like CNG/LPG depending upon availability.
10. Improvement of public transport for discouraging of private vehicles.
11. Phasing out and replacement of old Buses, Two Wheelers, Three Wheelers, Six Seaters, Car, Jeeps, Taxies, Goods Carriages.
12. To prepare frequency of PUC testing.
13. Phasing out of grossly polluting vehicles like 15 years old commercial vehicles and 8 years old buses.

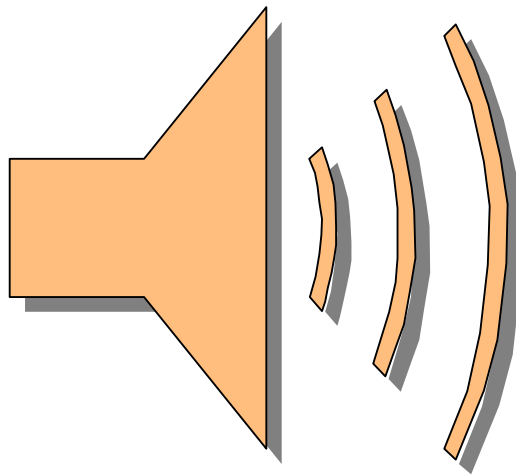
14. Ban on alteration of petrol vehicles to diesel vehicles.
15. Imposition of ban on registration of new Diesel Three Seater & Six Seater Rickshaw in the City.
16. The sale of Four Stroke New Two Wheelers only.
17. Introduction of synchronized signals with times.
18. Bye passing of intercity interstate traffic.
19. Higher Road Tax for Older Vehicles.

For controlling the Air Pollution due to Industries the action has initiated against following industries.

1. M/s. Kalyani Carpenter & Special Steel, Mundhwa.
2. M/s. Kran Radar, Kharadi.
3. M/s. Bhairav Metal & Engineering Works, Pune.
4. M/s. Jubilant Organics Ltd., Nimbut, Nira.
5. M/s. Jayvee Stone Metal,
6. M/s. Quality Stone Metal,
7. M/s. Trinity Engineering
8. M/s. Pune Metal Industry.

In response to above said action the factory authority have installed Air Pollution Controls devices.

8) NOISE POLLUTION



8. NOISE POLLUTION

Day by day the noise levels are increasing causing noise pollution at public places due to industrial activities, various types of construction activities, generators, public meetings, vehicular traffic, various types of horns and other mechanical devices. Due to noise pollution, there is adverse effect on human health and peace of mind, hence it is necessary to control the noise level within the prescribed limit. Taking into consideration this fact and to prevent and control the sources of the noise, the Govt. of India has already published the rules known as Noise Pollution (Prevention & Control) Rules, 2000 which is applicable to entire country. To implement these Rules under Section 2 (c) Authority is prescribed, accordingly the Police Commissioner or District Superintendent of Police are declared as Authority.

To effective implementation of above mentioned Rules, four zones are categorized in which various standards are prescribed, which are mentioned below:-

TABLE NO. P - 21

Sr. No.	Description	Standards	
		Day *	Night #
1	Industrial Zone	75	70
2	Commercial Zone	65	60
3	Residential Zone	55	45
4	Silence Zone	50	40

* Day Hours – 6.00 AM to 10.00 PM # Night Hours – 10.00 PM to 6.00 AM

Pune city excluding suburban area are affected from noise pollution from various sources of noise. Due to frequent interruption of regular electric supply, there is increase in installation of D.G. sets as a result no. of complaints are also increasing. Similarly noise levels are observed on higher side during the public festivals such as Ganesh Festival, Diwali festival etc.

MPCB has taken the cognizance of noise pollution generated from the industries and issued notices to the culprit industries directing to reduce the noise levels. The effective actions have been taken against the following industries whose noise levels more than the prescribed limits :

1. M/s Deepak Nitrate Ltd., Sinhagad Road, Pune.
2. M/s Kirloskar Oil Engines Ltd., Khadki, Pune.
3. M/s Kran Radar, Karadi, Pune.

The noise levels are being measured by the MPCB especially during Ganesh Festival and also in Diwali Festivals. The noise level survey was conducted jointly with Police authority during Ganesh Festival in the year 2003 and actions have been taken by the Police Department against various Ganesh festival committees who are responsible for causing nuisance to the environment by creating noise pollution. The noise levels measured during above festivals are reproduced as below :-

TABLE NO. P - 22

Sr. No.	Location	Noise level in dBA	
		Min.	Max.
1	Yerwada, Near Mandai, Nagar Road, Pune.	76.00	80.30
2	Pune Station, Near Bus Stand, Pune.	78.00	90.20
3	Rasta Peth, Quarter Gate, Pune.	77.20	0.00
4	Nana Peth, Shivraj Mandal, Pune.	80.20	85.30
5	Dulya Maruti Chowk, Ganesh Peth, Pune.	78.30	80.00
6	Dagadusheth Halwai Ganapati, Pune.	68.00	70.30
7	Near City Post, Pune.	70.20	76.00
8	Babu Genu, Tulshi Baug, Pune.	71.50	77.00
9	M. Phule Mandai, Pune.	70.00	74.50
10	Guruji Talim Mandal, Laxmi Road, Pune.	68.00	73.50
11	Gilbya Maruti Chowk, Shivaji Road, Pune.	58.50	63.20
12	Khadakmal Area, Pune.	60.50	66.30
13	Hira Baug Ganapati, Pune.	60.50	66.00
14	Alka Chowk, Pune.	55.00	62.00
15	Hatti Ganapati, Sadashiv Peth, Pune.	88.00	92.00
16	Akhil Mandai Ganapati, Mahatma Phule Mandai, Pune.	68.00	73.00
17	Shivshakti Tarun Mandal, Nana Peth, Pune.	98.00	04.00
18	Apolo Tarun Mandal, Pune.	85.00	90.00
19	Rasta Peth Power House, Pune.	80.30	85.00
20	Near City Post, Pune.	70.00	75.30

21	Khadakmal Area, Pune.	68.50	73.00
22	Near PMC Building, Pune.	68.20	73.00
23	Shivshakti Mitra Mandal, Bhavani Peth, Pune.	95.00	96.00
24	Bhavani Tarun Mandal, Nana Peth, Pune.	90.00	92.00
25	Jai Bhavani Mitra Mandal, Bhavani Peth, Pune.	86.00	88.00
26	Navrang Yuvak Mitra Mandal, Pune.	82.00	83.00
27	Shiv Pratap Mitra Mandal, Bhavani Peth, Pune.	85.00	86.00
28	Bharat Mitra Mandal, Bhavani Peth, Pune.	82.00	83.00
29	Shivshakti Mitra Mandal, Nana Peth, Pune.	83.00	86.00
30	Dulya Maruti, Pune.	96.00	109.00
31	Hatti Ganpati Mandal, Sadashiv Peth, Pune.	88.00	96.00
32	Hira Baug Mitra Mandal Ganpati, Tilak Road., Pune.	88.00	92.00
33	Nashik Phata	86.40	102.40
34	Kasarwadi	87.40	104.30
35	Pimpri Chowk	93.70	104.40
36	Chinchwad	94.80	103.70
37	Chinchwadgaon	75.60	100.80
38	Akhurdi Chowk	71.40	72.40
39	Nigdi Chowk	88.00	92.00
40	Bhosarigaon	88.00	92.00

9) MUNICIPAL SOLID WASTE



9. MUNICIPAL SOLID WASTES

(MANAGEMENT & HANDLING) RULES ,2000:-

The problems of collecting and disposing of wastes generated by the various cities become more and more difficult and is a threat to environment. To control the pollution created due to municipal solid waste, Ministry of Environment & Forests, Govt. of India has published a notification by framing the Rules called Municipal Solid Wastes (Management & Handling) Rules, 2000. According to these Rules, the MPCB is the prescribed authority for issuing the Authorisation and monitor the compliance. As mentioned in the Rules, it is necessary to form a committee for selection of sites. The Site Selection Committee has been framed by the District Collector under his Chairmanship , which comprises the members from MPCB, Town Planning Department, Forest Department, Superintending Engineer, Irrigation Department, Ground Water Survey Department, Air port Authority etc. The municipal corporation, municipal councils and cantonment boards has to take effective steps for processing of municipal wastes/land filling on the sites selected by above mentioned committee.

There are two no. of municipal corporations, eleven nos of municipal councils and three no. of cantonment boards are in existence in District Pune. The present status in respect of Solid Waste Management is as given below :-

1) **PUNE MUNICIPAL CORPORATION :-**

The Pune city having a population of 31,00,000 souls which generating the solid waste to the tune of 700 MT/day. They have obtained the Authorisation under the provisions of Rules. At present, the municipal solid waste is being dumped at hilly area in the vicinity of Uruli Devachi, where waste is converted into the compost by adopting the method of spraying the EM solution. The existing practice seems to be unscientific. Hence the sub soil water of surrounding area is contaminated due to seepages of leachets generated from the dumping site. The efforts are being taken by the municipal authority for selection of other sites which are to be finalised.

The Govt. of India has decided to give 100% finance for Solid Waste Management to the cities where Air Force base stations are located. For implementation of this project, the Govt. of Maharashtra has framed a State Level Committee under the Chairmanship of Principal Secretary, Water Supply and Sanitation Department and also a District Level Project Monitoring Committee under the chairmanship of District Collector, Pune. A notification to this effect is issued by Water Supply and Sanitation Department, Govt. of Maharashtra dated 10-3-2004. As per the said notification, the project is to be completed within two years and is to be taken over by concerned local body for operation and maintenance.

2) PIMPRI CHINCHWAD MUNICIPAL CORPORATION :-

The Pimpri Chinchwad Corporation having population of 11,00,000 souls which generating the solid wastes to the tune of 310 MT/day. The municipal authority has applied for obtaining Authorisation for improvement in existing dumping site located at Moshi. The Authorisation is refused by the Board. Out of 310 MT of wastes, 20 MT is being treated by process of vermiculture and remaining 290 MT waste is being converted into the compost by spraying the EM solution. The municipal authority is searching new site which is not finalised so far.

3) MUNICIPAL COUNCILS/ CANTONMENT BOARDS :-

14 no. of local bodies (including cantonment boards) having total population 5,57,240 souls generating 120 MT/day of solid wastes. None of local body has provided scientific treatment and disposal facilities for solid waste. All 11 no. of municipal councils have applied for obtaining Authorisation accordingly Board has granted Authorisation. The sites for municipal councils of Junnar, Talegaon Dabhade, Baramati, Daund, Bhore, Shirur and Saswad have been selected by the Site Selection Committee.

Most of municipal councils are facing the problems due to non-availability of govt. land for processing of municipal solid waste. Hence it is necessary to take initiative by the concern department for effective implementation of MSW Rules.

10) HAZARDOUS WASTE



10. Hazardous Waste

Hazardous waste are highly toxic in nature. The industrialization has have effect of generation of huge quantities of hazardous waste. From time to time various affidavits have been filed in this matter by MoEF & Pollution Control Boards. Ministry issued rules known as Hazardous Waste (M & H) Rules, 1989.

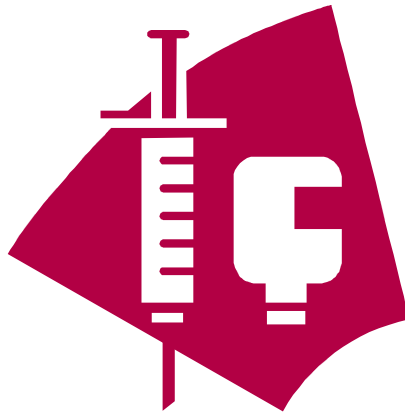
There rules have been amended the latest amendment being of 23rd May 2003. In schedule – I of the Rules 36 Nos. of processes that are generating hazardous waste are mentioned.

Status in terms & closure direction being issued by Regional Office, Pune as per Hazardous Waste (Management & Handling) Rules 1989.

TABLE NO. P - 24

1.	Total No. of Industries generating Hazardous waste	344
2.	Total No. of Industries to whom closure directions issued	139
3.	Total No. of Industries that are complying with the direction	123
4.	No. of Industries that are not complying	16
5.	No. of Industries that are not generating any Hazardous waste	14
6.	No. of Industries that are closed	13

11) BIO MEDICAL WASTE



**11. IMPLEMENTATION OF BIO-MEDICAL WASTES
(MANAGEMENT & HANDLING) RULES, 1998
(AS AMENDED IN 2003)**

The solid wastes generated from the medical establishments needs to be handled very carefully as these wastes may contain infectious materials to cause serious consequences. Taking into consideration this serious aspect, Ministry of Environment, Govt. of India has published notification which is called Bio-Medical Wastes (Management & Handling) Rules, 1998 and subsequent amendment in the year 2000. Under these Rules, each and every hospitals, nursing homes, clinic, dispensaries, veterinary institutions, animal houses, pathological laboratories, blood banks etc. are required to obtain Authorisation.

In Pune district, 1072 no. of Health Care establishments are in existence out of which 453 no. of hospitals have been issued Authorisation. The Pune Municipal Corporation area generates bio-medical waste of 1.5 MT/day, whereas Pimpri Chinchwad Corporation area generates 0.54 MT/day.

The Pune Municipal Corporation in association with private enterprise has signed MOU with M/s Image India and has provided incinerator as a common facility centre at Pune to avail said facility by the private hospitals who cannot afford the installation of individual incinerator. Presently 588 no. of private hospitals have become a member of this utility. The Pimpri Chinchwad Corporation has provided common facility centre which is inadequate. Hence proposed directions have been issued to municipal

authority. The Board has issued public notice in leading newspapers through the State of Maharashtra in June, 2004 regarding obtaining of Authorisation and providing scientific treatment facilities.

The status of the HCES / institutions are as under :-

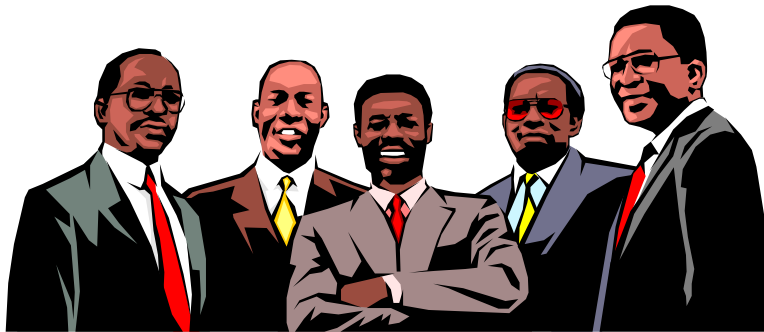
TABLE NO. P - 25

Sr. No.	HCEs (bed strength)	No. of HCEs	No. of Authorizations issued	Treatment and Disposal Facilities
1	1 to 50	934	439	PMC – Technology Plus, Pune PCMC – Yeshwantrao Chavan Memorial Hospital,
2	50 to 200	23	20	-
3	200 to 500	09	07	-
4	500 and above	05	05	-
	TOTAL	1072	453	-

As far as the issue of rural and public health center are concern, funds under Maharashtra Health System Development Project are provided to them for developing deep burial sites as per standard design prepared by HSDP authorities.

MPCB is taking follow up for implementation of Bio-Medical Rules in all respect.

12) PUBLIC AWARENESS



12. PROGRAMMES UNDER TAKEN FOR PUBLIC AWARENESS :-

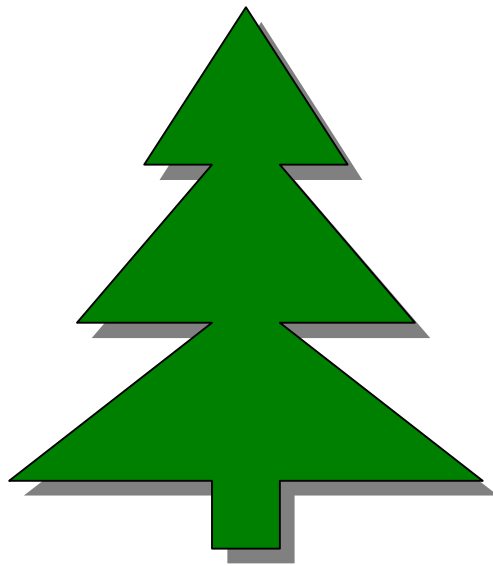
To develop environmental awareness amongst the public, the meeting was conducted in the meeting hall of Maharashtra Chamber of Commerce on the occasion of World Environment Day on 5th June, 2003. The representatives of various industries and Dy. Collector on behalf of District Collector attended the meeting. On the same day, the tree plantation programmes were arranged in the premises of the industries. M/s Sudarshan Chemicals and M/s Deepak Nitrate. Similarly various programmes were conducted in the School at Kurkumbh. During the course of programme, valuable information was delivered to students by MPCB officials.

The Hon'ble Chairman of MPCB Shri Mushataq Antulay visited Pune District. During his stay at Pune, he has visited the industry M/s Century Enka Ltd., and Deepak Nitrate and participated the programme of tree plantation. He also narrated the importance of environment.

ENVIRONMENTAL STATUS REPORT

2004-2005

SATARA - DISTRICT



INDEX

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- 2) RIVER POLICY**
- 3) DOMESTIC POLLUTION**
- 4) INDUSTRIAL POLLUTION**
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- 7) AIR POLLUTION**
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- 11) BIO MEDICAL WASTE**
- 12) ECO SENSITIVE ZONE (MAHABALESHWAR & PANCHAGANI)**
- 13) PUBLIC AWARENESS**

1. INTRODUCTION

Satara district is situated at 17.5° to 18.1° West latitudes and 73.33° to 74.54° East longitude. Total Geographical Area of Satara region is 10,484 Sq. K.m. As per census 2001, population of Satara district is 28,51,000 souls. The population density of this district is 267 per sq. km. In the Satara district, the highest population density is in Karad Tahsil, which is 430 while the minimum population density is in Man Tahsil which is 188 per Sq. km.

Satara district includes 11 Tahsils viz. Satara, Wai, Mahabaleshwar, Phaltan, Khandala, Jawali, Khatav, Man, Koregaon, Karad & Phaltan. The urban area of this district is divided into 8 no. of Municipal Councils.

The climatic conditions of Satara district generally found as warm and dry. The minimum and maximum temperature is found 12.7 °C and 37.4 °C respectively. The average rainfall of this district is in between 1035 mm to 1265 mm. The total geographical area is 1058 thousand hectares out of which 688 thousand hectares falls under agriculture land & 142 thousand hectares falls under forest land. 120 thousand hectares is available as barren land, which is not useful for cultivation. Out of total agriculture land, only 587 thousand hectares is irrigated. In Satara district, 8 no. of cities and 1,573 no. villages are covered.

The river Krishna is the main river of this district. It originates at Mahabaleshwar which is situated at East side of Sahyadri ranges. It flows towards south east and enter into Sangli district. The tributaries of this river are Koyana, Venna, Kudali, Urmodi, Wasana, Yerala & Tarali. The river

Koyana is major tributary of Krishna river. The confluence of Krishna and Koyana river is at Karad in Satara district and this place is known as “**Priti Sangam**” where the samadhi of first Chief Minister of Maharashtra, late Yeshwantraoji Chavan is erected. Generally, there is atleast one river flowing in each tahsil of Satara district. However, none of these river are perennial. There are major & medium irrigation projects in existence such as Dhom, Kanher, Veer etc. These are the main source for drinking and irrigation. Shivsagar dam is situated on Koyana river at Koyananagar. Water of Shivsagar dam is mainly used for production of electricity & also used for drinking & irrigation purpose.

As far as crop pattern is concern, the major land is covered under Jawar crop which is 35.76% and Bajara crop which is 13.40% of total crop in Satara district. Remaining area is under cultivation of Wheat, Rice, Sugarcane, Pulses, Maize etc. Now a days, horticulture activities are increasing particularly of Grapes, bananas etc.

2. RIVER POLICY

Govt. of Maharashtra has declared the river policy. In the policy, river stretches have been classified as A –I, A-II, A-III & A – IV, depending on the classification, criteria for sitting of industries is declared. In Satara district, main rivers are **Krishna, Koyana, Venna, Urmodi** etc. All the rivers flowing eastern patter. The detailed classification and best designated uses are given below :-

TABLE NO. STR – 1

Sr. No.	Classification	Designated Best Uses
1.	Fresh Water :-	
i)	A – I	Drinking water without conventional treatment but after disinfections. Point from where the river originates upto first designated notified dam / weir.
ii)	A – II	Drinking water source with conventional treatment followed by disinfections. River stretch below first designated / notified dam / weir upto A – III / A – IV class of waters.
iii)	A – III	Fish and Wild Life Propagation.
iv)	A – IV	Agriculture, Industrial cooling and process.

B) CLASSIFICATION OF WATER : -

KRISHNA RIVER BASIN

TABLE NO. STR – 2

Sr. No.	Name of river	STRETCH OF		
		A – I	A – II	A – III & A – IV
1.	Krishna River	Origin to Dhom dam	Dhom dam to State Border	-
2.	Venna River	Origin to Kanher dam	Kanher dam to confluence with Krishna river	-
3.	Urmodi River	Origin to Urmodi dam	Dam to confluence with Krishna river	-
4.	Tarali	Origin to Tarali dam	Dam to confluence with Krishna river	-
5.	Koyana	Origin to Koyana dam	Koyana dam to confluence with Krishna river	-
6.	Yerala	Origin to Neve tank	Neva tank to confluence with Krishna river	-
7.	Wanganga	Origin to dam	Dam to confluence with Krishna river	-

3. DOMESTIC POLLUTION

I) ENVIRONMENTAL SCENARIO :-

In Satara region 8 no. of municipal councils are the main contributors of domestic pollution. The main rivers in Satara district are Krishna, Koyana, Venna, Urmodi, Nira, Manganga, Banganga. Out of which Venna, Koyana, Urmodi, Tarali are tributaries of Krishna river. Krishna – Venna confluence at Mahuli near Satara & Koyana – Krishna confluence at Karad. The details of population, water supply, effluent generated as below :-

TABLE NO. STR – 3

Sr. No.	Name Of Local Bodies	Population as per 2001 senses	Source Of Water	Quantity of Water Consumption M³ / day	Quantity of Domestic Effluent M³ / Day
1	Satara	108,043	Krishna, Kas Lake	13,750	11,000
2	Karad	56,149	Koyana	14,000	11,200
3	Wai	31,090	Krishna	4300	3440
4	Mahabaleshwar	12,736	Venna Lake	1,500	1,200
5	Panchagani	13,280	Dhom Dam	3,450	2,760
6	Rahimatpur	16,539	Krishna	1,700	1,360
7	Phaltan	50,798	Nira	5,080	4,064
8	Mhasawad	20,494	Well	325	260

MUNICIPAL COUNCILS

- **Satara Municipal Council:-**

Satara city is situated about 125 K.m. East of Pune & on the bank of Venna & Krishna Sangam & east of western ghat. The climate of Satara is varies from 12.7° to 40° C.

As per the census 2001, population of Satara city is 1,08,043 souls. Water consumption of the city is 13,750 M³ / day and effluent quantity is 11000 M³ / day. Satara Municipal Council has not provided STP. All the effluent is directly discharged into river Venna through various nallas, which ultimately meets to river Krishna.

4. INDUSTRIAL POLLUTION (INDUSTRIAL SCENARIO)-

In Satara district, there are three MIDC Viz. Satara, Wai & Karad. There are 2 no. of industrial estate viz. Ogalewadi & Karad.

The industrial growth started two decades ago. In Satara MIDC, Automobile industries like M/s. Maharashtra Scooter Ltd., Brewery like Doburg Lager were running in full swing. But now, Doburg Lager is closed since one year and M/s. Maharashtra Scooter Ltd. is manufacturing their one day production in a month. Most of the small-scale industries are engineering units and doing the job works of other industries. M/s. Universal Luggage Mfg. Ltd , which is also growing rapidly, but now manufacturing less production. M/s. Paranjape Autocast Ltd., M/s. Cooper Foundry, M/s. Mutha Foundry, M/s. Dhanashri Foundry leading in foundry & running in full swing, while M/s. Patheja Brothers, M/s. Patheja Stamping & Forging is closed since four years. Engineering industries like M/s. Kirloskar Copeland, Atit, M/s. Spicer India Ltd., in MIDC Satara started in this decade and rapidly progressing. In Shirwal area also, industries are growing rapidly in this decade, because it is situated on NH-4 and near to Pune city. The major industries like M/s. Godrej Boyces Ltd., M/s. Associate Capsules Ltd., M/s. Lawkim Ltd., M/s. Tube Products (I) Ltd., and Multinational company like M/s. Sussen Asia Ltd., are in existence.

For growth of industrialization, State Government has developed new MIDC at Patan, where about 5 –6 units started their production activities.

Now, the State Government has declared MIDC at Lonand and recently in the Feb.2004, MIDC has celebrated the inauguration function.

Apart from these MIDC's Co.-Op. industries like Sugar, Distilleries, Doodh Sangh, ENA, Ethanol, Private industrial estates are in existence. Also no. of industries established in rural areas like Phaltan, Sakharwadi, Karad Taluka, Wai Taluka & Shirwal area near NH-4.

In Satara district, about 1,591 no. of industries have obtained consent from MPCB. Out of which, 32 nos. are large, 39 nos are medium and 1520 no. are small scale industries are in existence. The total quantity of effluent generation is 20752.85 M³. The 1,340 no. of industries are not generating trade effluent.

TABLE NO. STR – 4

Category	LSI	MSI	SSI	TOTAL
RED	22	20	247	289
ORANGE	6	16	529	551
GREEN	4	3	744	751
TOTAL	32	39	1520	1591

MAJOR INDUSTRIES

Sugar	-	10
Distillery	-	05
Paper	-	02 (Closed)
Foundry	-	06

SATARA MIDC :

There are about 500 units in old MIDC and in additional MIDC Satara. MIDC Satara locates Pharmaceutical, Automobile, Foundry, Food, Electroplating and major engineering units. Most of the large / medium industries have provided Primary, Secondary & Tertiary treatment facilities. Maximum no. of units are engineering / non – polluting one. Hence, common ETP is not provided for MIDC Satara. Water consumption of Old MIDC including & Addl. MIDC is about 13750 M³ / day and the effluent generated is about 11000 M³/day. MIDC Nalla meets to Krishna river.

WAI MIDC :

About 146 units are existing in Wai MIDC mainly food, Plastic & engineering in nature. There are only three no. of industries having large scale who have provided Primary & Secondary treatment for effluent. Remaining small scale industries are mainly engineering. The water consumption of MIDC Wai is 800 M³ /day and effluent quantity is 640 M³ / day. MIDC nalla ultimately meets to river Krishna. No complaint is received about Environment pollution.

KARAD MIDC:

About 122 units are existing in Karad MIDC. It is situated on the NH-4 about 50 Km. from Satara city & at south side of Satara city. In this MIDC, 4 industries are Large / Medium scale and remaining are small scale which are mainly engineering units. Large / medium industries provided Primary and Secondary treatments. Common ETP is not provided for Karad MIDC, water consumption is about 580

M³/day and effluent quantity is about 466.66 M³ / day. No complaint received about Environmental pollution.

MAJOR POLLUTING INDUSTRIES :-

POLLUTION PROBLEMS OF SUGAR FACTORIES :-

There are 10 sugar factories in Satara district. The sugar factories requires more water for the process. All the factories have provided Primary & Secondary treatment facility (Activated sludge treatment). The operations of sugar factories are seasonal and these sugar factories are using treated effluent partially for irrigation and partially discharged into Nalla. It is very much essential to utilize the industrial effluent as per the CREP guidelines.

DISTILLERY UNITS :-

There are 5 distillery units in Satara district. All distilleries established adjacent to sugar factories. The effluent generated from distilleries is not easily treatable because of high concentration of BOD, COD and related parameters. Due to lack of technology as such, factory has failed to provide adequate treatment facilities, as a result they are storing it in katcha lagoon and thereby causing percolation in the nearby wells & causing pollution to environment. Previously, as per the new guidelines, it is obligatory on the part of distillery units to provide pucca pit for storage of spent wash. Also, the effluent should be used for composting in scientific manner. All the distillery units trying to achieve the latest trend of technology for treatment.

MPCB is continuously taking follow up with industries to upgrade pollution control devices. The Board has issued directions from time to time and also filed prosecution proposal in the Court of Law.

PAPER UNITS

There are 2 paper units in Satara Taluka & Khandala Taluka. But both the units are closed due to their financial problems.

5. RIVER WATER POLLUTION

In Satara District main rivers are Koyana, Krishna, Venna, Nira, Urmodi, Kukadi, Verala & Tarali. All these rivers are flowing south eastern pattern. To judge the quality of river water the monitoring of rivers being carried from time to time. The results of the same are reproduced as under:

6) GROUND WATER POLLUTION:-

Due to industrial activities and lack of proper disposal facilities, ground water pollution problem is created. In Satara district in this year , there is no severe problem of ground water pollution. Samples of well water (ground water) are collected around the Nira Valley Arkshala, Phaltan.

GROUND WATER QUALITY DATA (2003 - 2004)

TABLE NO. STR – 6

Name of the location	No. of Samples analyzed in reporting year	1	2	3	4	5	6
		PH	Total Hardness (CaCO ₃)	Chloride	DO	Nitrate (NO ₃)	Sulphate (SO ₄)
		Avg.	Avg.	Avg.	Avg.	Avg.	Avg.
Phaltan	1	8.34	-	240	-	N.A.	67

7. AIR POLLUTION

In Satara district, 1,591 industries have been consented by the Board and out of which, about 138 industries are observed as an air polluting industries. The industries have provided sufficient height of stack with air pollution control devices. The vehicular emission is the main source of air pollution source is due to vehicular emission. The no. of vehicles registered in Satara district.

Categorywise registered vehicles upto March – 2005

TABLE NO. STR – 7

Sr. No.	Category	No. of Vehicles
1	Motor Cycle	1,26,371
2	Scooters	22,890
3	Mopeds	24896
4	Motor Car	10418
5	Jeep	8688
6	Station Wagons	235
7	Taxi Car	2444
8	Auto Rickshaw	7332
9	Stage Carriage	1037
10	Contract Carriage	48
11	School Bus	32
12	Private Vehicle	18
13	Ambulance	54
14	Truck & Lorries	4648
15	Tanker	213
16	Delivery Van – 4 Wheeler	4778
17	Delivery Van – 3 Wheeler	3510
18	Tractor	12385
19	Trailer	12785
20	Others	101
	Total	

From the above, it seems that, no. of registered vehicles in the Satara district is very high. To monitor the air quality in Satara city, monitoring is done by this office at Rajwada & Powai Naka. Analysis results as given below :-

AMBIENT AIR QUALITY DATA (2004 - 2005)

TABLE NO. STR – 8

Parameter		RAJWADA	POWAI NAKA
SO₂ (µg/m³)	Min	15.2	20.3
	Max.	19.58	21.34
	Avg.	17.4	20.82
NO_x (µg/m³)	Min	21.46	27.3
	Max.	23.00	27.6
	Avg.	22.23	27.45
SPM (µg/m³)	Min	444.11	713.98
	Max.	-	-
	Avg.	444.11	713.98

8. NOISE POLLUTION:-

Day by day the noise levels are increasing causing noise pollution at public places due to industrial activities, various types of construction activities, generators, public meetings, vehicular traffic, various types of horns and other mechanical devices. Due to noise pollution, there is adverse effect on human health and peace of mind; hence it is necessary to control the noise level within the prescribed limit. Taking into consideration this fact to prevent and control the sources of the noise, the Govt. of India has already published the rules known as Noise Pollution (Prevention & Control) Rules, 2000 which is applicable to entire country. To implement these Rules under Section 2 (c) Authority is prescribed, accordingly the police Commissioner or District Superintendent of Police are declared as Authority.

In Satara, Phaltan, Karad & Wai, noise levels are monitored by MPCB on Diwali & Ganesh Festival

TABLE NO. STR – 9

City	Location	Class	Monitoring Period		No. of observations	Noise level in dB(A)		
			Date	Time		Min.	Max.	Ave.
SATARA	City	Comm	22-9-04	21 to 23.30	15	68	84	76
KARAD	City	do	24-9-04	do	10	60	93	76.5
WAI	City	do	28-9-04	do	08	60	87	73.5

9. MUNICIPAL SOLID WASTES (MANAGEMENT & HANDLING) RULES, 2000

The problems of collecting and disposing of wastes generated by the various cities become more and more difficult and is a threat to environment. To control the pollution created due to municipal solid waste, Ministry of Environment & Forests, Govt. Of India has published a notification by framing the rules called Municipal Solid Wastes(Management & Handling) Rules, 2000. According to these rules, the MPCB is the prescribed authority for issuing the authorisation and monitor the compliance. As mentioned in the rules, it is necessary to form a committee for selection of sites. The Site Selection Committee has been framed by the District Collector under his Chairmanship, which comprises the members from MPCB, Town Planning Department, Forest Department, Superintending Engineer, Irrigation Department, Ground Water Survey Department, Air Port Authority etc. The municipal corporation / municipal councils has to take effective steps for processing of municipal wastes / land filling on the sites selected by above mentioned committee.

The present status of solid waste management is as given below :-

TABLE NO. STR – 10

Sr. No.	Name of the Local Body	Population	Authorisation	Quantity of MSW MT/D	Selection of site	Status of Treatment and Disposal
1	Satara	108,043	Granted	21	Yes	Partial treatment , disposed on open space
2	Karad	56,149	Granted	12.5	No	Partial treatment, disposed on open space
3	Wai	31,090	Granted	9	No	Partial treatment , disposed on open space
4	Mahabaleshwar	12,736	Granted	3.5	Yes	Partial treatment , disposed on open space
5	Panchagani	13,280	Granted	3	Yes	Partial treatment disposed on open space
6	Rahimatpur	16,539	Granted	0.7	Yes	Partial treatment disposed on open space
7	Phaltan	50,798	Granted	10	Yes	Partial treatment disposed on open space
8	Mhasawad	20,494	Granted	2.5	No	Partial treatment disposed on open space

10. HAZARDOUS WASTE

Hazardous wastes are highly toxic. Due to the industrialization, there is generation of hazardous waste. Govt. of India issued rules known as Hazardous Wastes (Management & Handling) Rules, 1989 as amended 2003.

Status of hazardous waste in Satara district

TABLE NO. STR – 11

1	Total no. of industries generating hazardous waste	31
2	Total no. of industries to whom closure direction issued	Nil
3	Total no. of industries who have taken membership of common facility	09
4	Total no. of industries displayed boards	27
5	No. of industries submitted manifest	04

**11. IMPLEMENTATION OF BIO – MEDICAL WASTES
(MANAGEMENT & HANDLING) RULES, 1998**

In Satara district 347 no. of HCE are in existence. Out of which, 128 no. of hospitals have been issued authorisation. Total BMW quantity generated is 4296 Kg /day. In Satara city M/s. Nature Need BMWT Services has provided deep burial as a common facility at Songaon, Tal. & Dist.- Satara. The Karad Municipal Council in association with Karad Hospital Association provided incinerator at Karad. The Board has issued public notice in leading newspapers throughout the State of Maharashtra in June 2004 for obtaining Authorisation and providing scientific treatment facilities. MPCB is taking follow up for implementation of BMW rules.

The status of the no.of hospitals /institutions are as under :-

TABLE NO. STR – 12

Sr. No.	HCEs (bed strength)	No. of HCEs	No.of Authorization issued	Treatment and Disposal Facilities
1	1 to 50	341	267	Nature Need- BMWT Karad Hospital Association, Karad ,
2	50 to 200	02	01	Own facility
3	200 to 500	01	01	Own facility
4	500 and above	01	01	Own facility
	TOTAL	345	270	

12. ECO SENSITIVE ZONE (MAHABALESHWAR & PANCHAGANI)

The Mahabaleshwar and Panchagani Region has been declared as Eco-Sensitive Zone. As per directives of Hon'ble High Court of Judicature at Bombay in the Writ Petition 7308/2002 filed by Bombay Environment Action Group & Anr., the Sub Regional Officer of the Board at Satara has carried out extensive survey of Panchagani and Mahabaleshwar area in the month of October, 2004. According to the survey carried out and the directives of Hon'ble High Court, the Board has issued directions in the month of January, 2005 u/s 33A of the Water (P & C P) Act, 1974 r.w. Municipal Solid Waste (M & H) Rules, 2000 to the Panchagani, Mahabaleshwar Municipal Councils, 185 hotels located in Panchagani – Mahabaleshwar Municipal Area and 26 educational institutes directing them to stop the discharge of polluted water into lake, river directly / indirectly and to obtain consent from the Board within 30 days and to provide / upgrade existing treatment facilities for the treatment of domestic effluent and also to provide common / individual waste treatment facility for the solid waste within three months' time. It is also directed to furnish an irrevocable bank guarantee of Rs. Five thousand only.

The Board is constantly taking actions / follow up as per the directives of Hon'ble High Court from time to time against the defaulting units.

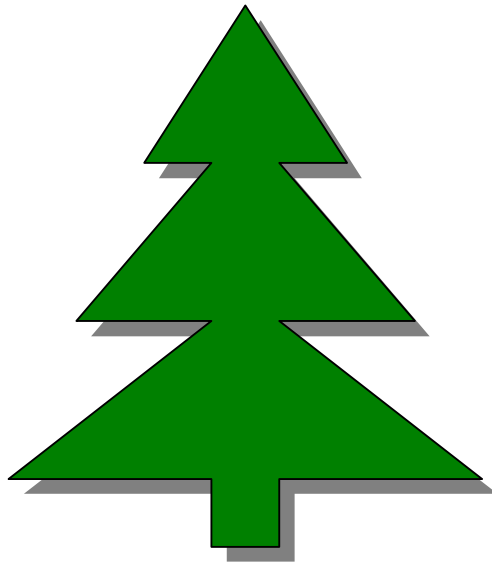
13. ENVIRONMENTAL AWARENESS PROGRAMME:-

For environmental awareness in this district, this office has conducted programme on 5th June, WORLD ENVIRONMENT DAY for awareness of pollution control to the common people in consultation with colleges and NGOs. This office has celebrate 'The Ozone Day' and taken efforts to reduce the use of plastic bags in consultation with Municipal Councils, for awareness of plastic waste disposal at Karad & Mahabaleshwar city.

ENVIRONMENTAL STATUS REPORT

2004-2005

SOLAPUR - DISTRICT



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1) INTRODUCTION



1. INTRODUCTION

Solapur District is situated at South West of Maharashtra between 17.10° to 18.32° North Latitude and 74.42° to 76.15° East Longitude. Solapur is having border of Karnataka State at south side and other sides. A'nagar, Osmanabad, Sangli, Satara and Pune districts are located.

Solapur district is having 14,895 sq.km. area which is 4.84% of total land of Maharashtra. Out of total area, 1.15% (170.79 sq.km.) is urban and 98.85% (14,724.21 sq.km.) is rural area. Solapur is having eleven talukas viz South Solapur, North Solapur, Akkalkot, Pandharpur, Malshiras, Barshi, Sangola, Madha, Karmala, Mangalvedha, Mohol. In this District, there are nine Nagarparishad (Municipal Councils) and one Municipal Corporation.

The climatic condition of this district generally found as a warm and dry. The minimum and maximum temperature is found 15° C and 44°C. The average rainfall is 620.57 mm. Looking at figures from last 30 years data, there is not much rise in average rainfall and according to Shri Subramanyam Sameeti, except part of Malshiras and Pandharpur area, all the eleven talukas are declared as drought prone area.

The river Bhima is the main river of this district. Lower part of Bhima River Basin with a stretch from Ujani Dam upto Takali in South Solapur Tahsil at Karnataka State Boundary.

The tributories of Bhima river are Sina, Man, Bhogawati and Nira. The confluence of the Bhima and Nira river is at Narsingpur village.

There is only big scheme of irrigation in Solapur district i.e. Ujani

project. This project is proposed to cover 2,40,160 hectares of land for irrigation, but still the part of work is in progress. The talukas Malshiras, Pandharpur, Sangola is partly covered by Nira river irrigation scheme (right side).

As far as the crop pattern is concerned, major land is covered by jawar cultivation is about 50% and rest of the land for Bajara, wheat, pulses and sugar cane.

Now a days, horticultural land is developing progressively for grapes, pomegranates.

There are three no. of MIDCs and nine co-operative industrial estates. The co-operative sector plays a very important role in Solapur district. They run the spinning mill and 17 sugar factories and educational institutions also.

Solapur is well known for the important pilgrim center located on the bank of river Bhima. It is also called as Dakshin Kashi, famous temple of Lord Vithoba is situated in Pandharpur. At Akkalkot, there is famous temple and shrine of Shri Swami Samaratha, the descendents of Lord Dattatraya.

2) RIVER POLICY



2. RIVER POLICY

Govt. of Maharashtra has declared the river policy. On that basis, river stretches have been classified as A-I, A-II, A-III and A-IV, depending on the classification, policy of siting of industries is declared. In Solapur District, main rivers are Bhima, Nira, Bhogawati, Sina and Man. The detailed classification and best designated uses are given below :-

TABLE NO. SLR – 1

Sr.No.	Classification	Designated Best Uses
1.	Fresh Water :-	
i)	A – I	Drinking water without conventional treatment but after disinfection. Point from where the river originates upto first designated notified dam/weir.
ii)	A – II	Drinking water source with conventional treatment followed by disinfection. River stretch below first designated/notified dam/weir upto A-III/A-IV Class of waters.
iii)	A – III	Fish and Wild Life Propagation.
iv)	A – IV	Agriculture, Industrial cooling and process.

CLASSIFICATION OF WATER :-

LOWER BHIMA RIVER BASIN

TABLE NO. SLR – 2

Sr. No.	Name of River	STRETCH OF		
		A-I Class	A-II Class	A-IV Class
1.	Sina	---	Origin to confluence with Bhima	--
2.	Chandani	--	Origin to confluence with Bhima	--
3.	Bhogawati	--	Origin to confluence with Bhima	--
4.	Kamini	--	Origin to confluence with Bhima	--
5.	Moshi	--	Origin to confluence with Bhima	--
6.	Bori	--	Origin to confluence with Bhima	--
7.	Man	--	Origin to confluence with Bhima	--
8.	Bhima (Stretch of River in Lower Bhima Basin)	--	Confluence of Bhima with Nira to State Border	--

NIRA RIVER BASIN / SUB BASIN :-

TABLE NO. SLR – 3

Sr. No.	Name of River	STRETCH OF		
		A-I Class	A-II Class	A-IV Class
1.	Nira	Origin to Devghar dam	Devghar Dam to Vir dam to	Vir dam to confluence With Bhima
2.	Kannad River(Including Yelwadi river)	Origin to Bhatghar dam	---	--
3.	Ganjwani River	--	Origin to confluence with Nira	--
4.	Karha River	--	Origin to confluence with Nira	---

3) DOMESTIC POLLUTION



3. DOMESTIC POLLUTION

SOLAPUR MUNICIPAL CORPORATION :-

The area under jurisdiction of Solapur Municipal Corporation has increased due to merging of seven villages around the city into the corporation limits.

As per the census 2001, the population of the Solapur city is 9,30,000. At present, the requirement of water is 257 MLD which is

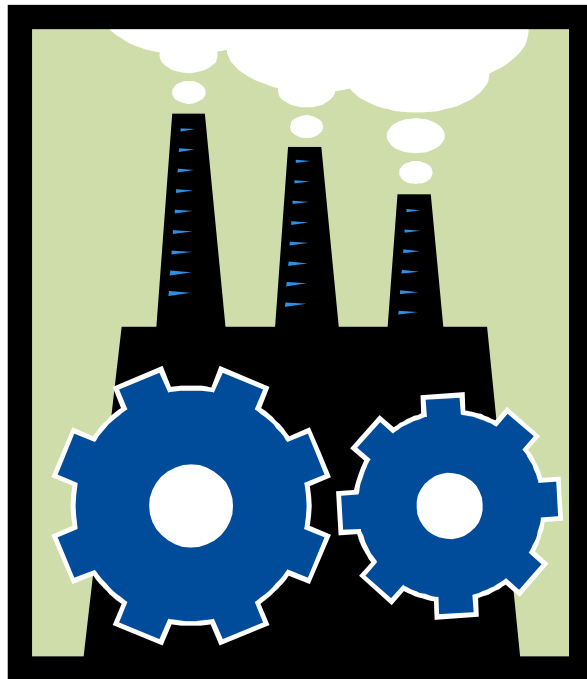
supplied from Takali and Ujani dam. Solapur city generates about 206 MLD sewage water. For treatment of the same, SMC has constructed STP which is presently not in operation. Out of total effluent generated, 30% is used for irrigation purposes without treatment and whereas remaining is discharged into the Deogaon nalla leading to Sina river which ultimately meets to the river Bhima.

In Solapur region one Municipal Corporation & nine Municipal Councils are the main contributor of domestic pollution. The main rivers in Solapur district are the Bhima, Nira, Bhogawati, Sina & Man. The details of population, water supply, effluent generation is as below.

TABLE NO. SLR – 4

Sr. No	Name of local bodies	Present population	Source of water	Quantity of consumption m ³ /day	Quantity of Domestic effluent m ³ /day
1	Solapur Municipal Corporation	930000	Ujani Dam, Hiparga Talav & Bhima River Takali	2577820	2061825
2	Pandharpur Municipal Council	913180	Bhima River	125700	100560
3	Maindargi Municipal Council	12483	Bori River	12000	9800
4	Kurdwadi Municipal Council	28227	Chandani Water Works, Pathry Water Work	105851	84782
5	Sangola Municipal Council	29840	Bhima River Jackwell of Isbawi, Pandharpur	111150	89840
6	Barsi Municipal Council	104786	Ujani Dam, Jod Calawa	233536	186500
7	Mangalwedha Municipal Council	24853	Bhima River, Uchebattan	93189	74560
8	Akkalkot Municipal Council	32295	Bori River	124856	99890
9	Dudhani Municipal Council	11754	Bori River	52090	41680
10	Karmala Municipal Council	22670	Ujani Dam	87200	68700

4) INDUSTRIAL POLLUTION



4. INDUSTRIAL ACTIVITIES AND POLLUTION

Solapur has emerged as a industrial town from the British Raj as they have placed the textile and spinning mills due to adequate atmospheric conditions. But in recent period, almost all the major textiles and spinning mills have been shut down or closed due to economic crises. Only small-scale industries are struggling for survivals in textile area. Around nine spinning mills on co-operative basis have been started, but only three are in operation.

Due to recession in textile industries, the growth of industrialization is stopped. There is no new projects and industrial growth in Solapur.

For growth and industrialisation of the industries, the State Govt. has developed following MIDCs in Solapur District :-

- 1, Akkalkot Road, Solapur
2. Chincholi, Tal-North Solapur;
3. Tembhorni, Tal-Madha, Dist-Solapur;

Apart from these MIDCs, there are industrial estates and co-op.

Industrial areas

They are as under :

- a) Industrial Estate, Hotgi Road, Solapur;
- b) Chandramauli Indl. Estate, Mohol, Solapur;
- c) Swami Samarth Co-op. Indl.Estate, Akkalkot;
- d) Kamladevi Indl. Co-op. Estate, Karmala;
- e) Mangalwedha Indl. Co-op. Ind. Estate, Mangalvedha;

- f) Sangola Co-op. Indl. Estate, Sangola;
- g) Co-op. Industrial Estate No.1, Agalgaon Road; Barshi;
- h) –do- No.2, Barshi;
- i) –do- No.3, Barshi

In the district, about 1,755 no. of industries have obtained consent from MPCB. Out of which 31 nos are large, 39 nos are medium and 1675 nos are small scale industries. The total quantity of effluent generation is 12,970 CMD. The 1,310 no. of industries are not generating any type of trade effluent. The categorywise chart of industries are given below :-

TABLE NO. SLR – 5

Category	LSI	MSI	SSI	TOTAL
Red	24	30	38	92
Orange	05	12	368	385
Green	02	07	1269	1278
TOTAL	31	39	1675	1755

Sugar Industries	-	17 nos;
Distillery units	-	05 nos
Paper units	-	NIL
No.of units covered under CAP	-	13 nos

AKKALKOT ROAD MIDC :-

MIDC has developed industrial area in the year 1975. This MIDC is presently within the Corporation area and along the Solapur Akkalkot State

High Way. In this MIDC area, mainly textile power loom and dyeing industries are in operation. Similarly, four chemical, three foundries and other SSI units are located in MIDC. Most of the industries have obtained consent. The industrial effluent generated in this area is mostly from dyeing factories. Four major industries have provided ETP and for other industries, CETP proposal is under consideration with the help of Corporation and State Government.

At present, untreated effluent is discharged into nearby nalla, as a result, the untreated effluent percolates in the surrounding area and polluted the ground water. To cope up with this problem, MPCB has issued closure directions to of 11 no. of industries and this issue is also discussed at Head Office level and with Hon'ble Minister of Environment. Continuous efforts are being made to solve the problem.

CHINCHOLI MIDC :-

Chincholi MIDC is located about 15 km from Solapur city along with Solapur Pune National High Way. In this area, mainly chemical industries are located alongwith oil refinery and three major textile units. Almost all the industries have obtained consent from MPCB and the industries which are generating industrial effluent have provided adequate effluent treatment plant/facilities.

Recently, though the CETP project is completed, it is not yet commissioned by North industrial association and MIDC. All civil work is completed and land is also been allotted by MIDC authority for disposal of treated effluent. In due course of time, it will be commissioned.

TEMBURNI MIDC :

It is situated in rural areas adjacent to National Highway No.9 at Temburni. In this industrial area, only twelve industries have been located. The pollution load is almost NIL.

POLLUTION PROBLEMS OF DISTILLERY & SUGAR FACTORIES :-

In Solapur District, four distilleries and 17 sugar factories are in existence.

SUGAR FACTORIES :-

The sugar factories requires more water for the process etc and hence all the sugar factories are established in the catchment of river and canals. All the sugar factories have provided primary and secondary treatment. The operations of sugar factories are seasonal. The effluent generated from the sugar factories is treated by way of activated sludge process. Some of the sugar factories are discharging substandard effluent into the nalla which further meets to river thereby polluting the river water and some sugar industries are using for irrigation purposes which results in ground water and soil pollution. Ultimately, effluent finds its way into soil. Due to percolation/seepages, finally it reaches to river through nearby nallas, hence it is very much essential to utilize the industrial effluent as per CREP guidelines.

DISTILLERIES UNITS :-

There are five distillery units. All the distilleries are established adjacent to sugar factories. The effluent generated from distilleries is not easily treatable because of high concentration of BOD, COD and related parameters. Due to lack of technology as such, factory has failed to provide

adequate treatment facilities as a result, they are storing it in katcha lagoons (pits) and thereby causing pollution to environment. As per the new guidelines, it is obligatory on the part of distillery units to provide pucca pit for storage of spent wash. Also, the effluent should be used for composting. All the distillery units trying to adopt the latest technology for treatment such as composting etc. M/s Vithalrao Shinde SSK Ltd., Pimpalner, Tal-Madha, has constructed pucca lagoons for storage of spent wash. M/s Brihan Maharashtra Sugar Syndicate Ltd., scrapped out the old lagoons due to which percolation from old lagoons have been reduced to the greater extent, and now they have gone for bio-digester followed by composting. Due to continuous follow up and directions, factory achieved this goal. It is an achievement for MPCB and factory.

MPCB is continuously taking follow up with industries to upgrade pollution control devices and ETP. The Board has issued directions from time to time and also filed five no. of prosecution cases in the Court of Law.

Apart from all exercise, the Board has conducted high level meeting in presence of Hon'ble Chief Minister and Chairman of sugar/distillery units. The issues/problems are discussed in detailed and Board has directed to said units to adopt latest technology.

5) RIVER WATER POLLUTION



5) WATER QUALITY (RIVER / GROUND WATER)

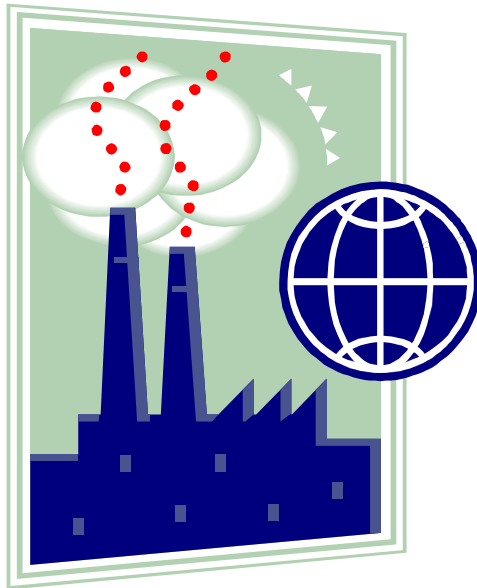
Lower Bhima river basin and partly Nira River basin is passing through Solapur district. The two points for GEMS and MINARS sampling have been fixed and continuous monthly monitoring is being carried out. These are –

- a) Bhima Nira confluence point at Narsingpur, Tal- Malshiras (entry of river into the Solapur district)
- b) Bhima river at Takali, Tal - South Solapur (point of Solapur district);
State Board is monitoring Environmental water quality of Bhima river at Pandharpur month wise. Reports are attached.

For Environmental water quality monitoring, two lakes and one nalla have been identified: -

- a) Siddheshwar Lake, Solapur;
- b) Sambhaji Lake, Solapur;

6) AIR POLLUTION



6) AMBIENT AIR QUALITY AT SOLAPUR CITY

The Hon'ble Supreme Court of India in its Order dated 14th August 2002 indicated that in Solapur City, SPM/RSPM levels are alarming and has directed the State Govt. of Maharashtra to draw a plan for lowering the rate of RSPM level in the Solapur city.

Accordingly, State Board have conducted detail studies in order to prepare an Action Plan to suit the desire of Hon'ble Supreme Court of India for air quality improvement.

CPCB have undertaken a project as NAAQM and fixed two stations for monitoring.

Some air quality results from NAAQM and State Board and in nutshell action is given below :

TABLE NO. SLR – 7

AMBIENT AIR QUALITY MONITORING RESULTS IN SOLAPUR

	Near Ashok Chowk 2000				Near Saat Rasta 2001				2002			
	SO2	Nox	SPM	RSPM	SO2	Nox	SPM	RSPM	SO2	Nox	SPM	RSPM
Max	20	49	503	205	21	50	502	204	21	49	425	198
Min	16	42	26	181	18	44	382	167	19	46	379	157

(All figures are in ug/m3)

From the above results, it can be seen that SPM and RSPM are exceeding the limits and it is mainly because of vehicular traffic in that area, dusting in the city due to drought prone and dry climatic condition,

non-taring and non-concretization of patches between city road and footpath. Generally the maximum values of RSPM are in the month of February, March and minimum in the month of July, August.

From the above results SO₂, NO_x levels are observed within the limit, but RSPM levels are exceeding the limits. The pollution load was predicted due to vehicular movement on National Highway no.9 & 13.

It is proposed that once the Action Plan will be placed, regular monitoring programme in future shall be conducted based on area where the particular Action Plan is related. The monitoring agencies will be MPCB and SMC and Walchand Institute of Technology, which will be decided after discussion with CPCB. The parameters to be monitored are SPM, RSPM, SO₂ and NO_x. The information shall be disseminated to all concerned authorities including Regional Transport Authorities.

- a) The air quality trend is certainly disturbing. This is because of Total movement of vehicle in Solapur city and dusting on city roads.

The total number of vehicles shows traffic speed between 15 km/hr to 35 km/hr aggravating the situation by acceleration and de-acceleration. The direct mal-effect is on the Air Pollution of the City.

The two wheelers, three wheelers and six seater rickshaws have shown a steep rise in the last year as per the RTO registration. Following table indicates the no. of vehicles registration with RTO Solapur.

TABLE NO. SLR – 13

Sr. No.	Type of Vehicles	1992	2002
1	2 Wheelers	43694	93710
2	Auto Rickshaw	1524	5547
3	Delivery Vehicles Small 3 Wheelers Car & station wagon	2163	3814 } 6204
4	Jeep	552	2390 }
5	Taxis	97	114
6	Buses (Inclusive of 133 No. of SMC buses	698	302

From the above table it is noted that two wheelers are contributing most of the pollution. Figures mentioned above have been updated upto 2002 by ARTO, Solapur.

The percentage of contribution of population by different vehicles are as below:

TABLE NO. SLR – 14

Sr. No.	Type of Vehicles	1992	2002
1	2 Wheelers	89.60 %	85.22 %
2	Auto Rickshaw	3.10 %	5.60 %
3	Delivery Vehicles Small 3 Wheelers Car & station wagon	4.43 %	3.40 %
4	Jeep	1.13 %	2.10 %
5	Taxis	0.19 %	0.10 %
6	Buses (Inclusive of 133 No. of SMC buses	1.43 %	0.27 %

The key traffic and transportation problems can be broadly identified as under:

- i) A disproportionate rise in number of vehicles: more particularly in the Two Wheelers.
- ii) Growth of informal forms of mass transport

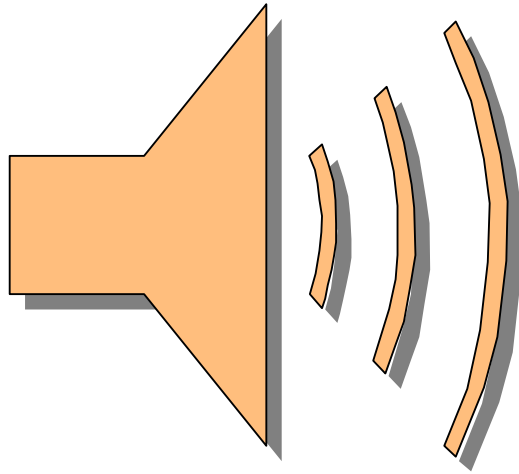
Inventory of emissions load from vehicles in Solapur City is as follows:

TABLE NO. SLR – 15

Vehicle Type	No. of Vehicles	CO	NOx	SO2	HO	TSP	PM10	Total
Cars	6204	1.750	0.200	0.00290	0.328	0.025	0.017	2.322
2Wheelers	93710	0.637	0.050	0.00969	3.210	0.150	0.117	9.573
Rickshaws	5547	5.045	0.135	0.00648	3.315	0.162	0.126	8.789
Taxis	114	0.188	0.017	0.00013	0.034	0.002	0.001	0.242
Buses	302	0.420	0.444	0.04130	0.082	0.065	0.050	1.082
Trucks	4074	1.800	2.283	0.17380	0.288	0.331	0.261	5.138
Total	109951	15.240	3.129	0.23430	7.257	0.735	0.572	27.146

(All figures of pollutants are in Tones per day)

7) NOISE POLLUTION



7. NOISE POLLUTION

Day by day the noise level is increasing causing noise pollution at public places due to industrial activities, various types of construction activities, generators, public meetings, various types of horns and other mechanical devices. Due to noise pollution, there is adverse effect on human health and peace of mind hence it is necessary to control the noise level within the prescribed limit. Taking into consideration this fact and to prevent and control the sources of the noise, the Govt. of India has already published the rules known as Noise Pollution (Prevention & Control) Rules, 2000 which is applicable to entire country. To implement these Rules under Section 2 (c) Authority is prescribed, accordingly the Police Commissioner and District Superintendent of Police are declared as single member authority in the municipal corporation area and other than the corporation area respectively.

To effective implementation of above mentioned Rules, four zones are categorised in which various standards are prescribed which are mentioned below:-

TABLE NO. SLR – 16

Sr. No.	Description	Standards in dB	
		Day *	Night #
1	Industrial Zone	75	70
2	Commercial Zone	65	60
3	Residential Zone	55	45
4	Silence Zone	50	40

* **Day Hours – 6.00 AM to 10.00 PM**
Night Hours – 10.00 PM to 6.00 AM

The decibel levels at important intersections in the city indicate dominance of diesel operated vehicles such as Solapur Municipal Corporation buses and trucks. Reckless honking of vehicles also adds to the noise levels causing serious health implications. Very rarely school or medical establishment in the city is spared from such affliction. Besides, the pollution caused by the industries operating in the non-conforming zones is also rising sharply with city assuming the status of a megapolis.

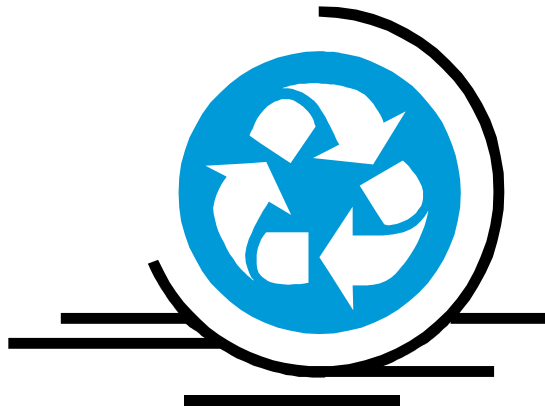
Noise in the industries can be controlled during the routine vigilance. However, the noise created by the society is a difficult problem.

The success can however be achieved through –

- a) Mass education;
- b) Loudspeaker to face towards the congregation and not the neighbourhood as is generally the case;
- c) Programme timing should not be inconvenience to the neighbourhood.

The noise levels are being measured by the MPCB especially during Ganesh Festival and also in Diwali Festivals. Details of noise levels measured at different locations is enclosed herewith

8) MUNICIPAL SOLID WASTE



8. MUNICIPAL SOLID WASTES (MANAGEMENT & HANDLING) RULES

The problems of collecting and disposing of wastes generated by the various growing cities become more and more difficult and is a threat to city environment. To control the pollution created due to municipal solid waste, Ministry of Environment & Forests, Govt. of India has published a notification by framing the Rules called Municipal Solid Wastes (Management & Handling) Rules, 2000. According to these Rules, the MPCB is the prescribed authority for issuing the Authorisation and monitor the compliance. The municipal corporation and municipal councils has to take effective steps for processing of municipal wastes/land filling on the existing sites,

There is one municipal corporation, nine no. of municipal councils are in District Solapur. The present status in respect of Solid Waste Management is as below :-

1) **SOLAPUR MUNICIPAL CORPORATION :-**

The Solapur city having a population of 9,30,000 souls which generates the solid waste to the tune of 275.0 MT/day. MPCB has granted Authorisation under the provisions of Rules. At present, the municipal wastes is being dumped at Tuljapur Road Solid Waste Depot. where waste is converted into the compost. The existing practice seems to be un-scientific. Hence the sub soil water of surrounding area is contaminated due to seepages of leachets generated from the dumping site. The efforts are being taken by the municipal authority to control the pollution.

2) **MUNICIPAL COUNCILS :-**

9 no. of local bodies having total population 8,73,037 souls generating 214.5 MT/day of solid wastes. None of local body has provided scientific treatment and disposal facilities for solid waste. All 9 no. of municipal councils have applied for obtaining Authorisation and Board has granted the Authorisation to them.

Details about Solapur Municipal Corporation and other municipal councils are as below :-

Most of municipal councils and Solapur Municipal Corporation are facing the problems for segregation of plastic waste, which results incomplete composting activities and due to which sale of compost is affected.

9) HAZARDOUS WASTE



9. HAZARDOUS WASTE

Hazardous waste are highly toxic in nature. The industrialization has the effect of generation of huge quantities of hazardous waste. From time to time various affidavits have been filed in this matter by MoEF & Pollution Control Boards. Ministry issued rules known as Hazardous Waste (M & H) Rules, 1989.

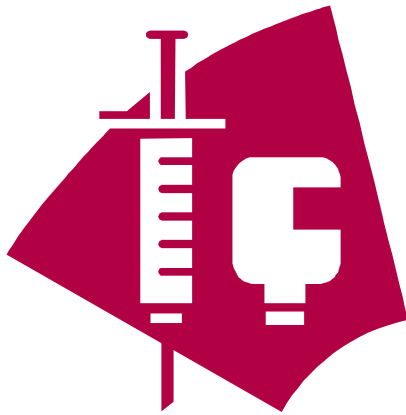
These rules have been amended time to time the latest amendment issued on 23rd May 2003. In schedule – I of the Rules 36 No. of processes are included which are generating hazardous waste.

Status of compliance & action taken by Regional Office, Pune as per Hazardous Waste (Management & Handling) Rules 1989 is as given below.

TABLE NO. SLR - 19

1.	Total No. of Industries generating Hazardous waste	48
2.	Total No. of Industries to whom closure directions issued	Nil
3.	Total No. of Industries that are complying with the direction	35
4.	No. of Industries that are not complying	01
5.	No. of Industries that are closed	12

10) BIO MEDICAL WASTE



10. IMPLEMENTATION OF BIO-MEDICAL WASTES (MANAGEMENT & HANDLING) RULES, 1998 :-

The solid wastes generated from the medical establishments needs to be handled very carefully as these wastes may contain infectious materials to cause serious consequences. Taking into consideration this serious aspect, Ministry of Environment, Govt. of India has published notification which is called Bio-Medical Wastes (Management & Handling) Rules, 1998 and subsequent amendment in the year 2000. Under these Rules, each and every hospitals, nursing homes, clinic, dispensaries, veterinary institutions, animal houses, pathological laboratories, blood banks etc. are required to obtain Authorisation.

In Solapur district, 528 no. of Health Care establishments are in existence. The Solapur Municipal Corporation area generates daily 180 kg of bio medical wastes.

Recently Solapur Municipal Corporation in association with private enterprise has signed MOU with M/s Bio-Clean India (P) Ltd., and has provided incinerator as a common BMW disposal facility centre at Bhogaon to avail said facility by the private hospitals who cannot afford the installation of individual incinerator. Presently all private hospitals have approached for becoming a member of CWTF ie “Common Waste Treatment Facility.”

Other than above municipal corporation, no authentic provision has been made by any municipal council for treatment and disposal of bio-medical wastes. MPCB is taking follow up for implementation of Rules in all respect.

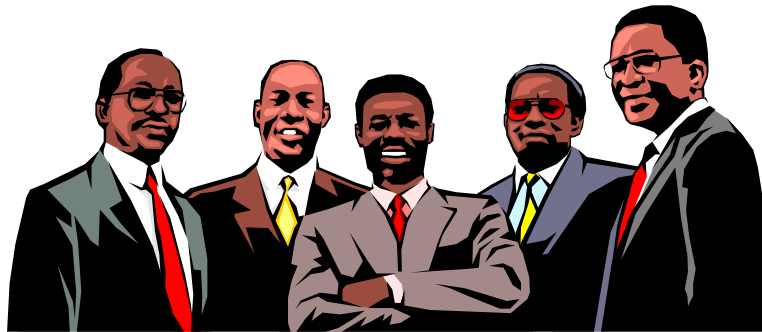
The status of nos of hospitals/institutions are as under :-

TABLE NO. SLR – 20

Sr. No.	Health Care Centers having beds	No. of Health care centers	No. of authorization issued	Treatment & disposal facilities
1	1 to 50 Beds	513	507	Bio Clean India Pvt Ltd.,
2	50 to 200 Beds	13	10	do
3	200 to 500 Beds	01	01	do
4	500 & above	01	01	do
	TOTAL	528	519	do

As far as the issue of rural and public health center are concerned, funds under Maharashtra Health System Development Project are provided to them for developing deep burial sites for BMW disposal as per standard design prepared by MHSDP authorities.

11) PUBLIC AWARENESS



11. PUBLIC AWARENESS IN RESPECT OF ENVIRONMENT

To develop environmental awareness amongst the public, the meeting was conducted for doctors regarding treatment and disposal of BMW at IMA Solapur and IMA, Akhuj. Lectures have been conducted for Head of institutes of ZP High Schools. Meeting have been conducted with all the Chief Officers from Municipal Council for collection, treatment and disposal of MSW.

On the occasion of World Environment day on 5th June, 2003, M/s Birla Super Cement & M/s Smruthi Organics & M/s Gujarat Rubber & Reclaim Industry have conducted tree plantation, essay competition and drawing competition in the industry.

For the plastic carry bag (below 20 micron), the squad is formed with alliance of Solapur Municipal Corporation and every month vigilance checking and on the spot fines have been collected and news are published in local news papers for creating awareness in the local people.

PLASTICS :-

Non Bio-degradable item plastic the enemy of the environment is to be used in the controlled manner to serve the purpose of mankind.

There are about 14 no. of recycled plastic unit which are recycling waste plastic and from it pipes for agricultural purpose are manufactured.

The problematic part of plastic is carry bags less than 20 micron thickness. To generate awareness in the society and to eradicate the carry bag fashion, Solapur Municipal Corporation, MPCB and Maharashtra Police

have formed a Plastic Nuisance Detection Squad, which is taking continuous efforts by vigilance checking and on the spot fines to hawkers, shops and other carry bag sellers. All the details of camp is published in the local news paper to create awareness in the citizens