

REPORT ON
ENVIRONMENTAL STATUS OF NAGPUR
REGION



MAHARASHTRA POLLUTION CONTROL BOARD
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JUNE 5, 2004

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FOREWORD

I am pleased to release the Report on Environmental Status of Nagpur Region. The report presents information regarding various sources of pollution, action taken by MPC Board in terms of environmental surveillance monitoring and implementation of regulations. This is a first report of its kind brought out by MPC Board and we would welcome useful criticism, comments and suggestions for improvement.

The report is prepared by Shri. V.M. Motghare, Regional Officer, Nagpur under the guidance of Dr. D.B. Boralkar, Member Secretary. Shri. Ravindra Andhale, Field Officer assisted in editing. I appreciate their efforts.

June 5, 2004

(Mushtaq Antulay)

**Report on
Environmental Status of Nagpur Region**

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Report on Environmental Status of Nagpur Region

1. INTRODUCTION

Nagpur region is located in centre of India and eastern part of Maharashtra on Maharashtra plateau in the Wardha river basin and the Wainganga river basin. The Nagpur region is spread over 50666 sq.km. The temperature in the region ranges from minimum of 5.6°C to maximum 48°C. Average rainfall is about 1235 mm. The region is blessed with natural resources like perennial rivers, fertile soil, ground water, forests and minerals like coal, limestone, manganese, iron and other minor minerals. Industrial development is concentrated around the areas of these resources. The total forest cover in the region is about 26.01% i.e. 1334 hectares. The district-wise average forest covers are:

Nagpur	13.68%	Wardha	4.40%
Bhandara	10.00%	Chandrapur	5.26%
Gadchiroli	41.89%	Gondia	22.37%

Regional Office of Maharashtra Pollution Control Board is functioning at Nagpur since 1984. As of now there are 6 districts in its jurisdiction, namely;

Sr. No.	District	Area in sq.km.
1.	Nagpur.	9892
2.	Wardha	6309
3.	Chandrapur	10695
4.	Bhandara	3717
5.	Gadchiroli	14412
6	Gondia	5641

The region is covering 63 Talukas (14 Nagpur Dist., 8 Wardha Dist., 7 Bhandara Dist., 14 Chandrapur Dist., 12 Gadchiroli Dist., 8 Gondia Dist.) having Municipal Corporation at Nagpur and 30 Municipal Councils. District-wise break up of Municipal Councils is Nagpur-10, Wardha-6, Chandrapur-7, Bhandara-3, Gadchiroli-2, Gondia -2.

Flora and Fauna

Due to availability of water and fertile soil and good climate, the region has ample bio-diversity. 27% of region is covered under forests of different types of evergreen forests having major trees like mango, sissoo, jackfruit, jambul, hirada, bamboo etc., Deciduous forests are having teak, khair, banyan, peepul, neem, am, seal, palas, tamarind, amla etc. Thorny scrub forests are having major trees like aloe, tarvad, agave, bor, babhul, stunted grass etc. A variety of wild animals can be seen in the forests of the region. Ecologically important ones are tiger, leopard, deer, antelope, vangai, bison, wild boar and variety of migrating birds.

The major cultivated agriculture crops are cotton, oil seeds, rice, wheat, pulses and sugarcane etc. Similarly animals like buffalos, cows, sheeps, goats, poultry animals, fishes and prawns are also cultivated. The region is rich in natural resources and ecology.

Maharashtra Pollution Control Board is responsible for implementing various environmental legislations in the region. The organizational structure of Maharashtra Pollution Control Board in Nagpur region is as follows:

Regional Office, Nagpur

Office	Sub Regional Office-I	Sub Regional Office-II	Sub Regional Office-III	Sub-Regional Office Chandrapur	Regional Laboratory
Jurisdiction	Nagpur Urban	Nagpur Rural Wardha	Bhandara Gondia	Chandrapur Gadchiroli	Nagpur Region Amravati Region

2. POLLUTING AND WASTE GENERATING UNITS

Maharashtra Pollution Control Board has identified polluting sources. Consent/authorization is being granted for prevention and control of pollution as per legislation i.e. Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, Hazardous wastes (Management & Handling) Rules, 1989, Biomedical Wastes (Management & Handling) Rules, 1998 & Municipal Solid Waste (Management & Handling) Rules, 2000 notified under Environment (Protection) Act, 1986. Implementation of Recycled Plastic Manufacture and Uses Rules, 1999, other environmental legislations and High Court/Supreme Court directions is also done. Total numbers of industries in Nagpur region are as follows.

District	Red	Orange	Green	Total
Nagpur	707	1427	1262	3396
Wardha	34	45	107	186
Bhandara	37	44	407	498
Gondia	19	125	548	692
Chandrapur	154	92	300	546
Gadchiroli	9	25	160	194
Total	960	1758	2784	5512

The major industries in the region are listed in Table 1 (page 4)

Details of Hazardous waste Generating Units

Particular	Nagpur	Wardha	Bhandara	Gondia	Chandrapur	Gadchiroli	Total
No. of Hazardous waste Generating Units.	86	10	15	01	43	02	157
No. of Units operating without authorization & closed	10	02	-	-	02	-	14

(Note: Inventory of HW generating units is in progress, hence the total no. of HW generating units may change)

Table 1
LIST OF MAJOR INDUSTRIES IN NAGPUR REGION

Sr No	Type of Industry	Nagpur	Wardha	Bhandara	Gondia	Chandrapur	Gadchiroli	Total
1.	Coal Mines	10	--	--	-	32	--	42
2.	Thermal Power Plant	02	--	--	--	01	--	03
3.	Captive Power Plant	03	--	01	--	04	--	08
4.	Cement	--	--	--	--	04	--	04
5.	Distillery	--	--	01	--	--	--	01
6.	Fertilizer	--	01	--	--	--	01	02
7.	Iron & Steel	05	01	01	--	--	--	07
8.	Tanneries	04	--	--	--	01	--	05
9	Pesticides	04	--		--	--	--	04
10	Pharmaceuticals	--	--	01	--	--	--	01
11	Pulp&Paper	08	--	01	01	02	01	13
12	Edible Oil & Refinery	--	--	03	02	02	--	07
14	Aluminum	04	--	01	--	--	--	05
15	Dye & Dye Intermediate	--	--	--	--	02	-	02
16	Textile Industry	--	--	--	--	--	--	--
17	Sugar	02	02	01	--	--	--	05
18	Manganese Mines	--	--	02	--	--	--	02
19	Automobiles	01	-	01	--	--	--	02

Details of Bio-Medical Waste Generating Units

No. of Health Care facilities	No. of Beds	No. of Authorization issued by Regional Officer
780	10177	128

The major health-care establishments in the region are Govt. Medical Hospital, Nagpur (1400 beds), Indira Gandhi Medical College & Hospital, Nagpur (594 beds), Kasturba Hospital, Sewagram, Dist. Wardha (640 beds), Acharya Vinoba Bhave Rural Hospital Sawangi Meghe, Tal. & Dist Wardha (540 beds), Lata Mangeshkar Medical College and Hospisal, Digdoh, Nagpur (500 beds). Govt. Medical College and Indira Gandhi Medical College have installed incineration system while others are having primary treatment facilities for treatment of Bio-Medical Waste.

Municipal Corporation/ Councils in Nagpur Region

S.No.	District	Municipal Councils	Municipal Corporation
1.	Nagpur	10	01
2.	Gondia	02	--
3.	Bhandara	03	--
4.	Wardha	06	--
5.	Chandrapur	07	--
6.	Gadchiroli	02	--
	Total	30	01

Air and water quality of the area is monitored regularly. Monitoring for disposal of municipal solid waste, hazardous wastes, trade effluent & air pollutant emissions from industries is also done. The status of municipal solid waste and related information is shown in Table 2. (page 6-9)

Table 2
MUNICIPAL CORP. /COUNCIL (NAGPUR REGION)
Nagpur District

Sr No.	Name of Municipa Corp./ Council	Region/ SRO / District	Population	Source of Water	Qty. of Water consumption M3/D	Qty. of Domestic Efflu. M3/D	Treat. Facility Provided Whether Adequate/ inadequate	Mode of Effluent Disposal	Qty. of Solid Waste Genrt. MT/D	Treat. Facility for Solid Waste Generated	Mode of Solid Waste Disposal	Authorisation Status
1	Nagpur	Nagpur	2600000	Pench Proj.	370000	300000	Inadequate	Discharge in Nag River & Peeli River	800	Dump	Dumping Ground	Not Applied
2	Umrer	Dist: Nagpur	43578	Pandharabodi lake	4500	3490	E.T.P. Facility Not Provided	Discharge in to Local Nalla/ Bodi through open gutters	6	No Treatment	M.C. Compost Depot.	
3	Rantek	.	16743	Ran Sugar tank	1031	824	Inadequate	Discharging into Nagara Tank & Rakhi Tank	1	No Treatment	Land filling	
4	Kamptee	.	94334	Kanhan river	4000	2400	Inadequate	Discharging to Nalla	60	No Treatment	Land filling	Adm. Approval Granted
5	Narkhed	.	19423	Borewell	1200	730	Inadequate	Discharging to Nalla	3	For Composting	Compost Depo.	
6	Katol	.	24033	Borewell	1735	1041	Inadequate	Discharging to Nalla	10	No Treatment	Land filling	Adm. Approval Granted
7	Kamleshwar	.	16000	Borewell tubewell & Open well	1300	760	Inadequate	Discharging to Nalla	4	No Treatment	Land filling	
8	Khapa	.	14265	Kanhan river	1400	840	Inadequate	Discharging to Nalla	33	No Treatment	Land filling	
9	Mowad	.	136491	N.A.	1120	670	Inadequate	Discharging to Nalla	2.5	No Treatment	Land filling	
10	Mchpa	.	6793	Madhuganga water reservoir	700	400	Inadequate	Discharging to Nalla	2.7	No Treatment	Land filling	
11	Saoner	.	18000	Kolar river	1800	1260	Inadequate	Discharging to Nalla	6	No Treatment	Land filling	Adm. Approval Granted

Contd...

Table 2

MUNICIPAL CORP./COUNCIL (NAGPUR REGION)

Gondia & Bhandara District

Sr No.	Name of Municipa Corp./ Council	Region/ SRO / District	Population	Source of Water	Qty. of Water consumption M3/D	Qty. of Domestic Efflu. M3/D	Treat. Facility Provided Whether Adequate/ inadequate	Mode of Effluent Disposal	Qty. of Solid Waste Genrt. MT/D	Treat. Facility for Solid Waste Generated	Mode of Solid Waste Disposal	Authorisatio n Status
1	Gondia	Dist: Gondia	83715	Wainganga river	4000	3200	Inadequate	Discharging to nalla	8	No Treatment	Used for Composting	
2	Tirora	.	20509	Wainganga river	1025	820	Inadequate	Discharging to nalla	1	No Treatment	Land filling	
3	Pouni	Dist: Bhandara	22583	Wainganga river	1200	960	Inadequate	Discharging to nalla	3	No Treatment	Land filling	
4	Tumsar	.	48000	Wainganga river	1837	1469.6	Inadequate	Discharging to nalla	5	No Treatment	Land filling	
5	Bhandara	.	71813	Wainganga river	5745	4596	Inadequate	Discharging to nalla	30	No Treatment	Land filling	

Contd...

Table 2
MUNICIPAL CORP./COUNCIL (NAGPUR REGION)
Wardha District

Sno.	Name of Municipal Council	Region SRO/District	Population	Source of Water	Qty. of Water Consumption M3/D	Qty. of Domestic Efflu. M3/D	Treat Facility Provided Whether Adequate / Inadequate	Mode of Effluent Disposal	Qty.of Solid Waste Genrt. MT/D	Treat Facility for Solid Waste Generated	Mode of Solid Waste Disposal
1	Wardha	Nagpur Dist. : Wardha	102974	Dham river	12400	10312.5	E.T.P. facility Not Provided	Local Nalla	40	No Treatment	Composting & Land filling
2	Hinganghat	-	78715	Wena river	7871.5	6297	E.T.P. facility Not Provided	Local Nalla	12	No Treatment	Composting & Land filling
3	Pulgaon	-	36296	Wardha river	3968	3175	E.T.P. facility Not Provided	Local Nalla	18	No Treatment	Composting & Land filling
4	Deoli	-	137034	Local river	961.38	769	E.T.P. facility Not Provided	Local Nalla	0.5	No Treatment	Composting & Land filling
5	Sindhi	-	15000	Well	675	300	E.T.P. facility Not Provided	Local Nalla	1.5	No Treatment	Composting & Land filling
6	Arvi	-	32000	Local river	200	160	E.T.P. facility Not Provided	Local Nalla	1	No Treatment	Composting & Land filling

8

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Table 2**MUNICIPAL CORP./COUNCIL (NAGPUR REGION)****Chandrapur & Gadchiroli District**

Sr. No.	Name of Municipal Council	Region/ SRO District	Population	Source of Water	Qty. of Water Consumption M3/D	Qty. of Domestic Efflu. M3/D	Treat. Facility Provided Whether Adequate/Inadequate	Mode of Effluent Disposal	Qty. of Solid Waste Genrt. MT/D	Treat Facility for Solid Waste Generated	Mode of Solid Waste Disposal
1	Ballarpur	Dist Chandrapur	108900	Wardha river	7000	5600	Inadequate	Wardha river	15-18	Land filling in unscientific manner	Land filling in unscientific manner
2	Chandrapur	.	226105	Wardha river	50000	40000	Inadequate	Erai river	150	Land filling & Composting	Land filling
3	Rajura	.	25900	Wardha river	1295	1036	Inadequate	Nalla	10	Land filling in unscientific manner	Land filling in unscientific manner
4	Mul	.	18008	Wainganga river	900	720	Inadequate	Nalla meets to Wardha river	9	Land filling in unscientific manner	Land filling in unscientific manner
5	Brahmapuri	.	26200	Wainganga river	1341	1048	Inadequate	Nalla meets to Wardha river	12	Land filling 7MT/d	Land filling in unscientific manner
6	Bhadrawati	.	23400	Wainganga river	1170	936	Inadequate	Nalla meets to Wardha	10	Land filling in unscientific manner	Land filling in unscientific manner
7	Warora	.	41966	Wainganga river	1220	976	Inadequate	Nalla meets to Wardha	3	Land filling 2MT/d Comosting 1MT/d	Land filling in unscientific manner
1	Gadchiroli	Dist. Gadchiroli	29565	Wainganga river	2960	2370	Inadequate	Nalla meets to Wainganga	22	Land filling in unscientific manner	Land filling in unscientific manner
2	Wadsa	.	28000	Wainganga river	1500	1200	Inadequate	Open Ground	25	Land filling in unscientific manner	Land filling in unscientific manner

3. SURVEILLANCE AND MONITORING

During year 2759 nos. of samples were collected during 2003-2004 Details are presented below:

Name of Office	JVS	Haz. Waste	Stack emission	Ambient air	Noise	Env. Water	Total
SRO-I	260	80	31	16	39	153	579
SRO-II	306	102	14	24	00	77	523
SRO-III	132	70	08	15	24	53	302
SRO Chandrapur	606	109	153	178	50	154	1250
R.O.	34	10	00	00	00	01	45
Total	1340	371	206	293	113	440	2759

4. ENVIRONMENTAL QUALITY

a. River Regulation Zones (RRZ)

The classified rivers as per RRZ policy adopted by the State Government are presented below:

Table 4.1

(a) Nag River Basin/Sub-Basin

Sr No.	Name of River	Stretch of		
		A-I Class	A-II Class.	A-IV Class
1.	Nag		Origin to Ambazari lake	Ambazari lake to confluence with Kanhan river.
2.	Pioli	---	Origin lake Gorewada tank.	Gorewada tank to confluence with Nag river.

(b) Wainganga, Wardha Penganga River Basin/Sub-Basin.

Sr. No.	Name of River.	Stretch of		
		A-I Class	A-II Class	A-IV Class
1.	Khekra nalla.	Origin to Khekra Nalla project.	Khekra Nalla project to confluence with Pench river.	---
2.	Pench	Origin to Pench river project.	Pench river project to confluence with Wainganga river.	---
3.	Bag river	Origin to Bawanthadi project. (including Sagara Project)	Bawanthadi Project to confluence with Wainganga river.	---
	A) Wainganga river		From M.P. State Border to confluence with Wardha river.	---
	B) Wardha river		From M.P. State Border to confluence with Wainganga river.	---
	C) Penganga river		Origin to confluence with Wardha river.	---
	D) Pranhita river (Stretch of river in Maharashtra)		From confluence of Wardha and Wainganga river to confluence with Godavari river.	---
	E) Indrayani river (stretch of river in Maharashtra)		From M.P. State Border to confluence with Godavari river.	---
	F) Godavari river (stretch of river in Maharashtra)		From confluence with Pranhita to confluence with Indrayani river.	---

Besides above Kolar river, Kanhan river in Nagpur Dist. Irai river, Wena river are not incorporated in the classification of river water.

Table No. 4.2

River Water Quality in Nagpur Region during the year 2003-2004.

District	Name of River	pH			B.O.D.			C.O.D.			D.O.		
		Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
Nagpur	Nag river Asoli bridge	7.14	8.43	7.78	16.0	286.0	151.0	96.0	736	416.0	Nil	4.02	2.07
	Pilli river Kamptee road bridge	7.17	7.99	7.58	2.8	318.0	165.4	12.0	560.0	286.0	Nil	6.29	3.15
	Kolar river	7.10	7.94	7.55	3.1	52.0	27.5	12.0	220.0	116.0	4.87	6.76	5.95
	Kanhan river	7.32	7.97	7.55	2.3	45.0	23.65	12.0	248.0	130.0	2.63	6.67	4.6
	Kanhan at D/S of CIPL	8.40	8.57	8.47	2.86	20.0	7.29	16.0	112.0	41.0	2.52	6.28	5.23
	Aam river	7.88	8.53	8.29	2.94	4.82	4.08	16.0	20.0	18.6	6.7	6.90	6.36
	Wena river at Butibori	8.01	8.77	8.44	2.90	4.0	3.36	16.0	28.0	22.0	5.29	7.09	6.13
Wardha	Wena river (Hinganghat Bridge)	7.85	8.76	8.22	2.64	2.8	2.74	16.0	20.0	18.6	6.09	6.23	6.13
	Wardha river (at Pulgaon under MINARS)	7.5	8.7	8.1	4.0	11.0	7.5	32.0	48.0	40.0	4.6	7.0	5.8
Gondia	Bag river at Changera	7.32	8.73	8.08	3.2	12.8	5.08	16.0	64.0	31.5	4.42	6.12	5.56
Bhandara	Wainganga river at Devada (Kh.)	7.05	8.52	7.84	3.0	6.2	4.03	16.0	26.0	27.33	5.65	6.12	5.89
	Wainganga river at Jawaharnagar	7.73	8.86	8.20	3.1	5.2	3.53	16.0	32.0	22.66	5.03	6.07	5.65
Chandrapur	Irari river	7.49	8.2	7.78	3.1	382.0	42.38	16.0	920.0	114.8	5.14	6.17	5.03
	Wardha river Rajura MINARS	8.0	8.3	7.8	4.75	6.0	5.33	16.0	40.0	24.67	5.4	7.2	6.6
Gadchiroli	Wainganga river at Ashti, GMS	7.58	9.0	8.23	4.4	9.0	5.79	24.0	32.0	28.0	5.0	7.4	6.49

Table 4.3

Lake/Reservoir Water Quality in Nagpur Region during the year 2003-2004

District	Name of Lake	pH			B.O.D.			C.O.D.			D.O.		
		Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
Nagpur	Ambazari	7.29	8.40	7.85	3.5	205.0	104.25	20.0	424.0	222.0	1.63	6.5	4.065
	Futala	7.28	8.28	7.78	3.4	82.0	42.7	20.0	240.0	130.0	0.96	6.12	3.54
	Gorewada	7.25	8.42	7.81	2.8	8.2	5.5	12.0	76.0	44.0	3.15	6.27	4.71
	Sonegaon	6.57	8.44	7.51	3.3	295.0	149.15	20.0	640.0	330.0	4.45	5.95	5.2
	Khindsi	7.99	8.61	8.3	2.0	2.2	2.1	24.0	28.0	26.0	6.46	6.60	6.53
	Wena reservoir	8.09	8.73	8.41	3.0	3.0	3.0	16.0	16.0	16.0	5.95	6.22	6.08
	Sukli reservoir	8.93	9.53	9.23	5.0	24.0	14.5	32.0	96.0	64.0	4.75	5.85	5.3
	Wadgaon dam	7.65	8.20	7.92	3.0	3.5	3.25	20.0	24.0	22.0	5.98	6.62	6.3
Wardha	Bor dam	8.12	8.12	8.12	3.0	3.0	3.0	12.0	12.0	12.0	5.33	5.33	5.33
Gondia	Sarkari Talave	7.10	7.74	7.72	8.25	14.0	11.12	64.0	96.0	80.0	3.35	4.29	3.82
Bhandara	Kham Talav	7.05	7.85	7.45	9.2	22.0	15.6	56.0	136.0	96.0	3.18	3.97	3.57
Chandrapur	Ramala Talav	6.95	8.59	7.75	2.1	12.5	5.13	12.0	64.0	24.14	2.75	6.19	5.418
	Tadoba	5.26	7.58	6.55	2.16	2.2	2.18	8.0	24.0	16.0	4.6	6.16	5.38

Table 4.4

Details of Ambient Air Quality in Nagpur Region during the year 2003-2004

District	Name of Location	Sox			NOx			SPM			RSPM		
		Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
Nagpur	Institute of Engineers, North Ambazari Road. (Residential)	7.0	14.7	10.85	13.5	27.2	20.35	135.5	329.1	232.3	27.2	89.5	58.35
	MIDC Office, MIDC Industrial Area Hingna Road, Nagpur. (Industrial)	7.0	17.6	12.3	13.3	29.7	21.5	159.5	318.8	239.45	23.5	95.9	59.7
	Govt. Polytechnic Sadar, Nagpur. (Commercial)	5.6	13.7	9.65	15.8	24.2	20.0	124.7	327.6	226.15	16.3	109.0	62.65
Gondia	Changera	20.33	29.0	24.66	49.5	57.7	53.6	---	---	---	34.82	70.23	52.5
Bhandara	Warthi (Residential)	12.62	14.0	13.31	29.03	33.45	31.24	168.87	267.76	218.31	---	---	---
Chandrapur	Sub-Regional Office, M.P.C.Board, Chandrapur. (Commercial)	13.0	28.5	23.0	24.0	48.0	41.5	40.0	421.0	173.23	---	---	---
	MIDC Chandrapur (Industrial)	14.0	31.8	24.0	24.5	60.3	41.67	35.0	5.8	208.41	---	---	---

5. POLLUTION CONTROL IMPLEMENTATION

5.1 Details of Visit

Particular	Nagpur	Wardha	Bhandara	Gondia	Chandrapur	Gadchiroli	Total
Visits for grant of Consent	282	119	34	36	12	10	493
Visits for checking compliance	427	198	82	61	243	44	1055

5.2 Details of complaints received and investigated

Particular	Nagpur	Wardha	Bhandara	Gondia	Chandrapur	Gadchiroli	Total
Air	19	00	01	01	20	00	41
Water	10	00	00	01	05	01	17
H.W.	10	00	00	01	00	00	02
Noise	05	00	00	00	01	02	08
Biomedical Waste	00	00	00	00	01	01	02

Based on the complaints visits for vigilance and other activities notices are issued by the Board regarding compliance of the consent conditions.

5.3 Details of Closure/Interim/Proposed Directions

Issued 22 proposed Directions, 07 Closure Direction U/S 31A of Air (P&CP) Act, 1981 and 33A of Water (P&CP) Act, 1974, 14 Closure Directions U/S 5 of the Environment (Protection) Act, 1986. The large industries against whom closure Directions are issued are M/s Ispat Industries, Kalmeshwar, M/s Ghuggus Open Cast, M/S Virangana Steels, NIT Hot Mix Plant etc. in 2003-2004.

5.4 Details of show cause notices issued

Particular	Nagpur	Wardha	Bhandara	Gondia	Chandrapur	Gadchiroli	Total
To upgrade pollution control system	21	05	05	05	12	01	49
To install pollution control system	04	02	08	12	05	02	33
To achieve standards	336	38	99	202	245	09	929

5.5 Regional Laboratory

Performance of Regional Laboratory in terms of sample analysis during the year 2003-2004 is presented below:

Samples Previously Pending for Analysis	Samples Received	Total samples for analysis	Total samples analyzed	Samples pending for analysis	Parameters Analyzed	Analysis charges for Pvt. samples
363	3494	3857	3614	306	3551	3960

5.6 Public Hearing conducted during 2003 — 2004

Conducted 7 numbers of Public Hearing of various projects such as Cargo Hub, Cement Plant, Gas Transportation etc. successfully. The applications for other projects for public hearing (approx. 20) are under process.

6. BRIEF DESCRIPTION ABOUT THE MAJOR INDUSTRIES

In recent years there has been perceptible change in the implementation of the environmental regulations. This is due to actions/directives from the Maharashtra Pollution Control Board; Industries have installed necessary water/air pollution control devices for compliance of standards.

- i. **Cement Company:** Major cement industries are concentrated and located in Chandrapur District i.e. a) M/s Ambuja Cements Ltd. at Gadchandur, b) M/s L&T Cement at Gadchandur, c) M/s Manikgarh Cements at Gadchandur, d) M/s Associated Cement Co. Ghugus. They have installed required air pollution control devices such as bag filters, electrostatic precipitator (ESP), cyclone dust collectors etc. M/s Associated Cement Co. [oldest Cement Plant in Maharashtra established in 1968] due to old technology and space constraint, the ambient air quality in the raw material handling section exceeds at times. Board has directed to install necessary air pollution control arrangements within a short period.

- ii. **Thermal Power Plants:** Maharashtra State Electricity Board (MSEB) has installed three power plants:
 - Chandrapur Super Thermal Power Station; 2340 MW.
500 X 3 units = 1500 MW 210 X 4 units = 840 MW.
 - Koradi Thermal Power Station, 1160 MW
120 MW X 4 units = 480 MW 200 MW X 1 unit = 200 MW
210 MW X 2 units = 420 MW.
 - Khaperkheda Thermal Power Station, 840 MW
210 X 4 units = 840 MW.

Besides above, major industries such as Cement, Paper etc. have their own Captive Power Plants ranging from 3 MW to 46 MW. The MSEB Power Stations have installed the electrostatic precipitator for emission but due to its old design most of the units are not meeting the standards. The fly ash generation from the above three thermal power stations is 24,000 MT/day. About 60,000 MT of coal is

burnt per day. The disposal of the huge quantum of fly ash is one of the major thrust area in the region.

- iii. Mines (Coal, Manganese, Lime): The mines are mostly scattered in Chandrapur, Nagpur and Bhandara Districts. M/s. Western Coalfields Ltd. are operating open cast as well as underground coal mines. The air pollution/water pollution is one of the major area of concern. There are also environmental degradation problems due to mining. M/s. WCL have taken following measures for control of air pollution as well as water pollution in their mines, such as installation of fix type water sprinklers on coal transportation roads, haul roads, area near coal handling plants, other sources of pollution. They have provided tar roads to avoid the fugitive emissions during transportation of coal. Also most of the coals handling plants are covered with claddings.

The Coal Mines Committee has visited the Coal Mines area under the Chairmanship of Deputy Speaker of Maharashtra Legislative Assembly. They have chalked out various plans to combat environmental degradation due to mining activities. Maharashtra Pollution Control Board has taken stringent action against the non-complying mines including closure of the mines. The Board has closed down M/s Gauri Open Cast and M/s Ghuggus Open Cast mine in Chandrapur area. Directions are issued to the various coal mines for implementing the environmental standards. It is seen that due to constant persuasion from the Board and efforts of WCL/Mines Authority, air quality in this area is improving.

Iron and Steel Industries: Due to availability of coal, iron and steel industries are settled in the region, such as M/s Sunflag Iron and Steel, Bhandara, M/s Lloyds Metal & Engineers, Chandrapur, M/s Lloyds Steel, Wardha, M/s Ispat Industries, Kalmeshwar, M/s Maharashtra Electro smelts, Chandrapur. Also 3 — 4 Nos. of sponge iron units are in the commissioning stage. Most of the above units have installed air pollution control arrangement like Gas Cooling Tower, Electrostatic

Precipitator, Bag Filter, Dust Collector, Recirculation Tank, Effluent Treatment Plant etc. Board is keeping constant vigilance on the industries regularly. Recently, Board has issued closure directions to two major Steel and Sponge iron Industries in the region viz. M/s Ispat Industries, Kalmeshwar and M/s Virangana Steel, Umrer. The problem of small Iron and Steel units within the city limit is peculiar one due to location and inadequate pollution control system.

- v. **Pulp and Paper Mills:** Large pulp and paper industries existing in the region are M/s Ballarpur Industries Ltd. Ballarpur and M/s Simplex Paper Mills, Gondia. Waste Paper based paper mills are M/s Murli Agro Industries, M/s Malu Paper Mill, M/s APR Packaging etc. M/s Ballarpur Industries Ltd. are treating waste water to the quantum of 92000 M3/day (which is now reduced to 54000 M3/day by process modification). They have taken 100 acres of land on pilot basis for utilizing treated effluent for irrigation purpose. Kisan Melas are organized to create mass awareness amongst the farmer regarding utilization of this treated effluent for irrigation purpose. M.P.C.B. was one of the co-sponsor agencies on various occasions. Both the pulp and paper industries have installed necessary air pollution control arrangements such as ESP's, Bag Filters, and Cyclones etc. One of the major issues is reduction of pungent smell arising out of digester section. Board has directed the unit to increase efficiency of the recovery boiler so that odor of the digester unit may be minimized.

Most of the waste paper based Pulp & Paper Mills have installed effluent treatment plant and are recycling most of the effluent. The plastic waste generated at the time of sorting of waste paper in the waste paper based units is one of the issue that Board has successfully handled to prevent the plastic waste nuisance. The Board has issued directions to the units for installation of incinerator for disposing this plastic waste. M/s Murli Agro Products have installed the incinerator of sufficient capacity along with air pollution control arrangement for disposing this plastic waste.

Textile Mills : Major textile units existing in the region are - M/s Indo Rama Synthetics, M/s Morarji Brembana, M/s Indo Worth, M/s Wool Worth, M/s Suryalaxmi Cotton Mills. Most of the above units have installed effluent treatment plant and air pollution control arrangements such as ESP, Bag Filter, Dust Collector etc. Recently one of the medium scale unit i.e. M/s Suryalaxmi Cotton Mills have installed full fledged effluent treatment plant worth Rs. One crore to control water pollution.

7. THRUST AREAS : ACTION TAKEN AND ACTION POINTS

7.1 Fly Ash Utilization: MSEB has installed 3 Thermal Power Stations namely Chandrapur Super Thermal Power Station — 2340 MW, Koradi Thermal Power Station — 1100 MW, Khaperkheda Thermal Power Station — 840 MW. Besides, there are some Captive Power Plants also. The average coal consumption is around 60,000 MT/day and ash generation goes up to 26,000 MT/day. Maharashtra Pollution Control Board is prescribed authority for implementation of fly ash utilization regulation. Though some of the Thermal Power Stations have given the fly ash utilization programme for 15 years, it seems practicably not feasible. These power stations are located near the city, causing environmental problems to the nearby locality. The brick manufacturers within 100 km area consume only upto 5% ash generated. The utilization of fly ash needs to be attended on priority basis. The Board has taken action against brick manufacturing unit regarding cancellation of mining lease. Board is requesting cement plants to use fly ash for production of Pozzolana cement.

Action Taken: The mass awareness programmes conducted regarding the utilization of fly ash as a binding material in construction of roads, canals, bridges, buildings etc.

M/s Associated Cement Co., Ghuggus is lifting 500 Tones/day of fly ash in production of Pozzolana cement. If other cement

companies also utilize fly ash to large extent then problem will be addressed to some extent. M/s. WCL is filling sand (stowing) in the under ground coal mines. If fly ash is stowed instead of sand in the under ground coal mines then most of the problem of fly ash utilization will be solved. MSEB Thermal Power Stations have to chalk out comprehensive policy for utilization of fly ash.

7.2 Chandrapur Area: Environmental Issues

Chandrapur District has one of the major industrial belt in the Vidarbha region. The district is covered with Coal Mines 36 nos., Cement Plants, Paper Mills, Iron and Steel industries etc. The Parliamentary Petition Committee as well as State Legislative Assembly Committee has made certain recommendation to check environmental degradation due to Coal Mining activities such as Health Hazard in WCL and nearby area, development of cracks in the building due to blasting activity, coal transportation roads, and depletion of ground water level. Proper implementation programme needs to be organized involving various organizations such as PWD, Irrigation, GSDA, District Administration etc. which will help in reduction of pollution as well as environmental degradation in Chandrapur District as Coal and peculiar type of industries are concentrated in one region. The agencies must prepare and implement a comprehensive pollution abatement programme to tackle this problem.

Ghuggus area is one of the major environmentally problematic and sensitive areas in Chandrapur District, where most of the air pollution complaints are received. Ghuggus village is surrounded by 3 type of industries viz. M/s Lloyds Metal & Engineers, M/s Ghuggus Open Cast WCL Mine and M/s Associated Cement Company. Installation of continuous monitoring station and constant vigilance along with appropriate action against defaulting industries has been contemplated.

7.3 Problem regarding Hingna Industrial Area

Hingna industrial area is located around 10 kms from Nagpur. It was established in 1963. This area mostly consists of 900 engineering industries out of which 70-80% are closed. 30 Industries are effluent generating. Total industrial effluent generation is about 500 M³/day. Hingna industrial area is surrounded by Nildoh, Digdoh, Raipur and Wanadongri villages. Approximate population of the area is 45000 and domestic effluent generation is 2500 M³ /day. Through this industrial area Nag Nalla is passing, which meets the Wena River at the upstream of Sukali Dam. All the villages, located surrounding the Hingna industrial area, are discharging domestic effluent into the Nag Nalla. Most of the industries in the Hingna industrial area (30 No's) have installed facilities for treatment of the effluent and no unit is allowed to discharge effluent in to the Nag Nalla. Previously the Board has taken stringent action against the industries operating without effluent treatment facility. Hon'ble MLA Shri Ramesh Bang is constantly pursuing the matter of deterioration of water quality of Nag Nalla where domestic/industrial effluent is being discharged. The matter was also raised in the Legislative Assembly Session and Hon'ble Minister Shri Rajesh Tope visited the industrial area on 12/12/2003. He suggested to carry out comprehensive survey and chalk out a policy so that clear picture can be worked out in regards to the domestic/industrial effluent discharged through Nag Nalla. Accordingly Board has prepared the proposal is as follows:

- To collect all the domestic effluent from the above mentioned villages and construct Sewage Treatment Plant so that only treated effluent will be discharged in to the Nag Nalla.
- At the down stream of the Raipur village construct Bandhara on the Nag Nalla and treat waste water and utilize for irrigation.
- By diverting effluent from Nag Nalla after Raipur village to the down stream of Sukli Dam, will help in natural self purification.

7.4 Hazardous waste Disposal

In regards to the directions issued by Hon'ble Supreme Court in Writ Petition no. 657/1995, Nagpur region has prepared the preliminary inventory of the hazardous waste generating units. The total numbers of hazardous waste generating units is about 157. The break up of hazardous waste generation is as follows. (This data is based on preliminary survey and verification is in progress).

Incinerable Waste - 246 MT/Annum.

Landfill - 37452.52 MT/Annum

Sale/Reuse - 24357.228 MT/Annum

Board has closed down 14 numbers of units in this region, which were operating without authorization. The issue regarding disposal of this hazardous waste was raised in the Legislative Assembly in Winter Session, 2003 by Hon'ble MLA Shri Devendra Fadnavis and others. At present Board has asked all the units, which are generating hazardous waste to dispose their hazardous waste to the facility at Taloja. During the Legislative Assembly Session on the floor of the house Hon'ble Minister has assured that the facility for the safe disposal of hazardous waste generated in Vidarbha region will be made ready and operational at Butibori within 6 months, till that time the industries shall store their hazardous waste in their own premises for subsequent land filling. Regarding appeal made by the Board for joining the treatment facility at Taloja, 5 units have joined the facility till date. But in spite of constant persuasion from the concerned industries and the Board, Mumbai Waste Management group is not lifting hazardous waste from Nagpur area and also not sending container for disposal. The cost of transportation of this hazardous waste from Nagpur to Mumbai is high. Even for meager quantity of hazardous waste industry has to pay hefty amount for transportation. At present industries have stocked their hazardous waste of various categories within their premises for land filling till the commissioning of the site at Butibori, Dist. Nagpur as promised in the Legislative Assembly Session. As per the feed back received from MIDC, which is implementing agency the progress of work for developing the hazardous waste disposal site is at snail pace.

7.5 M/s Ballarpur Industries Ltd. Ballarpur and problems faced by local residents

M/s Ballarpur Industries Ltd., (established in 1953) is located in Ballarpur. This is one of the largest industry manufacturing quality paper. Other than paper they are also manufacturing Chlorine, Caustic Soda, Lime and Electricity. The total quantity of trade effluent generated is about 57000 M³ /day and domestic effluent is 5000 rA³/day. The raw water source is jack well at Wardha River. The industry at present is using 5% of treated effluent for irrigation and rest is discharged in to the Wardha river through local nalla meeting at the down stream of the water supply scheme of Ballarpur. The treated effluent has a peculiar chocolate colour to it. During the summer season Wardha River gets dried up and through the stretch of 2-3 kms one can see only chocolate colour effluent of the Ballarpur Industries, which is deteriorating the quality of fresh water. Though Board has directed the unit to utilize this waste water for irrigation purpose, the unit is utilizing very meager quantity of effluent on their 48 acres of land by promoting the farmers to utilize this treated effluent. But some time it is seen that the quality of the treated effluent is not meeting the prescribed standards. To stop the effluent getting into the Wardha river, industry has been instructed to purchase land for utilizing the remaining treated effluent for irrigation purpose. Smell nuisance is one of the major problem at Ballarpur and Chandrapur. If wind direction is towards Chandrapur city then this smell can be felt up to Chandrapur city. The firm has installed blow heat recovery system to their digester house for controlling the smell nuisance. Efficiency of this blow heat recovery system is 90%. The Board has given directions to the industry for adopting best possible solution to reduce smell nuisance.

7.6 Municipal Authorities

None of the Municipal Authorities in the area are collecting and treating domestic effluent and solid waste properly. Discharge of untreated / partially treated sewage is a major source of water pollution. It contributes about 80% of the pollution load. Demand of water supply is increasing. We need to seriously consider about treatment of waste water generated, because the same is going to be used by the down stream population as water source. Same is the case with municipal solid waste; its mismanagement is leading to various environmental problems. MPC Board is making local bodies aware about the facts by letters, warning notices, show cause notices to them. 100 MLD waste water treatment plant is set up by Nagpur Municipal Corporation and presently about 70 MLD of waste water is treated. This plant is sufficient to treat only about 1/3 of the total waste water generation of Nagpur city. Board has also given guidance to the Municipal authorities in various workshops, seminars and as well as at time of visits to them.

It is observed that Municipal Authorities are though serious about protection of environment and pollution control, they need to give high priority to these issues. Daily generation of municipal solid waste in Nagpur Municipal Corporation is 700 – 800 MT/day. The present land available with NMC is 20 Ha. Already 2,80,000 Tones of Municipal Solid Waste is dumped at Bhandewadi dumping site. NMC has not provided proper waste processing facility. Capacity of the present site may last for next five years. Total requirement of the area is 67.69 Ha., which is 3 times more than existing area available today. Due to haphazard dumping in Bhandewadi Area, there are leachates problems in ground water. Board is preparing prosecution proposals against NMC. Similar is the case with other Municipal Councils. Although Administrative approvals are granted to some Municipal Councils, none of them have submitted proposals for management of municipal solid waste (Management and Handling) Rules, 2000. Most of the Municipal Councils are operating even without Consent of the Board as per the Water Act. Large amount of Cess is due to be paid by them.

7.7 Bio-Medical Waste

Bio-Medical waste treatment and disposal is important issue, which needs urgent attention by all concerned. Board has issued Authorization to certain Primary Health Centers and other hospitals having bio-medical waste treatment facility i.e. deep burial for towns having population less than 5 lacs.

In Nagpur region only one Common Treatment Disposal Facility is provided at MIDC Indl. Area, Chandrapur with double chamber incineration and other facilities as prescribed. Most of the Bio-Medical Waste generating units in Chandrapur town have joined the same along with some Municipal Councils in the nearby area. Big hospitals such as Govt. Medical College, Nagpur, Indira Gandhi Medical College, Nagpur, Kristanand Hospital, Military Hospital, Lata Mangeshkar Hospital & College, Nagpur, Acharya Vinoba Bhave Rural Hospital Sawangi Meghe, Tq & Dist Wardha have installed their own incineration facility for treatment of bio-medical waste generated from their hospital. Nagpur Municipal Corporation is covering approx. 10,000 beds but treatment and disposal facility is not adequate. Incineration system available at Mokshdham, is also not operated properly. Board is preparing proposal to initiate stringent action against defaulting units.

7.8 Cess

Presently there are about 150 nos. of industries and 31 Municipal Authorities filing Cess Returns as per Water (Prevention & Control of Pollution) Cess Act, 1977 as amended in 2003. Regional Office and Sub-Regional Office regularly check the Cess returns filed

by the industries during visits and also during consent processing. Board has refused rebate on Cess to M/s Ballarpur Industries, Ballarpur and M/s APR Packaging, Ashti, Main defaulters in Cess dues are Municipal Authorities. Board has issued notices to the Municipal Authorities for non-payment of the Cess. Some Councils have paid the cess. The issue regarding the defaulting Municipal Councils in Cess payment was also raised during the meeting with the Divisional Commissioner and also with the Sr. Advisor Municipal Solid Waste, Management Cell, IILSG.

7.9 Recycle Plastic Rules

Govt. of India, MoEF has promulgated Rules for use and manufacture of the Recycled Plastic and the implementation is entrusted with the Board. It is observed that the process of plastic manufacturing in violations of the rules is still continued in many areas. It is difficult to crack down the defaulters who are small / tiny manufacturing units. Though the Board has taken action against defaulting plastic manufacturing units, use of plastic is flourishing in urban and rural areas. To minimize the use of plastic in daily use Plastic Use Detected Squad has formed in the various Municipal Council/Corporation such as Nagpur and Chandrapur.

7.10 Strengthening needs

- Strengthening of Regional office and infrastructure laboratory is required in terms of following areas:
- Laboratory space and sophisticated instruments / equipment for special parameters.
- Field equipment for sampling.
- Transport
- Emergency response
- Manpower
- Training.

8.0 PUBLIC AWARENESS PROGRAMME

- 8.1 On 21st March 2004 on the occasion of World Forest day and World Water Day in Collaboration with Nature Science Club Society, Nagpur and Maharashtra Pollution Control Board has organized various competitions and drama on science and rain water harvesting. The programme was held at Dr. Punjabrao Deshmukh Hall in which more than 1000 persons including children and parents were present. The Chief Guest of the function was Dr. D. B. Boralkar, Member Secretary. The programme was widely appreciated by TV, Press and Citizens of Nagpur. Many prizes were given at the hands of Chief Guest to the winners of the various competitions of slogan, drama and painting.
- 8.2 Disposal of fly ash generated from the 3 major power plants in the region is one of the major problems facing by MSEB and local residents. To promote fly ash utilization the Regional Seminar was jointly organized at Nagpur and Chandrapur on 14/02/2004 and 15/02/2004 respectively in collaboration with Vidarbha Industries Association, MPCB and MSEB. The seminar was inaugurated by our Member Secretary, Dr. D.B. Boralkar at Nagpur. It was widely attended by entrepreneur, TV and Press media.
- 8.3 On the occasion of World Environment Day 5th June 2003, the Regional Office, Nagpur has conducted the on spot drawing competition and slogan competition of the various age group from 1 to 5, 6 to 12 and 12 to 16 at Bal Jagat, Nagpur. The winners in each group were presented mementos by Chief Guest of the function Shri Babasaheb Kangale, Jt. Commissioner of Police, Nagpur.
- 8.4 At the instance of Boards persuasion industries have taken up avenue plantation on Nagpur — Chandrapur highway and others

ACHIEVEMENTS
OF
NAGPUR REGION
IN
POLLUTION CONTROL &
ENVIRONMENT
PROTECTION

Thermal Power plants

1. Claddings and Water Sprinklers to CHP's.
2. Electro Static Precipitator.
3. Bag House/ filter to achieve emission standards in Koradi TPS.
4. ETP for boiler blow down & DM plant effluent.
5. Ash bunds for disposal of fly ash.
6. Plantation.

Proposal for Pollution Control in Thermal Power plants

- **Increase in height of Chimneys by 2005 to achieve existing norms**
- **Improvement in Pollution Control System to achieve emission standards.**
- **Utilization of fly ash by.**
- **Shifting to Dry disposal of fly ash for utilization.**

TEXTILE INDUSTRIES

- **WASTE WATER TREATMENT
PLANTS & RECYCLING
ARRANGEMENTS**
- **AIR POLLUTION CONTROL
SYSTEMS**
- **HAZARDOUS WASTE / SOLID
WASTE MANAGEMENT SYSTEMS**
- **PLANTATION /GREEN BELT
DEVELOPMENT**