

Action Plan For Industrial Cluster “Dombivali”



November 2010

Maharashtra Pollution Control Board

Kalpataru Point, Sion(East)

Mumbai 400 022

www.mpcb.gov.in

1. INTRODUCTION

1.1 Area Details

Dombivli or Dombivali is a city in Kalyan tehsil of Thane District, in Maharashtra, India. It is located about fifty kilometers from the city of Mumbai and about twenty kilometers from Thane. The population of the city, according to the 2001 census is 1,193,000. City is located in south of Ulhas river.

The population of Dombivli has over the years been subject to dynamic influences. The city's population is predominantly Marathi-speaking *Maharashtrians* but people from all over the country have made Dombivli their home. Significant number of people from Gujarat, Karnataka, Tamil Nadu, Kerala, Uttar Pradesh and Punjab are to be found here, with a marginal population of Khojas (The Aga-Khan sect).

The unique culture of Dombivli is reflected in the '*Navavarsha Swagat Yatra*' that started in the city in late 1990s. The Yatra is organized on the first day of the Hindu New Year. People from and near Dombivli take part with their own '*Chitrarathas*' to welcome the New Year. Dombivli has a unique, mixed culture. People celebrate every festival from Diwali to Eid, Dandiya, Ganpati etc.

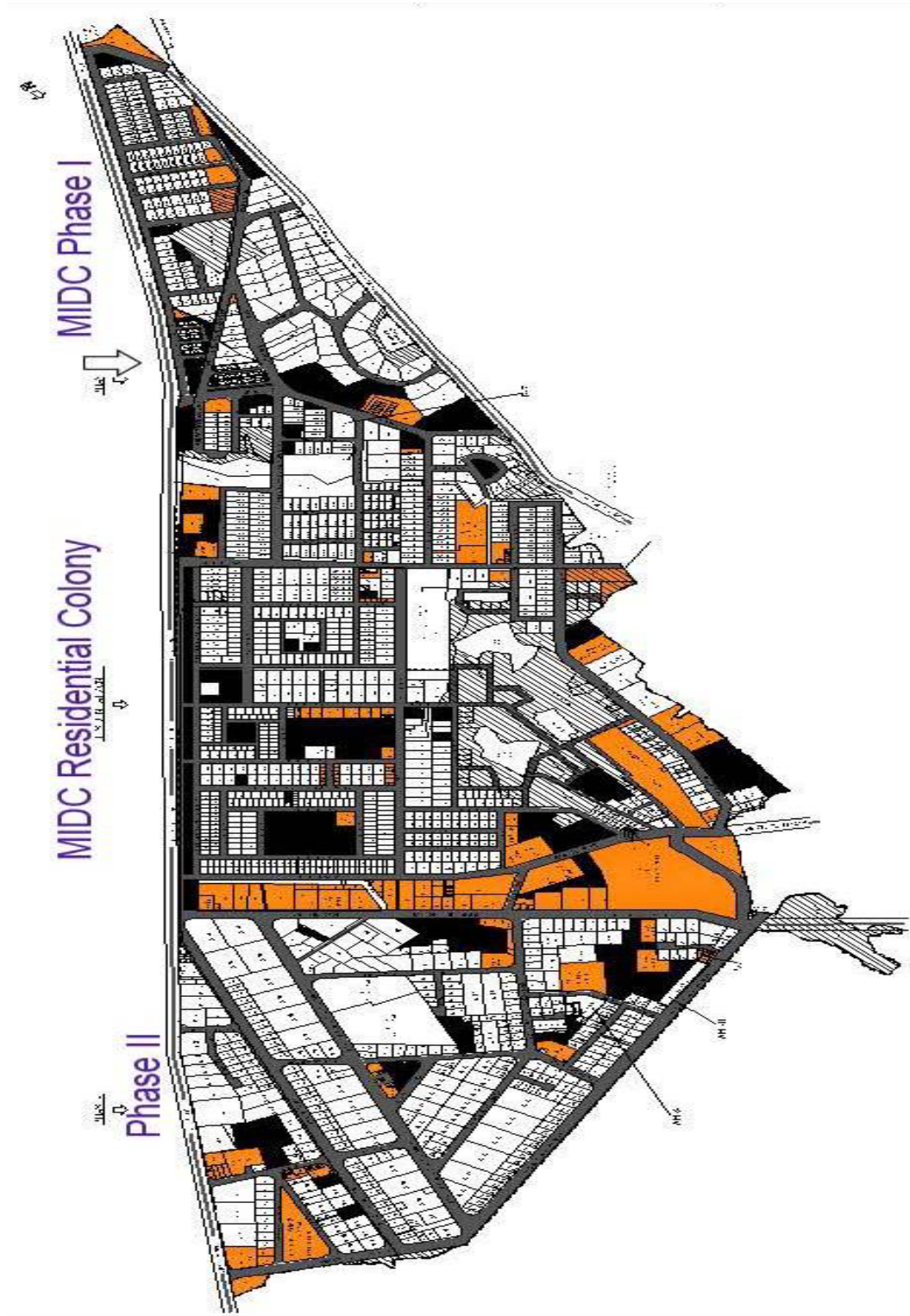
Dombivali enjoys a tropical climate with mean annual temperature of 24.3⁰C (min) to 32.9 ⁰C (max). The hottest and driest part of the year is April-May, when temperature rises to 38.0 ⁰C. The humidity is usually in the range of 58 to 84% and sea breeze in the evening hours is a blessing to combat the high temperature and humidity during summer months. The average southwest monsoon rainfall is in the range of 1850 mm to 2000 mm. The average annual rainfall in the region is the range from 1286 to 1233 mm.

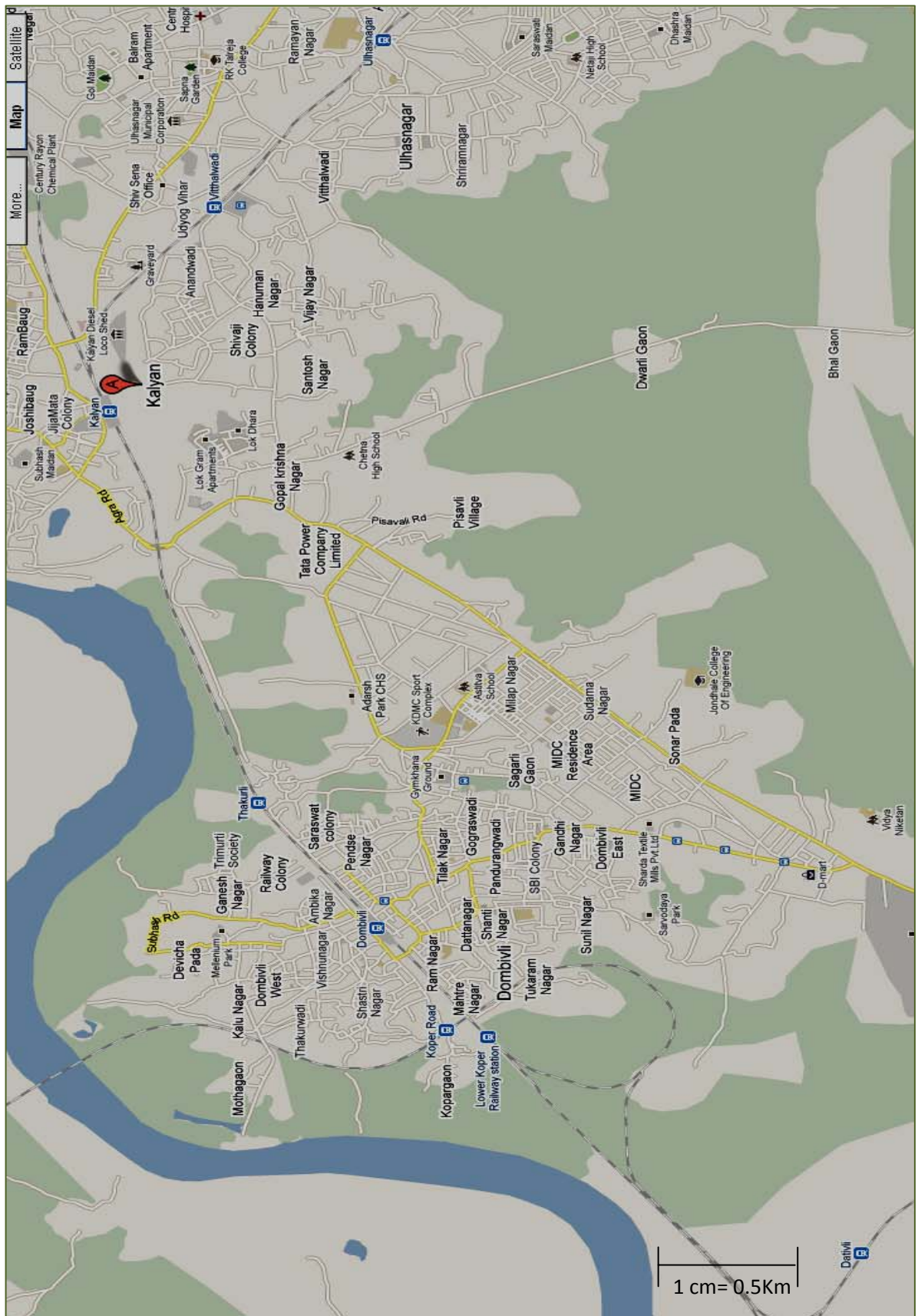
1.2 Location:

The Dombivali industrial area was established by MIDC in 1964. The Dombivali MIDC occupies an area of about 347.88 Hectar. And is approachable from Mumbai-Pune National Highway- 4 via the Kalyan-Shil Phata and also from Mumbai-Agra National Highway -3 via the Bhiwandi-Kalyan Road and it is about 45.00 km from Mumbai International Airport and 15.00 km from Thane city. This area is 3.00 km from Dombivali railway station and 5.00 km from Kalyan junction on the central railway. This area comprises of revenue villages like Sagaon-Sonarpada, Asde-Golivali, Gajbandhan-Patharli and Chole in Kalyan tahasil, Thane district. The area is located on the Kalyan-Shil and Kalyan-Dombivali roads. In this area, industrial plots and sheds have been developed as Phase-I and II and residential and commercial plots/area in between & surrounding Phase-I & Phase-II.



1.3 Digitized Map (Dombivali 10Km)





1.4 CEPI Score (Air, Water, Land & Total)

Water

A1	A2	A	B1	B2	B3	B	C1	C2	C3	C	D
3.0	5.0	15.0	8.0	0.0	3.0	11.0	5.0	4.5	5.0	27.0	10.0

Air

A1	A2	A	B1	B2	B3	B	C1	C2	C3	C	D
6.0	5.0	30.0	6.0	0.0	0.0	6.0	5.0	3.0	0.0	15.0	15.0

Land

A1	A2	A	B1	B2	B3	B	C1	C2	C3	C	D
3.0	5.0	15.0	8.0	1.5	3.0	12.5	5.0	3.0	5.0	20.0	10.0

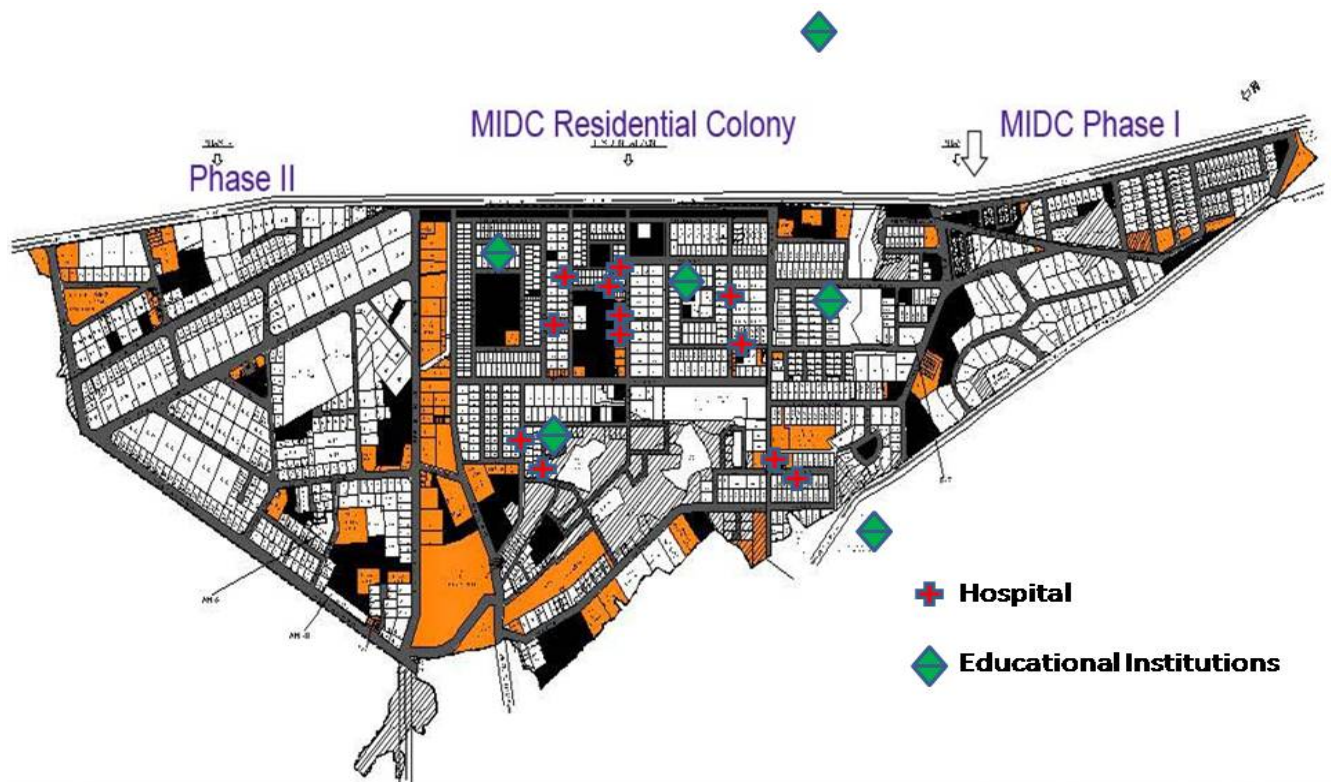
Total CEPI

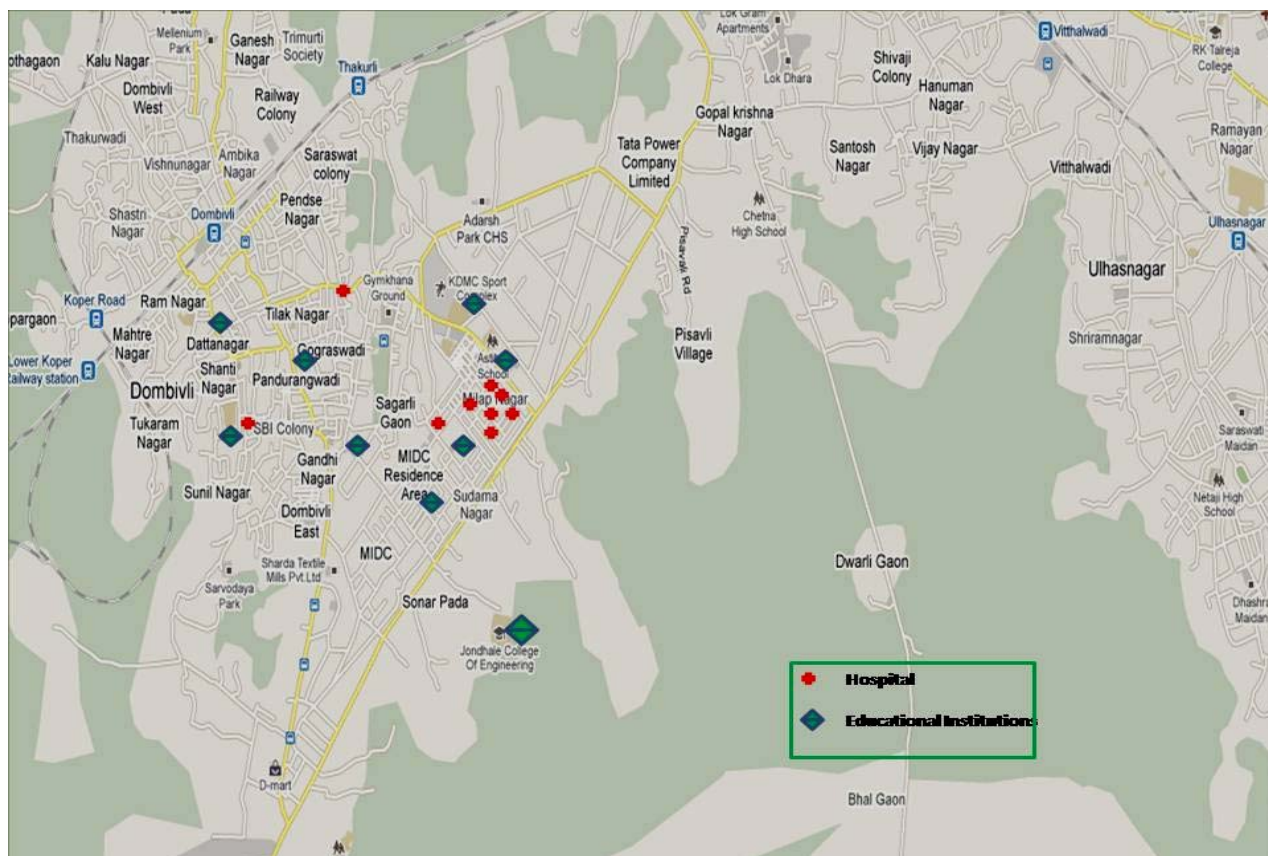
Parameter	Present CPCB CEPI	CEPI Score
Water	63.5	78.41
Air	66.0	
Land	57.5	

1.5 Total population & Sensitive Receptors

The population pressure on the city is ever growing. As per the 2001 census, the Population of the residential area around the industrial area of Dombivali is about 215000 and as per growth rate considered as 15% per annum, the present population is about 105000. (Minimum 2Km)

Sr.No	Name of Sensative Receptors	Numbers
1	No of hospital	41 (Beded Hospitals)
2	No of Educational institutes	53 (School & collages)
3	Courts	Nil





1.6 Eco-geological features

1.6.1 Major Water Bodies (Rivers, Lakes, Ponds, etc) :-Nil

1.6.2 Ecological parks, Sanctuaries, Flora & fauna of eco sensitive zone :-Nil

1.6.3 Buildings or monuments of Historical /archaeological / religious importance :-Nil

1.7 Industry Classification

Type	Large	Medium	Small	Total
Red	1	8	336	345
Orange	0	0	18	18
Green	0	0	165	165
Total	1	8	519	528

1.7.1 Highly polluting Industries (17 Categories)**:- 30**

Type	Large	Medium	Small	Total
Bulk Drug	--	01	20	21
Pesticides	01	--	--	01
Dyes & Intrmediates	--	01	07	08
Total	01	02	27	30

1.7.2 Red Category Industries (54 Categories)**:- 315**

Majority of industries are small scale category provided primary treatment facility and member of CETP for further treatment. MSI (5) industries have provided full fledge treatment facility and member of CETP.

1.7.3 Orange and green category Industries**:- 183****1.7.4 Grossly polluting industries****:- Nil**

2.0 Water Environment

2.1 Present status of water environment:-

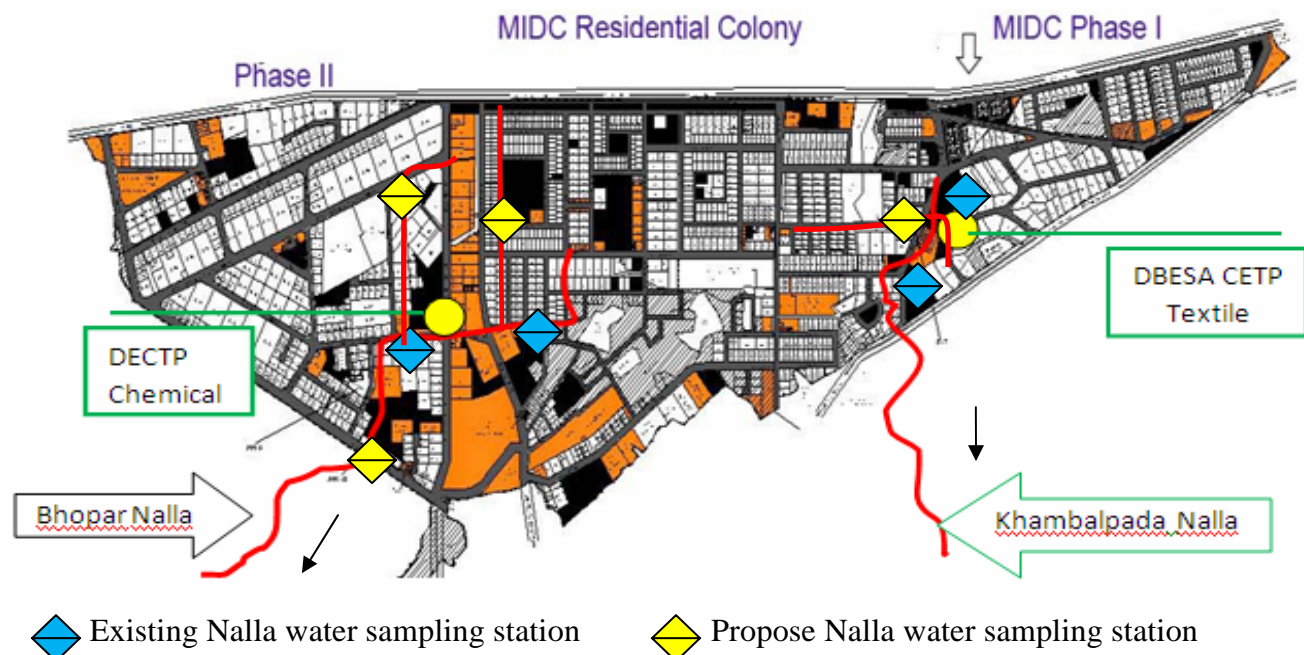
The MIDC has made its own arrangements for supplying pure water to the industries and residential area. MIDC also supplies drinking water to the villages surrounding the area. The entire quantity of water is lifted from the **Barvi Dam** through pipelines from the Badlapur, Ambernath and Dombivali industrial areas.

Quantity of water supply to MIDC Dombivali Phase-I & II = **14.681 MLD.**

Quantity of water supply to Residential Area = **60.0 MLD.**

Total Quantity of water supply = 74.681 MLD.

- 2.1.1 Water bodies/ effluent receiving drains in the area important for water quality monitoring: -There are two nalla viz. Khambalpada Nalla & Bhopar Nalla through which treated effluent is disposed by CETPs and also the untreated domestic effluent of residential area disposed. Analytical data of the same is given in tables below
- 2.1.2.



2.1.2 Present level of pollutants in water bodies/effluent receiving drains /ground water: -

At present there are many leakages at various locations in the drainage pipeline & existing drainage pipeline is very old. The repairing & replacement will help avoid leakage of effluent into the nalla. Also the treated effluent from CETPs & untreated domestic effluent from residential areas is discharged into Natural Nalla at Khambalpada Nalla & Bhopar Nalla which flows through residential area and giving chance for frequent complaints of smell nuisance.

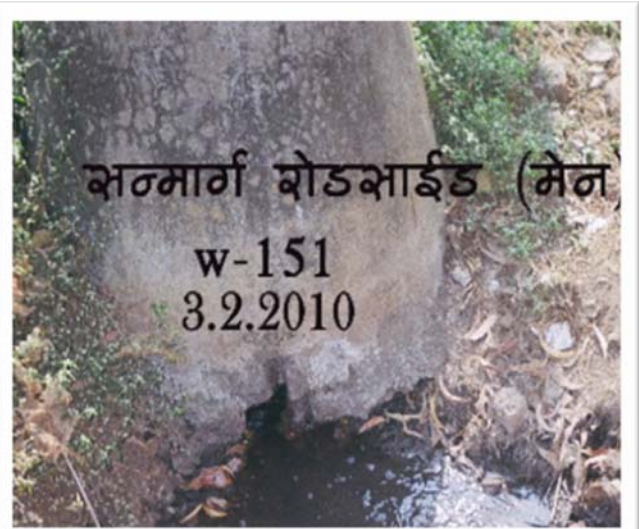


Leakages from Chamber



Disposal point of untreated domestic

Effluent from residential area.

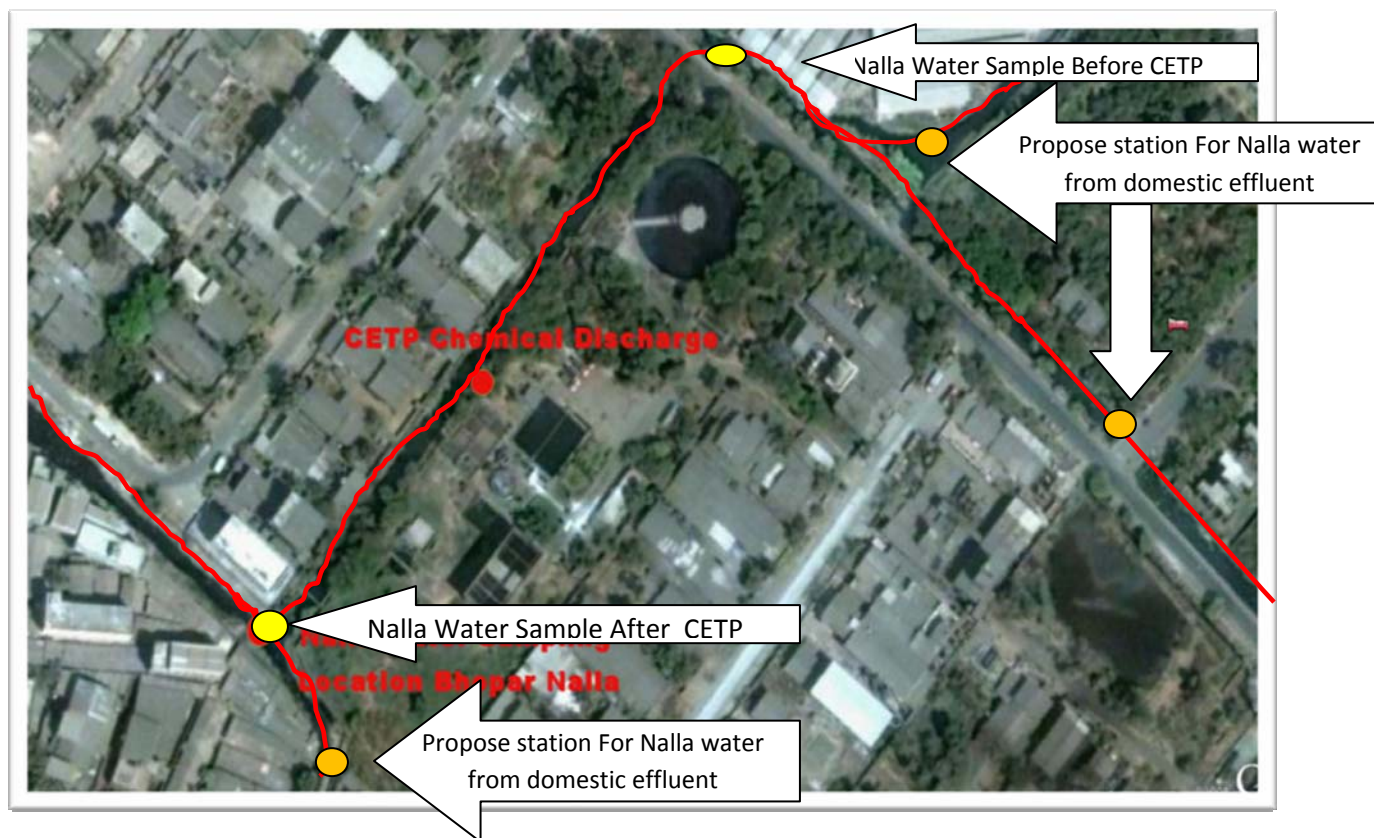
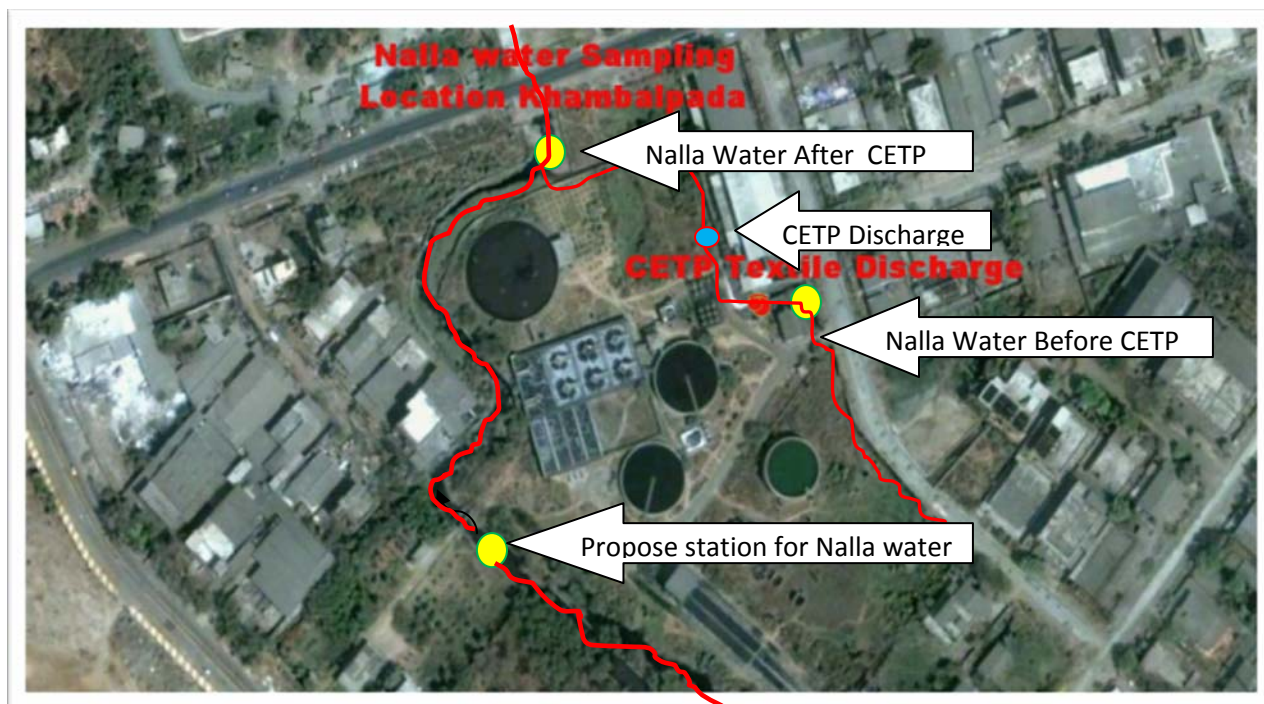


- **Average Analysis report of Khambalpada Nalla water near DBESA CETP- Textile.**

Year	pH	BOD	COD	S.S.	O &G.
2007-2008	7.4	172.22	453.0	119.0	Nil
2008-2009	7.0	344.0	1021.0	128.0	BDL
Up to Dec 2009	7.74	335.7	718.0	108.0	BDL

- **Average Analysis report of Bhopar Nalla water near DCETP**

Year	pH	BOD	COD	S.S.	O &G.
2007-2008	7.7	190.0	374.66	99.0	Nil
2008-2009	7.1	317.0	529.21	124.0	BDL
Up to Dec 2009	7.74	359.0	831.0	177.0	BDL



Nalla Water sampling location on Khambalpada Nalla & Bhopar Nalla Near CETP

2.1.3 Predominant sources contributing to various pollutants:-

Domestic:-The total **sewage** generated from the **residential** area is about **52 MLD**. The MIDC & KDMC has provided drainage line for disposal of domestic effluent generated from residential area into creek through open nalla. The sewage is discharged into open drains without any treatment, which is ultimately discharge into Creek.

Industrial:-Quantity of Industrial effluent generated in MIDC industrial Area is about 14 MLD, the treated effluent is finally discharged into the creek through open nalla which was passing through residential area.

There are 345 Industries which are generating trade effluent and have provided ETPs for treating the same and the treated effluent is sent to CETP for further treatment and disposal. Following is the list of 8 Major Polluting Industry whose pollution load in Kg/day is displayed below:

Pollution Load of Major Polluting Industry					
Sr.No.	Name of Industry	Type & Category	Water Pollution Load in Kg/Day		
			BOD	COD	SS
1	M/s Gharda Chemicals	Red/LSI	18.53	70.08	28.45
2	M/s Monarch catalyst P. Ltd	Red/MSI	14.93	52.35	29.87
3	M/s Auchtel Products	Red/MSI	29.79	93.95	12.53
4	M/s Arch Pharmalab P Ltd	Red/MSI	20.64	73.92	17.36
5	M/s Metropolitan Exichem P Ltd	Red/MSI	1.86	7.40	12.00
6	M/s Sunil Industries	Red/MSI	21.42	57.46	24.74
7	M/s VNS Industries	Red/MSI	0.13	0.66	0.37
8	M/s Shreeji Lifestyle P Ltd	Red/MSI	35.97	86.46	20.85

- Others:- 1) Illegal disposal of liquid chemical waste in to the nallas & drains flowing through MIDC by tankers
- 2) Leachates arising from unscientific dumping of MSW by the nearby Grampanchyats in open plots and along the road side of MIDC.



Illegal disposal of chemical by tankers in Nalla



Unscientific dumping of MSW by the nearby Grampanchyats to open plots

2.2 Sources of water pollution

2.2.1 Industrial:-

Out of 345 effluent generating industries, major units are textile, chemical and bulk drugs, pharmaceuticals, dyes, pesticides, etc. The partly treated effluent of the SSI units and fully treated Effluent of MSI/ LSI units is carried through MIDC pipe line to CETP, along with the domestic effluent (sewage) of Industries in the MIDC zone. The total treated effluent generated from MIDC area is about 14.0 MLD.

2.2.2 Domestic: -

The total sewage generated from the residential area is about 52 MLD. The MIDC & KDMC has provided drainage line for disposal of domestic effluent generated from residential area into creek through open drains. The sewage is discharged into open drains without any treatment, which is ultimately discharge into Creek.

2.2.3 Others:-

- 1) The Dombivali city is located near of the Mumbra Diva creek and the total area is urbanized and there is no agriculture land and so no agriculture runoff.
- 2) Illegal entry of tankers for disposal of illegal chemical waste in the nallas & drains.
- 3) Leachates arising from unscientific dumping of MSW by the nearby Grampanchyats in open plots and along the road side of MIDC.

2.2.4 Impact on surrounding area: -

There are no major water courses surrounding the CEPI area since it is boarded with backwater of sea i.e. Diva Creek. At present the treated effluent from CETPs & untreated domestic effluent from residential area is discharged into Nalla at (Khambalpada Nalla& Bhopar Nalla) which leads to Diva Creek. Since the disposal point is not approachable the creek was not monitored therefore nalla water is monitored. However there can be impact on creek water quality. It is proposed to monitor the creek by locating appropriate and approachable location.

2.3 Details of water polluting industries in the area/ cluster:-

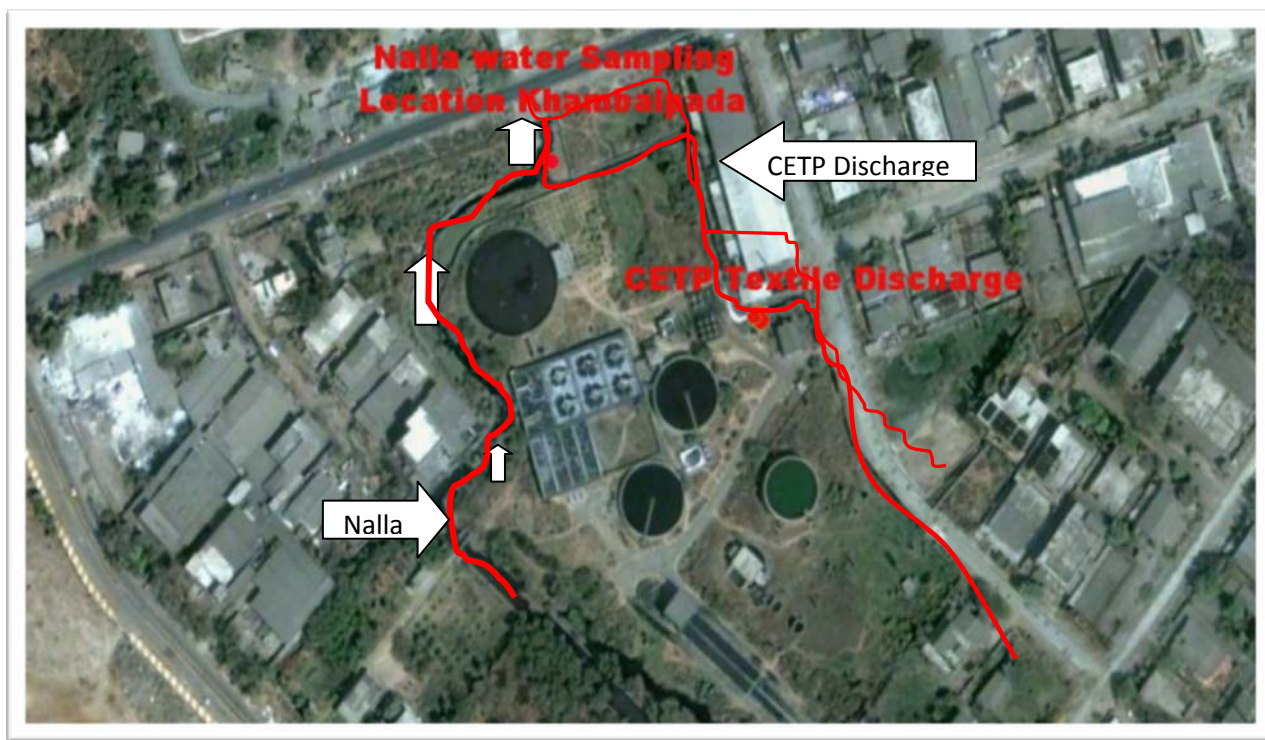
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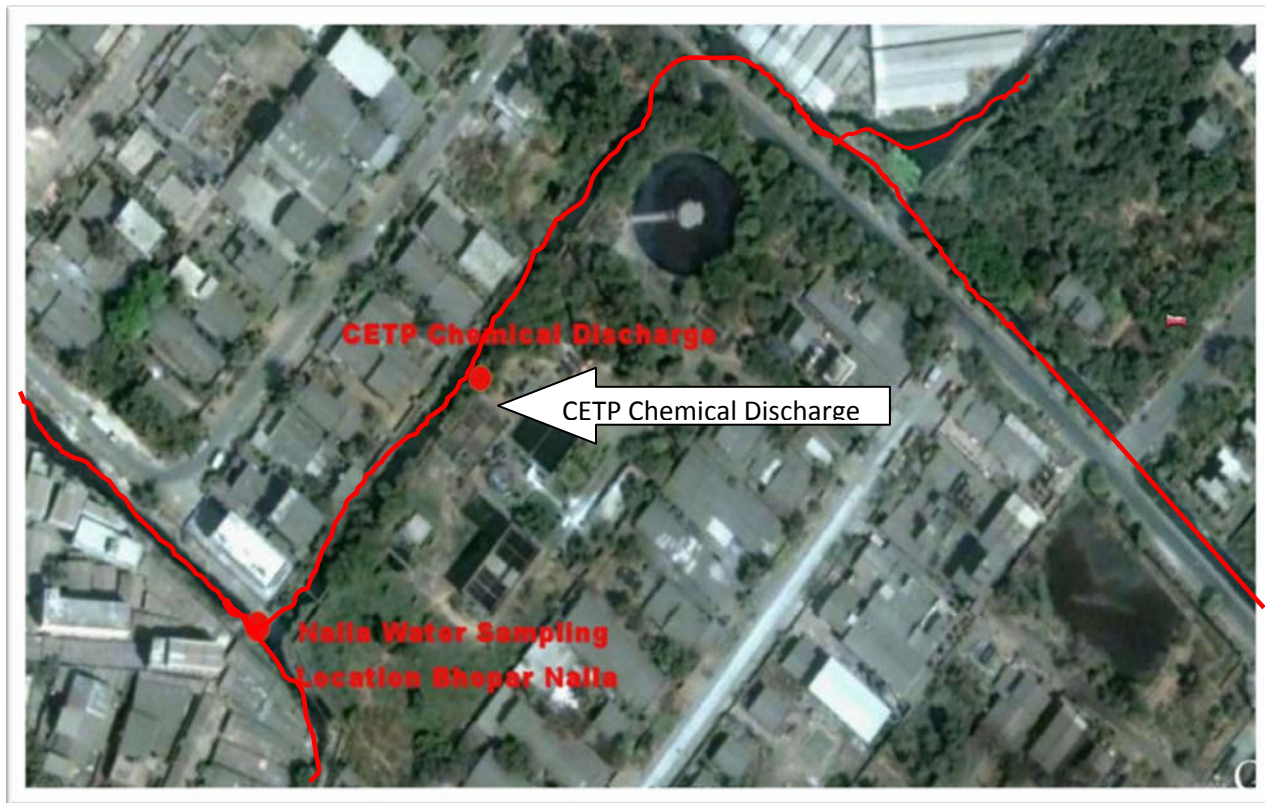
a) Highly polluting Industries (17 Categories):-30

b) Water polluting Industries (54 Categories):- 161

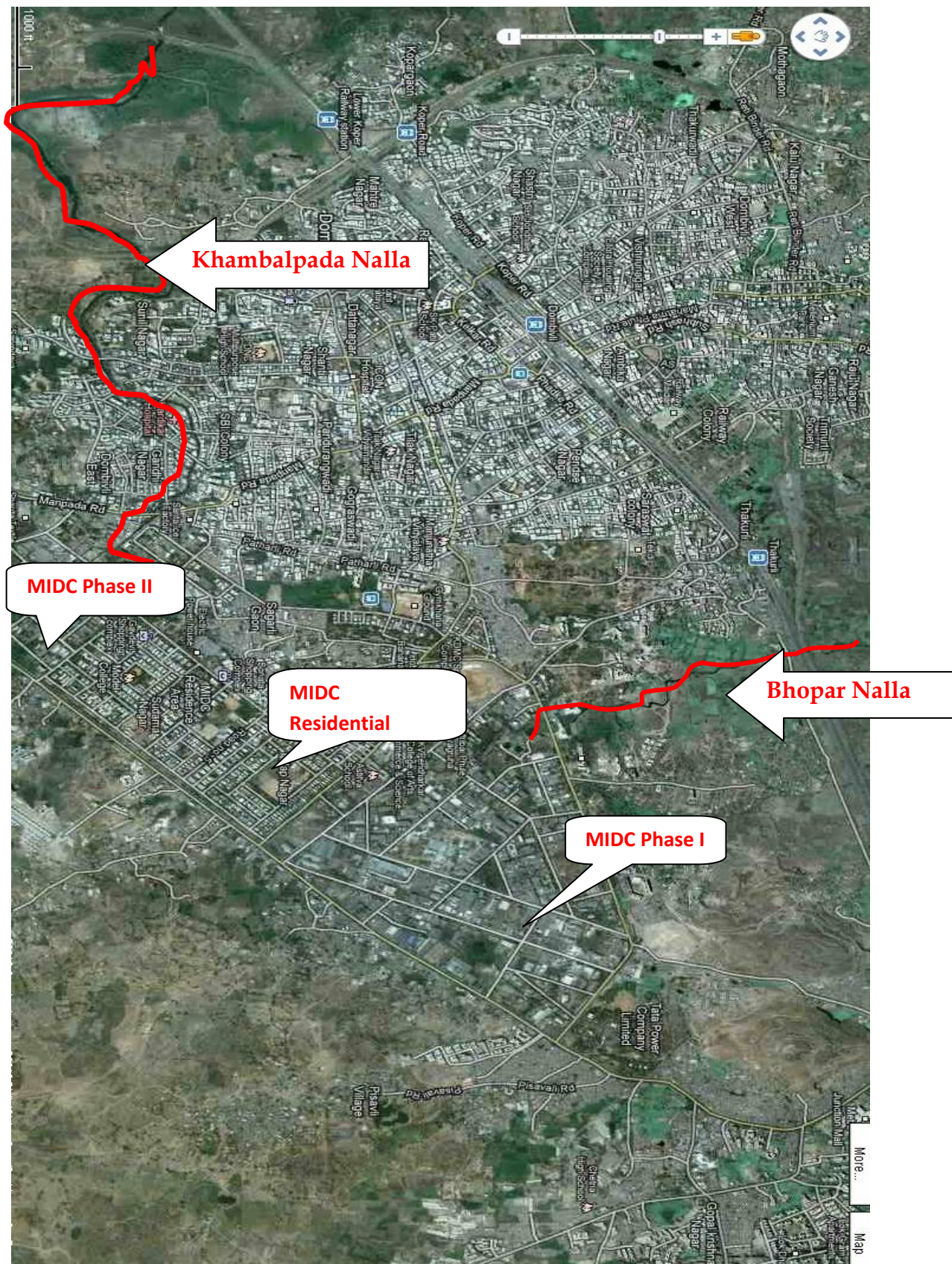
2.4 Effluent disposal methods:-

MIDC has provided 18585 meters (14200 meters HDPE & 4385 meters cement) of underground effluent collection network system to collect the treated and partly treated effluent from industrial units for further treatment to CETPs of the area, there are 2 no. of CETPs functioning in the industrial area. Quantity of Industrial and domestic effluent generated in MIDC industrial Area is about 14 MLD & 52 MLD respectively, the treated industrial and untreated domestic effluent is finally discharged into the Diva creek through open nalla..





CETP Discharge point



2.5 Quantification of waste water pollution load and relative contribution by different sources viz industrial/domestic :-

Industrial :- 14.0 MLD (treated effluent from CETP)

Domestic :- 52.0 MLD (Untreated sewage from residential area)

Source	2007-2008 Average load in Kg/D		2008-2009 Average load in Kg/D		2009-2010 Average load in Kg/D	
	BOD	COD	BOD	COD	BOD	COD
DBESA CETP	4906.08	12492.0	2843.20	7889.6	2844.1	8476.4
DCETP	230.1	631.12	177.55	489.0	170.25	498.0
Direct discharge if any	Nil	Nil	Nil	Nil	Nil	Nil
Domestic Phase-I	2927.74	7701.0	5848.0	17357.0	5706.9	12206.0
Domestic Phase-II	855.0	1699.47	1426.5	2381.44	1615.5	3739.5
Total	8918.92	22523.59	10295.25	28117.04	10336.75	8918.92

2.6 Action plan for compliance and control of pollution

2.6.1 Existing infrastructure facilities

Water quality monitoring network:-

Industries:- The MPC Board is regularly monitoring treated effluent quality of large, medium & small industries. The large and medium industries monitor their effluent quality regularly.

CETPS:- The MPC Board fortnightly monitors treated/untreated effluent quality of CETPs. The CETPs monitors their treated/untreated effluent quality on daily basis.

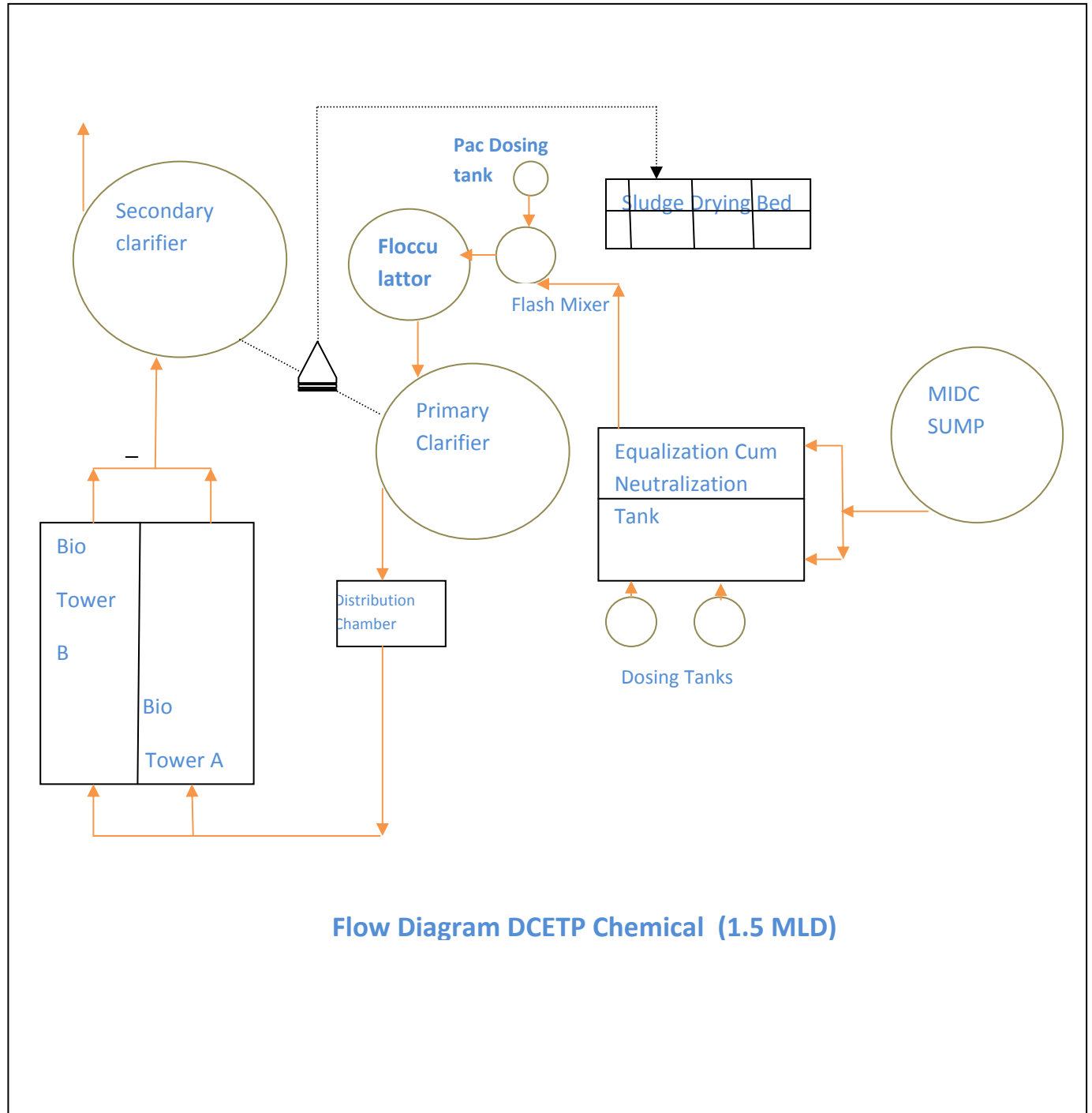
Nalla :- There are two nalla viz. Khambalpada Nalla & Bhopar Nalla through which treated effluent is disposed by CETPs and also the untreated domestic effluent of residential area disposed. The MPC Board fortnightly monitors water quality of these nalla.

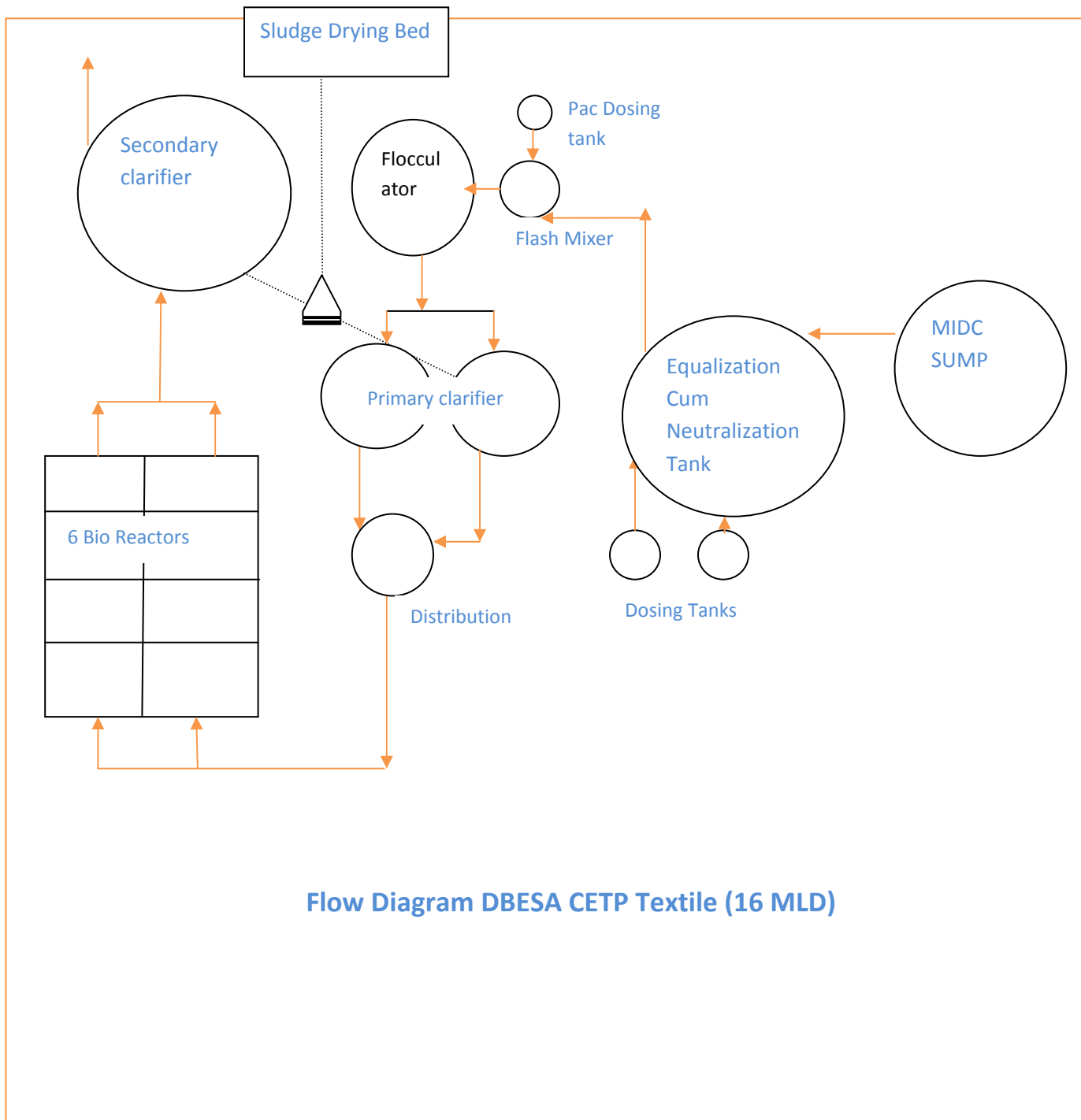
Effluent treatment plants:- All large and medium scale industries have provided full-fledged effluent treatment facility and all small scale industries have provided primary treatment facility and dispose their effluent to CETP for further treatment through MIDC drainage.

Common Effluent treatment Plants:- There are 2 no. of CETPs functioning in the industrial area. Quantity of Industrial and domestic effluent generated in MIDC industrial Area is about 14 MLD, the treated effluent is finally discharged into the Diva creek

D CETP Chemical (Phase-II) (1.5MLD):- Intensive efforts were made by chemical manufacturers in Phase-II, Dombivali industrial area to setup CETP in MIDC area of 1.50 MLD capacity, commissioned in March 1999 with capital investment of Rs 3.70 crore, and having 176 user members.

Dombivali DBESA CETP Textile (Phase-I)(16MLD):- Was set up by Textile manufactures of phase I, Dombivali in the year in October 2003, of 16.00 MLD capacity, The total capital investment of CETP is 6.6 crore, the user members are 121.





Sewage treatment plants of industry: -

All the generated sewage effluent from industry is treated along with industrial effluent in ETP/CETP.

Effluent conveyance channels /outfalls etc:-

MIDC has provided 18585 meters of underground effluent collection system to collect the treated effluent from industrial units for further treatment at CETPs of the area, this drainage line is regularly monitored and repaired by MIDC.

2.6.2 Pollution control measures installed by industries: -

All large and medium scale industries have provided full-fledged effluent treatment facility and all small scale industries have provided primary treatment facility and dispose their effluent to CETP for further treatment through MIDC drainage. Approximately 20 textile industries reuse 25% partly treated effluent in their process.

2.6.3 Technological intervention

2.6.3.1 Inventorisation of prominent industries with technological gaps:-

The industries which are using solvents are very few and are small scale therefore the solvent generated from the manufacturing is collected and send to for recovery to the authorized plants.

However there is a one LSI unit M/s Gharda Chemical Ltd which is having solvent recovery plant for captive consumption and has taken up following initiative for waste reduction.

Sr No	Brief description of the improvement	Scenario - Before Improvement	Scenario - After Improvement
1.	Change in process:	600 kg per day of residue was being incinerated.	Load on incineration reduced by 80 Kg per day.
2.	Reduction in quantity of residues by recovery of useful products	160 kg per day residue was incinerated.	160 kg per day of pure cumidine is recycled in the process.
3.	New fractionating column to separate the solvents in pure form from the mixture of solvents.	600 kg per day of Mixed solvents were incinerated.	Pure solvents, 600 kg per day after recovery are recycled in the process.
4	Recovery of intermediates and their recycle a) In CMAC process Tetra-chloro butyric Acid (TBA) is recovered by selective isolation from the waste stream of 2 -Chloro cyclo Butanone stage. b) In Isoproturon process, Di-methyl Urea (DMU) an intermediate, which is completely recovered, purified and recycled.	250 kg per day TBA was being incinerated. Only part of the DMU (3.3 MT per day) was recycled and the rest (1.3 MT) of being impure quality was being incinerated.	250 kg recovered TBA is recycled back in to the process Now all the DMU (4.6 MT per day) is being recycled after purifying the impure DMU.

Inventory of major Effluent generating industries

Sr. No.	Name & Address of the Industry	Category	Eff. Qty. (m3/Day)
1	M/s. Agarwal Fabrics Pvt. Ltd., Plot No. D-7/10, MIDC Phase-I, Dombivali, Dist. Thane	Red/SSI	440
2	M/s. Auctel Products Ltd., Plot No. A-85/86, MIDC Phase-I, Dombivali, Dist. Thane	Red/MSI	150
3	M/s. Bishen Dyeing, Printing & Wevng. Mills, Plot No. C-11, MIDC Phase-I, Dombivali, Dist. Thane	Red/SSI	350
4	M/s. Dhanlaxmi Processors Pvt. Ltd., R-7, MIDC Phase-I, Dombivali, Dist. Thane	Red/MSI	290
5	M/s. Gharda Chemicals Ltd., Plot No. A-82, B-22, 27 & 29, MIDC Phase-I, Dombivali, Dist. Thane	Red/LSI	525
6	M/s. Jimtex Pvt. Ltd., Plot No. B-36, MIDC Phase-I, Dombivali, Dist. Thane	Red/SSI	120
7	M/s. Kagzi Brothers, Plot No. C-27/8 & 9, MIDC Phase-I, Dombivali, Dist. Thane	Red/MSI	150
8	M/s. Pioneer Dyeing, Plot No. C-28/2, MIDC Phase-I, Dombivali, Dist. Thane	Red/SSI	230
9	M/s. Metropolitan Eximchem, Plot No. CFC-88, MIDC Phase-II, Dombivali, Dist. Thane	Red/MSI	200
10	M/s. Monarch Catylst Pvt. Ltd., Plot No. W-62, MIDC Phase-II, Dombivali, Dist. Thane	Red/MSI	150
12	M/s. Arch Pharma, Plot No. 1, MIDC Phase-II, Dombivali, Dist. Thane	Red/MSI	125
13	M/s. Sunil Industries, MIDC Phase-II, Dombivali, Dist. Thane	Red/MSI	250
14	M/s. Western Chlorides & Chemicals, Bhopar, Dombivail, Dist. Thane	Red/SSI	180
15	M/s. Binayak Tex Processors, Plot No. B-35, MIDC Phase-I, Dombivali, Dist. Thane	Red/SSI	120
16	M/s. New Bombay Dyeing & Printing, Plot No. A-193, MIDC Phase-II, Dombivail, Dist. Thane	Red/SSI	120
17	M/s. Tirupati Processors, B-47, MIDC Phase-I, Dombivali, Dist. Thane	Red/SSI	120
18	M/s. Bombay Precision Saw Mills, Plot No. D-1, MIDC Phase-II, Dombivali, Dist. Thane	Red/SSI	120
19	M/s. Shri Mahavir Dyeing & Printing, Plot No. F-36, MIDC Phase-II, Dombivali, Dist. Thane	Red/SSI	120
20	M/s. Krishna Hoesiry Mill Pvt. Ltd., Plot No. A-154, MIDC Phase-I, Dombivali, Dist. Thane	Red/SSI	150

2.6.3.2 Identification of low cost and advance cleaner technology for pollution control

Sr.No.	Name of Industry	Particular project treatment plant of Water/clean Technology	Scenario - After Improvement
1	M/s Gharda Chemicals, MIDC Dombivali.	a) Recovery of byproducts and their sale. b) Chemical treatment without use of acid and alkali. c) Recycle of contaminated water back into the same process to minimize usage of process water. d) Water ring vacuum pump replaced by ejectors and oil ring vacuum pump. e) Conservation of Water by Reduction / Recycle and Reuse.	a) Reduction in Effluent Load by 38 KL. b) Reduction of 42 kg COD per day. c) 8 KL per day of water is now recycled back into the process. d) Reduction in COD : 70 kg per day. Total reduction in C.O.D. = 128 Kg/day. e) Conservation of water: 170 KL / day.
2	M/s Safe A &T technology, MIDC Dombivali.	Installed water harvesting system.	Reduce water consumption by 40% in monsoon season.
3	M/s Sunil Industries, MIDC Dombivali.	a) In-house process modification –introduction of jet machine. b) Use of virgin acid for neutralization. c) Use of NaoH instead of lime.	a)Reduction in water consumption
4	M/s Shreeji Lifestyle P Ltd, MIDC Dombivali.		b) Reduction in COD load.
5	M/s Mahavir Dyeing P Ltd, MIDC Dombivali.		c) Reduction in sludge quantity.
6	M/s ShriJyoti Processors		
7	M/s Avakash Traders P Ltd, MIDC Dombivali.		
8	M/s S.V. Business Ltd, MIDC Dombivali.		
9	Runa Chemical, MIDC Dombivali.	Installed water harvesting system.	Reduce water consumption by 40% in monsoon .

2.6.4 Infrastructure renewal

2.6.4.1 Details of existing Infrastructural facilities: -

MIDC: - MIDC has developed the industrial plots and sheds in Phase-I and Phase- II. The residential and commercial plots are developed in between Phase-I & Phase-II and surrounding phase I & phase II.

Phase-I & Phase-II Area = 244.85 Hector,

Residential Area = 103.03 Hector,

TOTAL AREA = 347.88 Hector.

Internal Roads: - The industrial plots are well connected by the 9 meter & 12 meter wide Concrete as well as asphalt roads. The roads within the industrial area are managed by MIDC & in residential area roads are managed by local Grampanchayat. Industrial area is having 22-23 kms of road, out of which Cement Concrete road is about 11-12 kms and asphalt road is about 10-11 kms. The asphalt road within residential area is about 14-15 kms.

Drainage: - MIDC has provided 18585 meters of underground effluent collection system to collect the treated effluent from industrial units for further treatment at CETPs of the area, this drainage line is regularly monitored and repaired by MIDC.

CETPs:-There are 2 no. of CETPs functioning in the industrial area.

The capacity of individual CETP is as bellows:-

- | | |
|---|-----------|
| 1) Dombivali DBESA CETP Textile (Phase-I) | = 16 MLD |
| 2) DCETP Chemical (Phase-II) | = 1.5 MLD |

2.6.4.2 Need of upgradation of existing facilities:-

Drainage: -

For Industrial Effluent:-To collect the partly treated effluent from small scale units and treated effluent from LSI & MSI units MIDC has provided 18585

meters of underground effluent collection system for further treatment at CETPs of the area, out of which 14200 meters is converted into HDPE line. Repairing of leakages of Effluent carrying pipeline & replacement of remaining with HDPE line and expected completion period upto the Dec.2010.

For Domestic effluent /sewage: - At present partly area is covered for the collection of sewage generated from MIDC residential area and needs to cover collection system from the remaining remote area / Grampanchyat area.

Sumps:- MIDC has provided two sumps of 6 MLD and 4 MLD capacity in phase-I & Phase- II respectively. The capacity of the sump shall be increased to sustain overload problems arises at the time of maintaince and during power failure period.

CETPs: - Upgrading both the CETPs by providing tertiary treatment facility. CETP shall provide on line pH meter, flow meter. Both CETP shall install adequate capacity DG set.

Treated water Disposal Line: - Laying of 7.0 km closed pipeline for disposal of treated effluent from CETPs upto Creek.

At present the treated effluent from CETPs & untreated domestic effluent from residential areas is discharged into Natural Nalla at Khambalpada Nalla & Bhopar Nalla which flows through residential area and giving chance for frequent complaints of smell nuisance. To avoid air pollution problem it has been decided to dispose these treated effluent in to deep creek area through closed pipeline, as per guidelines of the NIO.

STP: - Provision of 52 MLD STP for the treatment of domestic effluent from MIDC residential area.

Others: - Lifting of effluent passed into nalla due to any accident or leakage or chamber overflow, into CETP by providing bandhara on the nalla near CETPs.

2.6.4.3 De-silting of water tanks drains connection: - It is necessary to carry out de-silting of MIDC collection sump, CETP equalization tank, effluent collection drainage pipeline/ chamber and nalla on regular basis.

2.6.4.4 Construction of lined drains/ connections: - At present there are many leakages at various locations in the drainage pipeline & existing drainage pipeline is very old. The repairing & replacement will help avoid leakage of effluent into the nalla. MIDC has already started the work and will be completed by December 2010.

2.6.4.5 Treatment and management of contaminated surface water bodies:-

There are no such type water bodies existing in this cluster.

2.6.4.6 Rejuvenation /management plan for important eco-geological features:-

There is no presence of eco-logical features in this industrial cluster.

2.6.4.7 Carrying of effluent from industrial units located in non industrial locations to CETP facilities by lined drains/ pipelines only and presentation of their disposal into city sewage surface drain.:-

At present all units located outside of MIDC Dombivali cluster are connected to CETP through pipeline.

2.6.4.8 Installation of Gen sets at CETPs: - DCETP, DBESA Dombivali have installed DG set of 125KVA & 60 KVA respectively, needs to be strengthen by way of increasing DG set capacities .

2.6.5 Managerial and Financial aspects

2.6.5.1 Cost and time estimates

Sr. No	Action Points	Agency	Time	Estimated Cost
1	Performance evaluation of Both CETPs	CETPs	Upto Dec. 2010	DCETP:- @7.0-8.0 Laks DBESA :- @ 11.0 -12.0 Lakhs
2	Providing tertiary treatment facility and advance waste water treatment using Micro	CETP	Upto Dec.2012	DCETP :- upgradation along with tertiary treatment = 3.5 Crore

	Enzymes to CETPs			DBESA – upgradation along with tertiary 9.0 Crore
3	Repairing of leakages of Effluent carrying pipeline & replacement of the same	MIDC	Upto Dec 2010	Estimation work done by MIDC 2.4 Crore
4	Laying of closed pipeline for disposal of treated effluent from CETPs upto Creek	MIDC/ Grampancha yat / KDMC	Upto Dec. 2011	Work of tender documents in progress Cost estimation work done by MIDC 7.0 Crore
5	Providing underground drainage network for collection of sewage from remote area/ Grampanchyat area	MIDC / Grampanchy at / KDMC	Up to Dec 2011	Approx. estimation work done by MIDC /KDMC 4.2 Crore
5	Providing STP for domestic effluent of residential colony developed by MIDC. Treated water can be used for gardening.	MIDC /KDMC	Upto Dec. 2012	STP for 4.5 MLD :- @ MIDC 6.0 Crore & KDMC 41 Crore (Land & Equipments)
6	Lifting of effluent passed into nalla due to any accident or leakage or chamber overflow into CETP by providing bandhara on the nalla near CETPs	MIDC/ KAMA/ CETPs	Upto Dec 2010	MIDC :- 25 Lacs Work is in progress

2.6.5.2 Identified private/ public sector potential sector investor & their contribution: -
N.A.

2.6.5.3 Government Budgetary support requirement:-

CETP has already obtained Subsidy for Existing plant during the construction

2.6.5.4 Hierarchical and structured managerial system for efficient implementation: -
CETP (DBESA & KAMA) Association, is a registered organization under section 25 of Companies act 1956 and is managed by well qualified & experienced Board of Directors.

2.6.6 Self monitoring system in industries: -

Some Large and Medium industries are having in-house laboratory for carrying out the analysis of effluent and some are conducting through outsourcing. All industries shall provide on line pH meter, flow meter, U tube discharge with storage tank. This will help in evaluation of pollution control system at any given point.

2.6.7 Data linkages to SPCB / CPCB (of monitoring devices):-

Proposal is being prepared in centralize manner by MPCB and is under consideration.

3.0 Air Environment

3.1. Present status of Air environment supported with minimum one year analytical data

3.1.1. Critical locations for air quality monitoring: -

At present the locations for AAQM are MilapNagar, DCETP Phase-I, DBESA CETP Phase-I. KAMA association carries out Ambient Air Quality Monitoring at different location & M/s Gharda Chemical Ltd carry out AAQM in their premises.

3.1.2. Present levels of pollutants in air (routine parameters, special parameters and air toxics relevant to the area in three categories- known carcinogens, probable carcinogens and other toxic) :-

Parameters	Standards 24 Hr. Average	Location			
		Milap Nagar	DBESA Phase-I	DCETP Phase-II	Casablanka Society, Near Phase I
SO ₂	80	15.85	9.9	10.82	6.83
Nox	80	13.35	14.89	24.35	7.83
RSPM	100	266.5	322.5	344.5	95.66
CO	2	0.78	0.81	0.785	7.83

Ambient Air Quality Monitoring Analysis Reports of CPCB

Date:- 15, 16 & 17December 2009

Location details:- At CETP Chemical Dombivali Phase-II

Air Pollutant	Lead	Benzene	Benzo(o) pyrene	Arsenic	Pm10	Nickel	SO ₂	NO ₂	CO	O ₃
Standards for 24 hrs. $\mu\text{g}/\text{m}^3$	0.5	5.0	1.0	6.0	100.0	0.02	80.0	80.0	2000.0	100.0
Sample-1	0.18	23.1	0.03	<0.1	165.8	<0.1	21.3	20.2	690.0	4.2
Sample-2	0.19	19.8	0.01	<0.1	91.4	<0.1	19.8	16.9	720.0	5.2
Category	C	C	C	C	B	B	A	A	C	C

A- Pollutants with no acute or systemic carcinogenicity

B- Probable Carcinogens

C- Known carcinogen

3.1.3. Predominant sources contributing to various pollutants:-

Following sources are identified which contributes to various pollutants

(i) Industries – Flue gas, TPM, SPM, SO₂, Nox, Cl₂, NH₃, Acid Mist, VOC etc.

(ii) Vehicles – SPM, SO₂, RSPM, Nox, Dust particles.

(iii) Construction activities – Dust particles,

(iv) Public places – Dust particles.

(v) Unauthorized burning of domestic and other waste in MIDC & residential areas

3.2. Sources of air Pollution viz industrial, domestic (Coal & Biomass burning), natural and Transport & Heavy Earth Movers:-

1. Industry – Fuel burning, Process Emissions, fugitive emission.
2. Domestic – Coal and biomass burning.
3. Transport – Fuel combustion,
4. Heavy Earth Movers – Fugitive emissions.

3.3. Air Polluting Industries in the area / cluster:-

Number of air polluting Industries: - 129

(1-Large Scale, 7-Medium Scale & 121 Small Scale Industries)

Majority of industries are burning coal as a fuel for boiler however few industries which are mostly in small scale category having process emissions and are having their own APC such as scrubbers according to their type of gases emission which are bulk drug, dye intermediates and one major pesticides industry. All these industries are scattered.

3.4. Impact of activities of nearby area on the CEPI Area:-

- 1) Unscientific burning of MSW,
- 2) Thick Vehicles population,
- 3) Construction activities,
- 4) Adulteration in fuel by public transport vehicles such as Autorikshaw ,taxies Tempo.

3.5. Quantification of the air pollution load and relative contribution by different sources:-

Sr.Nn	Fuel	Consumption Quantity	SO ₂ Load
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1	Coal	450 MT/D	4.5 MT/D
2	LDO	30 KI/D	1.08 MT/D
3	F.O.	6 KI/D	0.054 MT/D

3.6. Action Plan for compliance and control of pollution:

3.6.1. Existing infrastructure facilities –

At present there is no continuous ambient air quality network. Occasional monitoring is carried. Strengthening of AAQM network is proposed at 5 locations namely at Phase I, Phase II, residential area between phase I & Phase II, Gandhi nagar & Dombivali station area under SAMP/NAMP.

3.6.2. Pollution control measures installed by the individual sources of pollution:-

Dust Collectors Cyclones, Wet scrubbers, and process emissions.

As a case study the major industry M/s Gharda chemical has taken up the following initiative for control of hazardous air pollutants

- a) For scrubbing the gases like HCl, Chlorine, Sulphur Dioxide etc. Caustic solution is used and the strength of the Caustic is monitored so as to ensure that it does not go below 0.5 N. This being chemisorption the efficiency of scrubbing is 100%.
- b) For scrubbing gases like Ammonia, water is used with primary and secondary scrubber system. The secondary system is provided with chilled water-cooling.
- c) Control of Fugitive Emissions / VOC:
 - All the agitated reactors having hazardous air pollutants are provided with mechanical seals to ensure no fugitive emissions.
 - All the transfer pumps are also provided with mechanical seals.
 - Gas sensors (portable and fixed) are available to detect any leakage of the hazardous pollutant.
 - Vacuum systems are available to take care of the leakage, if any.

3.6.3. Technological Intervention

3.6.3.1. Inventorisation of prominent industries with technological gaps:

Inventorisation is not done however industrial sector wise assessment of

existing processes for manufacturing and treatment will be assessed and in coordination with these prominent industries the further developments for reduction in technological gaps will be initiated. In case of VOCs the industries will be identified and the monitoring will be strengthened. Majority of industries are textile based and very few industries are chemical as mentioned bellow.

Type	Large	Medium	Small	Total
Bulk Drug	--	01	20	21
Pesticides	01	--	--	01
Dyes & Intrmediates	--	01	07	08
Total	01	02	27	30

3.6.3.2. Identification of low cost and advanced cleaner technology for air pollution control:-

The industries which are using solvents are very few and are small scale therefore the solvent generated from these industries is collected and send to for recovery to the authorized plants. However more emphasis is propose for monitoring VOCs at source and low cost and advanced cleaner technologies will be identified and adopted in coordination with industries and expertise in the field after interaction. At present M/s Gharda Chemical Ltd as a LSI, has undertaken cleaner technology for reduction in VOCs.

3.6.3.3. Introduction and switch over to cleaner fuel Need of infrastructure

Renovation: - At present most of the industries are using coal as a fuel for steam generation, being a mixed zone the Cleaner fuel such as Gas will be replaced for conventional fuel, which is under consideration with the industries association and the GAIL authority. Which will bring down the sulphur and TPM load in the atmosphere which is at present 4.5 TPD of SO₂. Calculated on total consumption of coal per day.

3.6.4 Need of Infrastructure Renovation:-

3.6.4.1. Development of roads: - By concretization / repairing, proper maintenance of internal roads will help reduce emissions & air pollution.

3.6.5 Impact on CEPI score after installation/ commissioning of fun fledged air pollution control systems:-

	A1	A2	A	B1	B2	B3	B	C1	C2	C3	C	D
Existing	6.0	5.0	30.0	6.0	0.0	0.0	6.0	5.0	3.0	0.0	15.0	15.0
Post Action plan	4.0	5.0	20.0	5.0	0.0	0.0	5.0	5.0	2.0	0.0	10.0	10.0

Existing Air CEPI = 66.0

Post Action Plan = 45.0

3.6.6 Managerial and Financial aspects-

3.6.6.1 Cost and time estimates:-

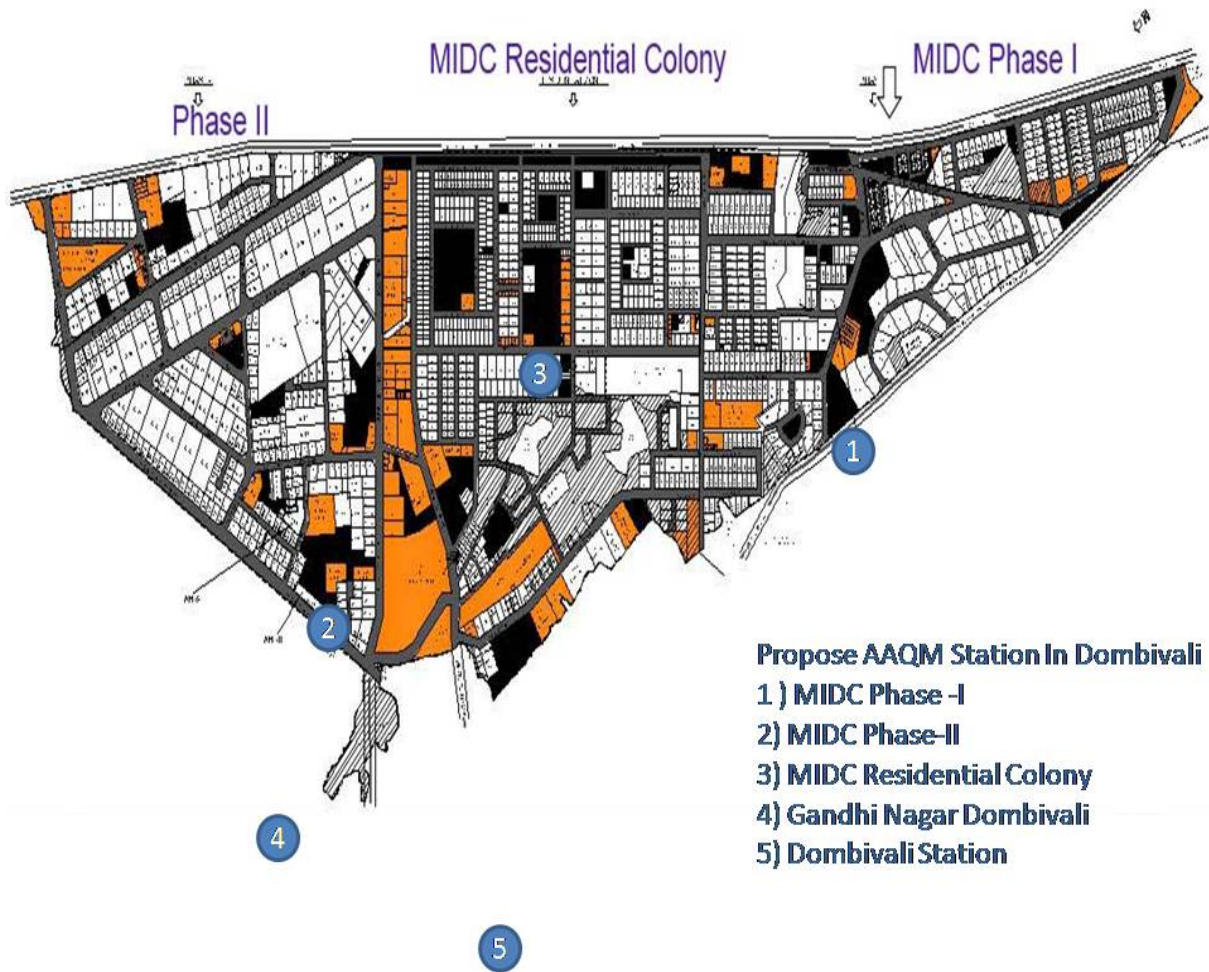
Sr. No	Action Points	Agency	Estimated Cost
1	Inventorying of Hazardous Air Pollutant emitting units And Installation of Leak Detection and Repair (LDAR) in case of pesticide and bulk drug manufacturing units .	MPCB/ Individual industry	LDAR =10 Lacs 6 Bulk drug and pesticide industries Total cost:- 60 Lacs
2	Introduction of Cleaner fuel like CNG/LPG	GAIL/ KAMA	GAIL / KAMA - 8.0 Crore Gas station & pipeline
3	Installation of CAAQM Stations	MPCB/ KAMA	KAMA : 60 Lacs With Digital output on screen
4	Stranger of new AAQM station	KAMA / MPCB	MPCB:- 40 Lacs Equipment & operation for one year

5	On Line Display of AAQM data	KAMA	KAMA:- 5.0 Lacs
6	Development of Green belt & garden	MIDC/ KAMA	MIDC/KAMA:- 50 Lacs
7	Repairing of internal roads & proper maintenance of same	MIDC	Cost estimation work done by MIDC

3.6.6.2. Identified Private/ Public sector potential investors & their contribution/ obligation: - N.A.

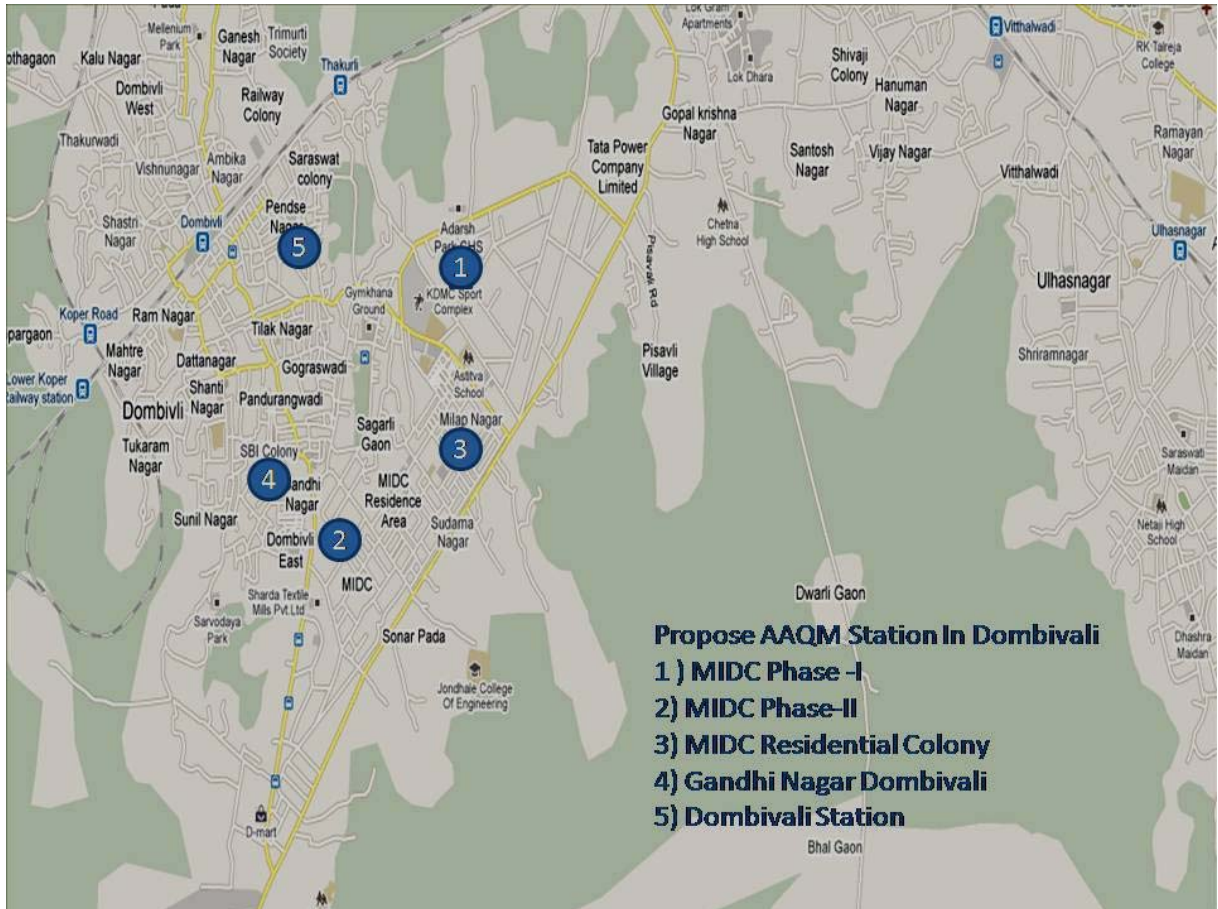
3.6.6.3 Government Budgetary support requirement:-

Strengthening of AAQM network is proposed at 5 locations namely at Phase I, Phase II, residential area between phase I & Phase II, Gandhi nagar & Dombivali station area. Estimated cost of 50 lacks per year, and one continuous AAQM station with display with estimated budget of Rs. 1.0crore



Propose AAQM Station In Dombivali

- 1) MIDC Phase-I
- 2) MIDC Phase-II
- 3) MIDC Residential Colony
- 4) Gandhi Nagar Dombivali
- 5) Dombivali Station



3.6.6.4 Hierarchical and structured managerial system for efficient implementation:

N.A

3.6.7 Self monitoring system in industries (Stacks, APCDs) :- Some Large and Medium industries are carrying out the analysis of Stack and APCDs is outsourcing by individual industries .

3.6.8 Data linkages to SPCB / CPCB (of monitoring devices) :- Proposal is being prepared in centralize manner by MPCB and is under consideration.

4.0 Land Environment (Soil & Ground Water)

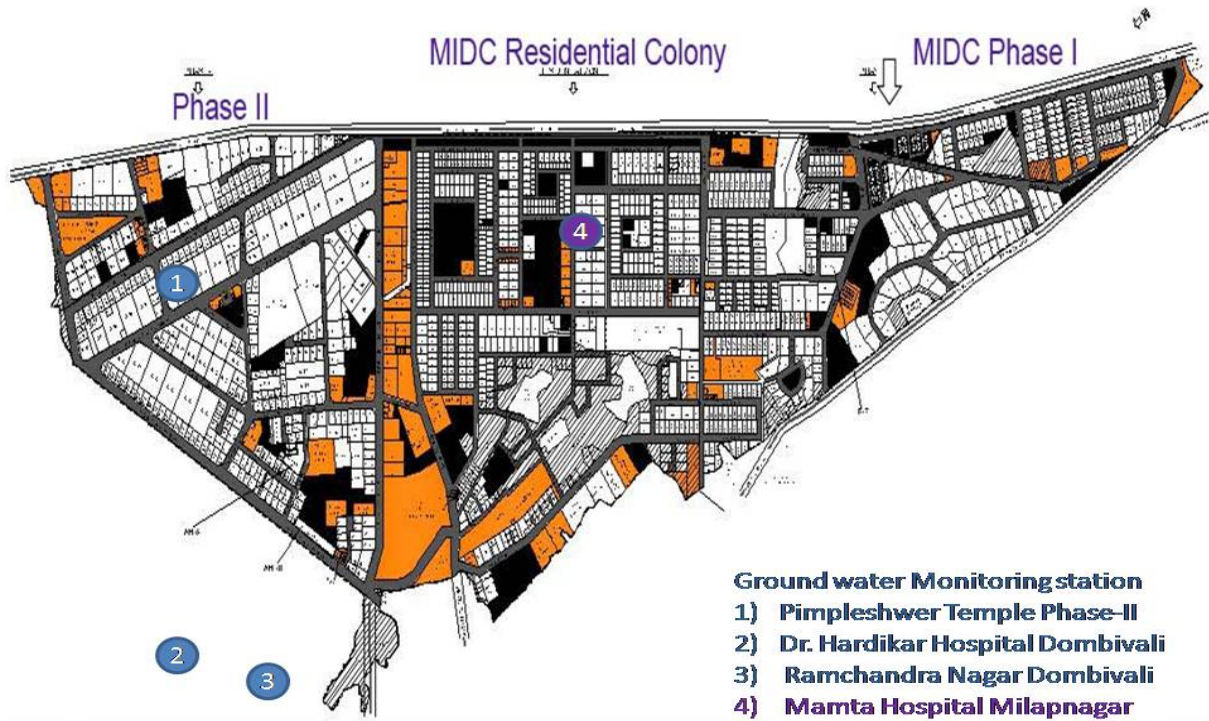
4.1. Soil contamination

4.1.1. Present status of land environment supported with minimum one year analytical

data: - The industries in this industrial cluster generate H.W. and for the disposal of the same are member of CHWTSDf and are regularly disposing the H.W through the facility transporter. The storage and transportation of H.W in the industries is in accordance with the guideline given under H.W. rules. There is no on-land discharge of industrial effluent by industries or the CETPs. Hence the chances of soil contamination are very less.

4.1.2. Critical locations for land/ soil pollution assessment and ground water monitoring.- The critical locations near unscientific dumping of MSW in the industrial area will be identified for land /soil pollution assessment and ground water monitoring.

4.1.3. Present levels of pollutants in land/soil and ground water (routine parameters. Special parameters and water toxics relevant to the area in three categories - known carcinogens, probable carcinogens and other toxics):- -Location has been identified at Pimpleshwer Mandir Phase II MIDC, Ramchandra Nagar Residential Area, Near Hardikar Hospital Dombivali.



4.1.4. Predominant sources contributing to or posing danger of pollution of land and

ground water such as hazardous/ toxic wastes or chemicals dumps/ storage etc.:

- In the industrial area all the process waste generated by industries is send to, CHWTSDf, however only during the rainy seasons there are chances of seepage with rain water runoff. Due to illegal dumping of MSW chances of ground water pollution due to leacheates.

4.1.5. Sources of Soil Contamination:-

As the industrial area and its surrounding falls under different Grampanchyat, which is now urbanized therefore approximately 200 MT/D MSW generated from this area is collected and dumped at different open land in the MIDC and hence due to which there is contamination of soil and it is proposed to undertake soil analysis for which additional budget has to be allotted.





4.1.6. Types of existing pollution:-

As specified above

4.1.7. Remedies for abatement, treatment and restoration of normal soil quality:-

- the issue of illegal dumping of MSW in the industrial area was taken up by the Board with the gram panchyat, KDMC, and the MIDC, and it was agreed by the KDMC to permit the Grampanchyat for dumping their MSW at the KDMC site, which is so far not resolved and the matter is being persuade to stop the dumping of MSW in MIDC with the Grampanchyat & KDMC. A litigation has been filed in the court by the association against the Grampanchyat and is pending.

4.2. Ground water contamination

4.2.1. Present status/ quality of ground water

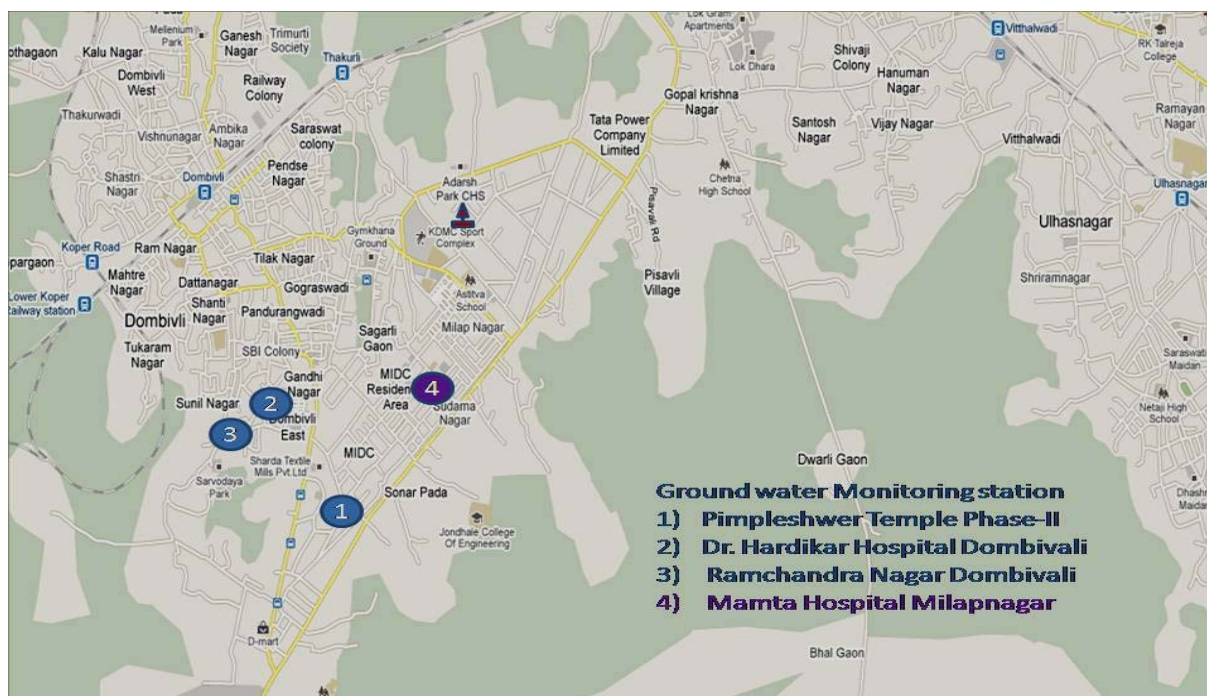
Location	pH	COD	BOD	DO	O & G	S.S.
Well near Pimpleshwar Mandir	7.11	36.00	6.00	...	BDL	18.00
Well near Dr. Hardikar Hospital	7.5	16.0	4.0	6.3	BDL	14.0
Bore Well at Ramchandra nagar	8	48	4	6.8	BDL	12

4.2.2. Source Identification (Existing sources of Ground water Pollution)

- 1) Leachates from illegal dumping of MSW,
Breakages & leakages in pipeline/drainage carrying effluent,
- 2) Illegal disposal of liquid chemical waste in to the nallas & drains flowing through MIDC by tankers
- 3) Disposal of treated effluent from CETPs through open nalla.

4.2.3. Ground water quality monitoring program:-

Location will be identified and monitoring will be carried out.



4.2.4. Action Plan for control of pollution including cost/ time aspects:-

Sr. No	Action Points	Agency	Estimated Cost
1	Scientific Disposal of municipal solid waste by Grampanchayats & MIDC	Grampanchayat/ MIDC	Rs:- 122 Crore Land , Equipment & treatment on previous dumped MSW
2	Repairing of leakages in pipeline/drainage carrying effluent& replacement of the same	MIDC	Estimation work done by MIDC 2.4 Crore
3	Ground water monitoring	MPCB / CETP	5 Lacs / Year
4	Laying of closed pipeline for disposal of treated effluent from CETPs upto Creek	MIDC	Estimation work done by MIDC 7.0 Crore

4.2.5. Treatment and management of contaminated ground water bodies, etc.:

4.2.6. Impact on CEPI score after abatement of pollution

	A1	A2	A	B1	B2	B3	B	C1	C2	C3	C	D
Existing	3.0	5.0	15.0	8.0	1.5	3.0	12.5	5.0	3.0	5.0	20.0	10.0
Post Action plan	2.0	2	10.0	6.0	1.5	3.0	10.5	5.0	2.0	4.0	14.0	5.0

Existing Land CEPI = 57.50

Post Action Plan = 39.5

4.3. Solid waste Generation and management

4.3.1. Waste classification and Quantification

4.3.1.1. Hazardous waste:-

Approx. 320.00 MT/M

4.3.1.2. Bio-medical waste:-

Approx. 535.00 Kg/D (Includes all hospitals within corporation limits)

4.3.1.3. Electronic waste:-

Not quantified

4.3.1.4. Municipal solid Waste:-

Approx 550 MT/D (by the corporation)

4.3.1.5. Plastic waste: -

Not quantified

4.3.1.6. Quantification of wastes and relative contribution from different sources:-

Not quantified

4.3.2. Identification of waste minimization and waste exchange options:-

Inventorisation is not done however industrial sector wise assessment of existing processes for manufacturing and treatment will be assessed and in coordination with these prominent industries the further developments for reduction in technological gaps will be initiated.

4.3.3. Reduction/ Reuse/ Recovery / Recycle options in the co-processing of wastes.:

Inventorisation is not done however industrial sector wise assessment of existing processes for manufacturing and treatment will be assessed and in coordination with these prominent industries the further developments for reduction in technological gaps will be initiated.

4.3.4. Infrastructure facilities:-

4.3.4.1. Existing TSDF / Incineration facilities including capacities:-

- 1) There is no CHWTSDF, but all industries are member of CHWTSDF facility located at Taloja and TTC.
- 2) CBMWSTDF facility at Vill- Umbarde, Kalyan having capacity- 3MT/D.
- 3) MSW dumping site provided by the corporation at Adharwadi, Kalyan.

4.3.4.2. Present status/ performance and need of up gradation of existing facilities including enhancement of capacities:-

MSW facility is being upgraded by corporation and the further enhancement under consideration.

4.3.4.3. Treatment and management of contaminated waste disposal sites, etc.

4.3.4.4. Impact on CEPI score after proper management of Solid Wastes.

	A1	A2	A	B1	B2	B3	B	C1	C2	C3	C	D
Existing	3.0	5.0	15.0	8.0	1.5	3.0	12.5	5.0	3.0	5.0	20.0	10.0
Post Action plan	2.0	2	10.0	6.0	1.5	3.0	10.5	5.0	2.0	4.0	14.0	5.0

Existing Land CEPI = 57.50

Post Action Plan = 39.5

5. PPP Model

5.1. Identification of project proposals (for both the options i.e. technology intervention and infrastructure renewal) for implementation under the PPF mode under the Action Plan.

- 1) Provision of STP.
- 2) Scientific disposal facility for MSW.
- 3) Energy conservation by use of non conventional energy.
- 4) Reducing Traffic congestion by widening of road and construction of flyovers
- 5) Developing green belt.
- 6) Rain Waterharvesting & water conservation program..

5.2. Identification of stakeholders/ agencies to be involved and to evolve financial and managerial mechanisms for implementation of PPP projects.

- 1) KDMC
- 2) MIDC
- 3) CETP
- 4) Industrial association

6. Other infrastructural Renewal measure:

6.1. Green Belts - Necessary follow up for the development of green belt in the industrial cluster as well as in corporation area will be taken with KDMC, KAMA, MIDC as well as local NGOs.

6.2. Development of Industrial Estate(s). :-

Not relevant

6.3. Development / shifting of industries located in the non – industrial areas to the existing / new industrial estates.-

Not proposed.

7. Specific Scheme:

7.1. GIS-GPS system for pollution sources monitoring.

Not relevant to this area.

7.2. Hydro-geological fracturing for water bodies rejuvenation.

Not relevant to this area.

7.3. In-situ remediation of sewage.

Not relevant to this area.

7.4. Utilization of MSW inert by gas based brick kilns.

Not relevant to this area.

7.5. Co-processing of wastes in cement industries.

Not relevant to this area.

8. Public awareness and training programmes.

- To Organize Drawing competition in School & Colleges for making clean environment.
- Distribution of hand bills of safety measures to be adopted during accident.
- Posters and Banners displaying environmental awareness.
- To arrange Road Shows at public places.
- Arranging Lectures, Speech, Demonstration of the activities through School, Colleges, etc.

9. Overall Impact of installation/commissioning of pollution control equipments/measures on the CEPI Score.

Parameter	Present CPCB CEPI	Post Action Plan
Water	63.5	44.0
Air	66.0	45.0
Land	57.5	39.5

10. Assessment of Techno-economical feasibility of pollution control equipment / measure on the CEPI scores.

Low cost and advanced cleaner technologies will be identified and adopted in coronation with industries and expertise in the field after interaction

11. Efforts shall be made to encourage use of Bio-compost and Bio-Fertilizer alongwith the chemical fertilizer in the state to minimize the unutilized chemical fertilizer run-off into the natural water resources from agriculture fields (through Govt. policy)

This point will be covered in public awareness program.

12.1. Short Term Action Point (upto 1 year, including continuous Activities)

Sr. No	Action point	Responsible stake Holder	Time Limit	Estimated Cost	Remarks
1	Performance evaluation of water pollution control measures in the 345 industrial units with respect to efficiency, operation, maintenance and implementation of maintenance/ operation charter along with upgradation of Water pollution control equipments (Pg.51.12.1.1)*	Industry / MPCB / CETP	June 2011	Total Amount for all industries having Industrial Effluent < 25CMD Is about 2,10,000 x 70 = 147 Lacs	Survey of industrial area conducted and implementation work is in progress.
2	a)Performance evaluation of Both CETPs (Pg.51.12.1.2)*	CETPs / MPCB	December 2010	DCETP:- @ 7.0-8.0 Lacs DBESA :- @ 11.0 -12.0 Lacs CETP :- 25	CETP has already started works. ----- Will be decided after

	b.)Optimization of both CETPs	CETP	June 2011	Lacs computer Modeling	studying the performance of CETP up gradation work.
3	Taking possession of drainage pipeline carrying effluent to CETP by CETPs (Pg.52.12.2.2)*	CETP & MIDC	June 2011	Estimation work done by MIDC	Appropriate direction will be issued to MIDCs regarding handover to CETP.
4	Providing tertiary treatment facility and advance waste water treatment. (Pg.52.12.2.3)*	CETP	Sept. 2011	DCETP :- upgradation along with tertiary treatment = 3.5 Crore DBESA - upgradation along with tertiary treatment = 15Crore	Presently upgradation of secondary treatment is in progress and will be completed by Dec. 2010.
5	Repairing of leakages of Effluent carrying pipeline & replacement of the same (Pg.51.12.1.3)*	MIDC	March 2011	MIDC:- 198 Lacs	Work has been started by MIDC.
6	Laying of closed pipeline for disposal of treated effluent from CETPs upto Creek (Pg.52.12.2.4)*	MIDC/ Grampanchayat / KDMC	Sept. 2011	Work of tender documents in progress	MIDC has prepared revised ADP and obtained NOC from KDMC.
7	VOCs Monitoring (Pg.51.12.1.4)*	MPCB	June 2011	5 Lacs	Monitoring will be carried out.
8	Lifting of effluent passed into nalla due to any accident or leakage or chamber overflow into CETP by providing bandhara on the nalla near CETPs (Pg.51.12.1.5)*	MIDC/ KAMA/ CETPs	December 2011	MIDC :- 25 Lacs	Work is in progress.
9	a. Provision of continuous power supply to CETPs	CETP / MSEDCT	March 2011	CETP Textile :-72 Lacs for DG Set 500KVA	Already CETP chemical has installed 82.5 KVA DG set. CETP textile installed 500KVA DG Set on hire basis & Applied to MSEDCL for continuous power

	b. Provision of continuous power supply to Pumping Station	MIDC	March 2011		supply. Recommendation letter issued to Chief Engineer, MSEDCL. MIDC has installed DG set at one pumping station.
10	Performance evaluation of Air pollution control measures in the 345 industrial units with respect to efficiency, operation, maintenance and implementation of maintenance/operation charter along with upgradation of Air pollution control equipments (Pg.52.12.1.6)*	Industry / MPCB	June 2011	On line SO2 /SPM /NOx Meter :- 236.36 Lacs Total Amount for all Large and medium scale industries.	Survey of industrial area conducted and implementation work is in progress.
11	Inventorying of units carrying out reactions in open vessels And Ensuring closed operations with adequate APCMs (Pg.53.12.2.7)*	MPCB Industry.	Sep 2011	Approx. estimation work done by MIDC /KDMC 4.2 Crore	Work is in progress, necessary circular & instruction have been issued to take necessary measures.
12	Inventorying of Hazardous Air Pollutant emitting units And Installation of Leak Detection and Repair (LDAR) in case of pesticide and bulk drug manufacturing units. (Pg.53.12.2.8)*	MPCB/ Individual industry	March 2011	LDAR =10 Lacs Total cost:- 60 Lacs	One large & one small industry have installed LDAR.
13	Provision of new AAQM station (Pg.52.12.1.7)*	KAMA / MPCB	June 2011	MPCB:- 40 Lacs	Work order already issued to installed AAQM station to local Educational institutes.
14	a. Installation of CAAQM Stations (Pg.53.12.2.10)*	MPCB/ KAMA	Sept. 2011	KAMA : 60 Lacs	Subject to availability of funds. Order for manual AAQM work placed.
15	Online Display of AAQM data (Pg.53.12.2.11)*	KAMA	Sept. 2011	KAMA:- 5.0 Lacs	Proposal under preparation.
16	Repairing of internal roads & proper maintenance of same (Pg.52.12.1.8)*	MIDC / Grampanchayat	Dec.2011	Estimation work done by MIDC	Work in progress.

17	Inventory of solvent using industry & solvent recovery units	MPCB	June 2011		Units were identified and installed solvent recovery system. Monitoring of efficiency is in progress.
18	Ground water monitoring (Pg.52.12.1.9)* <i>[Locations: <u>Open Well</u> 1. Pimpleshwer Temple Ph-II 2. Dr. Hardikar Hospital Dombivali 3. Ramchandra Nagar Dombivali 4. Mamta Hospital Milpnagar <u>Bore Well</u> 1.Opp KAMA office Phase I</i>	MPCB / CETP	On Going exercise	5 Lacs / Year	MPCB has already started ground water Monitoring at 5 locations in an around MIDC.
19	Health Impact Study	DISH / KDMC / PHC	June 2011		Health related data will be obtained from concerned health authorities.
20	Proper storage & regular disposal of Hazardous waste & solid waste. (Pg.53.12.2.14)*	Industry/ CHWTSDF/ MPCB	June 2011		All industries are member of CHWTSDF & regularly disposing H.W.
21	Awareness Programe	MPCB/CETP KAMA / KDMC /IMA	June 2011		Awareness Programe is organized through WED , Earth Day, O ₃ Day. Tree plantation in industrial area by Industry and KAMA. Propose to organize workshop on Pesticide industries by MPCB in Nov.2010.
22	Monitoring Vision	MPCB	Dec.2010		MPCB will take point wise review quarterly.

12.2. Long Term Action Points (more than 1 year)

Sr. No	Action point	Responsible stake Holder	Time Limit	Estimated Cost	Remarks
1	Amalgamation of CETP Textile & CETP Chemical and upgradation of CETP Textile (Pg.52.12.2.1)*	CETP Textile & CETP Chemical / MIDC	December 2012		Amalgamation of CETP will not be appropriate as both CETP governed by separate industrial Association.
2	Recycling of treated effluent	Industry / CETP / MPCB	December 2012		Possibility of recycling of treated effluent is being assessed by industry as well as MPCB.
3	Providing underground drainage network for collection of sewage from remote area/ Grampanchyat area	MIDC / Grampanchyat / KDMC	Dec 2012		Appropriate direction will be issued to MIDC/Local Grampanchyat.
4	a. Providing STP for domestic effluent of residential colony developed by MIDC. Treated water can be used for gardening. (Pg.52.12.2.6)* b. Providing STP for Kalyan – Dombivali Corporation area [Existing 2 STP of capacity 30MLD at Motagaon & Adharwadi]	MIDC /KDMC KDMC	June 2012 June 2012	STP for 4 MLD :- @ 400 Lacs	KDMC has already issued work order for new 6STP of total capacity 123 MLD & work is in progress.
5	b. . Provision of continuous power supply to STP & their	KDMC	December 2012		Appropriate suggestion will issued to KDMC.

	pumping station				
6	Introduction of Cleaner fuel like CNG/LPG (Pg.53.12.2.9)*	GAIL/ Govt. of Maha/India / KAMA	June 2012	GAIL / KAMA - 8.0 Crore	Appropriate suggestion will issued to GAIL /MIDC/ KAMA s regarding switch over to cleaner fuel
7	The vehicles in this area shall use clean fuel as LPG/ CNG (Pg.53.12.2.12)*	RTO/ Govt. of Maha./ GAIL	June 2012		Appropriate suggestion will issued to RTO /KDMC/ KAMA s regarding switch over to cleaner fuel
8	Development of Green belt & garden (Pg.53.12.2.13)*	MIDC/ KAMA / Industry	Ongoing pocess	MIDC/KAMA: - 50 Lacs .	MIDC handed over the grounds and free space to KAMA for development.
9	a. Illegal & unscientific dumping of municipal solid waste by Grampanchayats in industrial area as well as in residential area. b. Scientific treatment & disposal of MSW - KDMC Quantity 550MT/D	KDMC / Grampanch ayat/ MIDC KDMC	December 2012 December 2013	Rs:- 122 Crore Land , Equipment & treatment on previous dumped MSW	Identification of site by revenue authority is in progress also the KAMA has filed PIL against Grampanchyat and others Tenders procedure is completed.
