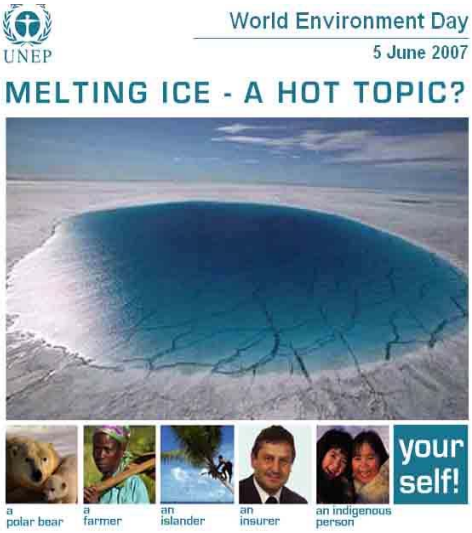
Annual Report

2006-07



H. P. STATE ENVIRONMENT PROTECTION & POLLUTION CONTROL BOARD

"PARYAVARAN BHAWAN" NEW SHIMLA-171 009

CHAPTER – 1

INTRODUCTION

The Himachal Pradesh State Environment Protection and Pollution Control Board (HPSEP&PCB) was constituted in the year 1974 under the provision of Water (Prevention and Control of Pollution) Act, 1974. Subsequently the implementation of the provision contained in Water (Prevention and Control of Pollution) Cess Act, 1977, Air (Prevention and Control of Pollution) Act, 1981 and Environmental Protection Act, 1986 in addition to Rules framed under these Act were also entrusted to the State Board. The prime objective of all these Acts is maintaining, restoring and preserving the wholesomeness of quality of environment and prevention of hazards to human beings and terrestrial flora and fauna.

HPSEP & PCB is a nodal agency in the administrative structure of the State Government for planning, coordination, prevention & control of pollution and so also protection of environment in the framework of environmental regulations. The State Board has always endeavoured to strike a rational balance between economic growth and environmental preservation. In the pursuit of attaining the objectives enshrined in the environmental legislations the State Board has followed the principles of sustainable development. Continuous efforts are being made by the board to expand its activities to fulfill the demands of emerging environmental concerns, challenges and new statutes.

The following legislative measures are significant and worth mentioning here vis-à-vis the functions and duties of the State Board.

- **Water (Prevention & Control of Pollution) Act, 1974:** The Parliament in the 25th year of the Republic promulgated this legislation in pursuance to Clause-1 of Article 252 of the Constitution of India, with the objective of prevention and control of water pollution and maintenance and restoration of wholesomeness of water. The H.P. State Environment Protection & Pollution Control Board was constituted in 1974 under the provisions of this Act.

- **Water (Prevention & Control of Pollution) Cess Act, 1977:** This Act provides for levy of cess on the water consumed for specific purposes with a view to dissuade wasteful and indiscreet use of water.

- **Air (Prevention & Control of Pollution) Act, 1981:** On the analogy of the Water (Prevention & Control of Pollution) Act, 1974 the Union Government promulgated another identical legislation which was exclusively meant to deal with the problems of air quality and preservation and maintenance thereof.

- **Environment (Protection) Act, 1986:** In order to provide the existing legislation for control of water and air pollution more effectively and to remove the deficiency of these legislations, the Union Government enacted umbrella legislation in 37th Year of Republic. The prime objective of the legislation was to plug the existing statutory gaps whereby tremendous responsibilities by way of functions have been entrusted to the State Board.

The following prominent rules and notifications are significant in context to the role and functions of the H.P. State Environment Protection & Pollution Control Board:

1. Manufacture, Storage and Import of Hazardous Chemical Rules, 1989.
2. The Hazardous Waste (Management & Handling) Rules, 1989/2000.
3. Rules for Manufacture, Use, Import, Export and Storage of Hazardous Microorganism, Genetically Engineered Organisms or Cells, 1989.
4. Noise Pollution (Control and Regulation) Rules, 1999.
5. Bio-medical Wastes (Management & Handling) Rules, 1998.
6. Recycled Plastics Manufacture and Usage Rules, 1999/2003.
7. Municipal Solid Wastes (Management & Handling) Rules, 2000.
8. Ozone Depleting Substances (Regulation & Control) Rules, 2000.
9. Batteries (Management & Handling) Rules, 2000.

Other Areas/Acts/Rules Concerning General Public:

The following Rules, which have bearing on, the state of the environment and health of the society are also in existence/enactments. Under these Rules, the H.P. State Environment Protection & Pollution Control Board is not the only agency responsible for the implementation of these Rules but nevertheless these Rules and enactments are of great significance. They are as under:

- Public Liability Insurance Act, 1991.
- H.P. Non-Biodegradable Garbage (Control) Act, 1995.
- Motor Vehicle Act, 1988.

MANDATE OF THE STATE BOARD:

The mandate of the State Board has increased manifold since its constitution. The State Board has adopted a major shift in its policy from purely regulatory set-up to an interactive scientific organization by performing various functions under the domain of environment protection and pollution control.

- ❖ Plan a comprehensive program for prevention, control or abatement of pollution of air, streams, rivers and wells in the state and to secure the execution thereof.

- ❖ Advise the state government on any matter concerning the prevention, control or abatement of water and air pollution.

- ❖ Collect and disseminate information related to water and air pollution and prevention, control or abatement thereof.

- ❖ Lay down or modify standards for quality of air, sewage and trade effluents.

- ❖ Inspect any control equipment, sewage or trade effluents, works and plants and takes steps for the prevention.

- Provide technical assistance and guidance in problems related to water and air pollution and control thereof.

- To implement the provision of Environmental Impact Assessment (EIA) notification, 2006 for specified categories of development project listed in its schedule.

- Delimitation of pollution control areas.

- Creating mass-awareness and training programs relating to prevention, control or abatement of environmental pollution.

- Encourage, conduct and participate in investigation and research relating to problems of water & air pollution and prevention, control or abatement.

- To perform such other functions as may be prescribed or as may, form time to time; be entrusted by the Central Board or the State Government.

- Advise the State Government with respect to the location of any industry the carrying of which is likely to pollute stream or well or cause air pollution.

- To make, vary or revoke any order: –
  i) For the prevention, control or abatement of discharge of waste into the stream or wells.

  ii) Requiring any person concerned to construct new systems for the disposal of sewage and trade effluents or to modify, alter or extend any such existing system or to adopt such remedial measures as are necessary to prevent, control or abate water pollution etc.

  iii) To integrate environmental aspects into development planning/activity through spatial environmental planning.

  iv) To perform such other functions as may be prescribed by the State/Central Governments from time to time.

ADMINISTRATIVE STRUCTURE:

The HPSEP&PCB as per the provisions of Water Act, 1974 is headed by the Chairman. The executive head of the State Board is Member Secretary. The State Board has eleven Regional Offices at Shimla, Parwanoo, Paonta Sahib, Nalagarh, Baddi, Barotiwala, Una, Rampur, Jassur, Chamba, Kullu and Bilaspur to perform regulatory functions for prevention and control of pollution as prescribed under various environmental legislations. The State Board has one Central Laboratory located at Parwanoo and there are three Regional Laboratories at Paonta Sahib, Jassur and Sunder Nagar for providing scientific support to the regulatory functions. This administrative setup of the State Board caters to the diverse environmental matters in Himachal Pradesh. The Organizational Structure of the State Board is shown in Annexure-I.

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CHAPTER – 2

CONSTITUTION OF THE STATE BOARD

The Government of Himachal Pradesh vide Notification No. STE-A (1)-4/2001- Loose dated 17.01.2004, appointed Sh. J.P. Negi, IAS, Principal Secretary to the Govt. of Himachal Pradesh as Chairman of H.P. State Environment Protection and Pollution Control Board and reconstituted the State Board vide Notification No. STE-A [1]-4-2001-I dated 15.01.2005 for a period of three years, comprising of:

I. **Five Official Members:**

i)	Secretary (Science & Technology) to the Govt. of H.P.	Member
ii)	Secretary (Forests) to the Govt. of H.P.	Member
iii)	Secretary (Industries) to the Govt. of H.P.	Member
iv)	Secretary (MPP & Power) to the Govt. of H.P.	Member
v)	Secretary (Health) to the Govt. of H.P.	Member

II. **Representatives of State owned Corporations/Companies:**

i)	Managing Director, H. P. Road Transport Corporation, Shimla.	Member
ii)	CEO-cum-Secretary, H. P. Housing Board & Urban Development Authority, Shimla.	Member

III. **Non-official Members – Representative of Local Authorities**:

i)	Smt. Mala Singh, Municipal Corporation, Shimla.	Member
ii)	Sh. Daya Ram, Nagar Panchayat, Ghumarwin, Bilaspur.	Member
iii)	Sh. Pushp Raj, Municipal Council, Mandi.	Member
iv)	Sh. Rajiv Mahajan, Municipal Council, Dharamshala.	Member

IV. **Non-official Members** nominated by the Government of Himachal Pradesh vide Notification No. STE-A [1]-4-2001-I dated 15.01.2005

i)	Sh. Arvind Gupta, Solan.	Member
ii)	Sh. Vijay Pal Khachi, Kumarsain, Shimla.	Member
iii)	Sh. Sunder Thakur, Kullu.	Member

V. **Permanent Special Invitee Members:** The Government of Himachal Pradesh vide above notification has also nominated the following Non-Official Permanent Special Invitee Members to the State Board.

i)	Smt. Promila Condillac, Shimla.	Member
ii)	Sh. B. S. Malhans, Shimla.	Member
iii)	Sh. Swaraaj Chauhan, Gurgaon.	Member

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CHAPTER -3

MEETING OF THE STATE BOARD

In the 55th meeting of the State Board held on 15/12/2006 the following major decisions were taken:-

1. SCHEDULE OF INSPECTION AND SAMPLING OF SEWAGE TREATMENT PLANTS (STPs) AND WATER TREATMENT PLANTS (WTPs).

The following schedule for inspection and sampling of Sewage Treatment Plants/Water Treatment Plants was approved by the State Board.

S. No.		Frequency	
		Inspection	Sampling
1	Sewage Treatment Plant	Quarterly	Quarterly
2	Water Treatment Plant generating waste water	Quarterly	Quarterly

2. Approval of VISION, MISSION AND CORE VALUES of the State Board: The State Board has adopted the following Vision, Mission and Core Values:

Vision: Committed to keep Himachal Pradesh Pollution Free through Appropriate and Environmentally compatible Management Practices.

Mission: To prevent, control and manage pollution through multi–stakeholder approach so as to conserve the State's Environment and achieves Sustainable Development. To bring excellence in Board's working through efficient, accountable and transparent system.

Core Values:

- We maintain high professional ethical standards and are result oriented.
- We value stakeholder participation in combating and managing pollution and consequently conserving the environment.
- We follow rules, regulations and laws while discharging our duties and derive power from them.
- We are transparent, responsive and accountable to the stakeholders involved.
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3. Proposal for addition, alteration and **modernization of Central Laboratory Parwanoo** to the tune of **Rs. 17,67,460/** (Rupees seventeen lakhs sixty seven thousand four hundred sixty) only was approved by the Board.

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CHAPTER –4

ACTIVITIES OF THE STATE BOARD INCLUDING THE VARIOUS FUNCTIONS

4.1 STATUS OF AMBIENT AIR QUALITY:

The monitoring of Ambient Air Quality was started in 1986-87 under the **National Ambient Air Quality Monitoring Program (NAMP)** with the objective to find the current status of pollution and to study the trends as a result of increasing industrialization. The National Ambient Air Quality Standards are indicated in Table 1. The general objectives of the program are:

1. To evaluate the general air quality conditions in the city/town and to provide the basis for analyzing long term trends of pollution concentrations.
2. To provide the data for subsequent development of air quality standards and pollution prevention and control program for the city/town.

TABLE 1: NATIONAL AMBIENT AIR QUALITY STANDARDS

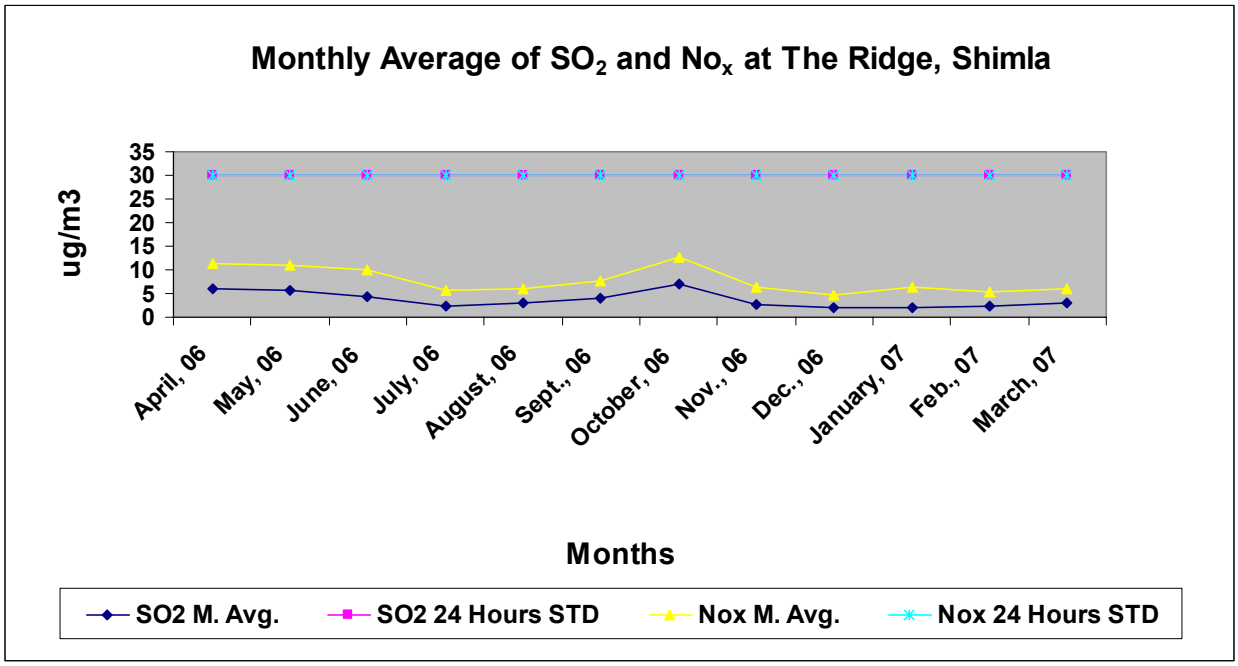
Pollutant	Time Weighted Average	Concentration in Ambient Air			
		Industrial Area	Resi., Rural & Other Area	Sensitive	Method of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
Sulphur Dioxide (SO2)	Annual Average*	80 μg/ m^3	60 μg/ m^3	15 μg/ m^3	-Improved West and Geeks method
	24 hours**	120μg/ m^3	80μg/ m^3	30μg/ m^3	-Ultraviolet fluorescence
Oxides of Nitrogen (NO2)	Annual Average*	80 μg/ m^3	60 μg/ m^3	15 μg/ m^3	-Jacab and Hochhwiser modified (Na-Arsenite) method-Gas-Phase Chemilusence
	24 hours**	120μg/ m^3	80μg/ m^3	30μg/ m^3	
Suspended Particulate Matter (SPM)	Annual Average*	360μg/ m^3	140 μg/ m^3	70 μg/ m^3	-High Volume Sampling [Average flow rate not less than 1.1 m^3/ minute]
	24 hours**	500μg/ m^3	200μg/ m^3	100μg/ m^3	
	Annual Average*	120μg/ m^3	60 μg/ m^3	50 μg/ m^3	-Respirable particulate matter sampler
	24 hours**	150μg/ m^3	100μg/ m^3	75μg/ m^3	
Lead (Pb)	Annual Average*	1.0 μg/ m^3	0.75 μg/ m^3	0.50μg/m^3	-AAS method after sampling using EPM
	24 hours**	1.5μg/ m^3	1.00μg/ m^3	0.75μg/m^3	2000 or equivalent filter paper
Carbon Monoxides	8 hours**	5.0 mg/ m^3	2.0mg/ m^3	1.0mg/ m^3	-Non disperse, infrared spectroscopy
	1 hour	10.0mg/ m^3	4.0mg/ m^3	2.0mg/ m^3	

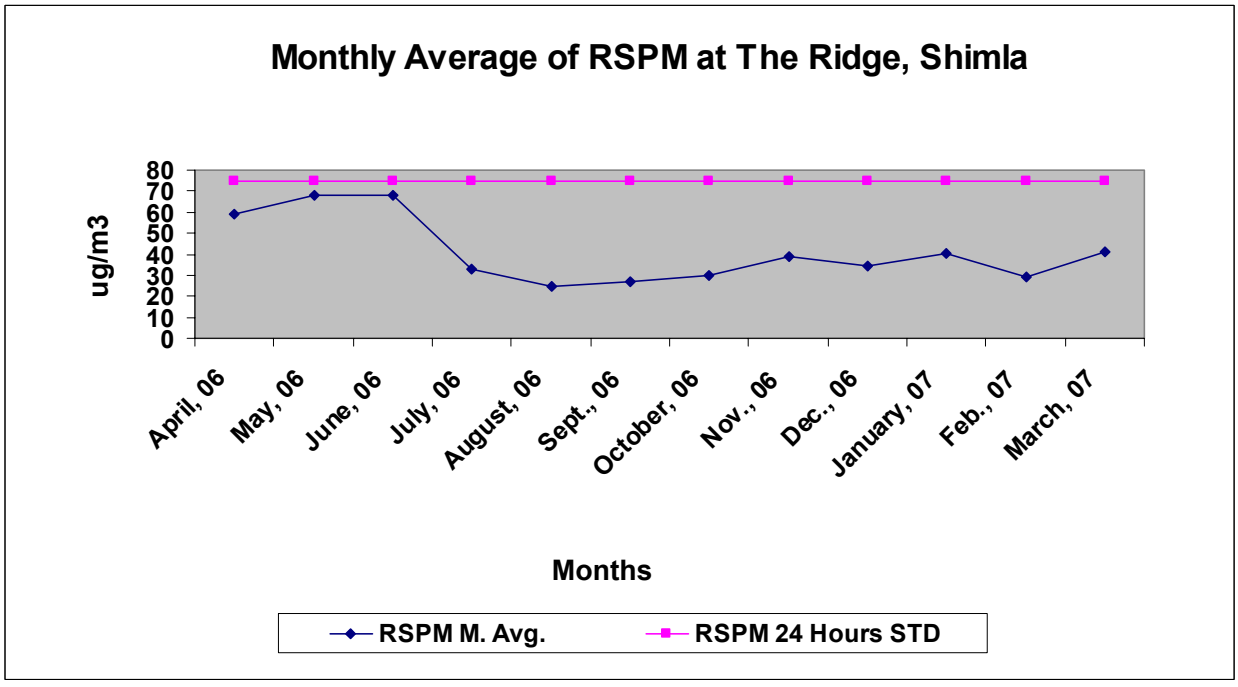
1 μg (micro-gram) - .001 mg (milli gram)

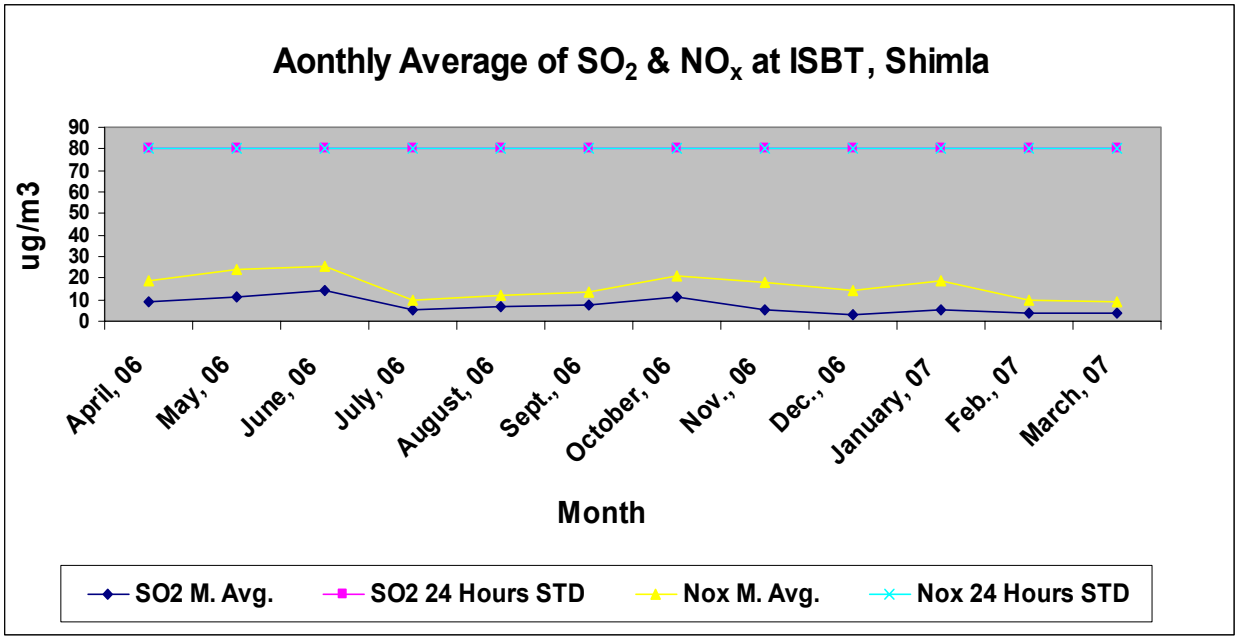
4.1.1 AMBIENT AIR QUALITY SHIMLA:

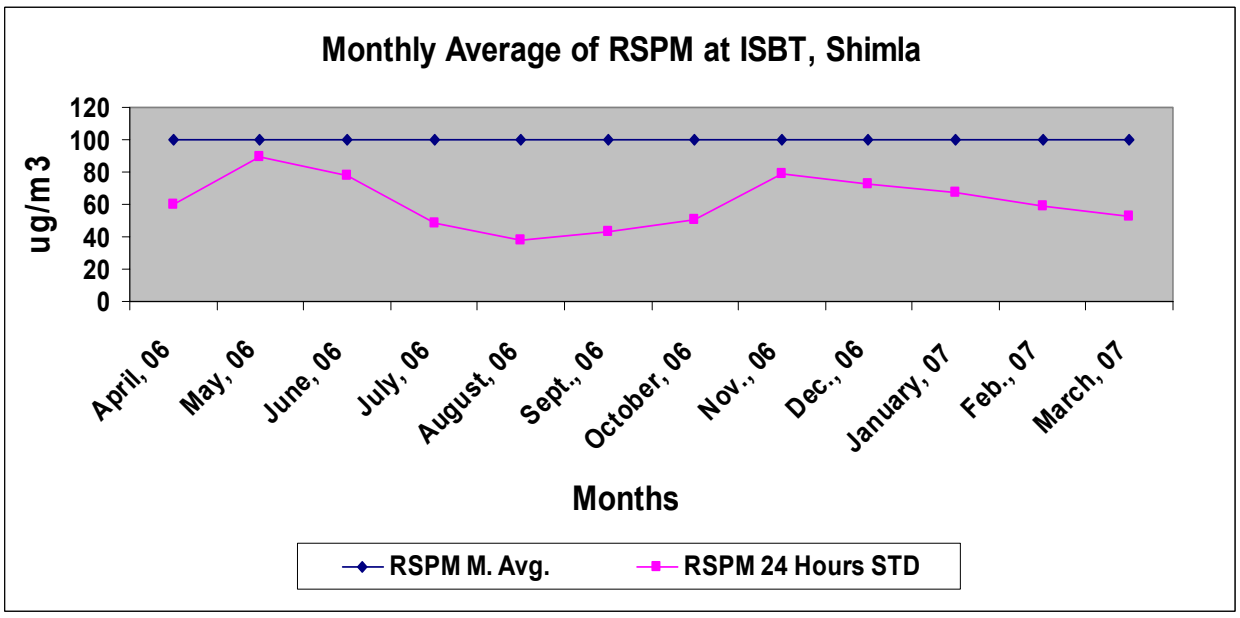
Shimla is an important hill station at an elevation of 2000 meters from mean sea level. It has remained summer capital of India during British regime. In 1971 it became the capital of Himachal Pradesh. A large number of tourists visit the city almost throughout the year. Station

No. 1 is located at Takka Bench on the Ridge which falls under **Sensitive Area Zone 'S'** and Station No. 2 is located on the top of the main building of Inter State Bus Stand, which falls under **Residential Area Zone 'R'**. The monitoring is being done with the help of the Respirable Particulate Matter sampler on the basis of three days per station per week for 24 hours. The data collected for the year 2006-2007 has been scrutinized for monthly average and peak values for these two locations and the trends of monthly average SO2, NOx, SPM and RSPM are as shown below.









Monthly mean average values of SO_2 and NO_x at both stations were observed below the permissible limit for 24 hour average. However, the peak value of SO2 was observed as high as 23.10 $\mu g/m^3$ and for NO_x as 36.94 $\mu g/m^3$ in the month of April & October, 2006 for Station No.1. The peak value of RSPM was observed as high as 163.33 $\mu g/m^3$ in the month of June, 2006 at Station No. 1. However, for Station No. 2 the peak values of SO_2 were observed to be 60.36 $\mu g/m^3$ and NO_x as 61.73 $\mu g/m^3$ in the month of June, 2006 & May, 2006 respectively. The peak value of RSPM for Station No. 2 was observed as high as 206.22 $\mu g/m^3$ in the month of December, 2006. Though the monthly mean average value ranged between 2.09 $\mu g/m^3$ to 14.03

$\mu g/m^3$ for SO_2 and 4.57 $\mu g/m^3$ to 25.68 $\mu g/m^3$ for NO_x for both the Stations. Annual average value for RSPM at Station No. 1 observed as 41.09 $\mu g/m^3$. The annual average value of RSPM is below the permissible limit of 50 $\mu g/m^3$ prescribed for Sensitive Area where as RSPM at Station No. 2 observed as 52.20 $\mu g/m^3$ and is below the annual average value of 60 $\mu g/m^3$ prescribed for Residential Area. However in comparison to previous year's data, there is a rise in the level of RSPM at both the locations. The ambient air quality data of both the stations is as listed below.

AMBIENT AIR QUALITY DATA:

Monitoring Location: SHIMLA

Station-I

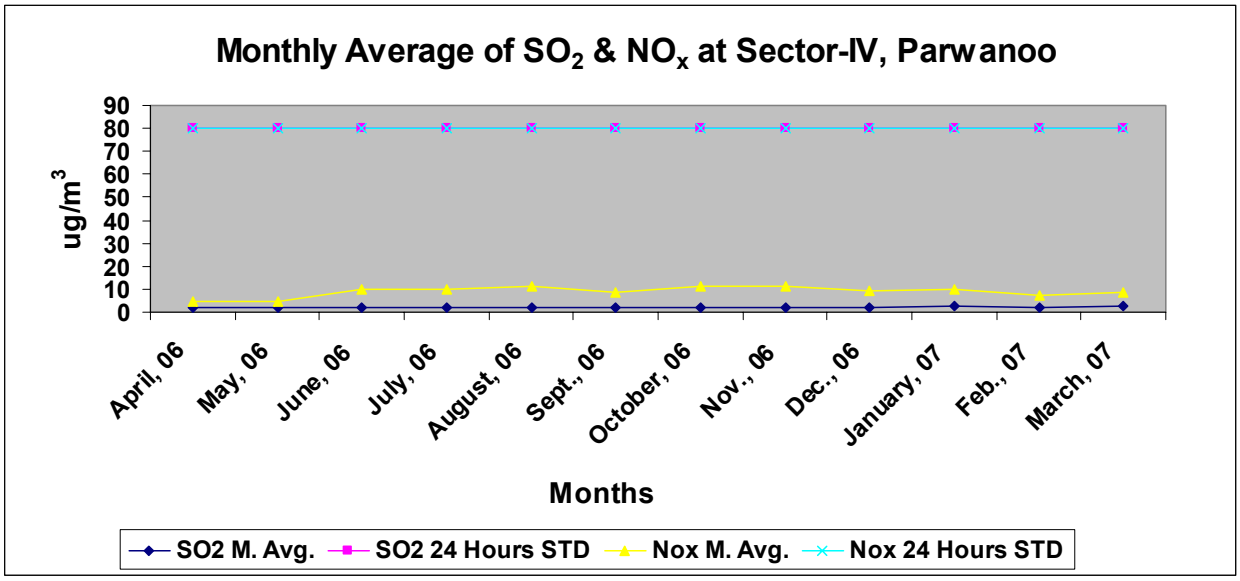
Month	SO_2		NO_X		RSPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	6.03	23.10	11.27	31.34	58.96	143.42
May, 2006	5.57	18.05	11.12	27.51	67.84	144.23
June, 2006	4.38	12.79	9.94	25.90	67.69	163.33
July, 2006	2.46	5.92	5.77	9.74	33.19	57.52
August, 2006	3.05	7.33	6.12	10.23	25.01	43.18
September, 2006	4.05	10.36	7.54	15.27	27.24	47.07
October, 2006	7.11	20.17	12.51	36.94	29.83	56.73
November, 2006	2.52	9.37	6.36	15.96	38.65	83.12
December, 2006	2.09	5.43	4.57	9.70	34.40	73.61
January, 2007	2.13	9.18	6.20	18.89	40.50	91.62
February, 2007	2.40	5.40	5.21	11.40	28.80	75.00
March, 2007	3.00	9.70	6.00	21.80	41.00	109.00

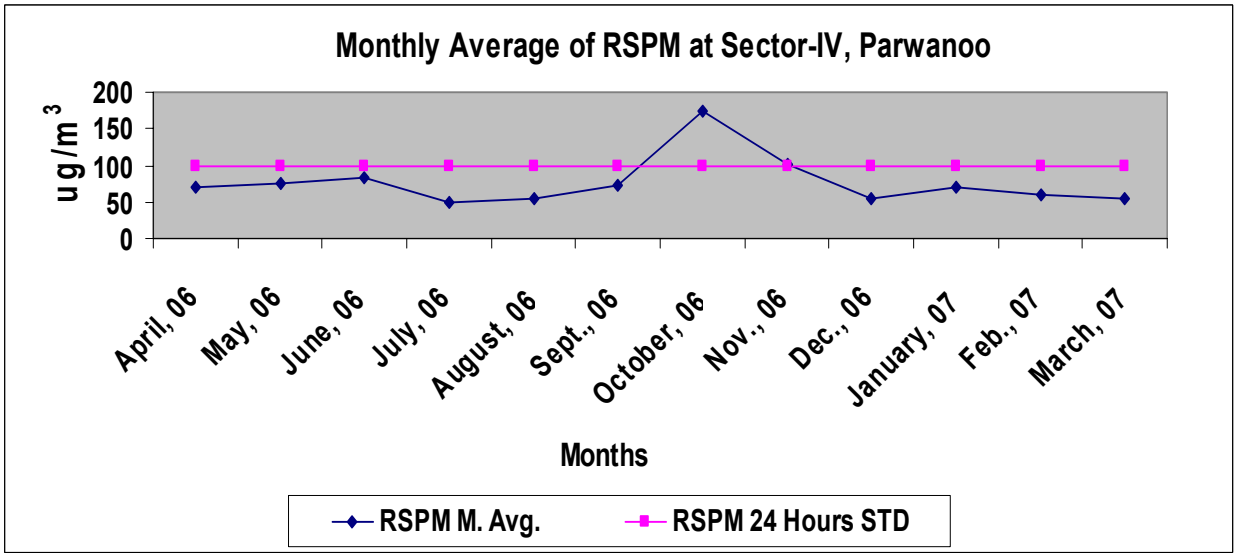
Station-II

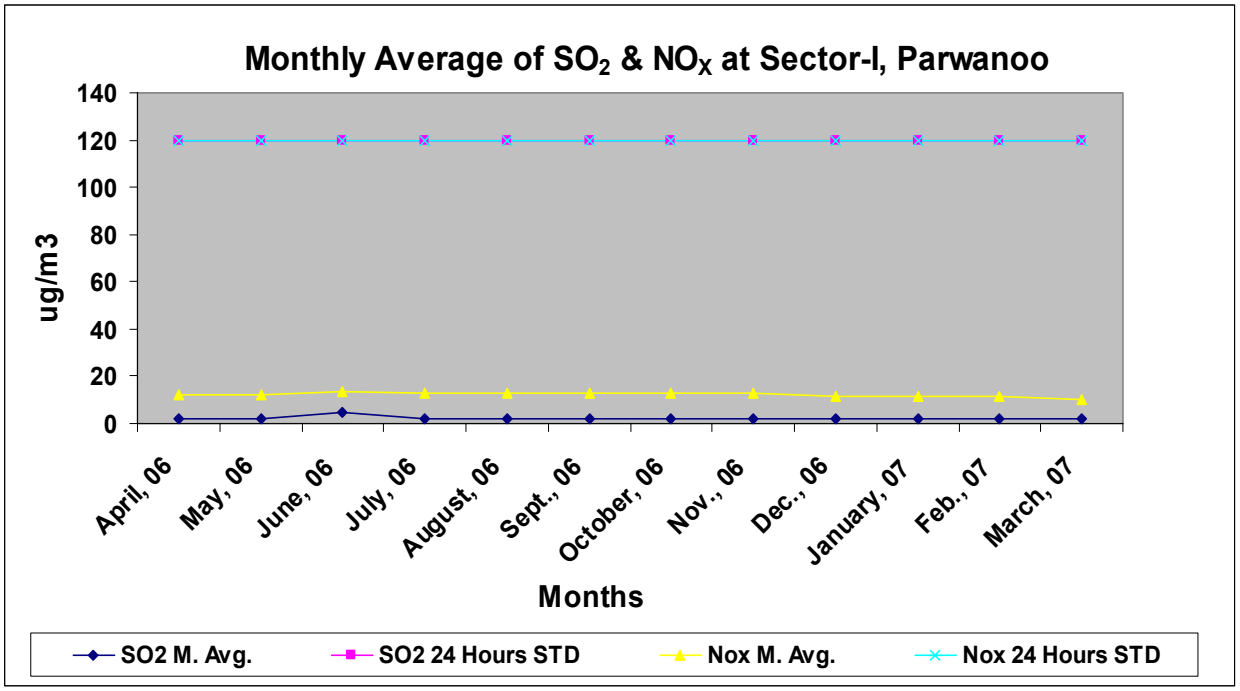
Month	SO_2		NO_X		RSPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	8.69	20.14	19.01	44.09	59.91	171.71
May, 2006	11.43	21.34	24.23	61.73	89.77	154.50
June, 2006	14.03	60.36	25.68	55.91	77.60	163.03
July, 2006	4.98	8.79	9.91	17.78	48.10	83.64
August, 2006	6.63	10.93	12.25	18.57	38.31	67.11
September, 2006	7.50	14.64	13.27	28.56	42.66	116.38
October, 2006	10.92	24.66	20.94	46.43	50.29	104.07
November, 2006	5.30	16.62	17.66	47.16	79.26	183.49
December, 2006	3.12	14.82	14.11	48.63	73.03	206.22
January, 2007	5.30	16.00	18.80	39.72	67.50	146.00
February, 2007	4.00	8.90	10.00	17.30	59.00	150.00
March, 2007	4.00	8.70	9.00	19.90	53.00	113.00

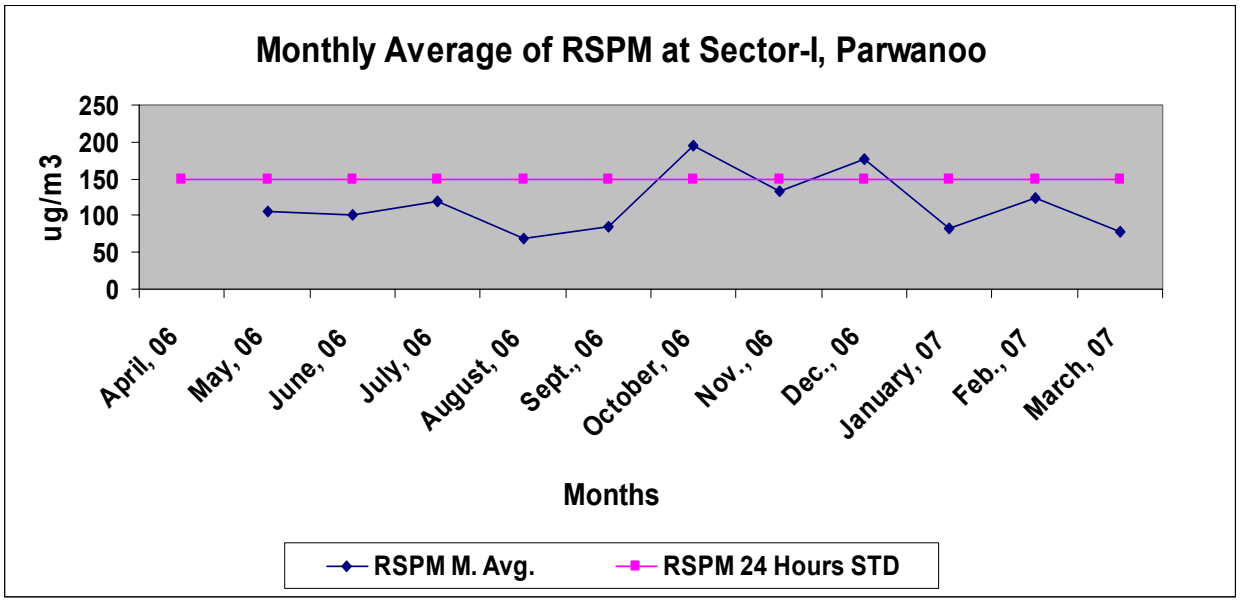
4.1.2 AMBIENT AIR QUALITY AT PARWANOO:

Air quality of Parwanoo town is being monitored continuously at two different locations, one at Sector IV (Station No.1), which falls under **Residential Area Zone 'R'** and other station is situated at Sector -I (Station No. 2), which falls under the category of **Industrial Area Zone 'I'**. The data collected for the year 2006-2007 has been scrutinized for monthly average and peak values for these two locations and the trends of monthly average SO2, NOx, SPM and RSPM are as shown below.









At Station No. 1 & 2 the monthly mean average values of SO_2 & NO_x were observed well below the permissible limit for 24 hour average at both the stations. However, the peak values of SO_2 were observed as high as 13.60 µg/m^3 and 9.40 µg/m^3 respectively at both stations and for NO_x it was 30.54 µg/m^3 at Station No. 1 and 22.43 µg/m^3 at Station No. 2. The peak values of RSPM were observed as high as 622.29 µg/m^3 and 549.31 µg/m^3 in the month of October & November, 2006 at both the stations respectively. However, the monthly mean average values for RSPM ranged between 48.56 µg/m^3 to 174.83 µg/m^3 at Station No. 1 and 69.09 to 194.42 µg/m^3 at Station No. 2. From these observations, it can be concluded that the air quality was poorer at Station No. 2 in comparison to Station No.1. Annual average values for RSPM at Station No. 1

observed as 76.79 μg/m^3. The annual average value of RSPM is above the permissible limit of 60 μg/m^3 prescribed for Residential Area whereas the value of RSPM at Station No. 2 was observed as 112.09 μg/m^3 and is below the permissible limit of 120 μg/m^3 for Industrial Area. The ambient air quality data of both the stations is as listed below.

AMBIENT AIR QUALITY DATA:

Monitoring Location: PARWANOO

Station-I

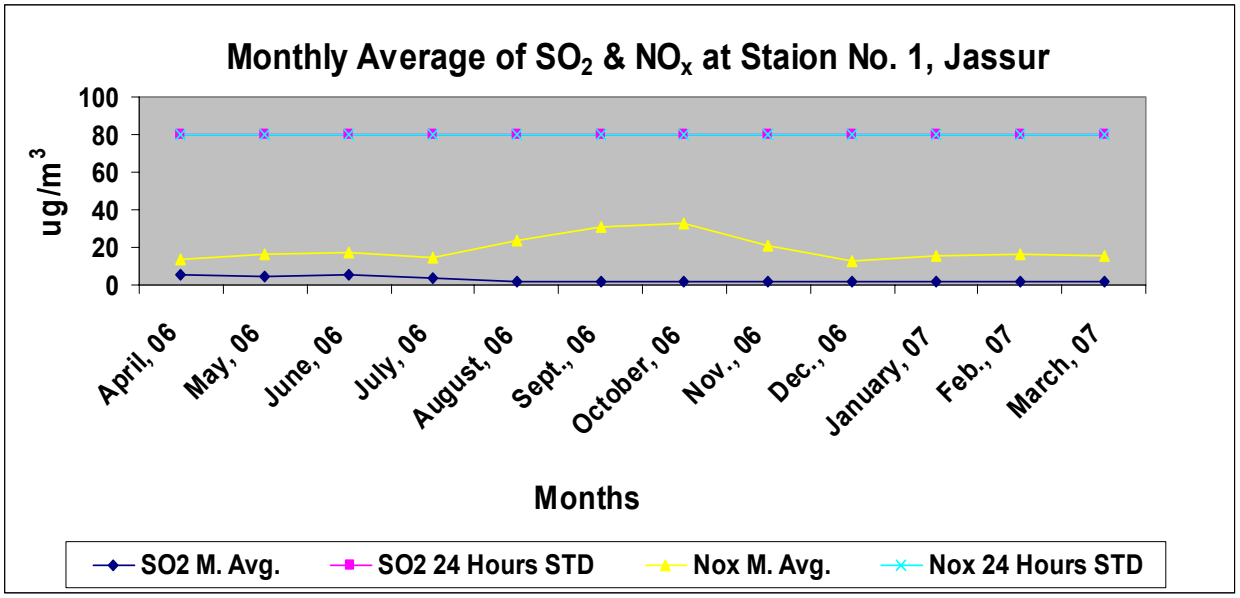
Month	SO_2		NO_X		RSPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	2.00	5.11	4.50	12.56	71.08	102.30
May, 2006	2.00	4.50	4.50	11.56	74.37	131.78
June, 2006	2.00	4.48	10.07	15.55	82.54	136.58
July, 2006	2.00	2.00	9.72	15.50	48.56	92.18
August, 2006	2.00	2.00	11.05	15.91	55.22	65.26
September, 2006	2.00	5.63	8.87	13.43	71.64	113.79
October, 2006	2.00	7.36	11.43	30.54	174.83	622.29
November, 2006	2.00	2.00	11.03	14.42	102.37	369.97
December, 2006	2.00	2.00	9.49	13.22	54.72	82.79
January, 2007	2.50	13.60	9.70	17.60	71.20	126.00
February, 2007	2.00	5.66	7.00	15.60	60.00	167.00
March, 2007	2.50	7.36	8.50	28.31	55.00	100.50

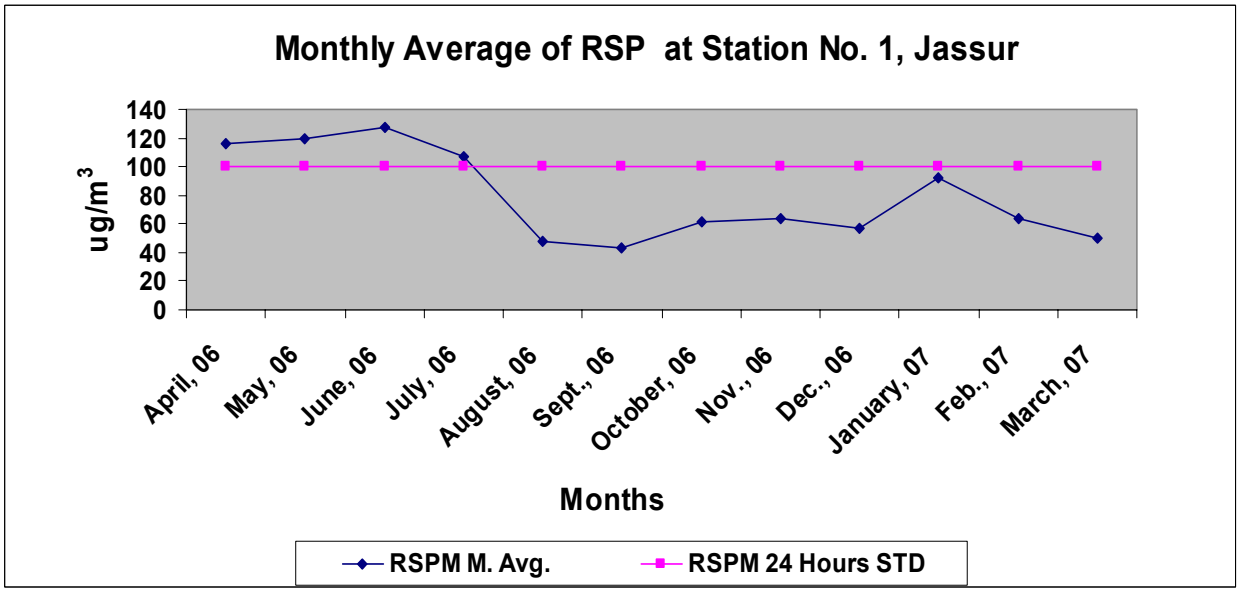
Station-II

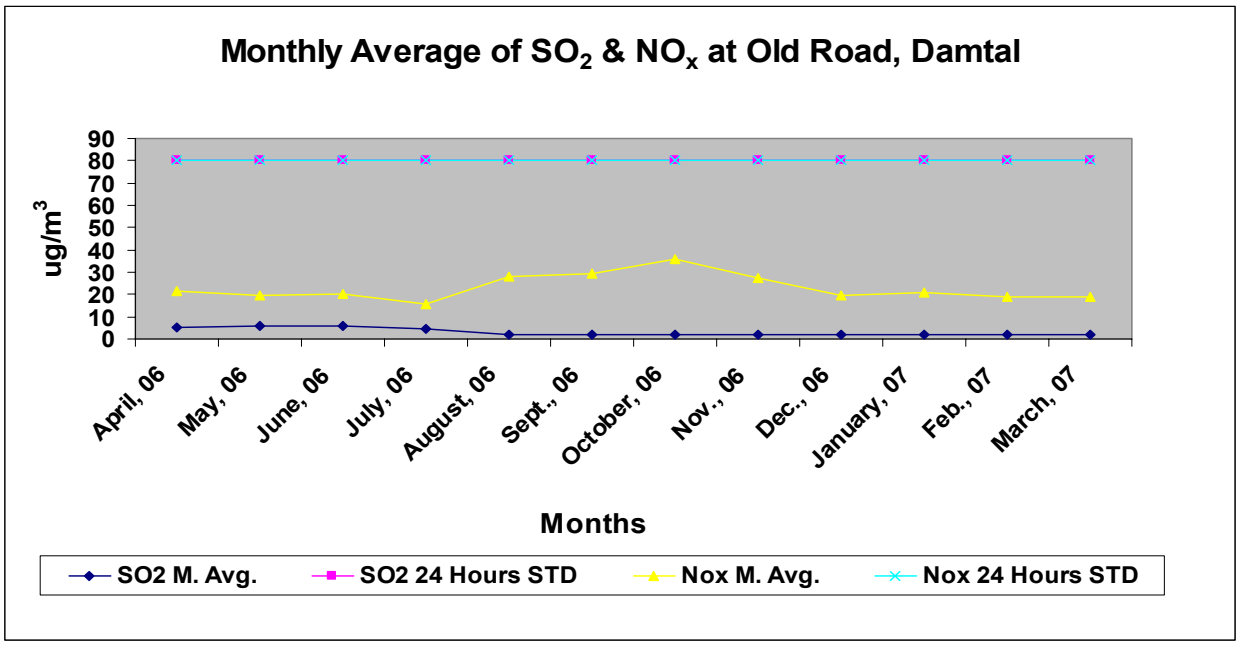
Month	SO_2		NO_X		RSPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	2.00	9.40	12.37	16.76	M. Avg.	Peak
May, 2006	2.00	6.30	12.32	15.61	105.99	221.67
June, 2006	4.48	6.74	13.62	17.39	101.92	250.70
July, 2006	2.00	2.00	13.00	15.33	118.27	228.28
August, 2006	2.00	2.00	12.86	19.30	69.09	96.54
September, 2006	2.00	2.00	12.52	15.78	84.97	179.95
October, 2006	2.00	5.57	12.98	22.43	194.42	174.96
November, 2006	2.00	2.55	12.70	16.94	132.96	525.11
December, 2006	2.00	4.74	11.82	16.33	176.83	549.31
January, 2007	2.00	2.00	11.80	19.50	82.28	120.68
February, 2007	2.00	2.00	11.80	15.12	124.60	198.00
March, 2007	2.00	5.10	9.90	16.58	79.00	186.50

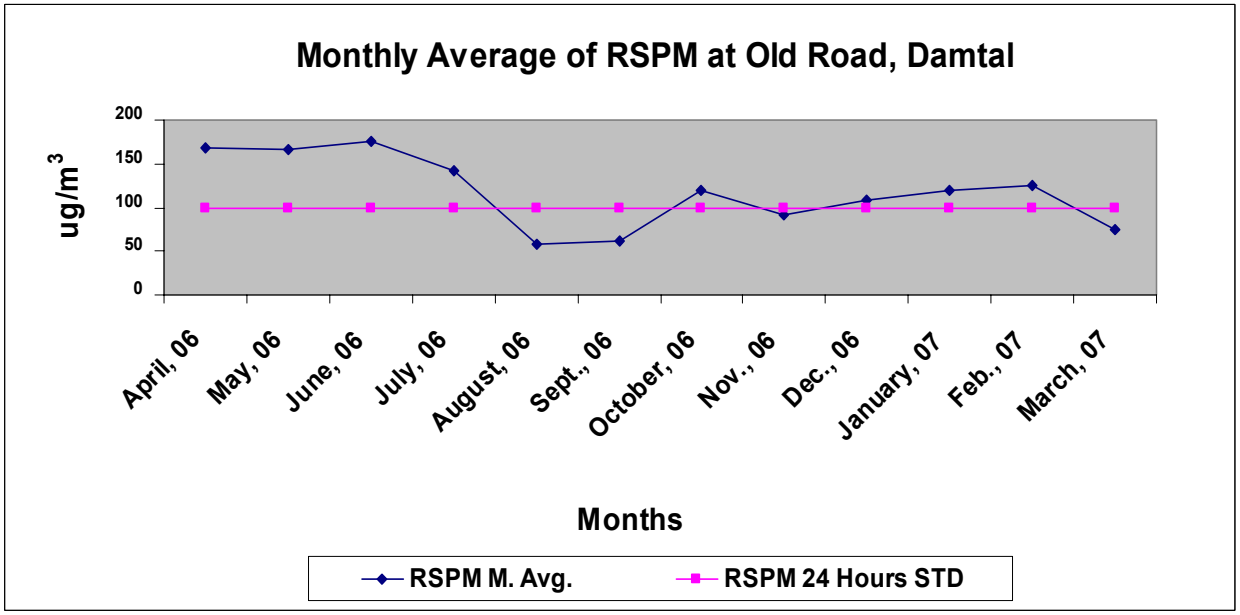
4.1.3 AMBIENT AIR QUALITY AT DAMTAL:

Air quality of Damtal is being monitored at two different locations. One near HPSEP & PCB, Office Jassur (Station No.1) and other at Old Road Damtal (Station No.2). Both these stations fall under **Residential Area Zone 'R'**. Monitoring station at Damtal has a large numbers of stone crushers in the vicinity. The data collection for the year 2006-2007 has been scrutinized for monthly average and peak values for both these locations and the trends of monthly average SO_2, NOx, SPM and RSPM are as shown below.









The monthly mean average values for SO_2 ranged between 2.00 µg/m^3 to 5.71 µg/m^3 at both the stations whereas monthly mean average values for NO_X ranged between 12.66 µg/m^3 to 36.08 µg/m^3 at both the stations. These values are within the permissible limit prescribed for 24 hour average showing the good quality of air from gaseous point of view. The peak value of RSPM was observed as high as 216.00 µg/m^3 in the month of June, 2006 at Station No. 1. However, the monthly mean average values of RSPM ranged between 43.58 µg/m^3 to 127.00 µg/m^3 for Station No. 1. The peak value of RSPM was observed as high as 300.00 µg/m^3 in the month of June, 2006 at Station No.2. However, monthly mean average values of RSPM ranged between 57.97 µg/m^3 to 176.00 µg/m^3. From the above observations it can be concluded that quality of air at Station No.2 is comparatively poor than Station No.1 with respect to the RSPM values.

Annual average values for RSPM at Station No. 1 & 2 were observed as 79.077 μg/m^3 & 117.77 μg/m^3 .The annual average value of RSPM are above the permissible limit of 60 μg/m^3 prescribed for Residential Area. The ambient air quality data of both the stations is as listed below.

AMBIENT AIR QUALITY DATA:

Monitoring Location: DAMTAL

Station-I

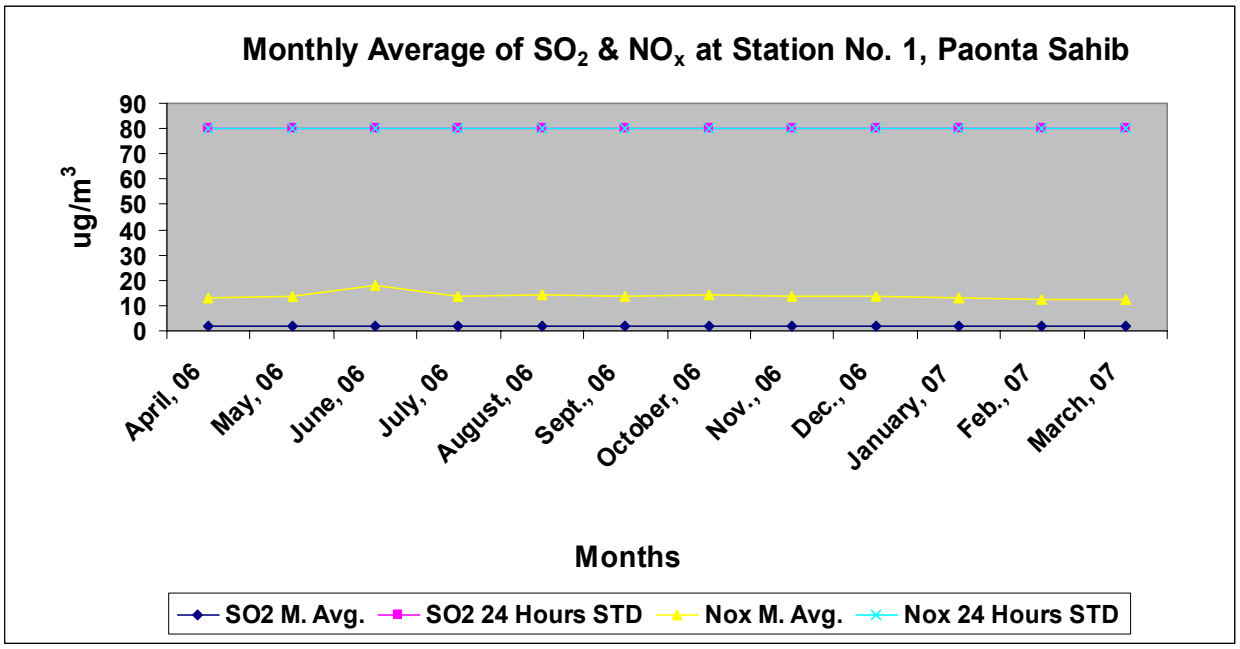
Month	SO_2		NO_X		RSPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	5.13	7.15	13.56	25.03	116.00	145.00
May, 2006	4.60	7.15	16.81	30.18	120.00	189.00
June, 2006	5.20	8.24	16.91	26.01	127.00	216.00
July, 2006	3.79	7.14	14.53	26.02	106.63	164.00
August, 2006	2.00	2.00	23.79	59.21	47.69	111.00
September, 2006	2.00	2.00	30.50	74.01	43.58	90.00
October, 2006	2.00	2.00	33.07	108.11	61.64	160.00
November, 2006	2.00	2.00	20.92	35.88	63.86	160.00
December, 2006	2.00	2.00	12.66	16.60	56.91	200.00
January, 2007	2.00	2.00	15.82	25.30	92.29	178.00
February, 2007	2.00	2.00	16.01	21.53	63.48	208.00
March, 2007	2.00	2.00	15.25	21.98	49.78	118.00

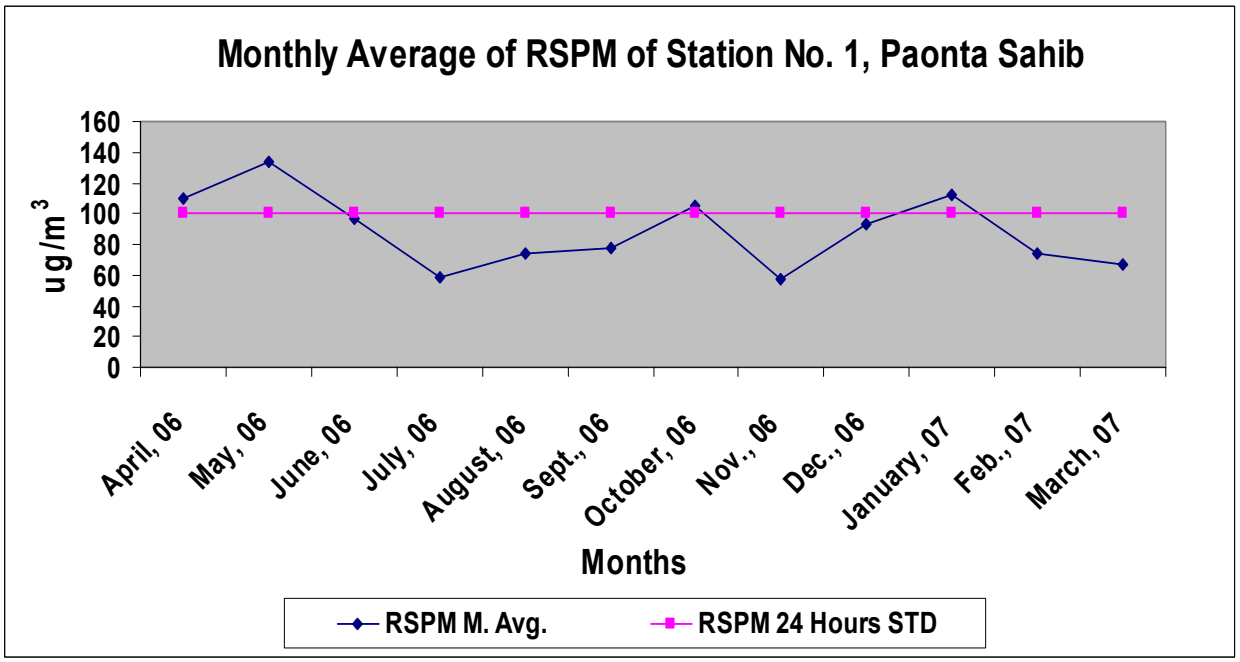
Station-II

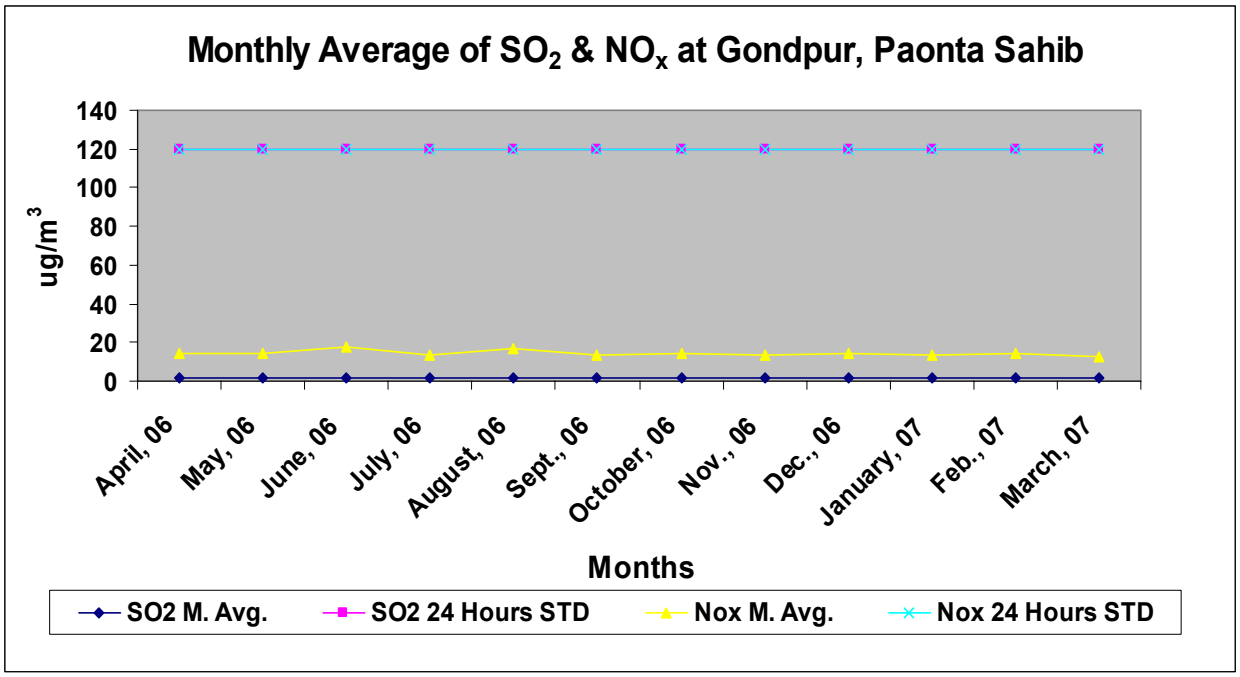
Month	SO_2		NO_X		RSPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	5.34	8.17	21.40	31.10	169.00	294.00
May, 2006	5.71	8.80	19.35	28.11	167.00	256.00
June, 2006	5.71	9.43	19.98	29.90	176.00	300.00
July, 2006	4.35	7.04	15.54	26.56	141.40	227.00
August, 2006	2.00	2.00	28.11	58.81	57.97	216.00
September, 2006	2.00	2.00	29.12	49.79	61.84	120.00
October, 2006	2.00	2.00	36.08	69.97	119.32	253.00
November, 2006	2.00	2.00	27.53	49.79	90.80	189.00
December, 2006	2.00	2.00	19.83	35.88	108.59	241.00
January, 2007	2.00	2.00	20.56	30.76	120.00	251.00
February, 2007	2.00	2.00	18.80	30.06	125.87	345.00
March, 2007	2.00	2.00	18.86	27.51	75.45	149.00

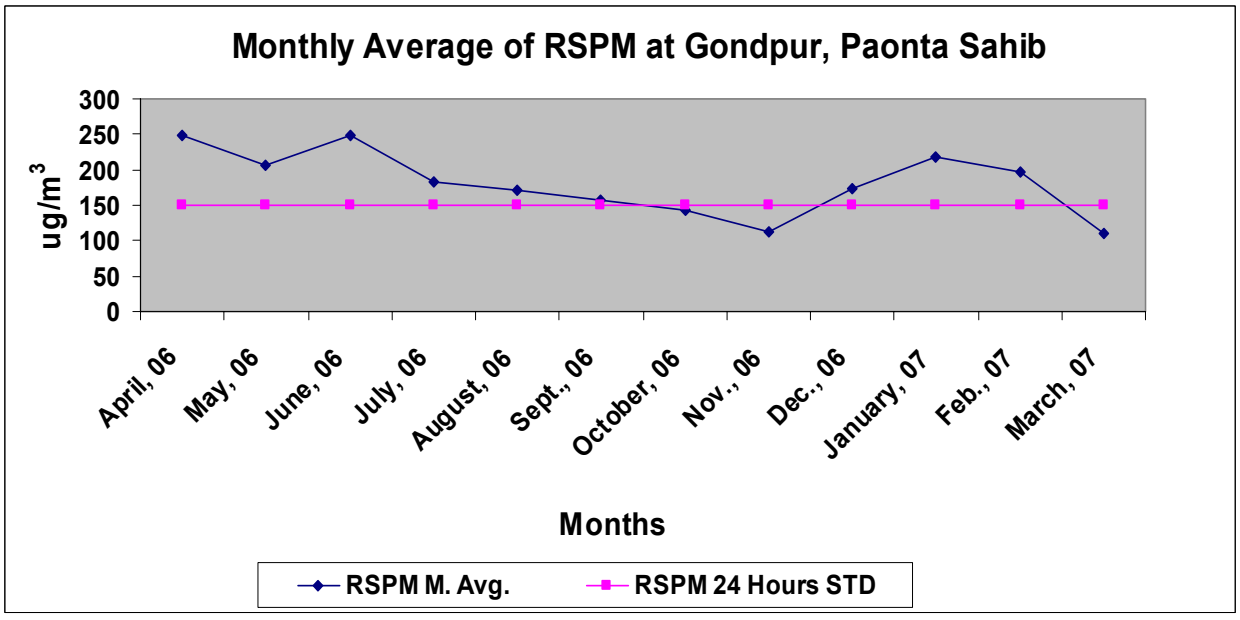
4.1.4 AMBIENT AIR QUALITY AT PAONTA SAHIB:

Ambient air quality of Paonta Sahib is being monitored during day at two different locations, one at Paonta Sahib town (Station No.1) and other industrial area Gondpur (Station No. 2). These stations fall under **Resenditial Area Zone 'R'** and **Industrial Area Zone 'I'** respectively. The data collected for the year 2006-2007 has been scrutinized for monthly Average & Peak values for these two locations and the trends of monthly average SO_2, NOx, SPM and RSPM are as shown below.









All the values of SO_2 and NO_x remained below the permissible limit prescribed for 24 hour average of 80 µg/m^3 at Station No. 1 and 120 µg/m^3 at Station No. 2. However, the peak values of SO_2 were observed as 2.41 µg/m^3 and 7.73 µg/m^3 respectively at both stations and for NO_x it was 30.93 µg/m^3 at Station No. 1 and 30.61 µg/m^3 at Station No. 2. The mean average values of RSPM crossed the limit of 100 µg/m^3 in the months of April, May, October, 2006 & January, 2007 at Station No. 1 while at Station No. 2 the mean average value of RSPM was observed below the prescribed limit of 150 µg/m^3 in the month of October, November, 2006 & March, 2007 only. Annual average values for RSPM at Station No. 1 & 2 were observed as 88.27 µg/m^3

& 180.56 μg/m^3 .The annual average values of RSPM are above the permissible limit of 60 μg/m^3 and 120 μg/m^3 prescribed for Residential Area and Industrial Area respectively. The ambient air quality data of both the stations is as listed below.

AMBIENT AIR QUALITY DATA:

Monitoring Location: PAONTA SAHIB

Station-I

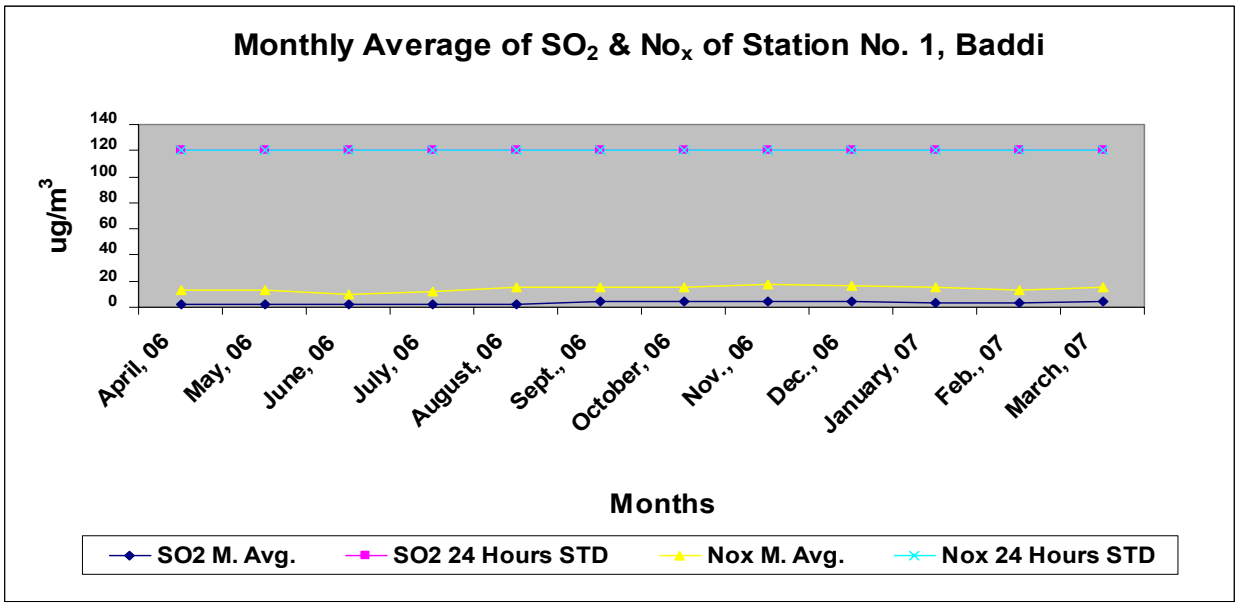
Month	SO_2		NO_X		RSPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	2.00	2.00	13.06	22.75	110.26	331.88
May, 2006	2.00	2.00	13.56	22.70	134.05	364.42
June, 2006	2.00	2.00	18.11	30.93	96.74	231.48
July, 2006	2.00	2.00	13.64	18.70	58.00	221.00
August, 2006	2.00	2.00	14.34	24.05	74.00	323.00
September, 2006	2.00	2.00	13.47	16.66	78.00	405.00
October, 2006	2.00	2.00	14.09	18.69	105.00	262.00
November, 2006	2.00	2.00	13.82	20.22	57.00	161.00
December, 2006	2.00	2.41	13.40	24.39	92.69	265.00
January, 2007	2.00	2.41	13.12	17.07	112.06	191.00
February, 2007	2.00	2.00	12.60	15.30	74.00	180.00
March, 2007	2.00	2.00	12.63	18.04	66.60	255.00

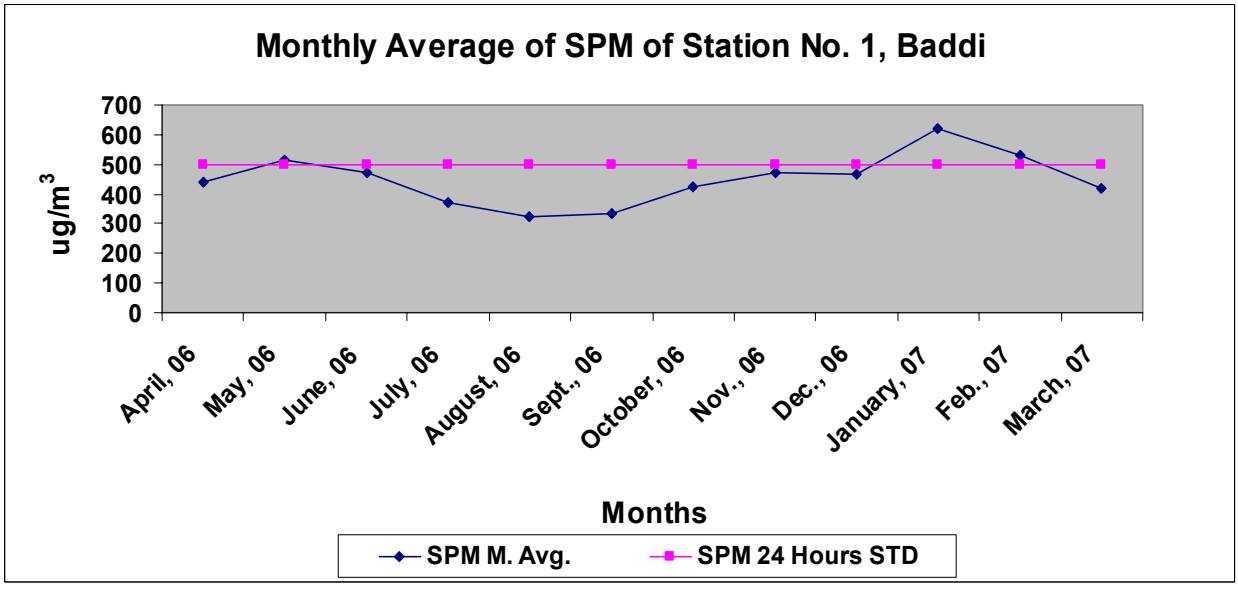
Station-II

Month	SO_2		NO_X		RSPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	2.00	7.73	14.10	30.07	247.69	456.88
May, 2006	2.00	2.00	14.32	21.95	205.19	430.49
June, 2006	2.00	2.00	18.03	30.27	248.29	716.18
July, 2006	2.00	2.00	13.74	18.70	182.00	421.00
August, 2006	2.00	2.00	17.00	30.61	171.00	552.00
September, 2006	2.00	2.00	13.53	17.88	157.20	666.00
October, 2006	2.00	2.00	14.64	19.50	143.00	296.00
November, 2006	2.00	2.00	13.78	17.88	113.00	265.00
December, 2006	2.00	3.15	14.27	29.52	173.60	821.00
January, 2007	2.00	3.15	13.70	18.29	218.83	528.00
February, 2007	2.00	3.15	13.96	15.39	196.00	432.00
March, 2007	2.00	2.40	13.00	17.00	110.90	276.00

4.1.5 AMBIENT AIR QUALITY AT BADDI:

Under the National Ambient Air Quality Program (NAPM) the State Board has established one ambient air quality monitoring station at Baddi in February 2005. Since then monitoring is being done regularly at Industries Department building on 24 hour basis. This station falls under the category of Industrial and mixed use. The data collected for the year 2006-2007 has been scrutinized for monthly average & peak values. The monthly average values of SPM, SO_2 and NOx for this station are as listed below:





All the values of SO_2 and NO_x remained below the permissible limit prescribed for 24 hour average of 120 µg/m^3. The mean average values of SPM are within the concentration of 500 µg/m^3 except in the months of May, 2006 and January & February, 2007. These mean average values were observed in the range of 514 - 618 µg/m^3. The annual average value of SPM was

also found above limit of 360 μg/m^3 in the year 2006-07. The observed values of ambient air quality data is as listed below.

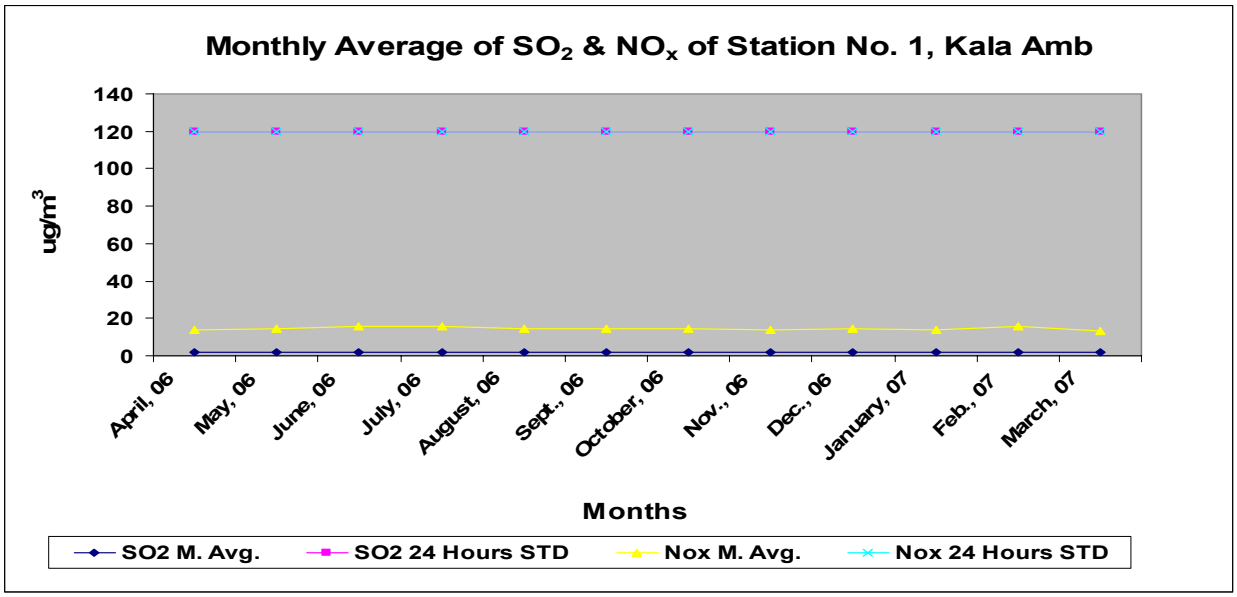
AMBIENT AIR QUALITY DATA:

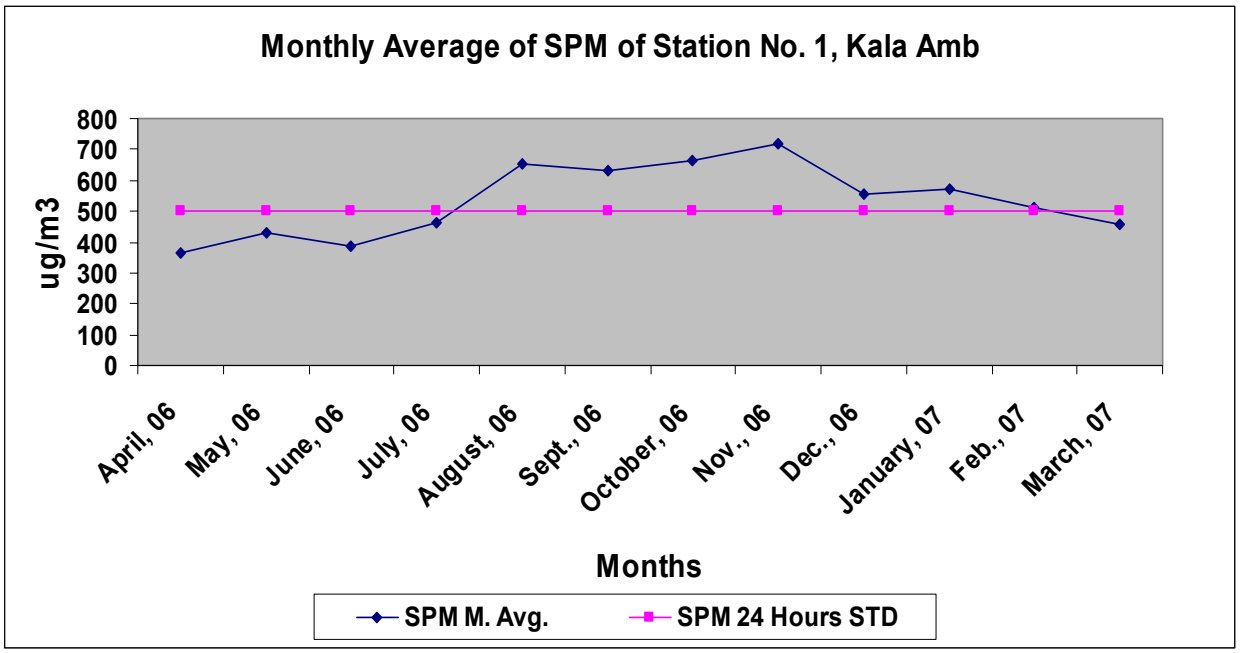
Monitoring Location: BADDI

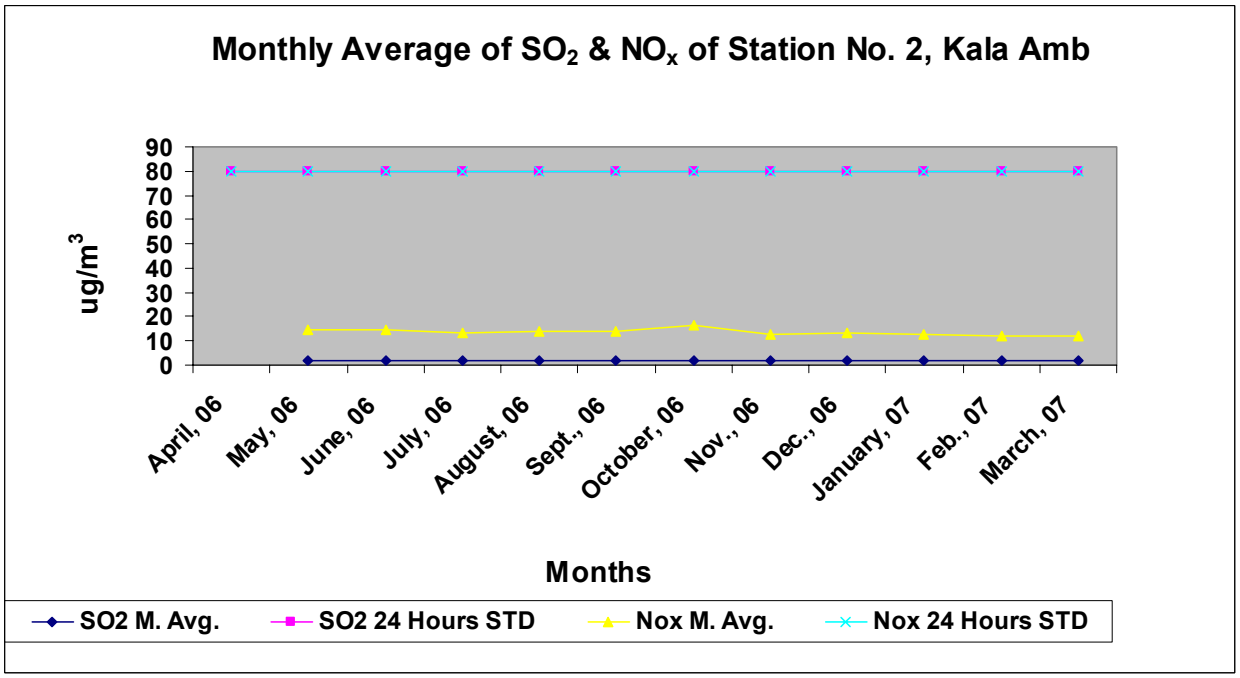
Month	SO_2		NO_X		SPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	2.00	5.85	13.46	18.12	439.50	718.05
May, 2006	2.00	9.98	12.62	21.39	513.78	971.63
June, 2006	2.00	2.00	9.62	14.88	474.04	1233.00
July, 2006	2.00	2.00	12.36	19.98	370.01	1925.98
August, 2006	2.00	5.38	14.89	19.45	321.94	498.20
September, 2006	4.16	6.23	15.05	17.06	334.53	623.36
October, 2006	4.46	7.93	15.75	30.24	422.12	1360.09
November, 2006	4.69	5.61	17.56	21.29	470.28	723.54
December, 2006	4.25	6.23	16.12	18.71	464.24	624.67
January, 2007	3.70	9.01	15.20	27.80	618.10	415.00
February, 2007	3.00	6.80	13.00	20.48	530.00	952.00
March, 2007	4.00	6.50	15.00	36.09	419.00	1086.00

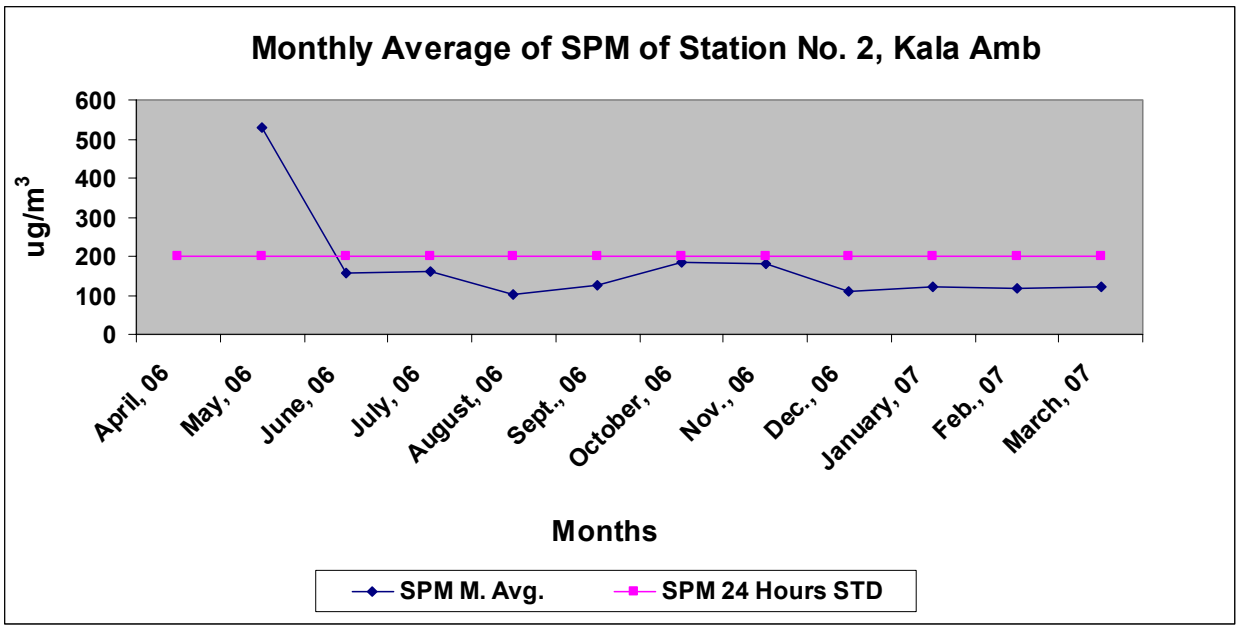
4.1.6 AMBIENT AIR QUALITY AT KALA AMB

Ambient air quality of Kala Amb is being monitored at two different locations, one at Kala Amb (Station No.1) and other at Trilokpur (Station No. 2). These stations fall under **Industrial Area Zone 'I'** and **Residential Area Zone 'R'** for which air quality standards fixed for 24 hour average are 200 & 500 μg/m^3 for SPM and 80 & 120 μg/m^3 for NO_x & SO_2 respectively. The monitoring is being done with the help of the High Volume Sampler on the basis of three days per station per week for 24 hours. The data collected for the year 2006-2007 has been scrutinized for monthly average & peak values for these two locations.




Monthly Average of SPM of Station No. 1, Kala Amb
ug/m3
800
700
600
500
400
300
200
100
0
April, 06
May, 06
June, 06
July, 06
August, 06
Sept., 06
October, 06
Nov., 06
Dec., 06
January, 07
Feb., 07
March, 07
Months
SPM M. Avg.
SPM 24 Hours STD


Monthly Average of SO2 & NOx of Station No. 2, Kala Amb
ug/m3
90
80
70
60
50
40
30
20
10
0
April, 06
May, 06
June, 06
July, 06
August, 06
Sept., 06
October, 06
Nov., 06
Dec., 06
January, 07
Feb., 07
March, 07
Months
SO2 M. Avg.
SO2 24 Hours STD
Nox M. Avg.
Nox 24 Hours STD



All the values of SO_2 and NO_x remained below the permissible limits prescribed for 24 hour average of 80 & 120 µg/m^3 at both the stations. The mean monthly average values of SPM crossed the concentration of 500 µg/m^3 except in the month of April, May, June & July, 2006 and March, 2007 at Station No.1. These values were found in the range of 513-719 µg/m^3. Whereas mean monthly average values of SPM were found above concentration of 200 µg/m^3 in the month of May, 2006 at Station No.2. The annual average values of SPM are above the permissible limit of 360 µg/m^3 and 140 µg/m^3 prescribed for Industrial Area and Residential Area respectively for Station No. 1 & 2. The observed values of ambient air quality data is as listed below.

AMBIENT AIR QUALITY DATA:

Monitoring Location: **KALA AMB**

Station-1

Month	SO_2		NO_X		SPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006	2.00	7.73	13.83	36.83	366.00	657.00
May, 2006	2.00	2.00	14.65	32.52	429.00	790.00
June, 2006	2.00	3.00	15.61	30.08	386.00	710.00
July, 2006	2.00	2.00	15.56	24.05	464.00	1144.00
August, 2006	2.00	2.00	14.37	28.42	654.00	1385.00
September, 2006	2.00	2.00	14.53	19.68	631.00	1077.00
October, 2006	2.00	2.00	14.63	19.68	662.00	2522.00
November, 2006	2.00	2.00	13.85	18.69	719.00	1944.00
December, 2006	2.00	3.15	14.34	22.76	553.00	1448.00
January, 2007	2.00	2.00	13.63	18.58	572.00	1236.00
February, 2007	2.00	2.00	15.60	39.40	513.00	1016.00
March, 2007	2.00	2.00	13.00	17.90	456.00	723.00

Station-II

Month	SO_2		NO_X		SPM	
	M. Avg.	Peak	M. Avg.	Peak	M. Avg.	Peak
April, 2006						
May, 2006	2.00	2.00	14.76	21.94	531.00	443.00
June, 2006	2.00	2.00	14.82	32.52	156.00	446.00
July, 2006	2.00	2.00	13.33	20.77	160.00	411.00
August, 2006	2.00	2.00	13.72	20.92	103.00	391.00
September, 2006	2.00	2.00	13.80	18.58	127.00	323.00
October, 2006	2.00	2.00	16.20	18.58	183.00	492.00
November, 2006	2.00	2.00	12.99	21.95	179.00	523.00
December, 2006	2.00	2.11	13.14	22.76	109.00	385.00
January, 2007	2.00	2.00	12.85	15.86	123.00	197.00
February, 2007	2.00	2.00	12.00	17.30	118.00	271.00
March, 2007	2.00	2.00	12.00	22.80	123.00	382.00

4.1.7 VEHICULAR MONITORING IN HIMACHAL PRADESH:

The government of Himachal Pradesh under the Motor Vehicle Act, 1989 has empowered the Regional Officers of the State Board with checking of the vehicles. The State Board is regularly monitoring vehicles during mass awareness camps organized from time to time in the State. A total number of 1579 vehicles were monitored/checked during the year 2006-2007. Out of these vehicles 125 vehicles were challaned for non-compliance of the emission norms. Therefore, in order to implement the provisions of law effective and efficient measures are required for vehicular pollution control in the State, so that it does not affect the air quality of the State.

4.1.8 STEPS TAKEN TO IMPROVE THE AIR QUALITY:

a) Preventing burning of Bio-fuels in Shimla and other towns due to availability of cheap and assured electricity.
b) No industry is allowed to come up without Air Pollution Control Device installed.
c) In already existed industries, 57 Air Pollution Control devices were improved/upgraded during the year
d) Vehicles performance has improved – complying better emission norms.

4.2 STATUS OF RIVER WATER QUALITY:

Assessment of the status of water quality of the natural water bodies is one of the most important activities of the Pollution Control Board. Water quality data not only help to ascertain the nature and extent of the requirement for pollution control measures but also indicates its impact on water quality. The Central Pollution Control Board under the National Program: **MONITORING OF NATIONAL AQUATIC RESOURCES (MINARS)** is sponsoring the

water quality monitoring of major rivers of the State. The monitoring has been carried out in the month of April, July, October and January every year. In all 36 points have been selected on major rivers Satluj, Beas, Ravi, Yamuna, Parvati, Sirsa, Markanda & Sukhna and samples are being analyzed for 22 parameters which includes the physico-chemical and bacteriological contents. The results are shown in Table 3. Eighteen (18) points have also been selected in major industrial towns for the monitoring of ground water of hand pumps & wells. It has been observed that quality of ground water monitored in the State confirms the prescribed standards.

However, in addition to the State Board is also monitoring the water quality of different tributaries of rivers, nallahs and lakes in the State.

Following conclusion were drawn from the above studies:

- In case of major rivers on the basis of Primary Water Quality Criteria as shown in Table 2, it can be concluded that quality of river falls under '**A**' category of water with respect to pH, DO and BOD in general. The critical parameters observed is Total Coliform according to which category of river comes down to either category '**B**' if the Total Coliform are more than **50** MPN/ 100 ml or category '**C**' if the Total Coliform are more than **500** MPN/100ml.

- Urban waste affects water quality near towns and water resources are required to be treated and disinfected before it is used for drinking purposes.

TABLE 2: PRIMARY WATER QUALITY CRITERIA

Designated Base Use	Class of Water	Criteria
Drinking water source without conventional treatment but after disinfection.	A	1. Total Coliform organism MPN/100ml. shall be 50 or less. 2. pH between 6.5 and 8.5. 3. Dissolved Oxygen 6 mg/l or more. 4. Biochemical Oxygen Demand 5 days 20^{o}C 2 mg/l or less.
Outdoor bathing (Organized)	B	1. Total Coliform organism MPN/100ml.shall be 500 or less. 2. pH between 6.5 and 8.5. 3. Dissolved Oxygen 5 mg/l or more. 4. Biochemical Oxygen Demand 5 days 20^{o}C 3 mg/l or less.
Drinking Water Sources after conventional treatment	C	1. Total Coliform organism MPN/100ml.shall be 5000 or less. 2. pH between 6 and 9. 3. Dissolved Oxygen 4 mg/l or more. 4. Biochemical Oxygen Demand 5 days 20^{o}C 3 mg/l or less.
Propagation of Wild Life Fisheries.	D	1. pH between 6.5 and 9.5. 2. Dissolved Oxygen 4 mg/l or more. 3. Free Ammonia (as N) 1.2 mg/l or less.
Irrigation, Industrial Cooling Controlled Waste.	E	1. pH between 6.5 and 9.5. 2. Electrical Conductivity at 25-mg/cm max. 2250. 3. Sodium absorption ratio Max. 26. 4. Boron Max 2 mg/l.

- If three parameters falls in category 'A' but fourth parameter falls in category C. The overall quality of river will fall under Class 'C'.

TABLE 3: WATER QUALITY OF MAJOR RIVERS IN HIMACHAL PRADESH MONITORED UNDER MINARS PROGRAMME DURING 2006-2007				
April, 2006				
Location/ Station Code	**pH**	**DO (mg/l)**	**BOD (mg/l)**	**TC (MPN /SPC/100ml)**
Manali U/S, 1001-R-BEA-A	7.49	11.0	1.0	4
Kullu D/S, 1002-R-BEA-A	7.32	9.6	0.9	7
Aut D/S, 1003-R-BEA-A	7.86	10.8	1.0	7
Pandoh Dam U/S, 1004-R-BEA-A	8.11	9.8	0.8	17
Dehar Power House, 1005-R-BEA-A	7.79	8.6	0.8	22
Mandi D/S, 1006-R-BEA-A	7.79	8.6	0.8	33
Alampur D/S, 1007-R-BEA-A	7.34	7.4	0.4	19
Dehra D/S, 1008-R-BEA-A	7.48	7.2	0.4	350
Pong Dam D/S, 1009-R-BEA-A	7.46	5.8	0.4	110
Tatapani U/S, 1013-R-SAT-A	8.26	9.8	0.3	141
Slapper U/S, 1014-R-SAT-A	7.82	8.2	0.9	33
Slapper D/S, 1015-R-SAT-A	7.96	8.3	1.1	22
Bhakhra D/S, 1016-R-SAT-A	8.26	8.7	0.2	24
Rampur U/S, 1086-R-SAT-A	8.15	10.0	0.1	156
Rampur D/S, 1087-R-SAT-A	8.25	10.0	0.4	170
Madhopur H/W, 1088-R-RAV-A	7.39	7.0	0.3	16
Chamba U/S, 1089-R-RAV-A	7.59	9.9	0.6	31
Largi D/S, 1090-R-LAR-A	7.46	11.2	0.9	9
Bhunter Parvati, 1290-R-PAR-A	7.62	9.8	0.5	9
Bilaspur D/S, 1291-L-GOL-A	8.01	8.0	0.3	920
Pong Dam U/S, 1292-L-PDL-A	7.70	9.5	0.7	34
Wangtu Bridge, 1389-R-SAT-A	8.25	9.8	0.2	4
Renuka Lake, 1429-L-REL-B	8.24	7.0	1.5	33
U/S Mandi, 1550-R-BEA-A	7.84	8.8	0.8	7
U/S Sirsa River before conf. of Sitomajri Nallah, 1551-R-SIRSA-A	8.12	9.6	2.0	160
D/S Nalagarh Bridge, 1552-R SIRSA-A	8.23	12.4	2.8	1200
U/S Paonta Sahib, 1553-R-Yamuna-A	9.33	8.5	3.1	22
D/S Paonta Sahib, 1554-R-Yamuna-A	9.54	8.5	3.6	24
River Satluj before confluence of River Spiti at Khab, 1867-R- Satluj	8.07	8.5	0.5	0
D/S Nalagarh Town after meeting with Khad, 1868-R-Sirsa	7.79	11.5	6.0	2400

D/S Parwanoo Town, 1870- R- Sukhna	7.75	6.8	3.0	30000
Markanda River at Paonta Sahib, 1871-R-Markanda	9.42	--	2.2	30

July, 2006

Location/ Station Code	pH	DO (mg/l)	BOD (mg/l)	TC (MPN / SPC/100ml)
Manali U/S, 1001-R-BEA-A	7.54	8.2	0.5	33
Kullu D/S, 1002-R-BEA-A	7.19	7.8	0.6	33
Aut D/S, 1003-R-BEA-A	7.45	9.1	0.2	17
Pandoh Dam U/S, 1004-R-BEA-A	7.15	8.9	0.1	17
Dehar Power House, 1005-R-BEA-A	8.06	9.9	0.2	33
Mandi D/S, 1006-R-BEA-A	6.62	7.2	4.7	350
Sujanpur D/S, 1007-R-BEA-A	8.3	7.8	1.5	316
Dehra D/S, 1008-R-BEA-A	7.18	8.3	1.7	986
Pong Dam D/S, 1009-R-BEA-A	7.74	4.9	0.9	164
Tatapani U/S, 1013-R-SAT-A	7.64	9.2	0.2	64
Slapper U/S, 1014-R-SAT-A	7.9	8.3	0.2	7
Slapper D/S, 1015-R-SAT-A	7.85	9.0	0.2	14
Bhakhra D/S, 1016-R-SAT-A	8.07	8.5	0.1	64
Rampur U/S, 1086-R-SAT-A	8.41	9.5	0.2	80
Rampur D/S, 1087-R-SAT-A	8.43	9.6	0.4	120
Madhopur H/W, 1088-R-RAV-A	8.05	8.3	1.0	69
Chamba U/S, 1089-R-RAV-A	7.98	8.6	1.0	144
Largi D/S, 1090-R-LAR-A	8.02	8.4	0.1	7
Bhunter Parvati, 1290-R-PAR-A	6.87	9.3	0.2	9
Bilaspur D/S, 1291-L-GOL-A	7.97	8.4	0.3	22
Pong Dam U/S, 1292-L-PDL-A	8.61	6.9	1.0	114
Wangtu Bridge, 1389-R-SAT-A	7.71	9.8	0.2	30
Renuka Lake, 1429-L-REL-B	9.31	7.2	2.0	16
U/S Mandi, 1550-R-BEA-A	6.56	8.0	0.3	11
U/S Sirsa River before conf. of Sitomajri Nallah, 1551-R-SIRSA-A	7.84	8.5	2.0	60
D/S Nalagarh Bridge, 1552-R SIRSA-A	8.27	8.4	5.0	550
U/S Paonta Sahib, 1553-R-Yamuna-A	9.06	7.5	4.2	24

D/S Paonta Sahib, 1554-R-Yamuna-A	9.12	8.3	1.8	30
River Satluj before confluence of River Spiti at Khab, 1867-R- Satluj	8.21	9.0	0.1	4
D/S Nalagarh Town after meeting with Khad, 1868-R-Sirsa	8.18	8.2	6.0	720
D/S Parwanoo Town, 1870- R- Sukhna	8.05	7.6	0.8	220
Markanda River at Paonta Sahib, 1871-R-Markanda	9.36	7.5	1.6	20

October, 2006

Location/ Station Code	pH	DO (mg/l)	BOD (mg/l)	TC (MPN/ SPC/100ml)
Manali U/S, 1001-R-BEA-A	7.69	9.2	1.0	6
Kullu D/S, 1002-R-BEA-A	7.75	9	0.5	14
Aut D/S, 1003-R-BEA-A	7.66	8.5	0.3	4
Pandoh Dam U/S, 1004-R-BEA-A	7.98	8.5	0.5	9
Dehar Power House, 1005-R-BEA-A	7.41	10.5	0.6	9
Mandi D/S, 1006-R-BEA-A	7.61	7.2	1.3	920
Sujanpur D/S, 1007-R-BEA-A	8.36	8.4	0.7	54
Dehra D/S, 1008-R-BEA-A	7.78	8.1	1.0	184
Pong Dam D/S, 1009-R-BEA-A	8.26	7.5	0.6	63
Tatapani U/S, 1013-R-SAT-A	7.93	9	0.4	170
Slapper U/S, 1014-R-SAT-A	8.39	9.2	0.3	9
Slapper D/S, 1015-R-SAT-A	8.09	9.5	0.6	12
Bhakhra D/S, 1016-R-SAT-A	8.08	8.5	0.1	20
Rampur U/S, 1086-R-SAT-A	7.91	8.8	0.1	102
Rampur D/S, 1087-R-SAT A	8.03	8.6	0.4	210
Madhopur H/W, 1088-R-RAV-A	7.98	7.9	0.7	30
Chamba U/S, 1089-R-RAV-A	8.35	10.6	0.4	18
Largi D/S, 1090-R-LAR-A	7.91	9.0	0.9	6
Bhunter Parvati, 1290-R-PAR-A	7.37	9.4	0.7	4
Bilaspur D/S, 1291-L-GOL-A	8.66	8.7	0.4	17
Pong Dam U/S, 1292-L-PDL-A	7.75	8.2	0.6	52
Wangtu Bridge, 1389-R-SAT-A	8.05	8.7	0.1	8
Renuka Lake, 1429-L-REL-B	7.49	6.9	2.0	21

U/S Mandi, 1550-R-BEA-A	8.07	8.2	0.6	6
U/S Sirsa River before conf. of Sitomajri Nallah, 1551-R-SIRSA-A	7.92	7.4	2.2	80
D/S Nalagarh Bridge, 1552-R SIRSA-A	8.12	7.6	3.0	570
U/S Paonta Sahib, 1553-R-Yamuna-A	7.42	7.6	1.0	18
D/S Paonta Sahib, 1554-R-Yamuna-A	7.8	7.8	1.6	21
River Satluj before confluence of River Spiti at Khab, 1867-R- Satluj	8.1	8.6	0.2	1
D/S Nalagarh Town after meeting with Khad, 1868-R-Sirsa	7.84	7.2	3.8	970
D/S Parwanoo Town, 1870- R- Sukhna	7.37	7.4	3.0	640
Markanda River at Paonta Sahib, 1871-R-Markanda	7.52	7.3	ND	30
River Tons at HP Boundary, 1510-R-Tons	7.28	7.80	ND	18

January, 2007

Location/ Station Code	**pH**	**DO (mg/l)**	**BOD (mg/l)**	**TC (MPN/ SPC/100ml)**
Manali U/S, 1001-R-BEA-A	7.55	11.0	0.2	6
Kullu D/S, 1002-R-BEA-A	7.51	11.2	0.6	17
Aut D/S, 1003-R-BEA-A	7.86	11.0	0.2	6
Pandoh Dam U/S, 1004-R-BEA-A	7.83	11.1	0.3	17
Dehar Power House, 1005-R-BEA-A	7.96	12.8	0.1	7
Mandi D/S, 1006-R-BEA-A	7.58	9.5	13.0	>2400
Sujanpur D/S, 1007-R-BEA-A	8.68	8.3	0.8	12
Dehra D/S, 1008-R-BEA-A	8.60	8.1	0.9	14
Pong Dam D/S, 1009-R-BEA-A	8.48	8.0	0.8	12
Tatapani U/S, 1013-R-SAT-A	8.17	11.7	0.3	160
Slapper U/S, 1014-R-SAT-A	8.03	11.2	0.3	17
Slapper D/S, 1015-R-SAT-A	8.00	12.0	0.1	8
Bhakhra D/S, 1016-R-SAT-A	8.24	9.1	0.2	22
Rampur U/S, 1086-R-SAT-A	8.24	11.9	0.2	162
Rampur D/S, 1087-R-SAT-A	8.14	11.5	0.4	180
Madhopur H/W, 1088-R-RAV-A	8.49	9.3	0.7	6
Chamba U/S, 1089-R-RAV-A	8.26	10.0	0.7	2

Largi D/S, 1090-R-LAR-A	7.94	11.3	0.3	6
Bhunter Parvati, 1290-R-PAR-A	7.28	11.0	0.2	4
Bilaspur D/S, 1291-L-GOL-A	8.08	10.0	0.8	27
Pong Dam U/S, 1292-L-PDL-A	8.07	8.2	0.7	9
Wangtu Bridge, 1389-R-SAT-A	8.21	11.6	0.3	12
Renuka Lake, 1429-L-REL-B	8.19	6.2	0.6	9
U/S Mandi 1550-R-BEA-A	7.93	11.0	0.3	6
U/S Sirsa River before conf. of Sitomajri Nallah, 1551-R-SIRSA-A	7.29	8.9	2.0	40
D/S Nalagarh Bridge, 1552-R SIRSA-A	8.26	8.4	3.0	260
U/S Paonta Sahib, 1553-R-Yamuna-A	6.71	9.0	0.6	13
D/S Paonta Sahib, 1554-R-Yamuna-A	7.14	8.9	0.6	15
River Satluj before confluence of River Spiti at Khab, 1867-R- Satluj	8.28	11.5	0.1	4
D/S Nalagarh Town after meeting with Khad, 1868-R-Sirsa	8.10	8.0	4.8	380
D/S Parwanoo Town, 1870- R- Sukhna	7.97	6.0	120	200
Markanda River at Paonta Sahib, 1871-R-Markanda	7.54	8.3	0.2	12
River Tons at HP Boundary, 1510-R-Tons	-	-	-	-

TABLE 4: WATER QUALITY OF MAJOR RIVERS, LAKES & NALLAH IN HIMACHAL PRADESH MONITORED UNDER STATE WATER QUALITY PROGRAMME DURING 2006-2007

April, 2006				
Location/ Station Code	**pH**	**DO (mg/l)**	**BOD (mg/l)**	**TC (MPN/SPC/100ml)**
Kaushalya River: U/S Parwanoo Town	8.47	8.4	0.8	86
Kaushalya River: D/S Intake Channel of WSS.Kamli	8.32	8.5	0.5	192
Sukhna Nallah D/S WSS Kalka	7.75	6.8	3.0	30000
Sukhna Nallah U/S WSS Sector IV Parwanoo	-	-	-	-
Sukhna Nallah U/S Sector V Parwanoo	7.82	3.5	1.2	160
Sukhna Nallah D/S Sector V Parwanoo	-	-	-	-
Masulkhana Nallah U/S Morepen Lab	8.37	6.8	0.2	40
Masulkhana Nallah D/S Morepen Lab	7.50	NIL	8.0	1480
R. Giri D/S Yashwant Nagar	8.40	9.0	0.7	189
Gulerwala Nallah	7.55	0.0	62.5	12400

R.Sirsa D/S Sito Majri Nallah	8.02	8.8	2.0	360
R.Sirsa U/S Sandholi Nallah	8.42	10.4	2.6	380
R.Sirsa D/S Sandholi Nallah	8.27	9.1	4.4	4200
R.Sirsa U/S Housing Board Nallah	8.15	5.1	13.2	1100
R.Sirsa D/S Housing Board Nallah	8.21	4.6	15.0	1800
Housing Board Nallah	7.52	NIL	25.0	4800
R.Sirsa U/S Ratta Khad	8.18	7.3	7.6	900
Ratta Khad	8.11	9.2	0.4	1100
R.Sirsa D/S Ratta Khad	8.24	9.0	12.0	1800
R. Satluj U/s Bhakhra	8.23	8.9	0.1	30
R. Swan D/S Santokhgarh/ Nangal	8.58	7.3	1.8	240
R. Baspa U/s Baspa project	7.9	9.2	0.2	0.0
Nallah, D/s Lift near Hotel Comber mare Shimla	7.05	7	90.0	907
Nallah/s Bridge at Bye Pass Road	7.71	7.2	15.0	8940
Nallah D/s M.C. Shimla Waste Processing Site	7.69	7.9	18.0	9110
Ashwani Khad U/s of Lift Nallah before confluence	7.98	8.5	0.5	220
Ashwani Khad after confluence of lift Nallah)	8.21	8.1	2.0	721
R. Pabbar U/S Dhambari	8.52	9.4	0.1	2
R. Pabbar D/S Chirgaon	7.92	9.3	0.2	60
R. Pabbar U/S Rohru	8.24	9.1	0.1	186
R. Pabbar D/S Rohru	7.98	8.9	0.4	220
R. Pabbar U/S Hatkoti	8.20	9.3	0.2	127
R. Pabbar D/S Hatkoti	8.24	9.3	0.6	131
R. Beas U/s Fermenta Biodil	7.88	10.0	0.7	17
R. Beas D/s Fermenta Biodil	7.80	10.0	1.1	17
Suketi Khad U/s. Mandi,	8.15	8.7	0.7	33
R. Satluj D/s ACC.	8.05 8.2		0.8	17
Darang Nallah, U/S Salt Mine	8.46	8.3	0.8	9
Darang Nallah, D/S Salt Mine	8.64	8.3	0.3	7
Rewalsar Lake	7.04	3.4	2.3	>2400
R. Beas D/s Manali	7.43	10.5	0.8	4
R. Beas U/s Kullu	7.48	10.0	1.1	4
R. Parvati U/S Manikaran	7.77	10.2	0.3	17

R. Parvati D/S Manikaran	7.97	10.2	0.9	33
R. Markanda U/s Bridge	9.6	5.7	3.1	36
R. Markanda U/S Jattawala Nallah	9.48	4.8	2.9	36
R. Markanda D/S Jattawala Nallah/Paonta	9.26	ND	430.0	50
Jattawala Nallah	8.18	ND	370.0	50
R.Giri U/S CCI Mines	7.62	8.0	3.0	18
R. Giri D/S Sataun	8.3	7.0	3.7	20
R. Yamuna U/S Ranbaxy	9.64	8.0	3.1	26
R. Yamuna D/S Ranbaxy	9.61	8.5	2.4	28
Neugal Khad D/S Thural,	8.36	6.9	0.5	>2400
R. Ravi D/S Chamba	7.7	9.7	0.5	>2400
Khajjiar Lake	7.05	5.8	5.5	23
R. Ravi Chamera Reservoir	7.37	8.7	0.5	220
R. Beas U/S Pong Dam	7.86	9.6	0.7	>2400
Swan Khad U/S Suraj Industry	7.82	11.3	0.9	110
Swan Khad D/S Suraj Industry	7.04	0.2	31.0	>2400

July, 2006

Location/ Station Code	**pH**	**DO (mg/l)**	**BOD (mg/l)**	**TC (MPN/SPC/100ml)**
Kaushalya River:U/S Parwanoo Town	8.47	8.5	0.1	92
Kaushalya River:D/S Intake Channel of WSS.Kamli	8.56	8.4	0.2	95
Sukhna Nallah D/S WSS Kalka	8.05	7.6	0.8	220
Sukhna Nallah U/S WSS Sector IV Parwanoo	-	-	-	-
Sukhna Nallah U/S Sector V Parwanoo	8.26	8.2	0.1	40
Sukhna Nallah D/S Sector V Parwanoo	-	-	-	-
Masulkhana Nallah U/S Morepen Lab	7.86	7.5	0.3	38
Masulkhana Nallah D/S Morepen Lab	7.05	Nil	840.0	750
R. Giri D/S Yashwant Nagar	8.33	8.4	0.3	240
Gulerwala Nallah	7.63	Nil	42.0	6000
R.Sirsa D/S Sito Majri Nallah	7.65	7.5	5.0	200
R.Sirsa U/S Sandholi Nallah	8.23	8.8	4.0	330
R.Sirsa D/S Sandholi Nallah	8.09	2.5	10.0	2200
R.Sirsa U/S Housing Board Nallah	8.18	9.2	8.0	1800

R.Sirsa D/S Housing Board Nallah	7.63	8.7	18.0	2100
Housing Board Nallah	7.49	7.4	54.0	3600
R.Sirsa U/S Ratta Khad	8.48	9.0	7.0	1600
Ratta Khad	8.35	8.0	20.0	920
R.Sirsa D/S Ratta Khad	8.44	8.9	12.0	1250
R. Satluj U/s Bhakhra	8.30	7.9	0.3	22
R. Swan D/S Santokhgarh/ Nangal	8.34	7.2	6.0	160
R. Baspa U/s Baspa project	7.51	8.9	0.1	3.0
Nallah, D/s Lift near Hotel Comber mare Shimla	7.43	7.6	8.0	220
Nallah, U/s Bridge at Bye Pass Road	7.77	7.2	10.0	280
Nallah, D/s M.C. Shimla Waste Processing Site	7.12	7.3	10.0	420
Ashwani Khad U/s of Lift Nallah before confluence	7.71	7.0	0.8	26
Ashwani Khad after confluence of lift Nallah)	7.37	7.2	3.0	300
R. Pabbar U/S Dhambari	7.23	9.2	0.1	4
R. Pabbar D/S Chirgaon	6.95	8.6	0.1	20
R. Pabbar U/S Rohru	7.87	8.2	0.1	60
R. Pabbar D/S Rohru	7.55	8.0	0.3	140
R. Pabbar U/S Hatkoti	7.44	7.9	0.2	110
R. Pabbar D/S Hatkoti	7.51	7.8	0.4	126
R. Beas U/s Fermenta Biodil	7.42	8.3	0.3	33
R. Beas D/s Fermenta Biodil	7.33	8.3	0.4	34
Suketi Khad U/s. Mandi,	7.42	7.3	0.4	17
R. Satluj D/s ACC.	7.92	7.9	0.3	11
Darang Nallah, U/S Salt Mine	8.11	6.7	0.1	4
Darang Nallah, D/S Salt Mine	8.37	6.7	0.1	4
Rewalsar Lake	7.12	4.5	0.4	1600
R. Beas D/s Manali	6.59	6.0	3.6	34
R. Beas U/s Kullu	7.23	8.0	4.3	17
R. Parvati U/S Manikaran	8.35	8.8	0.2	17
R. Parvati D/S Manikaran	7.12	9.3	0.5	33
R. Markanda U/s Bridge	9.39	7.9	1.8	22.0

R. Markanda U/S Jattawala Nallah	9.42	7.5	2.0	23.0
R. Markanda D/S Jattawala Nallah/Paonta	9.14	7.0	5.8	26
Jattawala Nallah	8.92	ND	130.0	20
R.Giri U/S CCI Mines	8.77	6.5	2.2	18.0
R. Giri D/S Sataun	9.14	7.0	2.2	22.0
R. Yamuna U/S Ranbaxy	9.17	7.9	3.6	28.0
R. Yamuna D/S Ranbaxy	9.13	7.6	2.8	26.0
Neugal Khad D/S Thural,	7.61	7.5	1.5	160
R. Ravi D/S Chamba	8.05	8.5	1.0	162
Khajjiar Lake	6.73	5.0	8.5	234
R. Ravi Chamera Reservoir	7.93	8.5	1.5	132
R. Beas U/S Pong Dam	8.69	7.0	1.0	124
Swan Khad U/S Suraj Industry	8.02	7.0	1.4	156
Swan Khad D/S Suraj Industry	7.86	7.0	1.5	167

October, 2006

Location/ Station Code	**pH**	**DO (mg/l)**	**BOD (mg/l)**	**TC (MPN/SPC/100ml)**
Kaushalya River:U/S Parwanoo Town	7.33	7.9	0.3	46
Kaushalya River:D/S Intake Channel of WSS.Kamli	7.46	8.1	0.3	110
Sukhna Nallah D/S WSS Kalka	8.24	7.2	0.8	800
Sukhna Nallah U/S WSS Sector IV Parwanoo	6.77	7.9	0.3	140
Sukhna Nallah U/S Sector V Parwanoo	8.29	7.8	0.5	180
Sukhna Nallah D/S Sector V Parwanoo	7.43	5.3	0.9	270
Masulkhana Nallah U/S Morepen Lab	7.17	7.1	0.2	36
Masulkhana Nallah D/S Morepen Lab	7.62	4.2	12	620
R. Giri D/S Yashwant Nagar	8.46	7.6	0.5	200
Gulerwala nala	7.48	2.2	44.0	8000
R.Sirsa D/S Sito Majri Nallah	7.81	7.0	3.0	220
R.Sirsa U/S Sandholi Nallah	7.94	7.4	2.4	180
R.Sirsa D/S Sandholi Nallah	7.29	6.9	8.4	3200
R.Sirsa U/S Housing Board Nallah	7.79	7.2	5.8	8000
R.Sirsa D/S Housing Board Nallah	7.67	7.0	6.0	670
Housing Board Nallah	7.61	6.8	4.2	580
R.Sirsa U/S Ratta Khad	7.93	6.7	5.8	660

Ratta Khad	7.92	5.6	13.0	1400
R.Sirsa D/S Ratta Khad	7.93	6.2	8.0	900
R. Satluj U/s Bhakhra	7.96	8.5	0.1	40
R. Swan D/S Santokhgarh/ Nangal	7.96	6.7	3.2	300
R. Baspa U/s Baspa project	7.91	9.5	0.1	4
Nallah, D/s Lift near Hotel Comber mare Shimla	7.13	7.0	24.0	1200
Nallah, U/s Bridge at Bye Pass Road	7.17	7.1	18.0	1000
Nallah D/s M.C. Shimla Waste Processing Site	7.18	7.0	22.0	1200
Ashwani Khad U/s of Lift Nallah before confluence	7.59	7.5	0.2	160
Ashwani Khad after confluence of lift Nallah)	7.61	7.3	1.6	540
R. Pabbar U/S Dhambari	7.12	9.2	0.1	3
R. Pabbar D/S Chirgaon	8.25	9.1	0.1	18
R. Pabbar U/S Rohru	7.73	8.9	0.1	120
R. Pabbar D/S Rohru	7.75	8.6	0.2	180
R. Pabbar U/S Hatkoti	8.09	8.7	0.1	126
R. Pabbar D/S Hatkoti	7.98	8.6	0.1	150
R. Beas U/s Fermenta Biodil	7.65	8.7	0.6	12
R. Beas D/s Fermenta Biodil	7.50	8.7	0.8	17
Suketi Khad U/s. Mandi,	8.34	8.0	0.3	9
R. Satluj D/s ACC.	8.39	9.2	0.3	9
Darang Nallah, U/S Salt Mine	8.81	7.0	0.5	4
Darang Nallah, D/S Salt Mine	8.63	7.0	0.5	2
Rewalsar Lake	7.41	8.6	1.0	220
R. Beas D/s Manali	7.11	8.8	1.1	9
R. Beas U/s Kullu	7.73	9.2	0.4	11
R. Parvati U/S Manikaran	7.75	9.5	0.7	6
R. Parvati D/S Manikaran	7.27	9.5	0.7	9
R. Markanda U/s Bridge	7.70	7.2	2.0	30
R. Markanda U/S Jattawala Nallah	7.66	6.8	ND	22
R. Markanda D/S Jattawala Nallah	7.15	ND	60.0	50

Jattawala Nallah	7.10	ND	200.0	50
R.Giri U/S CCI Mines	7.14	7.0	ND	30
R. Giri D/S Sataun	7.20	7.3	ND	28
R. Yamuna U/S Ranbaxy	7.33	7.7	1.6	25
R. Yamuna D/S Ranbaxy	7.77	7.8	ND	20
Neugal Khad D/S Thural,	8.38	7.5	1.0	140
R. Ravi D/S Chamba	8.40	10.2	0.3	132
Khajjiar Lake	8.25	6.4	5.6	48
R. Ravi Chamera Reservoir	7.55	9.2	0.5	320
R. Beas U/S Pong Dam	8.10	8.3	0.6	53
Swan Khad U/S Suraj Industry	8.72	7.4	0.9	70
Swan Khad D/S Suraj Industry	8.30	7.2	1.2	85

January, 2007

Location/ Station Code	**pH**	**DO (mg/l)**	**BOD (mg/l)**	**TC (MPN/SPC/100ml)**
Kaushalya River: U/S Parwanoo Town	8.52	10.2	0.3	140
Kaushalya River: D/S Intake Channel of WSS.Kamli	8.57	10.2	0.8	160
Sukhna Nallah D/S WSS Kalka	7.71	4.7	280.0	2600
Sukhna Nallah U/S WSS Sector IV Parwanoo	7.53	3.6	1.4	48
Sukhna Nallah U/S Sector V Parwanoo	8.24	10.2	0.8	60
Sukhna Nallah D/S Sector V Parwanoo	7.63	6.6	160.0	1850
Masulkhana Nallah U/S Morepen Lab	8.09	7.1	0.9	170
Masulkhana Nallah D/S Morepen Lab	7.72	6.4	130..0	2050
R. Giri D/S Yashwant Nagar	8.48	11.3	0.4	234
Gulerwala nala	7.20	1.8	70.0	1600
R.Sirsa D/S Sito Majri Nallah	7.84	7.6	8.0	100
R.Sirsa U/S Sandholi Nallah	8.17	8.4	6.0	190
R.Sirsa D/S Sandholi Nallah	7.38	5.0	40.0	320
R.Sirsa U/S Housing Board Nallah	7.55	6.3	24.0	260
R.Sirsa D/S Housing Board Nallah	7.79	6.6	18.0	460
Housing Board Nallah	8.14	7.0	14.0	850
R.Sirsa U/S Ratta Khad	8.34	7.4	10.0	320
Ratta Khad	8.16	8.3	3.8	210

R.Sirsa D/S Ratta Khad	8.49	8.0	6.0	300
R. Satluj U/s Bhakhra	8.20	8.7	0.3	44
R. Swan D/S Santokhgarh/ Nangal	8.43	11.1	0.8	130
R. Baspa U/s Baspa project	7.49	10.6	0.1	0
Nallah, D/s Lift near Hotel Comber mare Shimla	7.33	6.7	2.0	2100
Nallah, U/s Bridge at Bye Pass Road	7.63	6.5	8.0	3600
Nallah D/s M.C. Shimla Waste Processing Site	7.46	6.3	10.0	4200
Ashwani Khad U/S of Lift Nallah before confluence	7.80	10.5	0.2	160
Ashwani Khad after confluence of lift Nallah)	7.59	9.8	2.0	1200
R. Pabbar U/S Dhambari	7.79	10.8	0.1	6
R. Pabbar D/S Chirgaon	8.24	10.0	0.2	79
R. Pabbar U/S Rohru	8.16	10.0	0.2	120
R. Pabbar D/S Rohru	8.13	9.7	0.3	150
R. Pabbar U/S Hatkoti	8.08	10.3	0.1	120
R. Pabbar D/S Hatkoti	8.28	10.1	0.3	150
R. Beas U/s Fermenta Biodil	7.85	11.6	0.1	7
R. Beas D/s Fermenta Biodil	7.99	11.6	1.0	17
Suketi Khad U/s. Mandi,	7.73	9.6	0.6	33
R. Satluj D/s ACC.	8.04	10.0	0.3	5
Darang Nallah, U/S Salt Mine	8.53	8.4	0.6	4
Darang Nallah, D/S Salt Mine	8.46	8.4	0.8	4
Rewalsar Lake	7.68	9.4	1.2	280
R. Beas D/s Manali	7.21	10.5	0.5	9
R. Beas U/s Kullu	7.80	10.9	0.5	7
R. Parvati U/S Manikaran	7.52	11.7	0.3	9
R. Parvati D/S Manikaran	7.69	10.6	0.4	17
R. Markanda U/s Bridge	7.62	9.6	0.6	17
R. Markanda U/S Jattawala Nallah	7.73	9.8	0.2	14
R. Markanda D/S Jattawala Nallah / Paonta	7.65	Nil	400.0	50
Jattawala Nallah	6.67	Nil	1150.0	50

R.Giri U/S CCI Mines	7.83	10.5	0.2	9
R. Giri D/S Sataun	7.83	9.4	0.2	9
R. Yamuna U/S Ranbaxy	7.42	8.7	0.4	14
R. Yamuna D/S Ranbaxy	7.53	9.0	0.2	15
Neugal Khad D/S Thural,	8.88	7.9	0.6	17
R. Ravi D/S Chamba	8.22	10.2	0.6	2
Khajjiar Lake	7.51	4.1	5.7	4
R. Ravi Chamera Reservoir	8.42	10.0	0.9	4
R. Beas U/S Pong Dam	8.16	8.2	0.8	7
Swan Khad U/S Suraj Industry,	8.83	7.6	0.5	43
Swan Khad D/S Suraj Industry,	7.80	7.5	0.6	49

4.2.1 ACTION FOR IMPROVEMENT OF WATER QUALITY:

(a) Continuous monitoring of river Sirsa has been started from 11/02/2005 & composite samples are drawn for 5-6 hours duration to assess changes in the river water quality.

(b) No unit is operating without proper water pollution control system (ETP). The State Board ensures installation of Effluent Treatment Plants by the industries before Consent to Operate is granted. Also during the year 35 Effluent Treatment Plants were improved/upgraded in the already existed industries.

(c) To check pollution due to Sewage, the State Board by intervention and constant persuasion of concerned authorities, got 18 numbers of Sewage Treatment Plants (STPs) commissioned and 24 numbers of STPs are under construction by I&PH Department. The Sewage Treatment Plants installed are leading to better water quality of the river system.

(d) Industries having work force more than 100, STP or STP cum ETPs have been got installed.

(e) The Sewage Treatment Plants are also installed in hotels above 25 rooms' capacity outside the municipal limit.

4.2.2 SAMPLES ANALYZED IN THE STATE BOARD LABORATORIES:

The State Board has 5 laboratories for carrying out analysis of water, waste water, solid waste, air and bio-monitoring samples. The details of samples analyzed during the year 2006-07 are as follows;

S. No.	Type of samples	Number of samples analyzed				
		Parwanoo	Paonta Sahib	Jassur	Sunder Nagar	Shimla
1	Water & Waste Water	1574	315	186	362	-
2	Solid Waste	96	28	-	6	-
3	Air	32	55	14	226	-
4	Commercial	75	6	45	95	-
5	Bio-Monitoring	27	13	3	2	-
6	Noise Monitoring	-	-	-	75	-
7	Ambient Air Monitoring under NAMP	SPM-1622 RSPM-805 SO2-3161 NOx-3161	SPM-1573 RSPM-737 SO2-3009 NOx-3009	SPM-721 RSPM-721 SO2-1538 NOx-1538	-	SPM-795 RSPM-795 SO2-1541 NOx-1541

4.3 POLLUTION CONTROL, SURVEILLANCE & MONITORING NETWORK:

The State Board performs its functions bestowed on it under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981 and in discharge of mandate as per aforesaid Acts, the State Board ensures sustainable development with due regard to the environmental considerations.

This is achieved through a field network to exercise regular checks on the sources of pollution and regulation of the conditions of consent granted to the industries with the prime objective of controlling pollution at source.

4.3.1 CONSENT MECHANISM:

According to the provisions of the aforesaid Acts, Consent/ NOC of the State Board is required by all the development projects, the industrial units, tourism projects, hydel projects, mining units and sewage treatment systems. The consent mechanism encompasses permission to establish and/or operate any development project which is governed by the provisions of sections 24 and/or 21 of the Water (Prevention & Control of Pollution) Act, 1974 and/or Air (Prevention & Control of Pollution) Act, 1981 respectively, as may be applicable to the development project under consideration. The different stages of the consent mechanism concurrent to the implementation of the projects are briefly discussed below:

Consent to Establish is granted to the industry after evaluation of the potential environmental pollution and after the examination of the engineering design and details of the systems proposed for controlling the pollution. The conditions consistent to control requirements are incorporated in Consent to Establish. These conditions are reviewed in terms of their compliance and 'Consent to

Establish' is converted to 'Consent to Operate' after ensuring that the engineering systems for control of water and air pollution are fully implemented .The 'Consent to Operate' is usually valid for one year which is also granted subject to the condition that the control systems shall be so operated and maintained as to ensure compliance to the standards prescribed for emissions and/or effluents as the case may be. Consent to operate initially granted for one year and performance of the pollution control systems is regularly monitored. Actions are taken against the non-complying cases by issuing directions for suspension of production and disconnection of power supply till the unit improves the functioning of pollution control systems to comply norms. Depending upon the performance of the pollution control systems, renewal of consent is granted.

As part of the process of simplification, the State Board in its 53rd meeting held on February 15, 2006 has taken a decision to revise the period of validity of consent in respect of industries/development projects as per details already given in Chapter-3. With a view to further simplify the procedure and to promote use of information technology, State Board in the same meeting has also decided to allow the applicants use the prescribed application forms downloaded from the internet. These forms have been hosted by the Board on the internet.

The achievements made during 2006-07 in discharge of regulatory functions under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, Water (Prevention and Control of Pollution) Cess Act, 1977 and Air (Prevention and Control of Pollution) Act, 1981 are given hereunder in Table-4.

TABLE-4: CONSENT MANAGEMENT AT A GLANCE (2006-07)

S. NO.	PARTICULARS	GRANTED DURING THE YEAR 2006-07		REFUSED DURING THE YEAR 2006-07		CUMULATIVE AS ON 31.03.07	
		At HQ	At ROS	At HQ	At ROS		
1.	**Consent to Establish**						
	(a) Water Act, 1974	18	97	-	-	1647	
	(b) Air Act, 1981	3	44	-	-	653	
	(c) Both Acts	410	403	1	-	3559	
2.	**Consent to Operate**						
	(a) Water Act, 1974	27	106	-	-	1634	
	(b) Air Act, 1981	1	34	-	-	592	
	(c) Both Acts	332	286	-	-	3567	
3.	No objections to non-polluting / exempted categories of industries	0	65	-	-	945	
4.	**Renewal of Consent**						
	(a) Water Act, 1974	22	576	-	-	NA	NA
	(b) Air Act, 1981	8	144	-	-	NA	NA
	(c) Both Acts	573	432				
5.	**Consent Fees** (in Rs.)	**179601936.00**					

6.	Cess under Water Cess Act, 1977 (in Rs.)	**Assessment**	**Realization**	**Remitted to Govt. of India**	**Received from Govt. of India**
		5588867.00	5764135.00	3632200.44	2132520.00
7.	Samples of industrial wastes, STP, solid wastes, and stack/ dust emissions, ground and surface water other than those under MINARS and NAAQM collected during the year.	**NUMBER OF SAMPLES COLLECTED**			
		WATER/ EFFLUENTS	AIR / EMMISIONS	SOLID WASTES	VEHICLES CHECKED
		1706	591	112	1579
8.	Surveillance and Inspections under Water & Air Acts & Hazardous Wastes (Management & Handling) Rules, 1998/2003.	**Number of Industries**		**Actual Inspections done**	
		5766		11020	
9.	Public complaints/ representations	**Received**		**Attended**	
		126		115	
10.	Notices & Directions:	**Issued**		**Implemented/Complied**	
	(i) Number of Notices issued. (ii) Number of injunctions issued U/S 33-Aand 31 A of Water & Air Acts respectively.	**214** **73**		**128** **73**	

The State Board in its pursuit to introduce transparency and accountability in its functioning has delegated powers to the Environmental Engineers and Assistant Environmental Engineers in the Regional Offices of the Board. This step has not only led to the prompt disposal of the cases of the existing and prospective entrepreneurs but also increased the efficiency of the routine surveillance and monitoring of the State Board.

4.3.2 SURVEILLANCE & MONITORING:

The operational and qualitative efficiency of the pollution control devices installed in different industries largely depends on regular surveillance and monitoring of the pollution control equipment. This activity is presently being conducted by a network of 11 Regional Offices of the Board headed by Environmental Engineers and Assistant Environmental Engineers. During the year 2006-07, the surveillance and monitoring was carried out and the salient achievements in the context are presented below:-

i)	Number of Water Pollution Control Systems (Cumulative):	1955
ii)	Number of Air Pollution Control System (Cumulative):	1821
iii)	Number of Inspections conducted in 2006-07:	11020
iv)	Number of Samples of Water, Waste Water and emission including ambient air & noise in 2006-07:	4520
v)	Number of vehicles checked:	1579

4.3.3 INDUSTRIAL POLLUTION CONTROL:

As a result of surveillance & monitoring activities, constant pressure is maintained on the polluting industries for operation and maintenance of the pollution control equipment. During the year 878 new pollution control systems were got installed in the new industries to whom consents to operate were granted during the year. Similarly improvements in the already existing control systems in respect of 204 industries were got incorporated including those, which were ordered closure for non-performance of the pollution control systems. In addition smooth functioning of the pollution control systems installed in the existing industries was ensured by exercising regular checks. The following schedule for regular checking of Red, Orange and Green categories of industries are followed.

Frequency	**Category**								
	RED			**ORANGE**			**GREEN**		
	L	M	S	L	M	S	L	M	S
Inspection	FN	M	BM	M	BM	Q	Q	HY	Y
Sampling	M	BM	Q	BM	Q	HY	HY	Y	Y

Abbreviations used: **L**: Large Scale Industry; **M:** Medium Scale Industry; **S:** Small Scale Industry.

Y: Yearly; **HY:** Half Yearly; **Q**: Quarterly; **BM:** Bi-monthly; **M:** Monthly; **FN**: Fortnightly

4.3.4 ENVIRONMENTAL IMPACT ASSESSMENT:

Although the potential environmental impacts due to any proposed developmental activity are evaluated and the environmental management plans are got formulated and implemented while processing the cases for consent to establish/operate or renewal thereof under the provisions of the Water Act, 1974 and /or Air Act, 1986, the Government of India has specifically made Environmental Impact Assessment (EIA) and Environmental Management Plans (EMP) mandatory in respect of categories of projects specified in Schedule-I of EIA Notification, 1994 which was superseded during the year by EIA Notification, 2006 issued by the Ministry of Environment and Forests, Government of India vide No.SO-1533(E) dated 14-09-2006 .

During the year, the State Board granted 966 Consents to establish and 766 consent to operate under Water and Air Acts to the new units after due examination of environmental impacts and

management plans under Water and Air Acts. Similarly four new/expansion proposals of large industrial units/development projects were examined with reference to the EIA notification under Environment (Protection) Act, 1986 during the year and referred to State Govt.

4.3.5 ENVIRONMENTAL SURVEILLANCE AND MONITORING OF HYDROELECTRIC PROJECTS:

In view of the amount of work involved in the Environmental Monitoring of Hydroelectric Projects, the State Board has been finding it increasingly difficult to conduct the proper surveillance and monitoring of Hydroelectric Projects from its own resources in terms of manpower and mobility. At the same time in view of the public concerns and the requirement of mandatory provisions of the Water Act, 1974, Air Act, 1981 and Environmental Clearance; it is essential that the periodic monitoring is conducted and regular checks are exercised on the activities of Hydel Projects which have adverse impacts from Water & Air besides muck/debris management. In this regard the State Board at the time of evaluating the EIA/EMP of the proposed projects ensures that costs in respect of monitoring of Environmental Management Plan with reference to checking of muck management, restoration plan, water and air quality monitoring are in-built in the EIA/EMP. This approach has also been upheld and endorsed by the State Government. At present seven projects have been approved namely: 1) Parbati (Stage-II) Hydroelectric Project, Distt. Kullu; 2) Kol Dam Hydroelectric Project, Distt. Bilspur; 3) Chamera (Stage-III) Hydroelectric Project, Distt. Chamba; 4) Karcham Wangtu Hydroelectric Project, Distt. Kinnaur; 5) Rampur Hydel Project, Distt. Shimla/Kullu 6) M/s Budhil Hydrolelctric Project, Chamba and 7) Sawda-Kuddu Hydroelectric Project.

The State Government vide notifications No. PC-F(2)-1/2005 dated 16/07/2005 & 09/09/2005 has made it mandatory to release at least 15 % of minimum inflow observed in the river during lean season. Therefore, in order to ensure the minimum flow of 15 % in all the existing and upcoming hydel projects the State Board has monitored a total of 31 operational projects including 16 major and 15 micro categories for minimum flow requirement.

4.3.6 PUBLIC COMPLAINTS / REPRESENTATIONS:

The Regional Offices of the State Board are engaged not only in the activities of surveillance and monitoring of the industries, but also to maintain a constant vigil on the environmental quality and impact thereof on the people. The Regional Offices of the State Board not only keep liaison with the people but also take prompt action for mitigation of the public grievances. During the year 2006-07, the State Board took remedial action on 134 public complaints/representations that were received during the year.

4.3.7 MANAGEMENT OF SEWAGE:

The Water (Prevention & Control of Pollution) Act, 1974 provides for prevention & control of water pollution and maintaining or restoring wholesomeness of water thus requiring provision of pollution control measures i.e. sewerage schemes and sewage treatment plants at the end so as to check the entry of raw sewage in to recipient water bodies. As per Section 25/26 of the aforesaid Act, it is mandatory to obtain prior Consent of the Board to discharge any sewage/trade effluent.

Therefore, to check pollution due to sewage the State Board by intervention and constant persuasion of concerned authorities got commissioned 18 numbers of STPs up to 2006-07. 24 numbers of STPs are under construction as per district wise details given below:

District	**No. and Location of STPs in operation (up to 31/03/2006)**	**No. and Location of STPs proposed/ under construction (up to 31/03/2006)**
Bilaspur	2 [Ghumarwin, Naina Devi ji]	1 [Bilaspur]
Chamba	1 [Chamba]	----
Hamirpur	---	2 [Hamirpur, Sujanpur]
Kullu	1 [Manali, Bhootnath]	6 [Lanka Banker, Badah (Kullu), Mela Ground, Jard, Sharabai, Hati-Than (Bhunter)]
Kangra	1 [Palampur, Jawalamukhi, Challian at Dharamshala]	3 [Kangra, Nagrota, Medical Collage Tanda]
Kinnaur	1 [Reckongpeo]	---
Lahaul & Spiti	---	1 [Keylong]
Mandi	2 [Khaliar, Raghunath Ka Padhar]	3 [Sunder Nagar, Sarkaghat, Neri Khadd (Joginder Nagar)]
Shimla	7 [Sanjauli, Lalpani North Disposal, Dhalli Summer Hill, Snowdown, Rohroo]	2 [Rampur, Jubbal]
Solan	---	2 [Solan, Arki]
Sirmour	---	1 [Paonta]
Una	---	3 [Una, Mehatpur, Santokhgarh]
Total	**18**	**24**

4.4 MANAGEMENT OF WATER CESS:

The Water (Prevention & Control of Pollution) Cess Act, 1977 provides for levy and collection of cess from the specified categories of projects based upon the water consumption. Although in Himachal Pradesh, the number of water intensive industries is far too less in comparison to the industrially developed states, the State Board has been enforcing this Act since its enactment by the Union Government. The main achievements of the Board with respect to this legislation in 2006-07 are as under:

Number of Assesses (Cumulative)		
(i)	Industrial	251
(ii)	Local Bodies	49
(iii)	Total	300
Amount of cess (In Rs. From 01.04.2005 to 31.3.2006)		
(i)	Assessed	5588867.00
(ii)	Collected	5764135.00
(iii)	Sent to Govt. of India	3632200.44
(iii)	Reimbursed from Govt. of India	2132520.00

4.5 MANAGEMENT OF SOLID WASTE UNDER THE ENVIRONMENT (PROTECTION) ACT, 1986:

4.5.1 BIO-MEDICAL WASTE (MANGEMENT & HANDLING) RULES, 1998/2000:

Till March 2007 in all 225 Govt. & 293 private health institutions have been identified. Out of 518 health institutions covered under Rule-8 of the Bio-medical Waste (Management & Handling) Rules, 1998 for seeking authorization, 514 have applied for authorization and 414 have granted authorization. 111 defaulting institutions have been served with show cause notice under the Bio-medical Waste (Management & Handling) Rules, 1998 during 2006-07 and 99 have complied with the directions issued by the Board. Out of 514 health institutions, 146 institutions (22 Govt. & 124 private) are disposing their waste through incineration and 368 are disposing their waste by deep burial method. Twelve incinerators have been installed by these health institutions. Incinerator installed by MC Shimla and MC Kullu being used as a Common Incineration Facility.

4.5.2 HAZARDOUS WASTE (MANGEMENT & HANDLING) RULES, 1989 AND AMENDMENT RULES, 2000/2003:

Till the year 2006-07, the Board has identified about 1372 units. Out of which 1025 are operational upto March 2007 and responsible for generating waste falling in to the various categories of hazardous wastes listed in Schedule-I under Hazardous Waste (Management & Handling) Rules, 1989 and amendment Rules, 2000 & 2003. All such units have asked to obtain the authorization for onsite and secured storage of waste. The Board has granted authorization to 1025 units. The site for Treatment, Storage and Disposal Facility (TSDF) to be set at village Majra, Tehsil Nalagarh, District Solan has been notified by the Government during this year. The work for the development of site is in progress and will be operational during this year.

4.5.3 IMPLEMENTATION STATUS OF MUNICIPAL SOLID WASTE (MANAGEMENT & HANDLING) RULES, 2000:

As required under the provisions of Municipal Solid Waste (Management & Handling) Rules, 2000, the State Board has prepared the annual report and submitted to the Central Pollution Control Board. As per status of municipal solid waste management practices in the State there are 56 numbers of Municipal Authorities and the compliance w.r.t collection / segregation / storage / transportation of MSW is partial. Only eight numbers of Municipal Authorities namely Shimla, Solan, Nahan, Kullu/ Bhunter, Manali, Una, Kangra/ Nagrota, & Hamirpur have installed waste processing facility. But the performance of these treatment facilities is unsatisfactory. None of the Municipal Authorities in the State has so far been able to setup waste disposal facility as per the requirement of Municipal Solid Waste (Management & Handling) Rules, 2000. In view of the violation of provisions of Municipal Solid Waste (Management & Handling) Rules, notices are served to the Municipal Authorities for ensuring compliance of the provisions of the aforesaid rules. The Authorization Status for the year 2006-07 is as given below.

S. No	Municipal Authority	Total No.	Applications received		Authorizations status	
			Waste Processing Facility	Waste Disposal Facility	Setting up of waste processing facility	Setting up of waste disposal facility
1.	Municipal Corporation	1	1	1	Granted	Not granted
2.	Municipal Council	20	10	18	Granted to **7** MCs (Kangra, Dharamsala, Bilaspur, Una Mandi, Dalhausie & Palampur)	Granted to **7** MCs (Dharamsala, Bilaspur, Una, Dalhousie, Naina Devi, Mandi & Chamba)
3.	Nagar Panchayat	28	4	19	Granted to **3** NPs (Dehra, Ghumarwin, Nagrota)	Granted to **10** NPs (Suni, Chopal, Chowari, Ghumarwin Joginder Nagar, Sarkaghat Gagret, Talai, Dehra & Nadaun.
4.	Cantonment Board	7	3	1	Granted to **1** CBs (Kasauli)	Nil

The State Board has also identified ground/ surface water monitoring locations in order to assess the likely impact of municipal solid wastes and regularly carryout the sampling of these monitoring locations. Beside this compost quality of operational processing facilities is also monitored as per the requirement. To facilitate implementation of the Municipal Solid Waste (Management & Handling) Rules 2000, the State Board undertook a project funded by Central Pollution Control Board to set up a Model facility at Mandi town to demonstrate implementation of various provisions of said Rules. The project aims at introduction of segregation at source by providing two bins to every household to segregate Bio-degradable and Non Biodegradable in separate bins, its collection by MC Mandi and further transportation in covered vehicles to different sites for processing/recycling respectively. The project is under implementation.

The State Board has organized two days workshop in association with HRD Foundation Delhi on "Municipal Solid Waste and Plastic waste Management" for all the Municipal Authorities in the State during 29-39, May 2006. The workshop was inaugurated by Smt. Vidya Stokes, Hon'ble Minister (MPP, Power & Pollution Control) Himachal Pradesh.

The State Board has also organized Ward wise awareness programs on Municipal Solid Waste Management at Mandi town in Himachal Pradesh.

4.5.4 IMPLEMENTATION STATUS OF RECYCLED PLASTICS (MANUFACTURE AND USAGE) RULES, 2003:

As per the provisions of the Recycled Plastics (Manufacture and Usage) Rules, 2003, every occupier manufacturing carry bags or containers of virgin plastic or recycled plastic or both shall have to get registered with the State Board. As on date there are 27 no. of Plastic manufacturing units operational in H.P. The State Board processed all the 25 no. of Registration applications received and Registered 23 no. of Units with State Board for three years.

Total no. of plastic manufacturing units inventoried	Total no. of units operational	Total no of units applied for Registration of the Board	Total no. of units Registered with the State Board
56	27	25	23

4.6 SPATIAL ENVIRONMENTAL PLANNING

The State Board has initiated several activities/programs on environment and development with the objective to protect and improve the quality of environment, prevention and control of pollution. A brief summery of activities undertaken by the Center during the year 2006-07 are as listed below.

4.6.1 DISTRICT SPECIFIC INDUSTRIAL SITING GUIDELINES:

Based upon the recommendation and outcome of the revised Zoning Atlas studies the State Board has prepared draft District-specific industrial siting guidelines for Solan, Una and Bilaspur Districts of Himachal Pradesh. These guidelines were submitted to the Central Pollution Control Board for their technical approval.

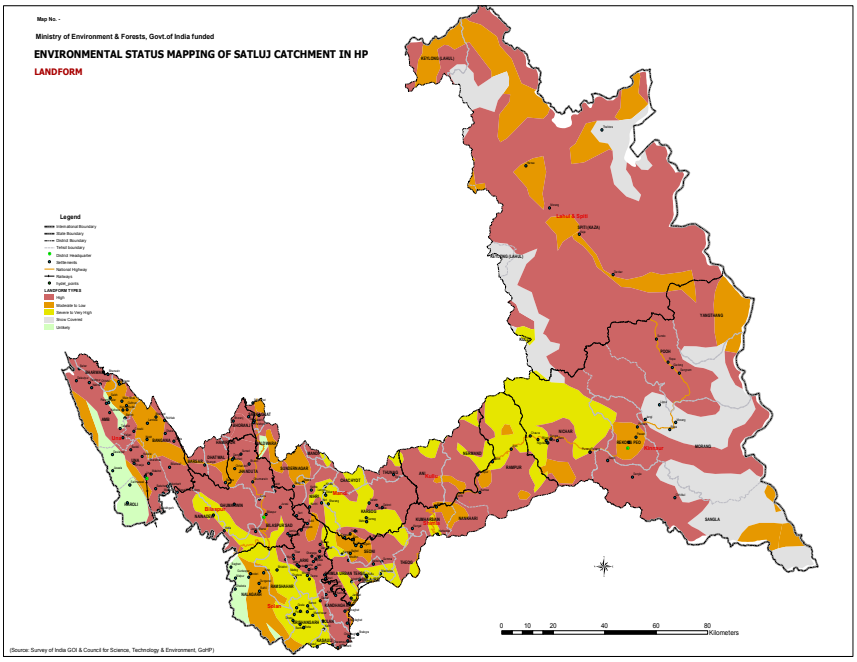
4.6.2 DISTRICT LEVEL ENVIRONMENTAL ATLAS:

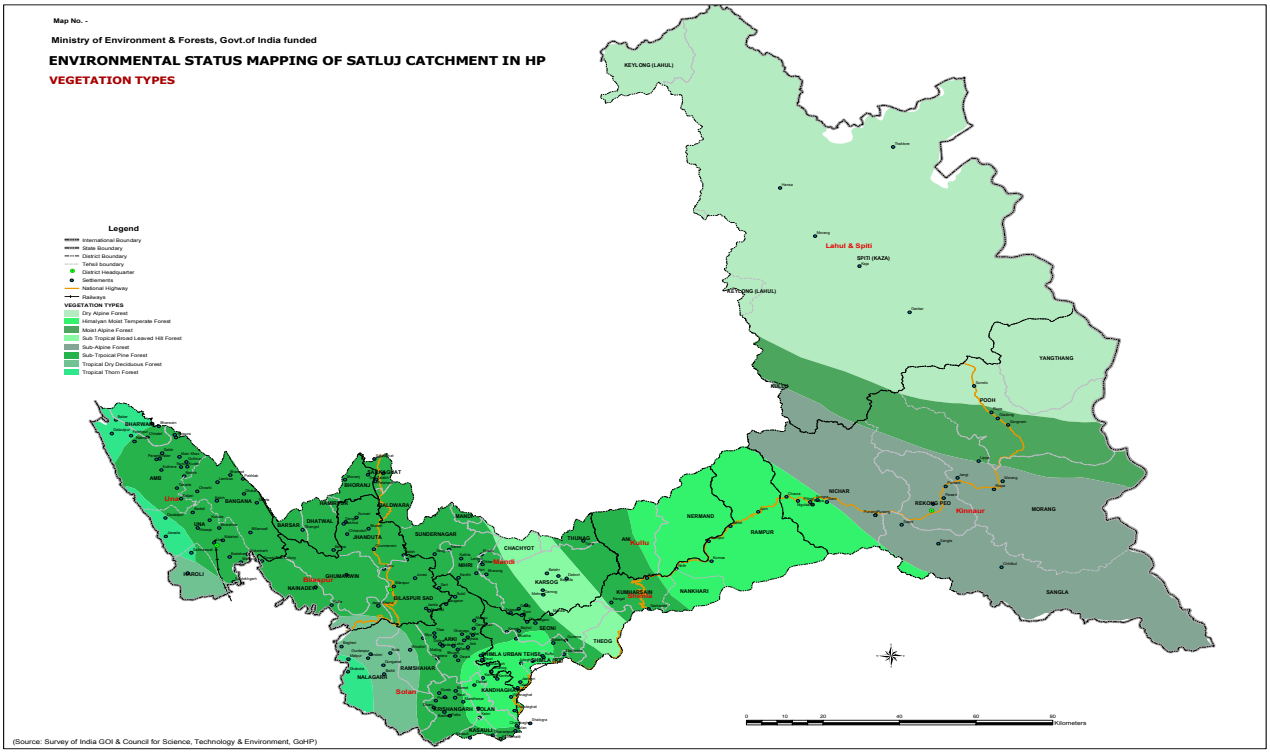
Under the Spatial Environmental Planning program the State Board has prepared District level Environmental Atlas (DEA) for Mandi and Hamirpur during 2006-07. The draft report of these studies has been submitted to the Central Pollution Control Board Delhi for technical evaluation.

4.6.3 ENVIRONMENTAL STATUS MAPPING OF SATLUJ CATCHMENT IN HIMACHAL PRADESH.

The Ministry of Environment and Forests, Government of India has sanctioned Rs. 26.74 lakhs for a project entitled “Environmental Status Mapping of Satluj Catchment In Himachal Pradesh” in view of increasing development activities especially the hydro power projects in the sensitive catchment of Satluj. The main objective of this study is to prepare an environmental status report of the Satluj catchment and to identify the environmental issues and conservation measures required for resolving these problems. Besides, the outcome of this environmental resource inventory/spatial environmental information database would be helpful to the development

agencies and user institutions of the State in their decision-making wherein, all aspects related to environment are considered in relation to the entire catchment system and to achieve the development targets which are compatible with the environmental setting of the catchment. This composite view of environmental status mapping and conservation priorities of the region/catchment would also be useful to the environmental regulators to have a neutral opinion in decision making while granting environmental clearances to the development projects at the State and MOEF level. The first draft report of the study has been submitted to the Ministry of Environment and Forests, Govt. of India. In addition, the State Board has also conducted two phases of environmental monitoring of air and water in Una and Bilaspur districts.





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CHAPTER -5

PROSECUTIONS LAUNCHED AND CONVICITIONS SECURED FOR ENVIRONMENTAL POLLUTION CONTROL

The legal wing has been managing/looking after cases on behalf of the State Environment Protection & Pollution Control Board, pending in the different Courts in the State of H.P. and outside the State including Supreme Court of India. All kind of assistance is being extended to the standing counsels of the Board from time to time for preparing reply/written statement and to produce evidence/record as and when required in the cases. Besides this, legal notices/directions are drafted under the Pollution Control Acts and vetted to facilitate the concerned branches. Legal opinion/advice is rendered to the Regional Officers for the clearance of cases/matters involving legal implications.

Compliance from Industry has been sought through persuasive/consultative approach with encouraging results thereby, saving time, cost and efforts and legal compliance has increase significantly through this co – operative efforts jointly with the industries. However, with increasing awareness about environment and people's right to clean air and water the total workload has increased on account of increasing incidence of public interest litigation and judicial activism.

For resolution of conflicts and enviro-legal action, the Board has resorted to innovative approach, which includes opportunity of hearing through mediation of Board official to arrive at mutual agreed solution. Regular notices are issued to the offenders and as and when cognizance is taken, the hearings/opportunity are afforded to them by the Board, rather than immediate resort to filing of cases. The success rates of hearing have been phenomenal and resolutions have been possible in most of the cases.

Apart from this the legal wing prepared draft replies/gave comments to the State Govt. in cases involving environmental matters. Statistical indicators of court cases are as listed below: -

Name of the Courts	**Pending as on 31/3/2006**	**New cases initiated during the year 2006-07**	**Total up to 31/3/2006**	**Decided during the year 2006-07**	**Total/cumulative i.e pending cases of previous years up to 31/3/2007**
Supreme Court	5	Nil	5	Nil	5
High Court Cases/ PIL	99	20	119	4	115
District Courts	14	3	17	1	16
Human Right Commission	Nil	Nil	Nil	Nil	Nil
Administrative Tribunal	16	2	18	1	17

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CHAPTER –6

FINANCE AND ACCOUNT OF THE STATE BOARD FOR THE YEAR 2005-06

- The accounting structure of H. P. State Environment Protection & Pollution Control Board is fully streamlined to the extent that the books of accounts shows position of cash, bank and short term deposit, balance on day to day basis.

- The accounts for the year 2004-2005 were prepared and got audited. The final account (Balance Sheet, Income & Expenditure Account and Receipt & Payment Account) is being placed before the Board. The accounts for the year 2005-2006 have also been compiled and are being got audited from Internal Auditors.

- The total expenditure of the Board during 2006-2007 based upon un-audited accounts was 394.86 Lakhs (Including Projects) as against the receipts of Rs.1941.13 Lakhs (Including Projects), the details are given below:

	(Rs. In lakhs)
Opening Balance	**2374.51**
Receipts (Board)	1867.64
Receipts (Projects)	73.49
Net Amount Available	4315.64
Less Expenditure (Board) during this year	334.33
Less Expenditure (Projects) during the year	60.53
Closing Balance	**3920.78**

The above figures have been worked out on the basis of un-audited accounts and figures are provisional and subject to change after the accounts are audited.

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CHAPTER -7

ANY OTHER IMPORTANT MATTER DEALT WITH BY THE STATE BOARD

7.1) Environmental Training & Capacity Building:

Training is an important component for Human Resource Development of any organization. In the area of pollution control, which is an interdisciplinary subject, imparting training is an imperative activity. The following Board Officers/ Officials participated in various trainings/seminars/ conferences/ workshops during 2006-07.

S. No	Name of Participant	Designation	Name of Training Course	Place	Duration of Training
1	Smt. Daksha Gupta	PSO	Right to Information Act, 2005	HIPA Shimla	10-12/5/06
2	Er. D.K.Sharma	SEE	Right to Information Act, 2005	HIPA Shimla	10-12/5/06
3	Er. Brij Bhushan	EE	Right to Information Act, 2005	HIPA Shimla	10-12/5/06
4	Sh. Anil Sharma	SO	Bio-Monitoring & Conducting Bio-Assay test facility	CPCB Delhi	24-26/5/06
5	Dr. Indu Bala Gupta	SO	Bio-Monitoring & Conducting Bio-Assay test facility	CPCB Delhi	24-26/5/06
6	Sh. Anup Vaidya	SO	Bio-Monitoring & Conducting Bio-Assay test facility	CPCB Delhi	24-26/5/06
7	Sh. Prakash Sharma	SO	Bio-Monitoring & Conducting Bio-Assay test facility	CPCB Delhi	24-26/5/06
8	Er. D.K.Sharma	SEE	8th World Congress on Environment Management	Palampur, H.P.	9-11/6/06
9	Er. A.K. Sharda	EE	Municipal Solid Waste-Planning, Collection, Handling &Disposal Options	ESCI Hyderabad	20-23/6/06
10	Er. P.K.Gupta	EE	Municipal Solid Waste-Planning, Collection, Handling &Disposal Options	ESCI Hyderabad	20-23/6/06
11	Er. Brij Bhushan	EE	Environmental Issues in Mining Sector- Legal & Statutory Requirements	ESCI Hyderabad	10-12/8/06
12	Dr. H.C.Sharma	SSO	Instrumentation and SCADA- Applications in Water & Waste water	ESCI Hyderabad	22-24/8/06
13	Sh. Ramakant Awasthi	JRF	Municipal Solid Waste Management, SSW-1	CENC, Patna	26-30/8/06
14	Sh. Anup Vaidya	SO	Laboratory Management &	NITS Noida	28/8-1/9/06

			Internal Audit, SELA-7		
15	Er. Sarwan Kumar	EE	Latest Air Pollution Control Technologies & its Performance Evaluation, SPC-1	NPC, Chennai	21-25/8/06
16	Sh. S.P. Vasudeva	MS	Clean Development Mechanism (CDM)- Green House Gas (GHG) Emission Reduction Concerns (Carbon Trading)	ESCI Hyderabad	11-13/9/06
17	Dr. Madhu Bala Soni	SPC	Treatment & Disposal of Municipal Solid	NEERI Nagpur	18-19/9/06
18	Sh. Shashi Shekhar / Sh. Ramakant Awasthi	EP/JRF	Eco-Tourism and Environmental Law	NAA Mussourie	21-23/9/06
19	Er. Chetan Joshi	EE	Identification, Planning, Operation & Monitoring of Landfill Sites.	EPTRI Hyderabad	9-13/10/06
20	Er. B.K.Kaundil	AEE	Environment Management in Polluting Industry	DMI Bhopal	9-12/10/06
21	Mrs. Daksha Gupta	PSO	Authorization Procedures-Technologies for Treatment for recyclable Hazardous Waste	IIT Roorkee	20-25/11/06
22	Er. S.K.Dhiman	AEE	Hazards identification & Risk Assessment due to Transportation of Hazardous Chemicals	DMI Bhopal	4-8/12/06
23	Er. S.K.Dhiman	AEE	Environment Planning for Industrial Disaster Management	DMI Bhopal	15-19/1/07
24	Dr. D.S.Sood	SSO	Environment Interpretation, Compilation, Analysis, Presentation and Reporting	ISI Delhi	29/1/07-2/2/07
25	Er. D.K.Sharma	SEE	Monitoring, Implementation of Environmental Safeguards and Implication of New EIA Notification, 2006	CII Chandigarh, H.P.	3/2/07
26	Mr. Prakash Sharma	SO	Uncertainty in Chemical & Biological Testing	NITS Noida	5-9/2/07
27	Er. Brij Bhushan	EE	Environment Management in Pulp & Paper Industry	CPPRI Saharanpur	5-9/2/07
28	Dr. Indu Bala Gupta	SO	Integration of Water Quality Network	CPCB Bangalore	6-8/12/06

7.2 Environmental Awareness:

In its unending crusade to combat the menace of pollution, the State Board focused its attention to the priority areas of water, air and soil quality. The State Board over the years has undergone a transient shift in its functioning from merely being a regulatory body to an inter active and participatory organization for attaining the objectives enshrined in the environmental legislation. In order to inculcate the environmental sensitization in masses the following activities were carried out.

a) **World Environment Day 5th June, 2006:** On occasion of the World Environment Day, the State Board organized the following activities:

   (i) Vehicular monitoring in the major towns of the State.
   (ii) Activities like quiz competition, drawing competition, slogan writing and debates were organized for the School children by field offices and laboratories. They have also participated in cleaning of natural springs (drinking water sources) campaign in their respective localities.
   (iii) Rallies were taken out by the school children carrying banners and signboards on environmental slogans.
   (iv) Distribution of pamphlets on vehicular pollution, air pollution and noise pollution amongst general public and students.

b) The State Board has also started training of Medical Officers in each district during the monthly meetings of Block Medical Officers & Medical Officers being held under the Chairmanship of Chief Medical Officers of respective district. The State Board has also organized a workshop for the Management of Bio-Medical Waste at Barmana for the health care facilities of Bilaspur district during the year.

c) **Advertisement and Publicity:** During the year 2006-07, the State Board intensified mass awareness campaign through publication of matter in the leading national, local newspapers, weekly & quarterly magazines.

d) **Control of Noise Pollution:** Campaign against noise pollution due to firecrackers was also launched on the eve of Diwali festivals throughout the State by way of noise monitoring and advertisements in the newspapers

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