Action Plan

for

Abatement of Pollution

in respect of

Panipat Town

Prepared by

Haryana State Pollution Control Board

I. INTRODUCTION

LIST OF ABBREVIATIONS USED

CPCB	Central Pollution Control Board
HSPCB	Haryana State Pollution Control Board
CEPI	Comprehensive Environmental Pollution Index
HUDA	Haryana Urban Development Authority
RTA	Regional Transport Authority
NHAI	National Highway Authority of India
NFL	National Fertilizer Limited
MCP	Municipal Corporation Panipat
HSIIDC	Haryana State Industrial Infrastructure Development Corporation
PHED	Public Health Engineering Department
PTPS	Panipat Thermal Power Station
HEMS	Haryana Environment Management Society
HWTSDF	Hazardous Waste Treatment Storage and Disposal Facility
MSW	Municipal Solid Waste
BMW	Bio Medical Waste
ECBC	Energy Conservation Building Code
ETP	Effluent Treatment Plant
STP	Sewerage Treatment Plant
CETP	Common Effluent Treatment Plant
CNG	Compressed Natural Gas
PNG	Pipe Natural Gas
BOD	Bio Chemical Oxygen Demand
COD	Chemical Oxygen Demand

1.1 AREA DETAILS INCLUDING BRIEF HISTORY (BACKGROUND INFORMATION)

Panipat is an ancient and historic city in Panipat district, Haryana State, India. According to the mythology, Panipat was one of the five cities (Prasthas) founded by the Pandava brothers during the period of the Mahabharata; the historic name of Panipat was **Panduprastha**.

Three battles fought at the city were pivotal in Indian History.

Panipat is well known city for textiles and carpets. It is the biggest centre for quality blankets and carpets in India and famous for handloom weaving. The "Achar Pachranga" is a well known Indian Pickle since 1925. The company was brought to Panipat in 1947 after the partition of India.

Heavy industries with national importance viz. Refinery of the Indian Oil Corporation Limited, Power Plant of Haryana Power Generation Corporation Limited, Urea Manufacturing Facility of National Fertilizers Limited, Sugar Mill and Distillery of Panipat Co-operative Sugar Mills are located in Panipat

The climate of Panipat being Gangetic Type is hot in summer and cold in winter. The coldest month is January and the hottest is June. Most of the annual rainfall about 80% occurs between July and September. Annual rainfall in the study area is 500 mm to 1000 mm. The remaining months are almost dry except January, which notable Wild Life Population. The main crops are paddy, maize, wheat, gram and sugarcane. Panipat District is one of the fertile and agriculturally rich districts of the region. occasionally receives light showers of winter rains. Panipat District does not have

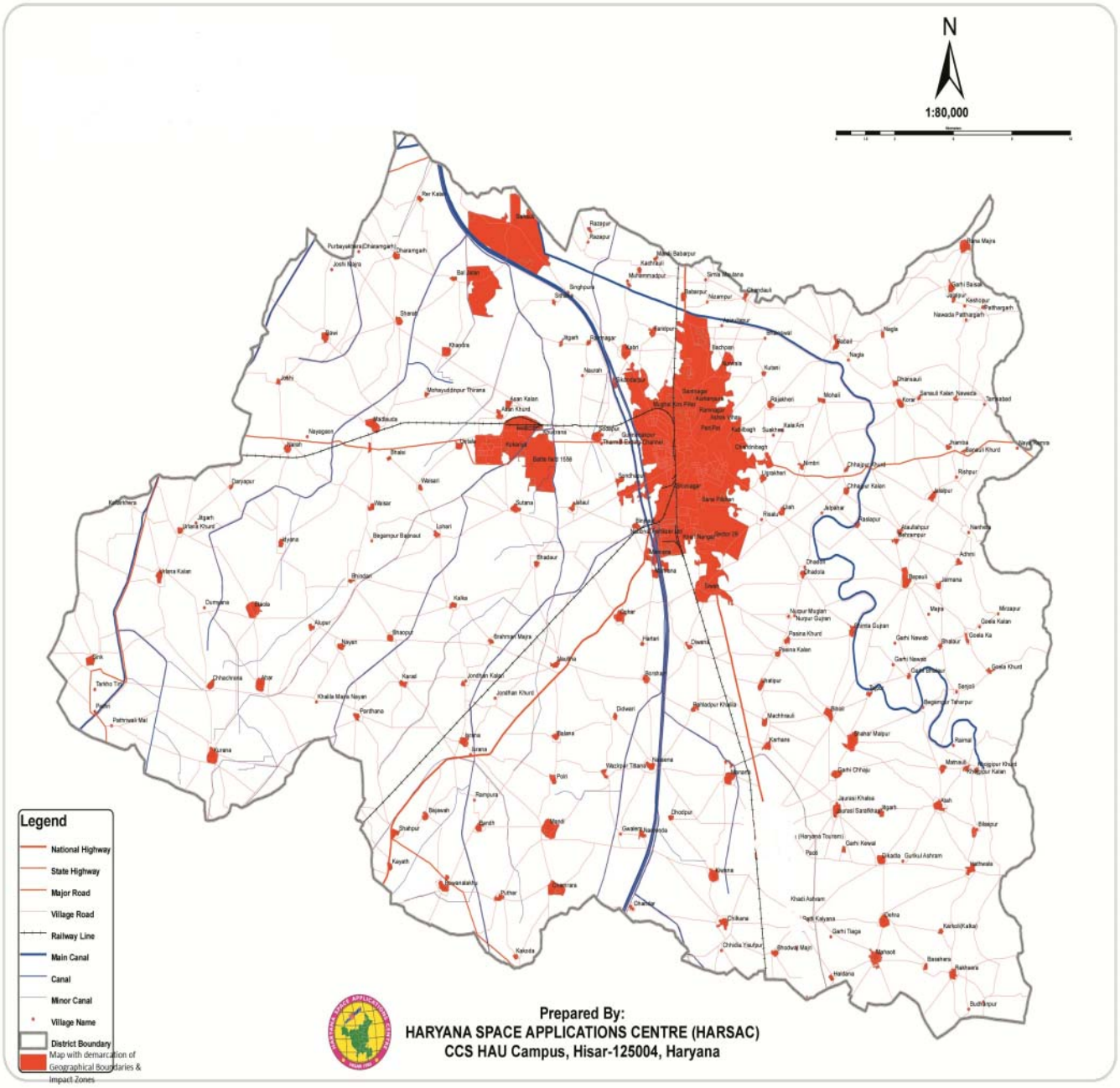
1.2 LOCATION

Panipat is located geographically between 29°23'N 76°58'E and 29.39°N 76.97°E at an average altitude of 219 Metres from the Sea Level. It is located 90 KM away from the National Capital, New Delhi on NH - 1 and falls under the National Capital Region of Delhi. Panipat District is spread in an area of 1300.38 KM^2.

On three sides, Panipat District Boundaries touch other Districts of Haryana - Karnal in the North, Jind in the West and Sonipat in the South. The East side of the Panipat finds the state of Uttar Pradesh across Yamuna. The distance of River Yamuna from Panipat City is about 18 KM.

1.3 MAP WITH DEMARCATION OF GEOGRAPHICAL BOUNDARIES AND IMPACT ZONES

Detailed Map of the Study area is enclosed as Annexure – A



1.4 CEPI SCORE (AIR, WATER, LAND AND TOTAL)

The Central Pollution Control Board carried out Comprehensive Environmental Pollution Index Assessment (CEPI) Study in association with Indian Institute of Technology, Delhi. Based on the study, 43 Industrial Clusters out of 88 listed have been declared as Critically Polluted areas having CEPI of more than 70, which includes Panipat City and its industrial clusters at the 37th place. The CEPI scores of Panipat are listed below:

- Air 55.75
- Water 56.50
- Land 59.00

Overall CEPI Score 71.91

Haryana State Pollution Control Board prepared this Comprehensive Environmental Pollution Abatement Action Plan in order to make Panipat a better place to live and work.

1.5 TOTAL POPULATION AND SENSITIVE RECEPTORS (HOSPITALS, EDUCATIONAL INSTITUTIONS, COURT, ETC.) RESIDING IN THE AREA COMPRISING OF GEOGRAPHICAL AREA OF THE CLUSTER AND ITS IMPACT ZONE (MINIMUM 2 KM)

Haryana Government has recently converted the Municipal Council of Panipat into Municipal Corporation, Panipat and the Municipal Limits has been revised and accordingly the area has been increased from 22 KM^2 to 52 KM^2. The city was having a total population of 261,665 on records in the year 2001 and the roughly estimated population as on date is about 550,000 due to Municipal Area Expansion, Urban Development and Industrial Activities.

The Sensitive Receptors located in Panipat are listed below:

i) Hospitals (Above 50 Beds) - 5
ii) Educational Institutions (Major) - 15
iii) Court - 1

1.6 ECO-GEOLOGICAL FEATURES OF IMPACT ZONES

[THE AREA COMPRISING OF GEOGRAPHICAL AREA OF THE CLUSTER AND ITS IMPACT ZONE (MINIMUM 2 KM)]

1.6.1 MAJOR WATER BODIES (RIVERS, LAKES, PONDS ETC.)

River Yamuna located at a Distance of 18 KM from Panipat and West Jamuna Canal located within the Study Area are major water bodies. The fertility and type of soil are the derivatives of the study area contributed by River Yamuna. Alluvial type of soil is present in this area.

There are no Lakes exist in the study area.

Five villages located inside the Municipal Limit have Ponds and a Religious Spot called Devi Tala inside Panipat City receives water only in the monsoon period and remains dry in the rest of the year.

1.6.2 ECOLOGICAL PARKS, SANCTUARIES, FLORA AND FAUNA OR ANY ECO SENSITIVE ZONES

There are no Ecological Parks, Wild Life and Bird Sanctuaries and any Eco Sensitive Zones exist in Panipat.

FLORA

The natural vegetation in the study area is sparse. Various kinds of trees and shrubs are found growing indigenously. On account of the pressure of population and extensive cultivation, very little land has been left under natural forest cover.

Strip forests along the roads and canals and block forests of Babool (Kikar) are on the forest record. Most of the area is occupied by agriculture fields. Whereever the forests are present, they are of open evergreen scrub or thorn type comprising mainly of:

- Butea Monosperma (Dhak)
- Prosopis Cineraria (Jand)
- Capparis Deciduas (Kaur)
- Capparis Separia (Hins)

According to the revised survey of forest types in India, the natural vegetation is of the study area falls under "Tropical Dry Deciduous Forests" with sub-type: Northern Dry Mixed Deciduous type.

Nearby villages and along avenues several ornamental trees are found. Most of these have been planted with the help of the Forest Department. These include:

- Acacia Nilotica (Babul)
- Albizzia Lebbek (Siris)
- Azadirachta Indica (Nim)
- Bauhinia Variegate (Kachnar)
- Butea Monsperma (Dhak)
- Cassia Fistula (Amaltash)
- Crataeva Nurvala (Barna)
- Dalbergia Sissoo (Shisham)
- Moringa Oleifera (Sohanjna)
- Morus Alba (Sahtoot)
- Saraca Indica (Ashok)

Among the fruit trees the important are Mangifera Indica (Mango) and Syzygium Cumini (Jamun).

Some of the important medicinal plants in the study area are Achyranthes Aspera, Argemone Mexicana, Croton Sparcifours, Euphorbia Hirta, Solanum Xanthocarpum, Tribulus Terristris, Vitex Negundo, Abrus Precatorius, Abutilon Indicum and Adhatoda Vasica.

FAUNA

The majority domestic animals are Cow, Buffalo, Horse, Donkey, Goat, Pig, Dog.

The main Birds are Pintail, Coot, House Sparrow, Myna, Cattle Egret, Little Egret, Pond Heron, Indian Ring Dove, Blue Rock Pigeon, etc

1.6.3 BUILDINGS OR MONUMENTS OF HISTORICAL / ARCHAEOLOGICAL / RELIGIOUS IMPORTANCE

The main places of attraction in Panipat are:

- Battles Museum
- Hemu's 'Samadhi-Sthal'
- Camp Site of Babur and Akbar at Village Sodhapur
- Grave of Ibrahim Lodhi
- Kabuli Bagh

- Devi Mandir
- Kala Amb
- Salar Gunj Gate
- Tomb of the Thirteenth Century Sufi Saint Bu Ali Shah Qalandar

All the places listed above except Kala Amb are within the Municipal Limits of Panipat. Kala Amb located just outside the Municipal Limit but within two kilo metres of the study area.

1.7 INDUSTRY CLASSIFICATION AND DISTRIBUTION (NUMBER OF INDUSTRIES PER 10 KM^2 AREA OR FRACTION)

1.7.1 Highly Polluting Industries (17 Categories) - 06

1.7.2 Red Category Industries (54 Categories) - 252

1.7.3 Orange and Green Category Industries - 1022

1.7.4 Grossly Polluting Industries - 10

Details regarding existing functional units are tabulated below:

SL. NO.	TYPE OF UNIT	SIZE	QUANTITY	LOCATION
1.	Fertilizer	Large	1	Between G.T. Road and Gohana Road within Municipal Area, Panipat
2.	Sugar	Medium	1	Within Panipat Town located on Gohana Road, Panipat
3.	Distillery	Medium	1	Within Panipat Town located on Gohana Road, Panipat
4.	Oil Refinery	Large	1	Located out side the critical polluted area in the effect zone
5.	Naphatha Cracker	Large	1	Located out side the critical polluted area in the effect zone
6.	Thermal Power Plant	Large	1	Located out side the critical polluted area in the effect zone

7.	Foundries	Small	11	9 units are in Industrial Area and 2 units are located out side Industrial Area.
8.	Textile Processing	Large and Medium Small Total	26 214 240	68 units are located in Industrial Areas Remaining 172 units are located outside industrial area / residential areas
9	Food Processing	Large and Medium Small Total	1 3 4	Located on G T Road within Municipal area Within Panipat Town --
10	Rice Sheller	Large and Medium	1	Located within Municipal Area of Panipat
11	Slaughter House	Small	1	Located within Municipal Area of Panipat

ABSTRACT

Large and Medium Units	34
Small Scale Units	229
Total operating units	**263**

II. WATER ENVIRONMENT

2.1 PRESENT STATUS OF WATER ENVIRONMENT SUPPORTED WITH MINIMUM ONE YEAR ANALYTICAL DATA

The Ground Water Strata of Panipat tested at various places (near to possible places of water pollution) contains BOD between 0 and 1 mg/l, Flouride Content ranging from 0.6 to 1.0 mg/l and rest of the parameters are within the desired limits. Quantum of Arsenic in the Ground Water has been sampled by CPCB and HSPCB team at various points on 05.01.2010 analyzed by CPCB and reported between 0.005 and 0.008 mg/l.

- Ground Water Monitoring Data within a Radius of 4 KM of Panipat City is furnished as Annexure – B
- Data of Ground Water Quality of Panipat Town Monitored by C P C B and H S P C B is given in Annexure – C
- Results of Monitoring of Ground water from the Tubewells located adjoining to Panipat Drain is given as Annexure – D.

The surface water samples tested from River Yamuna, Panipat Drain, Drain No. 2 Nohra Drain and Gharaunda Drain does not confirm the desired limits. There are no other surface water sources (for sampling) is not available in the study area. Water and wastewater discharges do not take place in West Yamuna Canal and sampling usually not carried out in this Water Body.

- The detailed monitoring data of the above Drains and River Yamuna is given as Annexure - E

2.1.1 WATER BODIES / EFFLUENT RECEIVING DRAINS IN THE AREA IMPORTANT FOR WATER QUALITY MONITORING

EFFLUENT RECEIVING WATER BODY

River Yamuna is the only Fresh Water Body receiving effluent / sewage from the Study Area.

EFFLUENT RECEIVING DRAINS

1. Panipat Drain which leads to river Yamuna through Drain Number - 2

2. Nohra Drain which leads to Drain Number 8 in Sonipat District

3. Gharaunda Drain which leads to river Yamuna through Drain Number – 2

2.1.2 PRESENT LEVEL OF POLLUTANTS IN WATER BODIES / EFFLUENT RECEIVING DRAINS / GROUND WATER (ROUTINE PARAMETERS, SPECIAL PARAMETERS AND WATER TOXICS RELEVANT TO THE AREA IN THREE CATEGORIES – KNOWN CARCINOGENS, PROBABLE CARCINOGENS AND OTHER TOXICS)

SURFACE WATER

A. RIVER YAMUNA

The monitoring has been done during November 2009 and the quality of water observed in river Yamuna after disposal of the water from Drain Number 2 is given as under:

DATE OF SAMPLING	BOD LEVEL
11.11.2009	4.6 Mg / L
23.07.2010	2.8 Mg/L

B. PANIPAT DRAIN

The monitoring data of Panipat Drain collected at various locations in the year 2009 – 10 with the BOD Level at various points is given as below:

LOCATIONS	DATE OF SAMPLING	BOD (mg/l)
i) Near 35 MLD STP	09.04.2009	62.5
	11.05.2009	72.5
	11.11.2009	56.25
	14.01.2010	133.5
	23.07.2010	67.00
ii) Near Village Dadola,	09.04.2009	86
	23.07.2010	69.00

C. DRAIN NUMBER 2 AFTER MEETING PANIPAT DRAIN

The monitoring data of Drain Number 2 collected at various locations in the year 2009 – 10 with the BOD Level at various points is given as below:

LOCATIONS	DATE OF SAMPLING	BOD (mg/l)
i) At Village Simla Gujjran	09.04.2009	65
	11.11.2009	48
	14.01.2010	116
	23.07.2010	16.20

ii) Before meeting River Yamuna	13.06.2009	60
	11.11.2009	13.75
	14.01.2010	90.5
	23.07.2010	5.50

D. NOHRA DRAIN

The monitoring data of Nohra Drain collected at Village Binjhol with the BOD Level is given as below:

LOCATION	DATE OF SAMPLING	BOD (mg/l)
At Village Binjhol	20.04.2010	105

E. GHARAUNDA DRAIN

The monitoring data of Gharaunda Drain collected at two locations with the BOD Level is given as below:

LOCATION	**DATE OF SAMPLING**	**BOD (mg/l)**
At entry point in District Panipat	11.11.2009	15.65
At point before entering in Drain No. 2	11.11.2009	67.5

GROUND WATER

Panipat City Water Supply is fully dependant on Ground Water Resources. Public Health Engineering Department analyses the water quality of the source regularly. It has been reported that the ground water complies with all parameters are well within the prescribed standard for Drinking Water i.e. IS : 10500.

However the Ground Water Strata of Panipat tested at various places (near to possible places of water pollution) contains BOD between 0 and 1 mg/l, Flouride Content ranging from 0.6 to 1.0 mg/l and rest of the parameters are within the desired limits. Quantum of Arsenic in the Ground Water at various points analyzed by CPCB and reported between 0.005 and 0.008 mg/l.

2.1.3 PREDOMINANT SOURCES CONTRIBUTING TO VARIOUS POLLUTANTS

1. DOMESTIC

Estimated population of Panipat contributes about 90 MLD of Sewage.

2. INDUSTRIAL

Estimated quantum of industrial effluent discharge at this point of time is 35 MLD.

2.2 SOURCES OF WATER POLLUTION

2.2.1 INDUSTRIAL

Quantum of industrial units with nature, size and locations located in various approved industrial areas and industrial clusters within the limit of Municipal Corporation, Panipat are tabulated and given in 1.7.4. About 35 MLD of industrial effluent bearing 1650 Kg BOD Load is disposed from the study area.

2.2.2 DOMESTIC

Present day estimated population contributes about 90 MLD of Sewage and the city should possess about 110 MLD Sewerage and Sewage Treatment Plant at least. But the city has partial sewerage system and STPs' of capacity 45 MLD in operation and 45 MLD in proposal by the Haryana Public Health Engineering Department. The available system is inadequate to the extent of capacity mismatch and qualitative functioning within the installed capacity is also non satisfactory due to mixing of industrial effluent and domestic sewage because of common sewerage system exists. The sewerage of Panipat City is finally ends and sewage discharged into Panipat Drain and Nohra Drain. An estimated volume of 90 MLD of Sewage with BOD load of 2700 Kg is disposed from Panipat.

2.2.3 OTHERS (AGRICULTURAL RUNOFF, LEACHATE FROM MSW DUMP, ILLEGAL DUMP SITE ETC)

The study area consists of negligible amount of agricultural area and therefore Agricultural Runoff is not estimated.

Municipal Solid Waste of Panipat is carried out to Village Nimri Dumping site which does not fall in the study area.MSW is also dumped at some temporary dump sites.

2.2.4 IMPACT ON SURROUNDING AREA (OUTSIDE THE CEPI AREA) ON THE WATER SOURCES/DRAINAGE SYSTEM OF THE AREA UNDER CONSIDERATION

The physico-chemical parameters of the ground water indicates that the water underneath does not contain any amount of toxins in the majority of the area. Fluorides are found in ground water at some places in the study area. Oxygen Demand also not found in the ground water.

Surface water samples found adverse in the study area and surroundings and mild impact on this factor is hence present.

2.3 DETAILS OF WATER POLLUTING INDUSTRIES IN THE AREA/CLUSTER

SL. NO.	TYPE OF UNIT	SIZE	QUANTITY	LOCATION
1.	Fertilizer	Large	1	Between G.T. Road and Gohana Road within Municipal Area, Panipat
2.	Sugar	Medium	1	Within Panipat Town located on Gohana Road, Panipat
3.	Distillery	Medium	1	Within Panipat Town located on Gohana Road, Panipat
4.	Oil Refinery	Large	1	Located out side the critical polluted area in the effect zone
5.	Naphatha Cracker	Large	1	Located out side the critical polluted area in the effect zone
6.	Thermal Power Plant	Large	1	Located out side the critical polluted area in the effect zone
7.	Textile Processing	Large and Medium Small Total	26 214 240	68 units are located in Industrial Areas Remaining 172 units are located outside industrial area / residential areas
8.	Food Processing	Large and Medium Small Total	1 3 4	Located on G T Road within Municipal area Within Panipat Town --
9.	Rice Sheller	Large and Medium	1	Located within Municipal Area of Panipat
10.	Slaughter House	Small	1	Located within Municipal Area of Panipat

There are 252 water polluting units are placed under Consent Management in the study area.

2.4 EFFLUENT DISPOSAL METHODS – RECIPIENT WATER BODIES ETC.

The effluent and sewage of the study area finds disposal at

1. Panipat Drain
2. Nohra Drain
3. Gharaunda Drain

2.5 QUANTIFICATION OF WASTE WATER POLLUTION LOAD AND RELATIVE CONTRIBUTION BY DIFFERENT SOURCES VIZ INDUSTRIAL/DOMESTIC.

INDUSTRIAL

About 35 MLD of industrial effluent bearing 1650 Kg BOD Load is disposed from the study area.

DOMESTIC

Estimated volume of 90 MLD of Sewage with BOD load of 2700 Kg is disposed from Panipat.

2.6 ACTION PLAN FOR COMPLIANCE AND CONTROL OF POLLUTION

2.6.1 EXISTING INFRASTRUCTURE FACILITIES – WATER QUALITY MONITORING NETWORK, ETPS, CETPS, SEWARAGE TREATMENT PLANT OF INDUSTRY (STPS), SURFACE DRAINAGE SYSTEM, EFFLUENT CONVEYANCE CHANNELS/OUTFALLS ETC.

Water quality monitoring is carried out at regular intervals by Haryana State Pollution Control Board (HSPCB). Public Health Engineering Department also carry out analytical studies of ground water.

HSPCB has a full fledged functional Regional Office with following staff members:

Environmental Engineer	1
Scientist B	1
Assistant Environmental Engineers	2
Clerical Staff	2
Class IV Staff	1
Driver	1

HSPCB has 4 functional laboratories and approved 19 other laboratories for the purpose of analysis of monitoring samples.

HSPCB has proposed to set up one laboratory at Panipat itself

MONITORING OF WATER POLLUTION

Ground Water monitoring has been carried out within a radius of 4 KM of Panipat City and Water Samples has been collected from 103 Points during the period of March to May 2009 and analyzed.

Moreover, Water Samples have also been collected regularly from the various points from the Drains passing through Panipat City and STPs and analysed in the year 2009 -10 Further, for monitoring the Ground Water Quality of Panipat City, Ground Water Samples at five different locations has been

collected on 05-01-2010 by HSPCB, Panipat in association with a team of Officers from Central Pollution Control Board Zonal Office Lucknow, and as per the report on the results submitted by the Central Pollution Control Board, the Ground Water Quality of Panipat has been found satisfactory.

SEWAGE TREATMENT PLANT

The city has partial sewerage system and STPs' of capacity 45 MLD in operation and 45 MLD in proposal by the Haryana Public Health Engineering Department.

SEWAGE TREATMENT PLANT – 35 MLD

INDUSTRIAL EFFLUENT TREATMENT PLANTS

Most of the operating industrial units have installed their own ETPs and closure action has been taken by the Board against units which have not installed the required ETPs from time to time. So far 195 units have installed the ETPs.

Units newly identified and required to install ETPs	-	55
Units having adequate ETPs	-	169
Units having inadequate ETPs	-	26

STATUS OF ETPS OF MAJOR INDUSTRIAL UNITS LOCATED WITHIN MUNICIPAL LIMIT OF PANIPAT

PANIPAT CO-OPERATIVE SUGAR MILLS LTD (DISTILLERY UNIT)

Distillery unit consumes 390 M^3/day water and have achieved the zero discharge. The entire quantity of effluent is treated through an ETP, RO / Nano Filtration System following by Bio-composting Process.

EFFLUENT TREATMENT THROUGH RO/NANO FILTER SYSTEM

PANIPAT CO-OPERATIVE SUGAR MILL LTD

The Sugar Mill consumes 230 M^3/day water and has installed the biological effluent treatment plant. The treated effluent is used for irrigation, horticulture and cooling purposes; thus not contributing the pollution load in the drains and achieving the prescribed norms.

NATIONAL FERTILIZERS LIMITED

NFL, Panipat has installed 200 M^3/hour ETP for the treatment of combined treatment of effluent along with sewage and most of the effluent after treatment is used for horticulture purpose and for suppression of fly ash. However the overflow of ash pond is discharged into Nohra drain. The unit is achieving the prescribed norms.

STATUS OF ETPS OF MAJOR INDUSTRIAL UNITS LOCATED OUTSIDE MUNICIPAL LIMIT OF PANIPAT

INDIAN OIL PANIPAT REFINERY

IOCL, Panipat consumes 42000 M^3/day water and generates 25500 M^3/day of wastewater. The unit has installed three ETPs alongwith RO system and STP and using the treated water for cooling, boiler feed, fire hydrant and its plantation program in its own premises. RO reject is used for sprinkling in petcoke handling yard. The treated effluent discharged from ETP No.3 used for PX-PTA Plant is not achieving the prescribed norms at the final outlet. Other two ETPs are achieving the norms. However this unit is existing outside Municipal Limits of Panipat and not contributes Pollution Load in the Drains.

PANIPAT THERMAL POWER STATION

PTPS unit consumes 137409 M^3/day water and generates 56900 M^3/day of effluent. The unit reuses 23544 M^3/day of water after treatment. The remaining water is discharged into Untla Drain. Three STPs are under construction in this unit for the treatment of domestic sewage. Water logging in the nearby area of Ash Pond and the premises of PTPS is a cause of concern.

INDUSTRIAL EFFLUENT TREATMENT PLANTS

Most of the operating industrial units have installed their own ETPs and closure action has been taken by the Board against units which have not installed the required ETPs from time to time. So far 195 units have installed the ETPs.

Units newly identified and required to install ETPs	-	55
Units having adequate ETPs	-	169
Units having inadequate ETPs	-	26

2.6.2 POLLUTION CONTROL MEASURES INSTALLED BY INDUSTRIES

As given in 2.6.2

2.6.3 TECHNOLOGICAL INTERVENTION

2.6.3.1 INVENTORISATION OF PROMINENT INDUSTRIES WITH TECHNOLOGICAL GAPS

As given in 2.6.2

2.6.3.2 IDENTIFICATION OF LOW COST AND ADVANCE CLEANER TECHNOLOGY FOR POLLUTION CONTROL.

1. Low brine ratio in textile industries
2. Recycling of Scouring Waste
3. Water Conservation and wastewater reduction
4. Reuse wherever possible.

2.6.4 INFRASTRUCTURE RENEWAL

2.6.4.1 DETAILS OF EXISTING INFRASTRUCTURAL FACILITIES

CETP	-	1
Units having adequate ETPs	-	169
Municipal STP	-	2
Individual STPs	-	5

2.6.4.2 NEED OF UPGRADATION OF EXISTING FACILITIES

Units newly identified and required to install ETPs	-	55
List of the units is annexed as Annexure-F		
Units having inadequate ETPs and required Upgradation	-	26
List of the units is annexed as Annexure-G		

2.6.4.3 DE-SILTING OF WATER TANK, DRAINS, RIVULETS ETC

1. Panipat Drain
2. Nohra Drain
3. Gharaunda Drain

2.6.4.4 CONSTRUCTION OF LINED DRAINS/CONNECTIONS

None of the drains have lining and most areas of Panipat do not have proper constructed sewerage system.

2.6.4.5 TREATMENT AND MANAGEMENT OF CONTAMINATED SURFACE WATER BODIES

Treatment and management of contaminated surface water bodies is not yet carried out.

2.6.4.6 REJUVENATION / MANAGEMENT PLAN FOR IMPORTANT ECOLOGICAL FEATURES

Rejuvenation / Management Plan for Important Ecological Features is yet to be formulated

2.6.4.7 CARRYING OF EFFLUENT FROM INDUSTRIAL UNITS LOCATED IN NON-INDUSTRIAL LOCATION TO COMMON EFFLUENT TREATMENT PLANT FACILITIES BY LINED DRAINS / PIPELINES ONLY AND PREVENTION OF THEIR DISPOSAL INTO CITY SEWERAGE/SURFACE DRAINS.

STATUS REGARDING THE PROJECT FOR SHIFTING OF DYEING UNITS FROM NON CONFIRMING/RESIDENTIAL AREAS TO THE INDUSTRIAL SECTOR - 29 PART-II, PANIPAT

The industries established outside the industrial area are located in the residential and non confirming areas for which a project for 'shifting of dyeing units' is in process and a separate sector has been developed by HUDA in Sector - 29 Part - II, Panipat where CETP of capacity 21 MLD has already been installed and commissioned and another CETP of 21 MLD capacity is under proposal. Approximately 6 MLD of effluent is only available for treatment in the CETP due to slow pace of shifting of dyeing units in

this sector, which also includes the effluent of Sector – 29 – Part I. Progress regarding shifting of dyeing units in HUDA Sector - 29 Part - II, Panipat is as under:

SL. NO.	PARTICULARS	UNITS
1.	Total plots carved out as per demarcation	510
2.	Number of plot allotted	498
3.	Possession applied	297
4.	Possession given	297
5.	Building Plan submitted to HUDA	392
6.	Building Plan approved / sanctioned	215
7.	Construction work started	150
8.	Applied for Occupation Certificate	48
9.	Occupation Certificate issued	03
10.	Number of units started production	10

DECISION OF HON'BLE HIGH COURT IN CWP NO.8497 OF 2009 TITLED PANIPAT DYERS ASSOCIATION V/S STATE OF HARYANA ETC. FOR SHIFTING OF DYEING UNITS

A CWP No.8497 of 2009 was filed by the Panipat Dyers Association before Hon'ble Punjab & Haryana High Court, Chandigarh, against the notices issued by HUDA to the defaulting plot holders for violation of terms and conditions of allotment and the Hon'ble Court has decided the above said CWP on 18-05-2010 and following order has been passed:

1. The petitioners cannot indefinitely postpone their action to construct and all the members of the association, who have been allotted plots, shall draw up plans, if they had not already done and submit them within one month from the date of order.
2. The construction shall be carried out in accordance with building regulations after submitting building plant and securing appropriate sanctions. The entire schedule of completion of construction and shifting shall take place in the manner provided under the allotment letters.
3. The petitioners shall have an outer limit of one year from today.
4. HUDA shall obtain proof of certification through a competent authority that the provision for water made by them assures them of a supply of not less than 16 cusecs (about 40 MLD) on completion of twelve months and circulate them to all the dyeing units, who are required to shift.
5. The copies of certification shall be circulated not later than fifteen days from the completion of one year as aforesaid, to all the individual dyeing units and if the occupancy certificates and shifting are not done within four weeks on the expiry of fifteen days of certification of proof of

provision for water amenities, respondents shall be at liberty to take action for resumption in the manner provided by the rules.

Based on the above orders, HSPCB anticipates the relocation of industries shall gain momentum and completed soon.

2.6.4.8 INSTALLATION OF GEN SETS AT CETPS

Two D G Sets of 600 KVA each have been installed in CETP.

One D G Sets of 320 KVA each have been installed in 35 MLD STP.

Two D G Sets of 320 KVA and 200 KVA have been installed in CETPs 10 MLD STP

2.6.5 MANAGERIAL AND FINANCIAL ASPECTS

2.6.5.1 COST AND TIME ESTIMATES

All concerned departments and agencies shall be asked to give cost and time estimates.

2.6.5.2 IDENTIFIED PRIVATE/PUBLIC SECTOR POTENTIAL INVESTORS AND THEIR CONTRIBUTION/OBLIGATION

Yet to be identified

2.6.5.3 GOVERNMENT BUDGETARY SUPPORT REQUIREMENT

To be obtained by the Finance Department

2.6.5.4 HIERARCHICAL AND STRUCTURED MANAGERIAL SYSTEM FOR EFFICIENT IMPLEMENTATION

Hierarchical and Structured Managerial System for Efficient Implementation is yet to be devised & decision to be taken by the Govt. of Haryana.

2.6.6 SELF MONITORING SYSTEM IN INDUSTRIES (ETPs, ETC)

ETP in industries with Laboratory Facility – 6

2.6.7 DATA LINKAGE TO SPCB/CPCB (OF MONITORING DEVICES)

None of the units have so far established data linkage to HSPCB / CPCB

II. 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

1. Model Town
2. Bus Stand
3. G T Road – Sanjay Chowk
4. G T Road – BBMB
5. Industrial Area – Sector 29 – Part 2

3.1.2 PRESENT LEVELS OF POLLUTANTS IN AIR (ROUTINE PARAMETERS, SPECIAL PARAMETERS AN AIR TOXIC RELEVANT TO THE AREA IN THREE CATEGORIES – KNOWN CARCINOGENS, PROBABLE CARCINOGENS AND OTHER TOXIC)

AMBIENT AIR QUALITY AND NOISE MONITORING

The Ambient Air Quality and Noise Monitoring have been carried out at various points within 4 KM radius of Panipat Town during the period of March - May 2009 with 2 hours sampling to create the basic data and detail of which is enclosed as Annexure H - 2 respectively. Moreover, AAQM Stations has been installed permanently in Panipat Town at three locations by IOCL for regular monitoring of AAQ and online display system has been provided for regular and continuous display of Ambient Air Quality data on NH - I. The data for the year 2009 - 10 is enclosed as per Annexure H - 1.

The air quality analyzed show deviations in SPM and RSPM from the prescribed standards and requires improvement in the study area. However, SO_2 and NO_X found within desired limits. Detailed analyses of other parameters are yet to be analysed.

3.1.3 PREDOMINANT SOURCES CONTRIBUTING TO VARIOUS POLLUTANTS

1. Industrial Stack Emissions
2. Industrial Process Emissions
3. Automobile Exhaust
4. Bad Road Conditions
5. Railway Goods Yard

3.2 SOURCE OF AIR POLLUTION VIZ INDUSTRIAL, DOMESTIC (COAL & BIOMASS BURNING), NATURAL AND TRANSPORT & HEAVY EARTH MOVERS

INDUSTRIAL EMISSIONS

The industries located within municipal limits and in its surrounding areas, as mentioned above and other small spinning & finishing mills contribute to air pollution. Textile units using mainly wood and cow dung cakes, coal, rice husk and pet coke as fuel. The polluting industrial units are being monitored and appropriate action is taken against violators under the law.

AIR POLLUTION CONTROL

Most of the units located in Municipal Area have installed the Air Pollution Control Devices (APCD) wherever required and so far 80 units located in and around Panipat have installed the APCD, closure action has been taken against the defaulting units which were not complying in this regard.

Units newly identified and required to install APCDs	-	1
Units having adequate APCDs	-	75
Units having inadequate APCDs	-	5

Apart from the above mentioned textile units, there are more than 150 spinning and finishing units which are although not having the water polluting process but contributes air emissions in the form of fiber dust from spinning mills and boiler emissions from the finishing mills along with the air emissions and noise emission from DG sets installed by such type of units.

3.3 AIR POLLUTING INDUSTRIES IN THE AREA / CLUSTER

Large and Medium Units	31
Small Scale Units	197
Total operating units	**228**

17 Category Units	03
Pollution Intensive Units	08

List of Pollution Intensive units is enclosed as Annexure-I

3.4 IMPACT OF ACTIVITIES OF NEARBY AREA ON THE CEPI AREA

Industrial process emissions and stack emissions are treated to some extent but automobile exhaust and air pollution due to bad road conditions are not containable. The effects and impact is moderate in the neighbourhood of the CEPI Area.

3.5 QUANTIFICATION OF THE AIR POLLUTION LOAD AND RELATIVE CONTRIBUTION BY DIFFERENT SOURCES

The estimated amount of Air Pollution in the Study Area is 7500 Kg/ Day in terms of Particulate Matter.

3.6 ACTION PLAN FOR COMPLIANCE AND CONTROL OF POLLUTION

3.6.1 EXISTING INFRASTRUCTURE FACILITIES – AMBIENT AIR QUALITY MONITORING NETWORK

There are two AAQ monitoring stations exist in Panipat. HSPCB proposes to install two more stations with the aid of CPCB, which is already under approval stage. More AAQ stations are required at the critical locations mentioned in 3.1.1.

3.6.2 POLLUTION CONTROL MEASURES INSTALLED BY THE INDIVIDUAL SOURCES OF POLLUTION

As per 3.2

3.6.3 TECHNOLOGICAL INTERVENTION

3.6.3.1 INVENTORISATION OF PROMINENT INDUSTRIES WITH TECHNOLOGICAL GAPS

STATUS OF APCM OF MAJOR INDUSTRIAL UNITS LOCATED WITHIN MUNICIPAL LIMIT OF PANIPAT

PANIPAT CO-OPERATIVE SUGAR MILLS LTD (DISTILLERY UNIT)

Distillery unit has one rice husk / wooden chips fired boiler of 5 MT/ hr capacity installed with proper APCD. The emissions of stack complies the prescribed standards.

PANIPAT CO-OPERATIVE SUGAR MILLS LTD

The Sugar Mill has two stacks on four boilers of Capacity 15 MT/hour – 3 Nos. and 25 MT/hour – 1 No. and the emission levels are complying the standards. The wet scrubbers installed for control of air emissions are performing well.

NATIONAL FERTILIZERS LIMITED

NFL, Panipat has installed APCDs and comply the standards for emission. The unit also has captive power plant installed with ESPs as APCM and achieving the norms. The unit is in the process of implementation of Ammonia feed stock revamping by changing over of the feed stock and fuel from fuel Oil to natural gas. At present 9.654 MKCal energy per tone of Urea is consumed and it shall be reduced to 7.614 MKCal / MT leading to 1/3 reduction in coal and steam consumption by implementation of this project which is targeted to complete upto March, 2013. Therefore the Board anticipates that the emission of green house gases from NFL, Panipat will be reduced considerably on the completion of the proposed project.

ESPs INSTALLED IN NATIONAL FERTILIZERS LIMITED, PANIPAT

STATUS OF APCM OF MAJOR INDUSTRIAL UNITS LOCATED OUTSIDE MUNICIPAL LIMIT OF PANIPAT

INDIAN OIL PANIPAT REFINERY

IOCL, Panipat possesses Captive Power Plant of 225 MW and four sulphur recovery units in which two of 115 M^3/day each and two of 225 M^3/day each recovering capacity. There are 44 stacks in total are existing and emissions are treated before discharge. Furnace oil is the main fuel used in the unit. However, the unit is not meeting the standards of Ambient Air Quality. Panipat Naphtha Cracker Plant and its downstream units, which are recently commissioned partially are to be monitored for Air Pollution.

PANIPAT THERMAL POWER STATION

PTPS generates 1367.8 MW electricity and consumes 1.9 M^3/hour oil and about1000 MT/hour of Coal. The unit has six stacks installed with eight ESPs. Water Sprinkling System has been provided in Coal Handling Unit No. 3 and it need to be provided in the Coal Handling Units No. 1 and 2. AAQ and SPM level of two stacks exceeds the prescribed norms although ESP has been installed on all the stacks.

PANIPAT THERMAL POWER STATION]

2. AUTOMOBILE EXHAUST

Panipat being located on G T Road, one among the busiest highways of the nation and possessing industrial and trade importance, automobile exhaust contribute significantly to Air Pollution. Inadequate local transport means, absence peripheral bye-pass roads, encroachment of roads and lanes, inadequate traffic management, etc aggravate the contribution level of automobile exhaust to Air Pollution. The fuel used in most of the vehicles is either diesel or petrol. One LPG Station has been installed in Panipat and CNG Stations are yet to be installed. The detail and approximate quantity of vehicles registered with the Registration Authorities and vehicles passing through Panipat are

Number of vehicles passing Panipat Town daily through NH-I	42000
Number of vehicles entering daily into Panipat except through NH-I	9500
Number of light vehicles registered	200000
Number of Commercial vehicles registered	11000
Number of Commercial vehicles older than 15 years	1000
Number of other vehicles older than 15 years	100

TRAFFIC CONGESTION UNDER PANIPAT FLYOVER ON G T ROAD

Heavy flow of Commercial Vehicles from Rohtak Road and other entry roads enter into Panipat City even though their destination is not Panipat which results in heavy traffic congestion and creates lot of air and noise pollution in the city. The project for providing byepass to connect NH 71 - A from Village Dahar to G.T. Road at Village Sewah before start of fly over has already been approved and also the project of HUDA for providing partial byepass from G.T. Road Sector-18 before Toll Plaza to Barsat Road is under proposal.

3. RAILWAY GOODS HANDLING

Panipat has Railway Goods Handling Yard at the Centre of the City. Goods such as cement, clinker for cement industry, etc are handled at large volumes. This contributes to considerable amount of Air Pollution in the area.

4. BURNING OF WHEAT STUBBLE/PADDY STRAW IN OPEN FIELDS

Wheat stubble as well as paddy straw which is left over during the harvesting season of wheat and paddy is burnt in some areas by the farmers which causes the air pollution in the area. To curb the burning of wheat stubble/paddy straw in open fields, the Board has launched the awareness campaign for the farmers on this issue and has organized the awareness programmes at each block level in association with the Agriculture Department and District Administration

3.6.3.2 IDENTIFICATION OF LOW COST AND ADVANCED CLEANER TECHNOLOGY FOR AIR POLLUTION CONTROL

1. Conversion of furnaces / boilers wherever solid fuel is in use into Fluidized Bed Type.
2. Use of lime bed in furnaces wherever feasible.

3.6.3.3 INTRODUCTION AND SWITCH OVER TO CLEANER FUEL

One LPG station for Auto Fuel is functional in Panipat. More CNG / LPG / Propane stations are required. NFL unit is in the process of implementation of Ammonia feed stock revamping by changing over of the feed stock and fuel from fuel Oil to natural gas.

3.6.4 NEED OF INFRASTRUCTURE RENOVATION

3.6.4.1 DEVELOPMENT OF ROADS

The following roads are needed to be renovated / repaired

1. Gohana Road
2. Sanoli Road
3. Barsat Road

4. Babhel Road
5. Jatal Road
6. Internal Roads of Industrial Areas

3.6.5 IMPACT OF CEPI SCORE AFTER INSTALLATION / COMMISSIONING OF FULL FLEDGED AIR POLLUTION CONTROL SYSTEMS

The impact of CEPI Score after implementation of Action Plan points shall be notable and anticipated within safe limits.

3.6.6 MANAGERIAL AND FINANCIAL ASPECTS

3.6.6.1 COST AND TIME ESTIMATES

All concerned departments and agencies shall be asked to give cost and time estimates.

3.6.6.2 IDENTIFIED PRIVATE/PUBLIC SECTOR POTENTIAL INVESTORS AND THEIR CONTRIBUTION/OBLIGATION

Yet to be identified

3.6.6.3 GOVERNMENT BUDGETARY SUPPORT REQUIREMENT

To be obtained from the Finance Department

3.6.6.4 HIERARCHICAL AND STRUCTURED MANAGERIAL SYSTEM FOR EFFICIENT IMPLEMENTATION

Hierarchical and Structured Managerial System for Efficient Implementation is yet to be devised & decision to be taken by the Govt. of Haryana.

3.6.7 SELF MONITORING SYSTEM IN INDUSTRIES (Stacks, APCDs, ETC)

NFL is the only industry in the study area has the Self Monitoring System

3.6.8 DATA LINKAGE TO SPCB/CPCB (OF MONITORING DEVICES)

No industry has established linkages with HSPCB / CPCB so far.

IV. LAND ENVIRONMENT

(SOIL AND GROUND WATER)

4.1 SOIL CONTAMINATION

4.1.1 PRESENT STATUS OF LAND ENVIRONMENT SUPPORTED WITH MINIMUM ONE YEAR ANALYTICAL DATA

1. INDUSTRIAL SOLID WASTE DISPOSAL

Inadequate industrial solid waste handling system significantly contributes to the Land Pollution.

2. HAZARDOUS WASTE

There are 190 industries located in Panipat Municipal limits & its industrial clusters which are covered under HWM (MH and TM) Rules, 2008 Hazardous Waste Inventory of which is enclosed as Annexure – J. Quantity of hazardous waste generated from these units is about 1500 MT/day and 92 units are having the stockpile quantity of hazardous waste more than 10 MT.

Most of the industrial units located within Municipal Limits and around Panipat have established Hazardous Waste Storage Facilities and started using Common TSDF facility recently developed by Haryana Environmental Management Society at Pali, District Faridabad.

The detail of Hazardous Waste generated is as under:-

Landfill waste 1060 M.T./year

Recyclable waste 440.68 M.T./year

Incinerable waste Nil

3. MUNICIPAL SOLID WASTE DISPOSAL

Even though, Municipal Corporation, Panipat works effectively in the city towards collection of domestic solid waste but it does not have proper disposal / treatment site. Approx. 120 MT of Municipal Solid Waste is generated everyday.

No particular Municipal Solid Waste treatment and disposal site has been developed in Panipat District. Municipal Solid Waste is being dumped at various undesignated places other than the identified place. The Municipal Solid Waste specific site has been identified by the Municipal Corporation, Panipat having area of 8 acres at Village Nimbri for development of secured land fill site and treatment facilities.

4. BIO MEDICAL WASTE

There are 100 Health Care Units / Hospitals / Clinics located in Panipat Municipal Area and the Bio-Medical Waste generated from these Units are collected, treated and disposed by M/s Divya Waste Management Company, Village Kandela, District Jind at their Common Treatment and Disposal Facility, who has been authorized by HSPCB for proper and scientific treatment of the Bio-Medical Waste of the units in Panipat. These units have provided the Needle Destroyer in their units and segregating their waste.

5. INADEQUATE DRAINAGE AND SEWERAGE SYSTEM

The domestic and industrial sewerage is incomplete in the city. Many places have not connected to the main sewerage system and terminated locally. The available sewerage system is also connected to open drains at several places. The Panipat Drain & Nohra Drain passing through Panipat get filled with silt and waste due to its regular use which leads to land contamination due to percolation.

These drains need regular cleaning and desilting for proper flow of water. Presently the desilting and cleaning is done by the concerned authority once in a year. There is a proposal for lining, covering and beautification of central drainage system of Panipat City i.e. Panipat Drain.

Most of the household did not have authentic sewer connections and sewage effluent / wastewater is partially discharged into sewer lines as well as in open drains.

Improper drainage system causes cess pool in the city.

6. NON AVAILABILITY OF STORM WATER DRAINS AND RAIN WATER HARVESTING SYSTEM

Since the Municipal Sewerage is incomplete, considerable amount of health hazard and environmental pollution is common in every raining day and percolation of polluted water is imminent. Separate Storm Water Drains has not been provided in most of the area and are generally mixed with sewerage system resulting in excess load on STPs.
Most of the commercial and government buildings are without rain water harvesting system.

4.1.2 CRITICAL LOCATIONS FOR LAND/SOIL POLLUTION ASSESSMENT AND GROUND WATER MONITORING

1. All Industrial Areas
2. Near Ash Dykes of NFL
3. Near Ash Dykes of PTPS
4. Near Composting Area of PCSM - Distillery

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)

Ground Water Status has been dealt in detail in Water Environment Section with substantial Analysis.

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/STORAGES ETC.

As discussed in 4.1.1

4.1.5 SOURCES OF SOIL CONTAMINATION

As discussed in 4.1.1

4.1.6 TYPES OF EXISTING POLLUTION

As discussed in 4.1.1

4.1.7 REMEDIES FOR ABATEMENT, TREATMENT AND RESTORATION OF NORMAL SOIL QUALITY

Yet to be assessed

4.2 GROUND WATER CONTAMINATION

Ground Water Contamination has been observed through Ground Water Monitoring in few places near to Drains and wherever water gets percolated.

4.2.1 PRESENT STATUS/QUALITY OF GROUND WATER

Ground Water Status has been dealt in detail in Water Environment Section with substantial Analysis.

4.2.2 SOURCE IDENTIFICATION (EXISTING SOURCES OF GROUND WATER POLLUTION)

Yet to be identified

4.2.3 GROUND WATER QUALITY MONITORING PROGRAM

HSPCB carries out Ground Water Quality Monitoring regularly. It shall monitor Ground Water at least once in four months.

4.2.4 ACTION PLAN FOR CONTROL OF POLLUTION INCLUDING COST/TIME ASPECTS

Yet to be ascertained

4.2.5 TREATMENT AND MANAGEMENT OF CONTAMINATE GROUND WATER BODIES ETC.

Yet to be evaluated

4.2.6 IMPACT ON CEPI SCORE AFTER ABATEMENT OF POLLUTION

On implementation of Action Plan, HSPCB anticipates to achieve CEPI score reduction substantially and within safe limits.

4.3 SOLID WASTE GENERATION AND MANAGEMENT

4.3.1 WASTE CLASSIFICATION AND QUANTIFICATION

4.3.1.1 HAZARDOUS WASTE

The generation of hazardous waste is estimated at the rate of 1500 MT/ day. Classification of hazardous waste is given as Annexure – J.

4.3.1.2 BIO-MEDICAL WASTE

The generation of Biomedical waste is estimated at the rate of 100 Kg/ day.

4.3.1.3 ELECTRONIC WASTE

Electronic Waste Inventory is yet to be carried out.

4.3.1.4 MUNICIPAL SOLID WASTE/DOMESTIC WASTE/SLUDGES FROM ETPS/CETPS/STPS AND OTHER INDUSTRIAL SOURCES

Municipal Solid Waste Generation is estimated at 120 MT / day.

4.3.1.5 PLASTIC WASTE

Plastic Waste Inventory is yet to be carried out.

4.3.1.6 QUANTIFICATION OF WASTE AND RELATIVE CONTRIBUTION FROM DIFFERENT SOURCE

Municipal Solid Waste Generation is estimated at 120 MT / day.

Biomedical Waste is estimated at the rate of 100 Kg / day.

Biomedical Waste consists of following (Average Generation):

Human Anatomical Waste	16 Kg
Animal Waste	18 Kg
Sharps	14 Kg
Discarded Medicines	09 Kg
Solid Waste of Category 6 and 7	26 Kg
Liquid Waste	17 Liters

4.3.2 IDENTIFICATION OF WASTE MINIMIZATION AND WASTE EXCHANGE OPTIONS

Yet to be identified

4.3.3 REDUCTION / REUSE / RECOVERY / RECYCLE OPTION IN THE CO-PROCESSING OF WASTE.

Exnora Panipat Navnirman Samiti processes 60 MT/day of Biodegradable Municipal Solid Waste using Vermi Composting Technique. The produce Vermi Compost is an effective natural manure and sold to farmers and for horticultural purposes.

Panipat is the third city where such kind of facility has been developed after pioneering facility installed at Pammal, Chennai.

4.3.4 INFRASTRUCTURE FACILITIES

4.3.4.1 EXISTING TSDF / INCINERATION FACILITIES INCLUDING CAPACITIES

Panipat uses HW TSDF facility developed by Haryana Environmental Management Society at Village Pali, District Faridabad. The TSDF is having a capacity of 12,00,000 M^3. Incinerator of 500 Kg/Hour is under installation in this TSDF unit.

The service provider of BMW TSDF operates for the area M/s Divya Waste Management, Village Kandela, District Jind. The installed capacity of the TSDF is 50 Kg/ Hour.

4.3.4.2 PRESENT STATUS/PERFORMANCE AND NEED OF UPGRADATION OF EXISTING FACILITIES INCLUDING ENHANCEMENT OF CAPACITIES

The existing capacities of the present TSDFs are adequate now and for the near future.

4.3.4.3 TREATMENT AND MANAGEMENT OF CONTAMINATE WASTE DISPOSAL SITES ETC.

Yet to evaluated

4.3.4.4 IMPACT ON CEPI SCORE AFTER PROPER MANAGEMENT OF SOLID WASTE

Upon implementation of Action Plan, HSPCB anticipate the impact on CEPI Score will be substantial and will be within the safe limits.

5. PPP MODEL

5.1 IDENTIFICATION OF PROJECT PROPOSALS (FOR BOTH THE OPTIONS i.e. TECHNOLOGY INTERVENTION AND INFRASTRUCTURE RENEWAL) FOR IMPLEMENTATION UNDER THE PPP MODE UNDER THE ACTION PLAN

A project proposal viz. Eco Profit submitted by GTZ is under consideration. In which, a group of textile industries will be selected and eco-friendly techniques shall be introduced with minimal cost impact. Technical training shall be provided at all levels to carry out performance. Results of Energy Audit shall be used as a tool for improvement. Environmental Audit shall give true picture of environmental performance improvement.

5.2 IDENTIFICATION OF STAKEHOLDERS/AGENCIES TO BE INVOLVED AND TO EVOLVE FINANCIAL AND MANAGERIAL MECHANISMS FOR IMPLEMENTATION OF PPP PROJECTS.

Yet to be identified

6. OTHER INFRASTRUCTURAL RENEWAL MEASURES

6.1 GREEN BELTS

Green Belt inside the HUDA developed Industrial Areas is spread at an area of 70 Acres with 50000 plants. HUDA plans to plant minimum 10000 trees this year and keep this as annual target. The significant developed park in Panipat is Town Park in 40 Acres of land. Including the Town Park HUDA developed parks in Panipat City are spread in 80 Acres of land.

Municipal Corporation of Panipat maintains 64 Parks in the city. The parks maintained by MCP consist of about 10000 Plants and accommodated in land area of about 80 Acres. MCP keeps itself a target of planting minimum 2000 trees every year.

There is an open space of 2.5 Acres in Model Town available for Green Area and has been proposed for development. The mud obtained from Desilting of Drains are proposed to be used in this area development.

6.2 DEVELOPMENT OF INDUSTRIAL ESTATE(S)

Concerned departments will take initiative in this regard and HSPCB will pursue and motivate them for the initiative.

6.3 DEVELOPMENT/SHIFTING OF INDUSTRIES LOCATED IN THE NON – INDUSTRIAL AREAS TO THE EXISTING/NEW INDUSTRIAL ESTATES

As described in 2.6.4.7

7. SPECIFIC SCHEMES

7.1 GIS - GPS SYSTEM FOR POLLUTION SOURCES MONITORING

Yet to be evaluated

7.2 HYDRO-GEOLOGICAL FRACTURING FOR WATER BODIES REJUVENATION

Yet to be assessed

7.3 IN-SITU REMEDIATION OF SEWAGE

Technology evaluation of In-Situ Remediation of Sewage is under process.

BIO - MIMICRY

It was observed that rivers / rivulets clean themselves with the help of microbes present on the river-bed and water itself.

1. It was also observed that this self-cleansing process often broke down due to too much overload of pollution.
2. The idea has to find ways and means of bio-augmenting this self cleansing process by introduction of harmless and naturally existing microbes through innovative means, while ensuring that these microbes find a substrate to multiply themselves and clean the water.

Bio-mimicry is an emerging discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems.

7.4 UTILIZATION OF MSW INERT BY GAS BASED BRICK KILNS

Yet to be evaluated

7.5 CO-PROCESSING OF WASTE IN CEMENT INDUSTRIES

Yet to be assessed

8. PUBLIC AWARENESS AND TRAINING PROGRAMMES

8.1 HSPCB uses Eco Clubs as a tool for Public Awareness. HSPCB also conducts Awareness Programmes for industries and general public also.

Awareness Programmes to curb Air Pollution from burning of Wheat Stabble in each and every Block of Panipat was carried out in association with District Administration and Agriculture Department.

9. OVER ALL IMPACT

9.1 OVERALL IMPACT OF INSTALLATION/COMMISSIONING OF POLLUTION CONTROL EQUIPMENTS / MEASURES ON THE CEPI SCORE

Detailed Action Plan prepared and submitted herein shall help to determine the right pathway for implementation of necessary things to enhance the quality of life in Panipat city and to achieve a reduced CEPI score. By implementing the proposed actions, HSPCB believes to attain a CEPI score of below 40.

The proposed achievement of Water Pollution is estimated at BOD load of 700 Kg/Day from the existing 1650 Kg/Day.

The proposed achievement of Air Pollution is estimated at Particulate load of 6500 Kg/Day from the existing 7500 Kg/Day.

10. ASSESSMENT OF TECHNO – ECONOMIC FEASIBILITY

10.1 ASSESSMENT OF TECHNO-ECONOMICAL FEASIBILITY OF POLLUTION CONTROL SYSTEM IN CLUSTERS OF SMALL / MEDIUM SCALE INDUSTRIES.

Performance evaluation of Pollution Control Devices is at present done only by Design Verification and Output Result of System Outlet by HSPCB. Suitable self and third party evaluation and environmental audit is proposed for the major polluting units.

11. BIO-COMPOST AND BIO FERTILIZER

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 RUNOFF INTO THE NATURAL WATER RESOURCES FROM AGRICULTURAL FIELDS (THROUGH GOVERNMENT POLICY)

The Rural Development Agency of District Administration establishes about 60 Gobar Gas Plants every year and the digested Cow Dung is used as Bio Fertilizer.

The study area being urban does not have these types of plants. Further development in this regard is yet to be analyzed.

V. PROPOSED ACTION POINTS

ACTION PLAN – WATER

12 Summary of proposed action points for Panipat Town

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

Sr. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders/ Agencies involved	Time limit	Cost	Remarks
1.	Compliance of Pollution Control Norms for Effluents	HSPCB, Industry	On going activity	--	HSPCB will ensure the compliance of norms by industries.
2.	Optimization of operational capacity of existing STPs & CETPs and gap analysis	HSPCB	March 2011	--	- HSPCB will conduct detailed analysis to quantify the efficacy of the existing system and to identify the problem area for effective operation.
		PHED	31.08.2011	3.5 Crore	- Public Health Engineering Department will optimize operation and repair the 35 MLD at Vill. Sewah and 10 MLD STP at Jattal Road, Panipat as the said STPs are not achieving the norms.
		HUDA	30.11.2010	Project Cost not submitted by the Line Deptt.	- HUDA will optimize the operations of 21 MLD capacity CETP in sec. 29, Part-II, Panipat as the said CETP is not achieving the norms
3.	Performance evaluation and up gradation of ETPs of major polluting units mentioned as per Ann-K.	HSPCB, Industry	March 2011	---	Performance evaluation of existing ETPs will be carried out by HSPCB and up gradation wherever required will be carried out by concerned industry.
4.	Performance monitoring of STP's/CETP's i) For STPs	HSPCB PHED	On going activities On going activity	--- ---	HSPCB will ensure Regular Monitoring for operational process parameters viz. MLSS, MLVSS, DO and Inlet and outlet Water Quality by Public Health Engineering Department.
	ii) For CETPs	HUDA	On going activity	---	HSPCB will regularly monitor the performance of CETP installed and operated by HUDA
5.	Installation of Magnetic Flow Meter by the industrial units.	Industries HSPCB	March 2011	Cost of the Magnetic Flow meter will be borne by the industries	HSPCB will ensure that magnetic flow meter are installed on all sources of water supply.
6.	Installation of Online pH meter by the industrial units	Water Polluting Industries HSPCB	March 2011	Cost of the online PH meter will be borne by the industries.	HSPCB will ensure that online pH meters are installed on the ETPs.

7.	Cleaning and De-silting of sewers and internal drains for removal of cess pools in the town i) Sewers ii) Internal Drains	 PHED HUDA MCP	 31.08.2011 31.08.2011 31.08.2011	 2.00 Crore Project cost not submitted by the line Deptt. 50.00 Lacs Per Annum	MCP, PHED and HUDA will regularly clean the sewers and internal drains and storm water drains every year.
8.	Awareness programmes on Environmental Issues particularly with reference to water conservation and control of water pollution by involving NGOs, Industrial Association and student community	Environment Deptt. HSPCB Education Deptt. Distt. Administration MCP NGO Industrial Association PHED	On going Activity On going Activity	5.0 Lacs 20.00 Lacs	HSPCB will organize Awareness programmes amongst the industries, Civic Authority, Students and members of Eco-Club particularly with reference to recycle and reuse of effluent, Waste minimization, Water Conservation with the help of NGOs and Industrial Association.
9.	Regular campaigning and awareness drive for proper and authentic household water supply connections	PHED	On going Activity	Project cost not submitted by the line Deptt.	PHED will hold the regular campaign awareness programmes.
10.	Health Impact Study in & around the area of Sector 29, Part-II, HUDA allocated for shifting of dyeing units.	HUDA HSPCB	May 2011	Project cost to be submitted by the line Deptt.	HUDA will get conducted the Health Impact assessment study/health survey in & around the areas of Sector 29, Part-II, HUDA from Health Deptt./expert agencies before and after the shifting of industries for assessing the impact due to the industries to be shifted.

ACTION PLAN – AIR

12.1 SHORT TERM (UPTO 1 YEAR, INCLUDING CONTINUOUS ACTIVITIES)

Sr. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders/ Agencies involved	Time limit	Cost	Remarks
1.	Compliance of Air Emission Norms	HSPCB Industries	March 2011	HSPCB will use its own infrastructure.	HSPCB will ensure the compliance of norms by industries
2.	Performance monitoring of APCDs of major polluting industry as mentioned as per Annexure-L	HSPCB.	February 2011	HSPCB will use its own infrastructure.	Regular Monitoring of APCDs installed by industrial unit will be carried out by HSPCB and if performance found in adequate the industry shall be directed to upgrade the APCDs.
3.	a.) Action plan for control of vehicular pollution.	Transport Department/ District Administration	December 2013	Project cost not submitted by line Deptt.	CNG Stations shall be provided for control of vehicular pollution.
	b.) Audit of PUC Centre.	Sec. RTA	March 2011	---	The Secretary, RTA, Panipat will registered vehicles with cleaner fuel and Bharat-IV complying Public vehicle and Bharat Stage-III Commercial Vehicle. The Secretary RTA will ensure regular audit to issue performance certificate to all vehicular emission checking facilities existing in the Panipat District. However no Action Plan has been received from the Transport Deptt.
4.	Awareness campaign to curb burning of wheat stubble/paddy straw in open fields and for other Environmental issues and involvement of NGOs. Industrial Association and Student community.	HSPCB. Local Admn. Eco Clubs NGOs Deptt. of Non-conventional Energy Resources	On going activity	5.0Lacs	Awareness campaign will be launched for farmers in association with Agriculture Deptt., District Admn., Eco Clubs and HSPCB to curb burning of wheat stubble/ paddy straw in open fields by educating the farmers to use rippers for removal of the waste wheat stubble & paddy straw from the fields and to utilize the same as manure/cattle fodder.
			July 2011		-HSPCB will consult the department of Non- conventional Energy Resources to identify technologies for recovery of energy from wheat stubble and paddy straw.

5.	Installation of Dust suppression System in Coal handling section of Thermal Power Stations	PTPS	March 2011	1.94 Crore	Water Sprinkling System has been provided only in Coal Handling Unit No. 3 and PTPS will also provide the same in the Coal Handling Units No. 1 and 2 also.
6.	Installation of New Air Monitoring stations in Panipat	HSPCB	March 2011	10.00 Lacs	Two New AAQ Monitoring stations have been sanctioned. - All the prescribed parameters for AAQ i.e. So2, No2, PM10, CO etc. will be monitored.

ACTION PLAN – WATER

12.2 LONG TERM (MORE THAN 1 YEAR)

Sr. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders/ Agencies involved	Time limit	Cost	Remarks
1.	Recycling and reusing of treated effluents by L & M scale industries as mentioned as per Ann-M	Industry HSPCB Industries Department	March 2012	---	The HSPCB will pursue Large and Medium industries to adopt latest technology for recycling and reusing of treated effluent.
2.	Adoption of cleaner technology by L & M scale industries as mentioned as per Ann-M	Industry Industries Department HSPCB	September 2012	---	- The HSPCB will pursue Large and Medium industries to adopt clean technology for recycling and reusing of treated effluent so that the existing pollution load can be reduced substantially.
					- The eco-friendly technology to be adapted by Textile dying unit (a) these units should adopt low brine and high dye ratio to reduce the water consumption (b) Reusing the less polluting water stream in felt washing and other purpose.
					- The L&M dyeing units which are not under the project of shifting of dyeing units will adopt the cleaner technology
3.	Upgradation of Existing STPs.	PHED	Feasibility plan to be submitted by June 2011 & Implement ation by December 2012.	Project cost yet to be submitted by the Deptt.	- PHED will submit the feasibility plan for up gradation of existing STPs alongwith the project cost by June 2011. - Public Health Engineering Department will up grade the existing STPs at Vill. Sewah (35 MLD Capacity) & STP at Jattal Road, Panipat (10 MLD Capacity) by December 2012 subject to availability of funds to the implementing agency.
4.	Capacity addition by installation of new CETPs as per gap analysis in industrial areas/individual ETPs	MCP Concerned Industrial Association Concerned industries HSPCB	Feasibility plan to be submitted by June 2011 & Implement ation by December 2014.	Project Cost yet to be submitted by the line department.	- HSPCB is the nodal agency. - MCP will submit the feasibility plan for installation of new CETP in the old Industrial Area alongwith respective Industrial Associations and project cost by June 2011. - The new CETP to be installed by Dec. 2014 subject to availability of funds to the implementing agency. However, individual units have been directed to install separate ETPs for the treatment of Trade Effluents and the compliance shall be monitored by the Board.

		HUDA Concerned Industrial Association Concerned industries	Feasibility plan to be submitted by June 2011 & Implement ation by December 2014.	Project Cost yet to be submitted by the line department.	- HUDA has to install the second module of CETP of capacity 21 MLD in Sec.29, Part-II, Panipat under the project of shifting of dyeing units. - HUDA to submit the feasibility plan for installation of 21 MLD CETP by June 2011 and installation of the same to be completed by Dec. 2014 subject to availability of funds to the implementing agency. However, individual units have been directed to install separate ETPs for the treatment of Trade Effluents and the compliance shall be monitored by the Board.
		HUDA Concerned Industrial Association Concerned industries	Feasibility plan to be submitted by June 2011 & Implement ation by December 2014.		- The HUDA is required to install new CETP in industrial Sec. 25, part.1 & 2, and Sec. 29, part 1 alongwith respective industrial association and to submit the feasibility plan alongwith the project cost by June 2011. - The new CETPs to be installed by Dec. 2014 subject to availability of funds to the implementing agency. However, individual units have been directed to install separate ETPs for the treatment of Trade Effluents and the compliance shall be monitored by the Board.
5.	Capacity addition by installation of new STPs as per gap analysis in their respective areas	PHED	Feasibility plan to be submitted by June 2011 & Implement ation by December 2015.	70.00 Crores	- The gap analysis for installation of new STPs should be estimated on the basis of projected population and future development and the proposal for installation of new STP of 20 MLD & 25 MLD should be revised accordingly and the plan for the same should be submitted by June 2011 and implementation by Dec. 2015 subject to availability of funds to the implementing agency.
6.	Action Plan for 17 Category (L&M) industry for zero discharge and its implementation i.e. i) National Fertilizers Ltd, ii) Panipat Co-operative Sugar Mill (Distillery Unit) & iii) Panipat Co-operative Sugar Mill	Industry HSPCB	March 2013	---	17 category large and medium units operating in Panipat Town are complying the provisions of CREP guidelines. - HSPCB will consult other SPCBs to chalk out the plan for attaining zero liquid discharge in 17 category L&M industries. -NFL to prepare the feasibility plan for attaining zero discharge in order to avoid discharge of overflow of ash pond into Nohra Drain by June 2011 and to implement the same by March 2013.

7.	Relocation of polluting units from non confirming areas to designated areas i.e. Sector-29, Part-II, Panipat	HUDA Industries	May 2011	---	Implementation of High Court Order Dt. 18.05.2010 in CWP No. 8497 of 2009 will be done by HUDA and industries covered under shifting project.
8.	Development of New industrial sector for Relocation of polluting units from non confirming areas not allotted the plots in Sector-29, Part-II, Panipat	HUDA MCP Distt. Administratio n. HSIIDC T&CP HSPCB	Dec.2015	Project cost yet to be submitted by the Deptt.	- Panipat being a historical ancient city has been affected by the pollution created by the dyeing units. Most of the dyeing units were operating in residential areas of the city of Panipat & working without Effluent Treatment Plant and generating untreated trade effluents causing water pollution in the whole city. - That a scheme was prepared to shift all such dyeing units of Panipat to a specific area earmarked for them. Consequently, Sector 29 Part-II, Panipat was developed by HUDA and a thorough survey was conducted for shifting such type of units in Sector-29 Part-II, HUDA. Concerned Deptts. has not submitted proposal regarding development of new industrial sector for relocation of polluting units which had came after the survey held during the year 2001-02 in the non confirming areas. The concerned deptts. Will prepare scheme for rehabilitation/relocation of the polluting units from non confirming areas in new industrial sector to be developed after conducting the fresh survey.
9.	Laying of Separate Storm Water Drains	MCP	5 years	80.00 Crores	MCP has submitted the proposal regarding laying of Separate Storm Water Drains after availability of funds from the Govt. within 5 years.
10.	Connecting the uncovered sewered area with sewer system	PHED	June 2012	16.76 Crores	PHED has submitted proposal for laying 24 KM of Sewers of various sizes in uncovered areas after availability of funds within 2 years.
11.	De-Silting of Panipat drain & Nohra Drain for easy flow	MCP	On going activity	25.oo Lacs Per Year	MCP will do the De-silting of Panipat Drain within municipal area/Limits on yearly basis & to submit the proposal/plan for managing & disposal of the dredged material from the drain
		HUDA	On going activity	Project cost not submitted by line Deptt.	- HUDA has not submitted any proposal for De-silting of Panipat drain in their jurisdiction. However HUDA will do the

					De-silting of Panipat drain in their jurisdiction on yearly basis & to submit the proposal/plan for managing & disposal of the dredged material from the drain.
		IRRIGATION Deptt.	On going activity	Project cost not submitted by line Deptt.	- Irrigation Deptt. has not submitted any proposal for De-silting of Panipat Drain & Nohra Drain in their jurisdiction. However Irrigation Deptt. will do the De-silting of Panipat Drain & Nohra Drain in their jurisdiction on yearly basis & to submit the proposal/plan for managing & disposal of the dredged material from the drain.
12.	a) Sewer connections to all households	PHED	June 2012	393.00 Lacs	- PHED has submitted proposal for providing sewer connections to the consumers in their jurisdiction to prevent the ground water from being contaminated by feacal coliform subject to availability of the funds. Further, PHED to submit the proposal for treatment of additional domestic effluent generated after providing sewer connections to all households.
13.	Utilization of treated effluent from STPs/CETPs	PHED HUDA	June 2012	Project cost not submitted by line Deptt.	PHED and HUDA has not submitted any proposal.
14.	Construction of lined/Pucca polishing pond	IOCL	Dec. 2011	Project cost not submitted by the unit	IOCL have to make their existing kachha pond to lined/Pucca pond for storage of surplus treated effluent.

ACTION PLAN – AIR

12.2 LONG TERM (MORE THAN ONE YEAR)

Sr. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders/ Agencies involved	Time limit	Cost	Remarks
1.	Adoption of Clean Technologies, including use of low sulphur fuel and clean fuel by the industry	Industry Industries Deptt.	Sept.2011	--	HSPCB will ensure that all the new boiler/thermic fluid heater/ furnaces installed by the unit should use cleaner fuel viz. CNG/LNG/LPG/HSD.
2.	a) Implementation of Action Plan to curb vehicular pollution	District Administration State Transport Authority	Action Plan to be prepared by March 2011	Proposal alongwith Project Cost not received from Line Deptt.	-The District Admn and the State Transport Authority will ban the old commercial vehicles.
		PWD B & R Deptt.\ NHAI	Implement ation by December 2012		- NHAI, B&R Department will synchronize traffic signals on the roads in their jurisdiction to de-congest the traffic flow.
		MCP	Dec.2012	8.0 Crore	- MCP has submitted the proposal for synchronize traffic signals on the roads in their jurisdiction within 2 years subject to availability of the funds.
	b) Implementation of Action Plan for Vehicle parking policy.	MCP	Dec.2012	Project Cost not received from Line Deptt.	- The MCP has not prepared the parking policy in their jurisdiction. - HSPCB to coordinate with concerned Deptt. for finalization of the policy and proposal.
3.	Construction of Bye Pass Roads for non Panipat Bound Traffic Movement	NHAI	March 2013	Project Cost not received from Line Deptt.	NHAI has submitted the action plan for construction of by-pass road connecting NH-71A to NH-1 to be completed within 30 months.
		PWD (B&R) Deptt.	Concerned Agency to give firm dead line		PWD B&R Deptt. Panipat has not submitted any proposal for constructing the by-pass roads for Panipat town.
4.	Upgradation of ESPs by Panipat Thermal Power Station Unit No.2 Unit No.7 & 8 Unit No.5 Unit No.6 Unit No.3&4	PTPS	 24-11-10 31-03-13 31-03-11 11-03-11 31-03-14	 20 Crores 12 Crores 2 Crores 5 Crores 400 Crores	PTPS is directed to upgrade the existing ESPs. The unit has submitted proposal regarding repair, maintenance and overhauling of the ESPs.

5.	Rehabilitation of existing Ash Ponds including installation of Sprinklers for dust suppression and utilization of Fly Ash of Thermal Power Station	PTPS	March 2012	5.00 Crore with further annual recurring cost Rs.50 Lacs annually	- Disposal of Fly Ash collected in the ash ponds will be disposed off by PTPS & NFL as per schedule & provisions given in the fly ash notification and will cover the fly ash dyke area completely filled, with soil will plant trees on the ash pond dyke to prevent the fly ash from being air borne. - Haryana Power Generation Corporation Limited will submit the details of fly ash utilization on quarterly basis to the Board.
		NFL	March 2013	Project Cost not received from the unit.	- NFL to submit the proposal regarding installation of sprinkler for dust suppression, rehabilitation of existing ash pond and utilization of Fly Ash.
6.	Relocation of Railway Goods Shed/Yards used for cement/clinkers	Railway Deptt.	March 2012	Project Cost not received from Line Deptt.	Loading/unloading of clinkers/ cement material at railway yards which are open to sky causes dust emissions in the area. However Indian Railway has not submitted the plan for shifting the goods shed/yard.
7.	Installation of online continuous stack monitoring by 17 category (L&M) air polluting units and networking of the same with State and National Database.	Industry HSPCB	Sept. 2011	Cost not indicated by the industry.	HSPCB to monitor installation of online continuous stack monitoring by 17 category (L&M) polluting units and networking the same with State and National Database.
8.	Implementation of Ammonia feed stock revamping project by changing over of the feed stock i.e. fuel oil to natural gas by NFL	NFL	March 2013	1293.00 Crores	The project is under implementation which will result reduction of Coal Consumption to less than 1200 MT / day i.e. 33% by implementation of Ammonia Revamp Project. This will help to reduce Air, Water and Land Pollution considerably.
9.	Renovation/ Repair of roads in bad condition	PWD (B&R)	Dec. 2011	11.78 Lacs	PWD B & R has submitted the annual estimate for road repairs within their area within MC limit.
		MCP	Dec. 2011	Project Cost not received from Line Deptt.	MCP has not submitted the annual estimate for road repairs within their jurisdiction.
10.	Flaring from Panipat Oil Refinery (IOCL) & Panipat Naptha Craker Project.	Panipat Oil Refinery & Naptha Craker Project.	March 2012	Project cost not submitted by the unit.	Panipat Oil Refinery (IOCL) & Panipat Naptha Craker to submit the plan for installation of flare gas recovery system from flare towers.

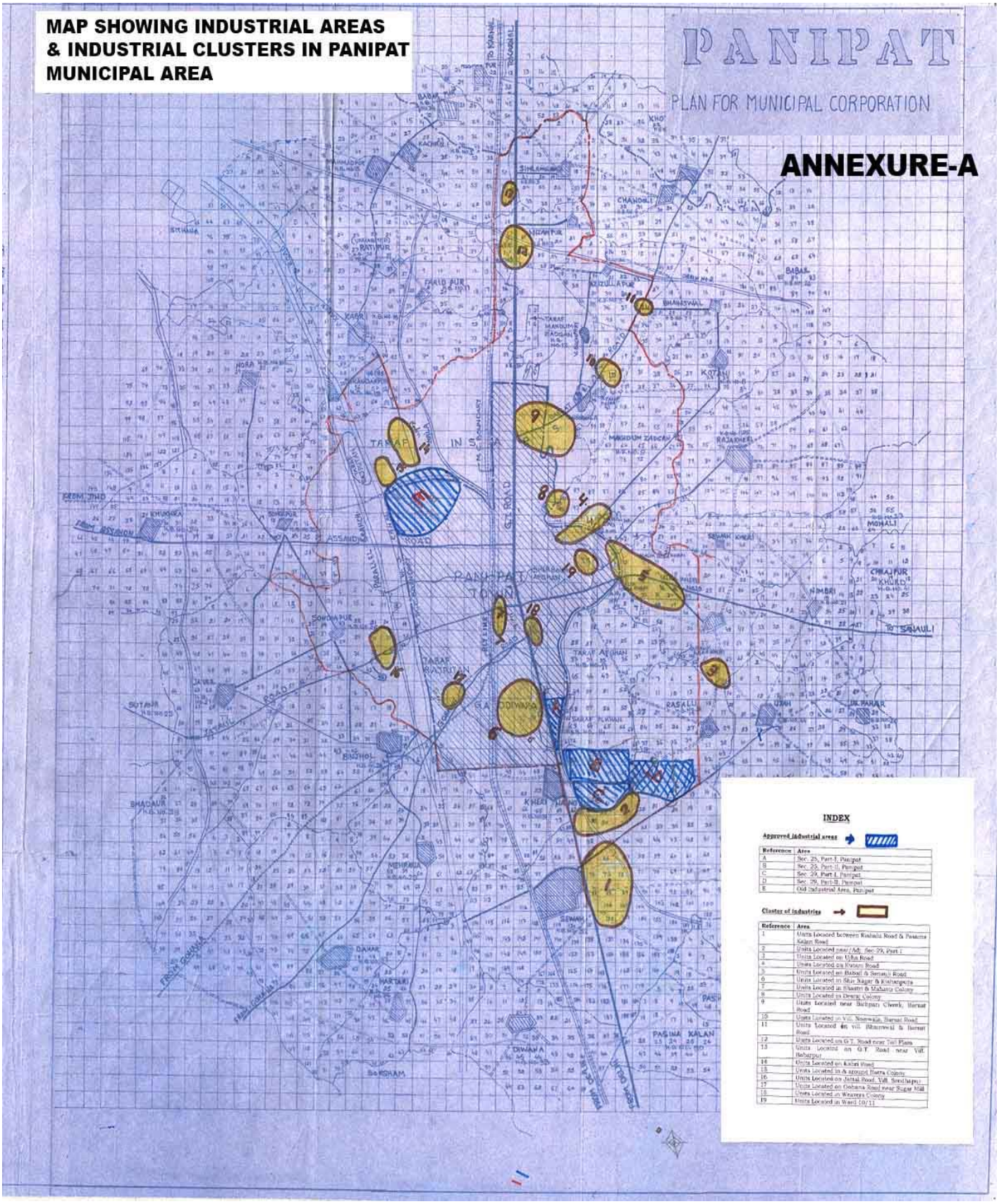
ACTION PLAN – LAND

Sr. No.	Action Points (including source & mitigation measures)	Responsible Stake Holders/ Agencies involved	Time limit	Cost	Remarks
1.	a) Action plan for development of municipal solid waste treatment and disposal site. b) Quantification & disposal technique regarding plastic waste.	MCP Urban Local Bodies Deptt.	Dec. 2010	--	-The land for development of Municipal solid waste treatment and disposal site has already been acquired in Village Nimbari, Panipat.
		MCP Urban Local Bodies Deptt.	Dec. 2010	--	-MCP has to submit the quantity of plastic waste generated & technique for the disposal of plastic waste.
2.	Development of Municipal Solid Waste integrated treatment and disposal facility including land fill site	MCP	March 2012	20 Crore	The expression of Interest for development of Municipal solid waste integrated treatment and disposal facility including land fill site has been called on BOOT basis by MCP but the same could not be finalized. Now, department is in process to re-advertise fresh EOI.
3.	Rehabilitation of existing MSW dumping sites	MCP	March 2012	2.oo Crore	Rehabilitation of existing MSW dumping sites will be done by Municipal Corporation by covering it with soil and arrangements to avoid Seepage of leachate into sub soil water subject to availability of funds to implementing agency. This is required to contain air pollution, ground water pollution and land pollution.
4	Hazardous waste generating unit to disposed off the hazardous waste in TSDF only	By all the HW generating industries	March 2011	---	HEMS have developed the common TSDF at Pali, Faridabad. The HW generating units will registered with HWTSDF for final disposal of Hazardous Waste. - Presently the units have made temporary storage sites within their factory premises for storage of Hazardous Waste.
5.	Compliance of BMW Rules by Health Care Units	HCFs	On going Activity	---	HSPCB to monitor the strict compliance of BMW, Rules by Health Care Facilities.
6.	Development of Green Belts and tree plantation	Forest Deptt. Industries MCP HUDA	On going Activity	---	- Forest Deptt. will develop green belt on vacant land provided by various Departments/Industries. - The concerned deptts. shall prepare

					& submit the proper Action Plan showing the present status and future plan alongwith the identification of areas for green belt development as per the norms fixed in the Master Plan of the area with respect to the area under green belt, No. and type of saplings to be planted.
7.	Development of open space/ parks and tree plantation	HUDA	On going Activity	Project cost not submitted by the line Deptt.	-HUDA will develop open spaces and park in their area. However HUDA has not submitted any proposal.
		MCP	Aug. 2015	50.00 Crore	-MCP will develop open spaces and park in their area. However MCP has submitted the proposal for the same.
8.	Installation of Rain Water Harvesting System wherever applicable in the buildings, institutions etc.	MCP HUDA NHAI Developers & Industries	On going Activity	---	At present HUDA is ensuring installation of roof top rain water harvesting system in buildings more than 100 Sq. meters size. MCP/HUDA/Private Developers/NHAI will ensure installation of rainwater harvesting system in the building/institutions/ flyovers. Guidance from India Road Research Organization will be obtained in this regard. - State Govt. has constituted State Level Committee under the chairmanship of Principal Secretary, Water Resources to formulate Policy guidelines w.r.t. Water Conservation & Water Harvesting.
9.	Future major buildings to adopt ECBC norms	Developers HUDA	On going activity	---	HUDA/Developers will adopt ECBC norms in all the major buildings in future i.e. after March 2011.
10.	Compliance of latest Fly Ash Notification regarding Disposal of Fly Ash by concerned Agencies/ Deptts.	PTPS & NFL Development Deptt. Agencies	Dec. 2014	Project cost not submitted by the Line Deptt.	PTPS/NFL and other concerned Deptt./Agencies will comply with the schedule and provisions of Fly Ash notification and will submit the progress report regarding the present status for utilization of fly ash.
11.	Lining, covering and beautification of central drainage system of Panipat City i.e. Panipat Drain	MCP Urban Local Bodies Deptt. HSPCB	Dec.2015	41.50 Crore	- A project report for lining covering and beatification of Central Drainage System of Panipat City i.e. Panipat Drain has been submitted to Govt. Of India under Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) for approval by MCP. - HSPCB will interact with the concerned deptts. for implementation of the same.

ANNEXURES

MAP SHOWING INDUSTRIAL AREAS & INDUSTRIAL CLUSTERS IN PANIPAT MUNICIPAL AREA



Annexure-I

List of intensive air polluting units

Sr.No.	Name & address of the unit
1	Abhitex International, Adjoining Plot No.139, Sector-29, Part-I, HUDA, Panipat
2	Anand International, Plot No.181, Sector-25, HUDA, Part-II, Panipat
3	Golden Apprels Exports (P) Ltd., Rishalu Road, Sewah, Panipat
4	Gopal Dye House, Plot No.176-177, Sector-25, Part-II, HUDA, Panipat
5	Gupta International, Passina Khurd Road, Sewah, Panipat
6	Mittal Processors (P) Ltd., Plot No.275, Sector-29, Part-II, HUDA, Panipat
7	Pan Overseas, Plot No. 13-14, Sector-25, Part-I, HUDA, Panipat
8	Riviera Home Furnishing, Plot No.235-237, Sector-29, Part-II, HUDA, Panipat

Annexure-K

List of the major polluting units for performance evaluation of Effluent Treatment Plant.

Sr.No.	Name of the units
1	Abhitex International, Adjoining Plot No.139, Sector-29, Part-I, HUDA, Panipat
2	Abhitex International, Plot No.3-4, Sector-29, Part-I, HUDA, Panipat
3	Gupta International, Pasina Khurd Road, Sewah, Panipat
4	Mahajan Processors/Overseas (P) Ltd., Post Box No.15, Old Industrial Area, Panipat
5	Sarla Handicrafts (P) Ltd., Near Flora International, Sector-29, Part-I, Panipat
6	Rugs India, Plot No.183 A&B, Sector-25, Part-II, Panipat
7	Panipat Co-operative Sugar Mills (Distillery Unit), Gohana Road, Panipat
8	Panipat Co-operative Sugar Mills, Gohana Road, Panipat
9	Raj Woollen Industries, E-2, Industrial Area, Panipat
10	National Fertilizers Ltd., Gohana Road, Panipat
11	Harisons & Harlaj Ltd., Plot No.187, Sector-25, Part-II, Panipat
12	Gopal Dye House, Plot No.176-177, Sector-25, Part-II, HUDA, Panipat
13	Golden Apprels Exports (P) Ltd., Rishalu Road, Sewah, Panipat
14	Anand International, Plot No.181, Sector-25, HUDA, Part-II, Panipat
15	Great Eastern Processors (P) Ltd., Plot No.188-189, Sector-29, HUDA, Panipat
16	Orion Processors, Plot No.144, Sector-29, Part-I, Panipat
17	Pan Overseas, Plot No. 13-14, Sector-25, Part-I, HUDA, Panipat
18	Rangoli Processors, Plot No.124, Sector-29, Part-I, HUDA, Panipat
19	Sainik Industries, H-53, Industrial Area, Panipat
20	S.K. Woollen Mills, Plot N.19, Sector-25, Part-I, HUDA, Panipat

Annexure-L

List of the major polluting units for performance evaluation of Air Pollution Control Devices.

Sr.No.	Name of the units
1	Abhitex International, Adjoining Plot No.139, Sector-29, Part-I, HUDA, Panipat
2	Abhitex International, Plot No.3-4, Sector-29, Part-I, HUDA, Panipat
3	Gupta International, Pasina Khurd Road, Sewah, Panipat
4	Mahajan Processors/Overseas (P) Ltd., Post Box No.15, Old Industrial Area, Panipat
5	Riviera Home Furnishing, Plot No.235-237, Sector-29, Part-II, HUDA, Panipat
6	Rugs India, Plot No.183 A&B, Sector-25, Part-II, Panipat
7	Panipat Co-operative Sugar Mills (Distillery Unit), Gohana Road, Panipat
8	Panipat Co-operative Sugar Mills, Gohana Road, Panipat
9	Raj Woollen Industries, E-2, Industrial Area, Panipat
10	National Fertilizers Ltd., Gohana Road, Panipat
11	Sheena Exports, Ujha Road, Panipat
12	Gopal Dye House, Plot No.176-177, Sector-25, Part-II, HUDA, Panipat
13	Golden Apprels Exports (P) Ltd., Rishalu Road, Sewah, Panipat
14	Anand International, Plot No.181, Sector-25, HUDA, Part-II, Panipat
15	Great Eastern Processors (P) Ltd., Plot No.188-189, Sector-29, HUDA, Panipat
16	Orion Processors, Plot No.144, Sector-29, Part-I, Panipat
17	Pan Overseas, Plot No. 13-14, Sector-25, Part-I, HUDA, Panipat
18	ABC Impex (P) Ltd., 6 KM Stone, Village Babarpur, G.T. Road, Panipat
19	Faze-3 Ltd., Opp. BBMB, Resi. Colony (Near Sector-29, HUDA Water Tanki), G.T. Road, Panipat
20	Mittal Processors (P) Ltd., Plot No.275, Sector-29, Part-II, HUDA, Panipat

Annexure-M

List of the L & M units to adopt cleaner/latest technology for recycling/reusing of treated effluent and waste minimization.

Sr.No.	Name of the units
1	Abhitex International, Adjoining Plot No.139, Sector-29, Part-I, HUDA, Panipat
2	Golden Apprels Exports (P) Ltd., Rishalu Road, Sewah, Panipat
3	R.K. Dyeing Industries, Behind Khadi Ashram, Shiv Nagar, Panipat
4	Kapoor Industries, G.T. Road, Village Machhrauli, Panipat
5	Mahajan Processors/Overseas (P) Ltd., Post Box No.15, Old Industrial Area, Panipat
6	Raj Woollen Industries, E-2, Industrial Area, Panipat
7	Rugs India, Plot No.183 A&B, Sector-25, Part-II, Panipat
8	Sheena Exports, Post Box No.84, Ujha Road, Panipat
9	Faze-3 Ltd., Opp. BBMB, Resi. Colony (Near Sector-29, HUDA Water Tanki), G.T. Road, Panipat
10	Riviera Home Furnishing, Plot No.235-237, Sector-29, Part-II, HUDA, Panipat
11	Orion Processors, Plot No.144, Sector-29, Part-I, Panipat
12	ABC Impex (P) Ltd., 6 KM Stone, Village Babarpur, G.T. Road, Panipat
13	Abhitex International, Plot No.3-4, Sector-29, Part-I, HUDA, Panipat
14	Anand International, Near Malik Petrol Pump, Sanoli Road, Panipat
15	Mittal Processors (P) Ltd., Plot No.275, Sector-29, Part-II, HUDA, Panipat
16	Shiv Shakti Exports, P.O. Box 180, Passina Kalan, Panipat
17	Gopal Dye House, Plot No.176-177, Sector-25, Part-II, HUDA, Panipat
18	Gupta International, Passina Khurd Road, Sewah, Panipat
19	Pan Overseas, Plot No. 13-14, Sector-25, Part-I, HUDA, Panipat
20	Paliwal Exports (P) Ltd., Paliwal Nagar, G.T. Road, Babail Road, Panipat