MEGHALAYA STATE POLLUTION CONTROL BOARD

(Forests & Environment Department, Government of Meghalaya)







2023-2024 ANNUAL REPORT

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CHAPTER 1
INTRODUCTION

The Government of Meghalaya constituted the State Board for Prevention and Control of Water Pollution on the 16th November, 1983 under the provision of sub-section (1) of Section 4 of the Water (Prevention & Control of Pollution) Act, 1974. Subsequently, the State Board was entrusted with the responsibility for the implementation and enforcement of the Air (Prevention & Control of Pollution) Act, 1981 renamed as Meghalaya State Pollution Control Board in 1988.

Besides the enforcement of the Water Act and the Air Act, the Board is also enforcing/implementing/ monitoring the provisions of the following Acts, Rules and Notifications :-

1) The Environmental Protection Act, 1986 and the Rules framed there under viz.,

- The Hazardous and other Waste (Management and Transboundary Movement) Rules in 2016.
- The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989.
- The Manufacture, Use, Import, Export & Storage of Hazardous Micro organism or Cells Rules, 1989.
- The Environmental Impact Assessment Notification, 2006 and Amendments.
- The Chemical Accidents (Emergency Planning, Preparedness & Response) Rules, 1996.
- The Bio-Medical Wastes Management Rules, 2016
- The Recycled Plastics Manufacture and Usage Rules, 1999 as amended in 2016.
- The Fly Ash Notification, 1999.
- The Noise Pollution (Regulation and Control) Rules, 2000.
- The Ozone Depleting substances (Regulation) Rules, 2000.
- The Solid Wastes Management Rules, 2016.
- The Batteries Waste Management Rules 2022.
- The Construction and Demolition Waste Rules, 2016.
- E-Waste Management Rules, 2016.

2) The Public Liability Insurance Act, 1991.

The Headquarter of the Board is located in Shillong. Presently, the Board does not have any Regional or District Offices. The Board is having its own well equipped environmental Laboratory located at its Head Office, Lumpyngngad, Shillong to augment its activities for performing of its functions. The Laboratory is recognized by the State Government as State Water and Air Laboratory under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 respectively. The Board's Laboratory has also obtained the accreditation of the National Accreditation Board of Laboratories for carrying out sampling and analysis of samples of water, waste water, stack emission, ambient air, bacteriological tests etc.

The Board is functioning with **82 Employees** as on **31st March 2024** against a sanctioned strength of **152**. The details of Staff Position are given in **Annexure-I**. The Organization Chart of the Board is given in **Annexure-II**.

The main activities carried out by the State Board in performing of its functions is as highlighted below:-

(i) Inspection of industries and local bodies.

(ii) Monitoring the quality of water and wastewater.

(iii) Monitoring the quality of ambient air and stack emissions.

(iv) Inspection of sites proposed for setting up of industries to verify the suitability of the same from environmental point of view.

(v) Monitoring of water quality and water bodies under National Water Quality Monitoring (NWQM) Programme.

(vi) Monitoring of Ambient air quality under National Air Monitoring Programme (NAMP).

(vii) Offering guidance to industries and local bodies on statutory provisions.

(viii) Issue of "Consents to Establish" and "Consents to Operate" in respects of industries, mining projects specified developmental projects, municipal bodies and health care facilities etc.

(ix) Management of waste as provided in the Rules framed under the Environmental (Proctection) Act, 1986:

(a) Hazardous Waste Management:

- Enforcement of Provisions of the Rules and Regulations through Authorization regulation mechanism.
- Monitoring of Compliance to Standards.
- Submission of Annual Report to Central Pollution Control Board.

(b) Bio-Medical Waste Management:

- Enforcement of Provisions of the Rules and Regulations through Authorization regulation mechanism.
- Monitoring of Compliance to Standards.
- Submission of Annual Report to Central Pollution Control Board.

(c) Municipal Solid Waste Management:

- Enforcement of provisions of the Rules and Regulations through Authorization mechanism.
- Monitoring of Compliance to Standards.
- Submission of Annual Report to Central Pollution Control Board.

(d) Batteries Management

- Enforcement of provisions of the Rules and Regulations through Authorization mechanism.
- Monitoring of Compliance to Standards.
- Submission of Annual Report to Central Pollution Control Board.

(e) Plastic Management :

- Enforcement of Provisions of the Rules and Regulations through Authorization regulation mechanism.
- Monitoring of Compliance to Standards.
- Submission of Annual Report to Central Pollution Control Board.

(f) Noise Pollution Management :

- Enforcement of Provisions of the Rules in respect of industries.
- Monitoring the Compliance of Standards by industries.
- Monitoring of ambient noise in Industrial/Commercial/Residential areas.

(g) E-Waste Management:

- Inventorization of E-Waste generation
- Enforcement and Monitoring the implementation of the Provisions of the Rules.
- Submission of Annual Report to Central Pollution Control Board.

(h) Construction & Demolition Waste Management:

- Enforcement and Monitoring the implementation of the Provision of the Rules.
- Submission of Annual Report to Central Pollution Control Board.

CHAPTER 2

CONSTITUTION OF THE BOARD & CHANGES THEREIN

The Meghalaya State Pollution Control Board was first constituted by the State Government under the provisions of Section 4 of the Water (Prevention & Control of Pollution) Act, 1974 vide Notification No. PHE.161/83/1 dated the 16th November, 1983. The last reconstitution was notified vide Notification No. FOR.107/2014/559 dated the 28th January, 2021.

The Board consists of 17(Seventeen) Members nominated by the State Government as per provisions laid down in Sub-Section (2) of Section 4 of the Water (Prevention and Control of Pollution) Act 1974. Besides the Chairman and the Member Secretary, there are 5 (Five) Official Members representing various State Government Departments, 5 (Five) Members representing Local Authorities, 2 (Two) Members representing the Co-operatives and Corporations owned, managed or controlled by the State Government and 3 (Three) Non-Official Members

The Composition of the Board as reconstituted vide Notification No. FOR.107/2014/559 dated the 28th January, 2021 is as shown in Table 2.1 below.

TABLE – 2.1

Composition of the Board

1. ***Dr. Manjunatha. C., IFS,***
   Meghalaya State Pollution Control Board,
   (with effect from 30.09.2022 to 03.10.2023) : Chairman

   Shri R. Nainamalai, IFS,
   Meghalaya State Pollution Control Board
   (with effect from 03.10.2023 till date)

2. ***Shri R. Nainamalai, IFS,***
   Meghalaya State Pollution Control Board : Member Secretary
   (with effect from 02.05.2022 to 06.10.2023)

   Dr. G.H. Chyrmang, MFS,
   Meghalaya State Pollution Control Board
   (with effect from 06.10.2023 till date)

OFFICIAL MEMBERS

3. ***Chief Conservator of Forests / Conservator of Forests***
   nominated by the Principal Chief Conservator of : Member
   Forests & HOFF, Meghalaya

4. ***Chief Engineer***
   Public Health Engineering, Meghalaya, : Member
   Shillong or his nominee

5. ***The Director of Industries*** : Member
   Meghalaya, Shillong or his nominee

6. ***The Director of Health Services (Research, etc),***
   Meghalaya, Shillong or his nominee : Member

7. ***The Director, Urban Affairs***
   Meghalaya, Shillong or his nominee : Member

MEMBERS FROM LOCAL AUTHORITIES

8. ***The Chief Executive Member***
Khasi Hills Autonomous District Council or his nominee : Member

9. ***The Chief Executive Member***
Jaintia Hills Autonomous District Council or his nominee : Member

10. ***The Chief Executive Member***
Garo Hills Autonomous District Council or his nominee : Member

11. ***The Chairman***
Shillong Municipality Board or his nominee : Member

12. ***The Chairman***
Tura Municipality Board or his nominee : Member

REPRESENTATIVES FROM COMPANIES OR CORPORATIONS

13. ***The Managing Director***
Meghalaya Industrial Development Corporation or his nominee : Member

14. ***The Managing Director***
Mineral Development Corporation, Meghalaya or his nominee : Member

NON-OFFICIAL MEMBERS

15. ***Dr.(Mrs.) W. Papang***
Retired Director, Animal Husbandary & Veterinary Department,
Bishop Falls, Lower Mawprem,
Shillong, East Khasi Hills District : Member

16. ***Shri Y. Shylla, Retired Director of Horticulture,***
Mynthong, Near District Library,
Jowai, West Jaintia Hills District. : Member

17. ***Shri B.M. Momin, (with effect from 28.01.2021)***
Retired Director of Fisheries,
Upper Chandmary, Tura, West Garo Hills, District. : Member

CHAPTER 3

MEETING OF THE BOARD WITH MAJOR DECISIONS

During the year 2023-2024, the Board conducted the following Meetings

SL. NO.	MEETING NO.	DATE	VENUE	NO. OF MEMBERS ATENDING THE MEETING
1.	86th Board Meeting	26-07-2023	Conference Room of the Meghalaya State Pollution Control Board, Shillong	9 (nine)
2.	87th Board Meeting	01-12-2023	Conference Room of the Meghalaya State Pollution Control Board, Shillong	10 (Ten)

The following decisions were taken in the above Meetings : -

86th BOARD MEETING HELD ON 26th JULY 2023:

- The Board decided to empanel Shri Atul Kumar, Advocate as one of the Lawyers to represent in cases of the Board.
- The Board decided that the Law Officer of the Board is authorized to appear in Court cases on behalf of the Member Secretary of the Board.
- The Board decided that the Legal Assistant can attend the District Court.
- The Board approved the proposal to create 1(one) post of Scientist 'B' and decided that the proposal should be sent to the State Government for necessary sanction and approval.

87th BOARD MEETING HELD ON 1st DECEMBER 2023:

- The Board approved the draft Guidelines for Utilization of Environmental Compensation Fund and decided that the same may be sent to the State Government for approval.
- The Board decided that Notification in this regard is to be issued.
- The Board accepted the proposal to adopt and implement the Classification of Sand Mining under Red/ Orange/Green/White category given by the CPCB
- The Board accepted the proposal to adopt the Meghalaya Stone Crusher Order, 2021
- The Board accepted the proposal for appointment of Smti M.N. Diengdoh, Scientist 'B' and Shri M.N. Warbah, Scientist 'B' as Government Analysts and decided that the proposal is to be sent to the State Government for necessary approval.
- The Board decided that the proposal for an urgent amendment of the existing fees of Consent and Authorization (BMW) is to be made.
- The Board decided that proposal for renewal of Consent and Authorization fees every 5 (five) years.
- The Board decided that proposal for temporary engagement of a retired officer for a period of three months to prepare a draft for the revision of Consent and Authorization fees which may be extended as per need.

CHAPTER 4
COMMITTEES CONSTITUTED BY THE BOARD & THEIR ACTIVITIES

The following Committees are constituted by the Board with their activities to strengthen the functions of the Board from time to time.

I. THE CONSENT COMMITTEE

1.	Chairman, Meghalaya State Pollution Control Board, Shillong.	: Chairman
2.	Director of Mineral Resources Meghalaya, Shillong.	: Member
3.	Conservator of Forests Meghalaya, Shillong.	: Member
4.	Deputy Director of Commerce and Industries (P), Meghalaya, Shillong.	: Member
5.	Joint Director, Urban Affairs, Meghalaya, Shillong	: Member
6.	Senior Inspector of Boilers & Factories, Meghalaya, Shillong,	: Member
7.	Town Planning Officer, MUDA, Shillong	: Member
8.	Member Secretary Meghalaya State Pollution Control Board, Shillong.	: Member Convener

TERMS OF REFERENCE

To examine/scrutinize the applications for Consent and recommend the grant or otherwise of Consent in respect of industries/developmental projects with project costs above Rs. 25.00 lakhs.

II. THE PURCHASE COMMITTEE

1.	Chairman, Meghalaya State Pollution Control Board, Shillong.	: Chairman
2.	The Director, Sophisticated Analytical Instrument Facilities, N.E.H.U, Shillong.	: Member
3.	Chief Engineer P.H.E Deptt. or his nominee	: Member
4.	Director of Commerce and Industries, or his nominee	: Member
5.	Director of Health Services (Research), Meghalaya, Shillong	: Member
6.	Regional Director, Regional Directorate North East CPCB, Shillong	: Member
7.	Member Secretary, Meghalaya State Pollution Control Board, Shillong.	: Member Convener

TERMS OF REFERENCE:

To scrutinize the Quotation / Tender documents and make necessary recommendation thereof for purchase of Scientific Instruments / Equipments.

III. THE SELECTION COMMITTEE FOR GRADE 'A' POSTS

1.	Additional Chief Secretary/Principal Secretary/ Commissioner & Secretary to the Govt. of Meghalaya, Forests & Environment Department.	: Chairman
2.	Principal Chief Conservator of Forests/Additional Principal Chief Conservator of Forests, Social Forestry & Environment.	: Member
3.	Chairman, Meghalaya State Pollution Control Board, Shillong	: Member
4.	Regional Director, Regional Directorate, North Eastern Regional Office, Central Pollution Control Board, Shillong.	: Member
5.	Member Secretary, Meghalaya State Pollution Control Board, Shillong.	: Member Convener

TERMS OF REFERENCE

To assess the eligibility of candidates through written examination, interview, practical test etc. for the purpose of direct recruitment to Grade 'A' Posts and to recommend the list of successful candidates in order of merit to the Board for appointment.

I.V THE SELECTION COMMITTEE FOR GRADE 'B', 'C' & 'D' POSTS

1.	Chairman, Meghalaya State Pollution Control Board.	: Chairman
2.	One Service Expert to be nominated by the Chairman of the Board	: Member
3.	One Specialist to be nominated by the Chairman of the Board	: Member
4.	Member Secretary, Meghalaya State Pollution Control Board	: Member Convener

TERMS OF REFERENCE

To assess the eligibility of candidates through written examination, interview, practical test etc. for the purpose of direct recruitment to Grade 'B', 'C' & 'D' Posts and to recommend the list of successful candidates in order of merit to the Board for appointment.

V THE PROMOTION COMMITTEE FOR GRADE 'A' POSTS

1.	Additional Chief Secretary/Principal Secretary/ Commissioner & Secretary to the Govt. of Meghalaya, Forests & Environment Department.	: Chairman
2.	Principal Chief Conservator of Forests/Additional Principal Chief Conservator of Forests, Social Forestry & Environment.	: Member
3.	Chairman, Meghalaya State Pollution Control Board, Shillong	: Member
4.	Regional Director, Regional Directorate, North Eastern Regional Office, Central Pollution Control Board, Shillong.	: Member
5.	Member Secretary, Meghalaya State Pollution Control Board, Shillong.	: Member Convener

TERMS OF REFERENCE:

To assess the eligibility of candidates on the basis of seniority-cum-merit and recommend the list of eligible candidates in order of preference to the Board for promotion.

VI THE PROMOTION COMMITTEE FOR GRADE 'B'&'C' POSTS

1.	Chairman, Meghalaya State Pollution Control Board.	: Chairman
2.	Member Secretary, Meghalaya State Pollution Control Board.	: Member
3.	*Respective Head of Technical/Legal/Scientific/Administrative/ Accounts Branch.	: Member
4.	Administrative Officer, Meghalaya State Pollution Control Board.	: Member Convener

**To attend as and when promotion of employee(s) under their jurisdiction is/are to be recommended.*

TERMS OF REFERENCE:

To assess the eligibility of candidates on the basis of seniority-cum-merit and recommend the list of eligible candidates in order of preference to the Board for promotion.

VII. THE RESEARCH ADVISORY COMMITTEE

1.	Chairman, Meghalaya State Pollution Control Board, Shillong.	: Chairman
2.	Director, SAIF, N.E.H.U, Shillong.	: Member
3.	Chief Conservator of Forests (Social Forestry & Environmnt) Meghalaya, Shillong.	: Member
4.	Director of Health Services (Research), Meghalaya, Shillong.	: Member
5.	Representative of MoEF&CC, North Eastern Regional Office, Shillong.	: Member
6.	Incharge Zonal Office, Central Pollution Control Board, Shillong.	: Member
7.	Senior Accountant, Meghalaya State Pollution Control Board, Shillong.	: Member
8.	Member Secretary, Meghalaya State Pollution Control Board, Shillong.	: Convener

TERMS OF REFERENCE:

To look into the aspects of research needs in the areas of environmental pollution monitoring and control.

CHAPTER 5
AIR QUALITY MONITORING

5A: NATIONAL AIR QUALITY MONITORING

The Meghalaya State Pollution Control Board is monitoring the Ambient Air Quality at 13 (thirteen) locations in the state under National Air Monitoring Programme (NAMP) sponsored by CPCB (Fig.5.0). The ambient air quality monitoring network was expanded from 10 (ten) during 2022-2023 to 13 (thirteen) during 2023-2024 with the addition of 3 (three) more stations viz. (i) 15th Mile, Byrnihat (ii) 17th Mile, Byrnihat and (iii) Khasi Kiling, Byrnihat, during the financial year 2023-24. The new AAQM station installed in 15th Mile, Byrnihat, was sanctioned by the Ministry of Environment, Forest and Climate Change (MOEF&CC) during the financial year 2020-2021, as part of action taken under National Clean Air Program (NCAP) in Non-attainment city-Byrnihat town, Ri Bhoi district. The said station was then later converted to AAQM station under NAMP with effect from November 2022. The other 2 (two) stations, namely, 17th Mile, Byrnihat and Khasi Kiling, Byrnihat, were sanctioned by the Central Pollution Control Board (CPCB), Delhi, during the financial year 2022-2023 and subsequently were operational during the year 2023.

The frequency of monitoring is twice a week. Particulate Matter (PM10), Particulate Matter (PM2.5), Sulphur dioxide (SO2), Nitrogen dioxide (NO2) and meteorological parameters viz. wind speed, wind direction, ambient air temperature, humidity, etc. were monitored at these stations and the observations along with the Air Quality Index (AQI) of the monitored stations are presented in Table 5.0.

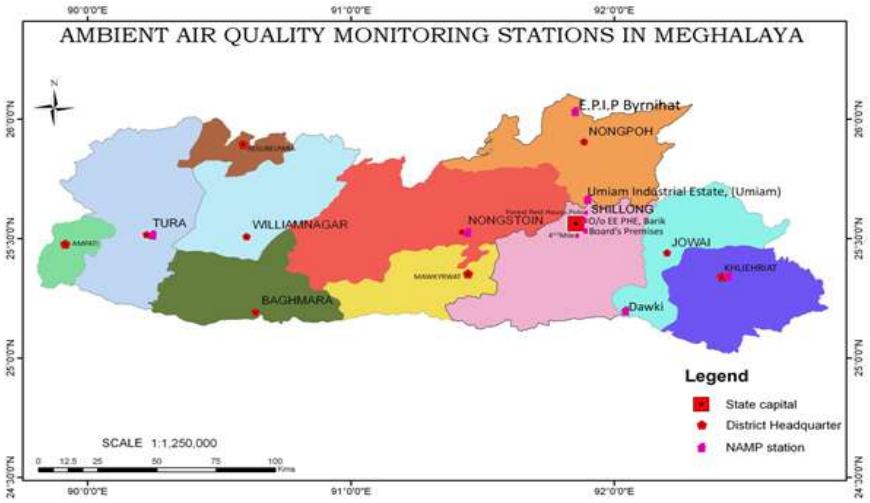


FIG. 5.0: LOCATION OF NAMP STATIONS IN THE STATE

Table 5.0: Annual Average values of air pollutants and Air Quality Index monitored under NAMP in Meghalaya.

Sl. No.	Name of Station	Year	Annual Average			
			Parameters Tested			
			PM10 (µg/m³)	PM2.5 (µg/m³)	SO^2 (µg/m³)	NO^2 (µg/m³)
1.	MSPCB Premises, Lumpyngngad, Shillong, East Khasi Hills District.	2021	35.2	17.3	2.0	4.5
		2022	37.4	18.0	3.2	7.0
		2023	40.4	14.6	2.0	4.5

Sl. No.	Name of Station	Year	Annual Average			
			Parameters Tested			
			PM10 (µg/m³)	PM2.5 (µg/m³)	SO² (µg/m³)	NO² (µg/m³)
2.	O/o EE,PHE,Hills Division, Barik, Shillong, East Khasi Hills District	2021	57.5	29.3	7.9	18.2
		2022	56.2	28.8	7.6	15.3
		2023	57.5	28.7	8.3	17.0
3.	Export Promotion Industrial Park, Byrnihat, Ri Bhoi District.	2021	178.4	76.5	17.4	17.8
		2022	153.8	60.6	20.8	19.3
		2023	148.4	66.4	24.1	25.7
4.	PHE Quarters, Bakur, Dawki	2021	36.1	21.1	5.1	10.8
		2022	38.9	21.1	6.0	12.2
		2023	41	23.5	6.9	11.6
5.	O/o BDO, C&RD Block, Khliehriat, East Jaintia Hills District.	2021	41.9	17.9	4.0	9.0
		2022	47.8	24.4	4.8	10.3
		2023	50.3	27.0	5.6	11.0
6.	O/o SDO, PHE, Nongstoin, West Khasi Hills District	2021	35.1	18.1	2.0	10.1
		2022	38.1	20.8	5.5	11.0
		2023	44.6	22.6	6	10.5
7.	Dakopgre, Tura, West Garo Hills District.	2021	36.1	17.0	2.0	10.3
		2022	36.4	16.6	2.7	7.7
		2023	45.8	21.2	2	4.5
8.	Umiam Industrial Estate, Umiam, Ri Bhoi District.	2021	99.5	31.4	4.4	10.7
		2022	96.7	31.2	6.5	8.8
		2023	89.6	34.5	6.9	9.5
9.	Forest Rest House, Polo Hills, Shillong, East Khasi Hills District.	2021	41.7	21.9	4.4	9.5
		2022	47.0	20.5	4.4	11.4
		2023	49.7	21.5	4.5	14.4
10.	Mylliem Range Office, Forest & Environment Deptt., 4 ½ Mile, Shillong, East Khasi Hills District	2021	40.9	22.5	4.6	10.3
		2022	46.7	20.4	5.2	12.2
		2023	46.9	18.5	4.7	13.4

Table 5.0: Annual Average values of air pollutants and Air Quality Index monitored under NAMP in Meghalaya.

Sl. No.	Name of Station	Year	Annual Average Parameters Tested			
			PM10 (µg/m³)	PM2.5 (µg/m³)	SO^2 (µg/m³)	NO^2 (µg/m³)
11.	15th Mile, Nongthymmai, Ri Bhoi District.	2023	78.8	43.9	13.5	15.0
12.	17th Mile,Byrnihat, Ri Bhoi District.	2023	73.2	36.2	9.6	12.6
13.	Khasi Kiling, Byrnihat, Ri Bhoi District.	2023	59.4	30.5	8.6	4.5
Permissible Limits of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th Nov. 2009.			60	40	50	40

Observations & Findings:

1. The measured SO_2 and NO_2 values are well within the prescribed limits in all the locations monitored during 2021, 2022 and 2023
2. PM10 and PM 2.5 values monitored at all locations are within the prescribed limits, except at EPIP, Byrnihat and at Umiam Industrial Estate, Umiam, where PM10 and PM 2.5 values exceeded the prescribed limits.
3. The Air Quality Index (AQI) falls under 'Good' category at all locations except at the location at Barik which is 'Satisfactory' during 2021, 2022 and 2023, 'Moderate' at EPIP, Byrnihat , during 2021, 2022 and 2023, and 'Satisfactory' at Umiam Industrial Estate during 2021, 2022 and 2023.
4. High concentrations of Particulate Matter (PM10) and Particulate Matter (PM2.5) levels is attributable to the buildup of pollutants owing to emissions from industries located in the industrial area, emission from vehicle, dust generated due to movement of vehicles, natural dust and re-suspension of road dust and construction activities.

5A1: Ambient Air Quality monitored in the Board's Office Premises, Lumpyngngad, Shillong (Station Code: 120):

The Board is regularly monitoring the Air Quality from the station under National Air Monitoring programme (NAMP).The results of monitoring during Jan-Dec 2021, Jan-Dec 2022 and Jan-Dec 2023 are given in Table: 1.A1 and depicted in Fig. 5.A1.

Findings and Observations:

- As per the air quality data (Table 5.A1), maximum value **(51.2µg/m³)** of PM10 was observed during the month of March 2022 and minimum value **(22.4µg/m³)** was observed during the month of July 2020. Maximum concentration **(29.0µg/m³)** of PM2.5 was observed during the month of March 2022 and minimum concentration **(9.7µg/m³)** was observed during the month of July 2020.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2021, 2022 and 2023.
- The Annual Average of Sulphur Dioxide (SO_2), Nitrogen dioxide (NO_2), Particulate Matter (PM10) & Particulate Matter (PM2.5) levels are within the National Ambient Air Quality standards.

Table 5.A1: Ambient Air Quality data at State Board's Premises, Shillong during 2021, 2022 and 2023.

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Board's Premises	2021 (Jan-Dec)	31.1 (Jul)	44.0 (Mar)	35.2	13.6 (Sep)	21.7 (Apr)	17.3	2.0	2.0	2.0	4.5	4.5	4.5
	2022 (Jan-Dec)	27.2 (Jun)	51.2 (Mar)	37.4	11.2 (Sept)	29 (Mar)	18	2.0	4.0	2.0	4.5	4.5	4.5
	2023 (Jan-Dec)	49.9 (Apr)	33.9 (July)	40.4	18.4 (April)	11.2 (June)	14.6	2.0	2.0	2.0	4.5	4.5	4.5

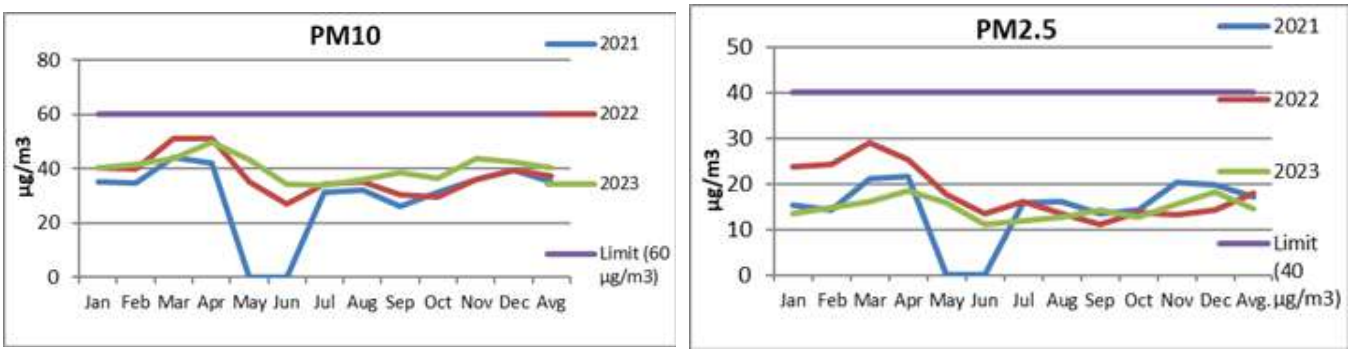


Fig.5.A1: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2021, 2022 and 2023 at Board's Premises, Shillong.

5. A2: Ambient Air Quality monitored in the O/o EE (PHE), Hills Division, Barik, Shillong. (Station Code: 340):

The Board is monitoring the Air Quality from the station. The results of monitoring during Jan-Dec 2021, Jan-Dec 2022 and Jan-Dec 2023 are given in Table: 5.A2 and depicted in Fig. 5.A2.

Findings and Observations:

- As per the air quality data (Table 5.A2), maximum value **(70.4 µg/m³)** of PM10 was observed during the month of March 2022 and minimum value **(38.7 µg/m³)** was observed during the month of June 2022.
- Maximum concentration (35.7µg/m³) of PM2.5 was observed during the month of April 2022 and minimum concentration (18.6µg/m³) was observed during the month of September 2022.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2021, 2022 and 2023
- The Annual Average of Sulphur Dioxide (SO_2), Nitrogen dioxide (NO_2), and Particulate Matter (PM2.5) levels remains within the National Ambient Air Quality standards.
- High levels of Particulate Matter (PM10) may be due to emission from vehicle, dust generated due to movement of vehicles, natural dust and re-suspension of road dust and construction activities.

Table 5.A2: Ambient Air Quality data at Barik, Shillong, during 2021, 2022 & 2023

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annu-al Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Barik	2021 (Jan-Dec)	42.2 (Jul)	67.4 (Mar)	57.5	22.2 (Sep)	34.3 (Dec)	29.3	6.7 (Jul)	8.9 (Dec)	7.9	16.5 (Feb)	21.4 (Dec)	18.2
	2022 (Jan-Dec)	38.7 (June)	70.4 (Mar)	56.2	35.7 (April)	18.6 (Sept)	28.8	5.8 (Sept)	9.5 (Dec)	7.6	9 (June)	21.4 (Feb)	15.3
	2023 (Jan-Dec)	46.5 (July)	68.9 (Jan)	57.5	22.6 (June)	35.3 (Jan)	28.7	6.6 (June)	9.6 (Dec)	8.3	13.9 (Jan)	19.8 (April)	17.0

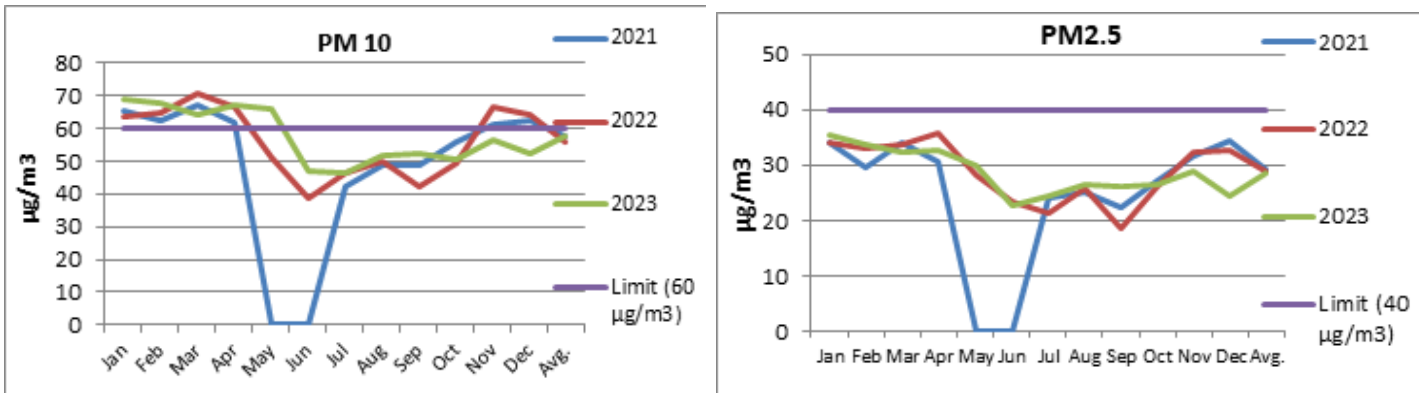


Fig. 5.A2 : Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2021, 2022 and 2023 at Barik, Shillong.

5A3: Ambient Air Quality monitored in EPIP, Byrnihat, Ri-Bhoi District (Station Code: 568)

The Board is monitoring the Air Quality from the station. The results of monitoring during Jan-Dec 2021, Jan-Dec 2022 and Jan-Dec 2023 are given in Table: 5.A3 and depicted in Fig. 5.A3

Findings and Observations:

- As per the air quality data (Table 5.A3), maximum value **(237.3µg/m³)** of PM10 was observed during the month of March 2022 and minimum value **(104.7µg/m³)** was observed during the month of July 2022. Maximum concentration **(103.9µg/m³)** of PM2.5 was observed during the month of April 2021 and minimum concentration **(41µg/m³)** was observed during the month of October 2021.
- The Annual Average of Sulphur Dioxide (SO2), Nitrogen dioxide (NO2) levels remains within the National Ambient Air Quality standards.
- High concentrations of Particulate Matter (PM10) and Particulate Matter (PM2.5) levels is attributable to the buildup of pollutants owing to emissions from industries located in the industrial area, emission from vehicle, dust generated due to movement of vehicles, natural dust and re-suspension of road dust and construction activities.

Table 5.A3: Ambient Air Quality data at EPIP, Byrnihat, Ri Bhoi District, during 2021, 2022 and 2023.

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
EPIP Byrnihat	2021 (Jan-Dec)	109.9 (Sep)	233.9 (Apr)	178.4	41.0 (Oct)	103.9 (Apr)	76.5	11.9 (Feb)	22.1 (Nov)	17.4	13.4 (Feb)	20.3 (Jul)	17.4
	2022 (Jan-Dec)	104.7 (July)	237.3 (Mar)	156.1	44.8 (July)	72.8 (Mar)	60.6	13.1 (Oct)	30.2 (Mar)	20.8	15.2 (Oct)	23 (Dec)	19.3
	2023 (Jan-Dec)	127.4 (July)	179.8 (May)	148.4	61.7 (Sept)	73.4 (May)	66.4	20.9 (Jan)	31.1 (Nov)	24.1	23.6 (Jan)	32.8 (Nov)	25.7

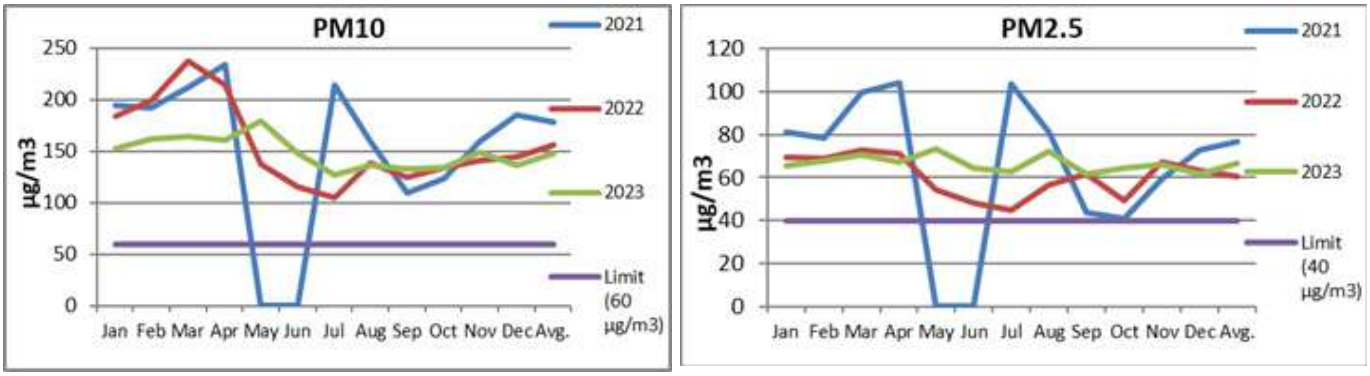


Fig. 5.A3: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2021, 2022 and 2023 at EPIP, Byrnihat, Ri Bhoi District.

5A4: Ambient Air Quality monitored in Dawki, West Jaintia Hills District (Station Code: 588)

The Board is monitoring the Air Quality from the station. The results of monitoring during Jan-Dec 2021, Jan- Dec 2022 and Jan-Dec 2023 are given in Table: 5.A4 and depicted in Fig. 5.A4.

Findings and Observations:

- As per the air quality data (Table 5.A4), maximum value **(52.8µg/m³)** of PM10 was observed during the month of April 2023 and minimum value **(27.3µg/m³)** was observed during the month of June 2022. Maximum concentration **(28.8µg/m³)** of PM2.5 was observed during the month of May 2023 and minimum concentration (15.5µg/m³) was observed during the month of June 2022.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2021, 2022 and 2023
- The Annual Average of Sulphur Dioxide (SO2), Nitrogen dioxide (NO2), Particulate Matter (PM10) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.A4: Ambient Air Quality data at Dawki, West Jaintia Hills District, during 2021, 2022 and 2023.

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annu-al Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Dawki	2021 (Jan-Dec)	29.5 (Jul)	41.9 (Nov)	36.1	16.9 (Feb)	27.7 (Nov)	21.1	4.0 (Feb)	6.1 (Nov)	5.1	4.5	13.1 (Jan)	10.8
	2022 (Jan-Dec)	27.3 (June)	46.2 (Dec)	38.9	15.5 (June)	27.5 (Mar)	21.1	5.3 (April)	7.0 (Dec)	6.0	10.5 (June)	14.3 (Jan)	12.2
	2023 (Jan-Dec)	34.2 (Aug)	52.8 (April)	41.0	20.5 (June)	28.8 (May)	23.5	5.9 (July)	8.8 (Dec)	6.9	10.5 (Jan)	12.9 (Nov)	11.6

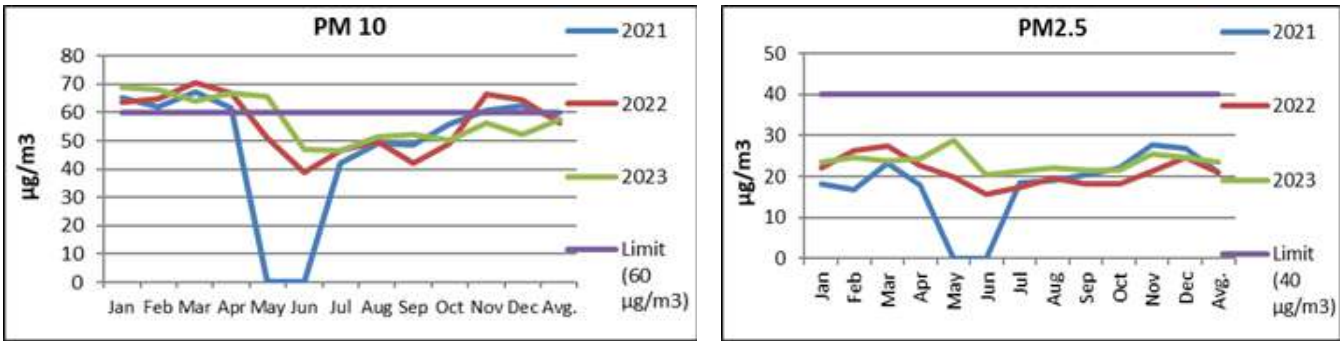


Fig.5.A4: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2021, 2022 and 2023 at Dawki, West Jaintia Hills District.

5A5: Ambient Air Quality monitored in Araimile, Tura, West Garo Hills District (Station Code: 608)

The Board is monitoring the Air Quality from the station. The results of monitoring during Jan-Dec 2021, Jan-Dec 2022 and Jan-Dec 2023 are given in Table: 5.A5 and depicted in Fig. 5.A5.

Findings and Observations:

- As per the air quality data (Table 5.A5), maximum value **(56.9µg/m³)** of PM10 was observed during the month of April 2023 and minimum value **(26.4µg/m³)** was observed during the month of August 2021.
- Maximum concentration **(24.7µg/m³)** of PM2.5 was observed during the month of November 2023 and minimum concentration **(13.2µg/m³)** was observed during the month of May 2022.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2021, 2022 and 2023.
- The Annual Average of Sulphur Dioxide (SO2), Nitrogen dioxide (NO2), Particulate Matter (PM10) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.A5: Ambient Air Quality data at Araimile, Tura, West Garo Hills District, during 2021, 2022 and 2023

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Tura	2021 (Jan-Dec)	26.4 (Aug)	46.1 (Jan)	36.1	13.9 (July)	23.8 (Apr)	17.0	2.0	2.0	2.0	4.5	13.9	10.3
	2022 (Jan-Dec)	27.5 (May)	44 (Dec)	36.4	13.2 (May)	20.9 (Mar)	16.2	2.0	2.0	2.0	4.5	4.5	4.5
	2023 (Jan-Dec)	40 (July)	56.9 (April)	45.8	18.7 (Jan)	24.7 (Nov)	21.2	2.0	2.0	2.0	4.5	9.5	4.5

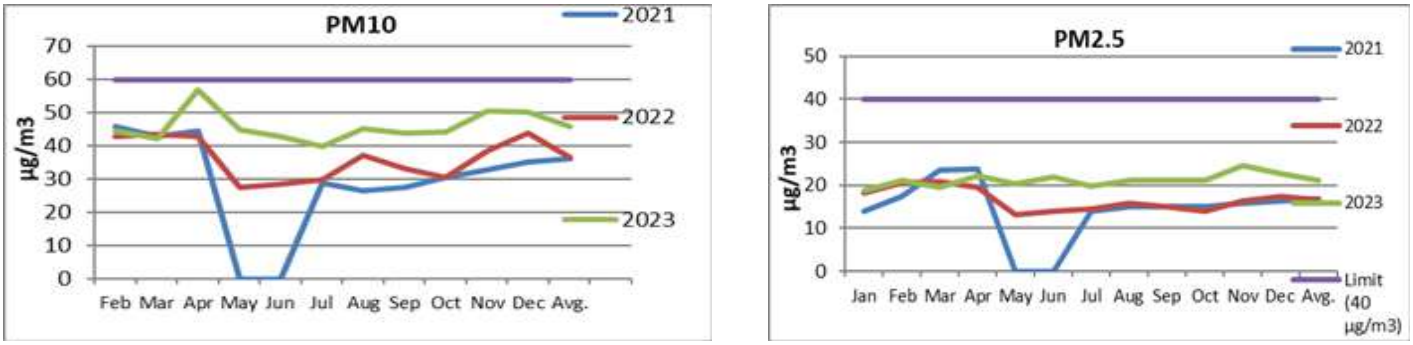


Fig. 5.A5: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2021, 2022 and 2023 at Araimile, Tura, West Garo Hills District.

5A6: Ambient Air Quality monitored in O/o BDO, C.& R.D. Block-Khliehriat, East Jaintia Hills District, (Station Code: 699)

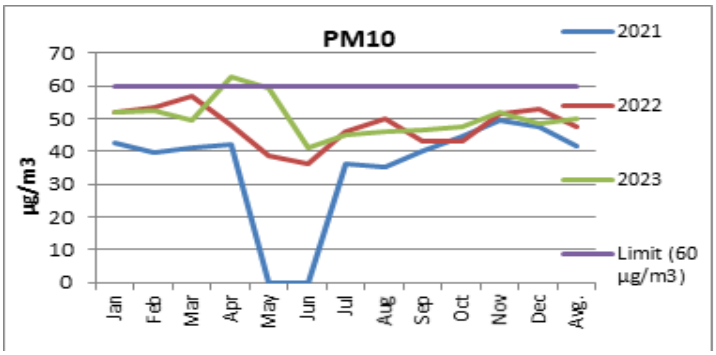
The Board is monitoring the Air Quality from the station. The results of monitoring during Jan-Dec 2021, Jan-Dec 2022 and Jan-Dec 2023 are given in Table: 5.A6 and depicted in Fig. 5.A6.

Findings and Observations:

- As per the air quality data (Table 5.A6), maximum value **(62.9µg/m³)** of PM10 was observed during the month of April 2023 and minimum value **(35.2µg/m³)** was observed during the month of August 2021.
- Maximum concentration (32.8µg/m3) of PM2.5 was observed during the month of April 2023 and minimum concentration (14.5µg/m3) was observed during the month of July 2021.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2021, 2022 and 2023.
- The Annual Average of Sulphur Dioxide (SO2), Nitrogen dioxide (NO2), Particulate Matter (PM10) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.A6: Ambient Air Quality data at O/o BDO, C.& R.D. Block-Khliehriat, East Jaintia Hills District, during 2021, 2022 and 2023.

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Khliehriat	2021 (Jan-Dec)	35.2 (Aug)	49.6 (Nov)	41.9	14.5 (Jul)	21.6 (Dec)	17.9	2.0	4.6	4.0	4.5	11.4	9.0
	2022 (Jan-Dec)	36.2 (June)	57 (Mar)	47.8	19 (June)	30.5 (Mar)	24.4	2.0	5.7	4.8	4.5	11.3	10.3
	2023 (Jan-Dec)	41 (June)	62.9 (April)	50.3	23.3 (June)	32.8 (April)	27.0	4.1	6.6	5.6	9.7	11.7	11.0



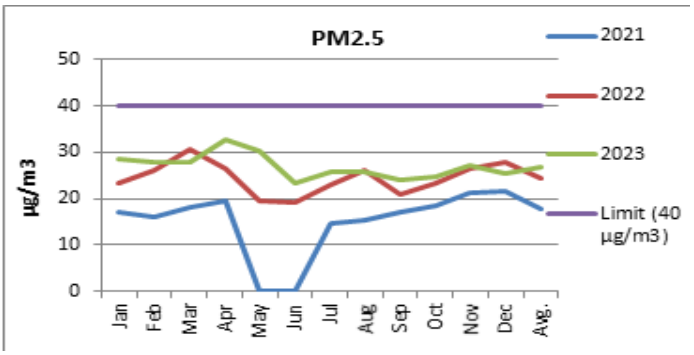


Fig. 5.A6: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2021, 2022 and 2023 at O/o BDO, C. & R.D. Block-Khliehriat, East Jaintia Hills District.

5A7: Ambient Air Quality monitored in Office Premises of E.E., PHED, Nongstoin Division, West Khasi Hills District (Station Code: 698)

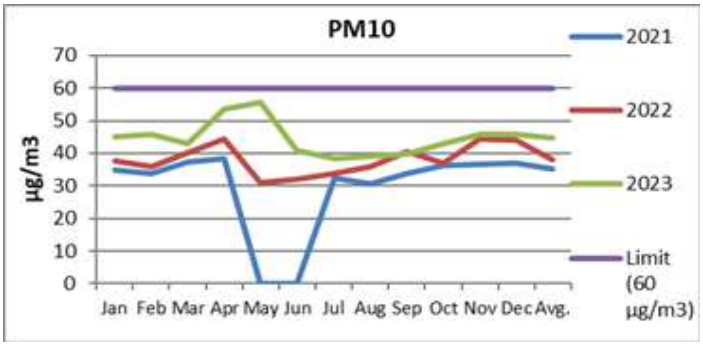
The Board is monitoring the Air Quality from the station. The results of monitoring during Jan-Dec 2021, Jan-Dec 2022 and Jan-Dec 2023 are given in Table: 5.A7 and depicted in Fig. 5.A7.

Findings and Observations:

- As per the air quality data (Table 5.A7), maximum value **(55.6µg/m³)** of PM10 was observed during the month of May 2023 and minimum value **(30.7µg/m³)** was observed during the month of August 2021. Maximum concentration **(23.8µg/m³)** of PM2.5 was observed during the month of November 2022 and minimum concentration **(15.5µg/m³)** was observed during the month of June 2022.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2021, 2022 and 2023.
- The Annual Average of Sulphur Dioxide (SO2), Nitrogen dioxide (NO2), Particulate Matter (PM10) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.A7: Ambient Air Quality data at Office Premises of E.E., PHED, Nongstoin, West Khasi Hills District, during 2021, 2022 and 2023

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Nongstoin	2021 (Jan-Dec)	30.7 (Aug)	38.5 (Apr)	35.1	15.9 (Oct)	22.1 (Apr)	18.1	2.0	5.0	2.0	4.5	11.7	10.1
	2022 (Jan-Dec)	30.9 (May)	44.3 (Nov)	38.1	15.5 (June)	23.8 (Nov)	20.8	5.1	6.1	5.5	10.3	11.3	11.0
	2023 (Jan-Dec)	38.4 (July)	55.6 (May)	44.6	20.4 (July)	24 (Apr)	22.6	4.9	6.4	6.0	9.4	11.3	10.5



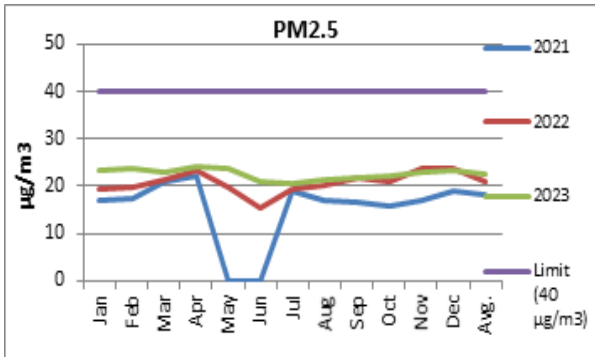


Fig.5.A7 : Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2021, 2022 and 2023 at Office Premises of E.E., PHED, West Khasi Hills District.

5A8: Ambient Air Quality monitored in Umiam Industrial Estate, Umiam, Ri Bhoi District. (Station Code: 782)

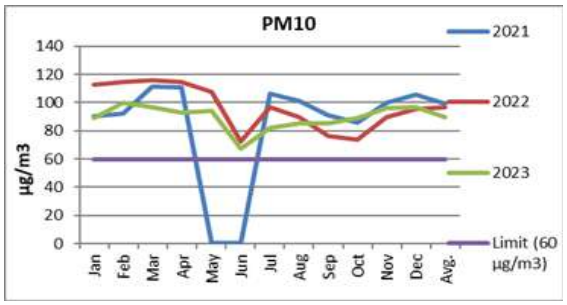
The Board is monitoring the Air Quality from the station. The results of monitoring during Jan-2021, Jan-Dec 2022 and Jan-Dec 2023 are given in Table: 5.A8 and depicted in Fig. 5.A8.

Findings and Observations:

- As per the air quality data (Table 5.A8), maximum value **(116.1µg/m³)** of PM10 was observed during the month of March 2022 and minimum value **(67.3µg/m³)** was observed during the month of June 2023
- Maximum concentration **(39.1µg/m³)** of PM2.5 was observed during the month of July 2023 and minimum concentration **(23.4µg/m³)** was observed during the month of September 2021.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of PM2.5 monitored during 2021, 2022 and 2023.
- The Annual Average of Sulphur Dioxide (SO2), Nitrogen dioxide (NO2), and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.
- High levels may be due to emission from vehicle, dust generated due to movement of vehicles, construction activities, emissions from industries located in the industrial areas, natural dust and re-suspension of road dust and construction activities.

Table 5.A8: Ambient Air Quality data at Umiam Industrial Estate, Ri-Bhoi District, during 2021, 2022 and 2023

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Umiam	2021 (Jan-Dec)	86.2 (Oct)	111.4 (Mar)	99.5	23.4 (Sep)	39.0 (Mar)	31.4	2.0	4.7 (Dec)	4.4	9.8 (Jan)	11.2 (Apr)	10.7
	2022 (Jan-Dec)	72.5 (June)	116.1 (Mar)	96.7	24.1 (June)	37.3 (Feb)	31.2	4.1	7.6 (Mar)	6.5	4.5 (Oct)	12.8 (April)	8.8
	2023 (Jan-Dec)	67.3	100.3 (Feb)	89.6	29.2 (June)	39.1 (July)	34.5	5.3 (June)	7.8 (Feb)	6.9	4.5 (May)	12.7 (Dec)	9.8



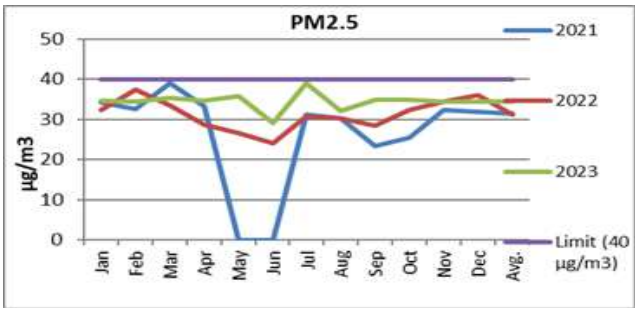


Fig . 5.A8: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2020, 2021 and 2022 at Umiam Industrial Estate, Ri-Bhoi District

5A9: Ambient Air Quality monitored in Forest Rest House, Polo Hills, Shillong, (Station Code: 892)

The Board is regularly monitoring the Air Quality from the station under National Air Monitoring programme (NAMP). The results of monitoring during Jan-Dec 2021, Jan-Dec 2022 and Jan-Dec 2023 are given in Table: 5.A9 and depicted in Fig. 5.A9.

Findings and Observations:

- As per the air quality data (Table 5.A9), maximum value **(63.6µg/m³)** of PM10 was observed during the month of May 2023 and minimum value **(31.5µg/m³)** was observed during the month of September 2021. Maximum concentration **(27.6µg/m³)** of PM2.5 was observed during the month of March 2023 and minimum concentration **(15.2µg/m³)** was observed during the month of July 2023.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2021, 2022 and 2023.
- The Annual Average of Sulphur Dioxide (SO2), Nitrogen dioxide (NO2), Particulate Matter (PM10) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.A9 : Ambient Air Quality data at Forest Rest House, Polo Hills, Shillong, during 2021, 2022 and 2023

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Polo	2021 (Jan-Dec)	31.5 (Sep)	49.6 (Dec)	41.7	15.6 (Jan)	25.9 (Mar)	21.9	2.0	5.1 (Nov)	4.4	4.5	12.0 (Dec)	4.5
	2022 (Jan-Dec)	45.5 (Nov)	61.3 (Mar)	47	15.9 (Sept)	26.6 (Mar)	20.5	4.0	4.8 (Nov)	4.4	4.5	14.3 (Dec)	11.4
	2023 (Jan-Dec)	39.3 (July)	63.6 (May)	49.7	15.2 (July)	27.6 (Mar)	21.2	2.0	5.0 (Nov)	4.5	10.4	17.3 (Mar)	14.4

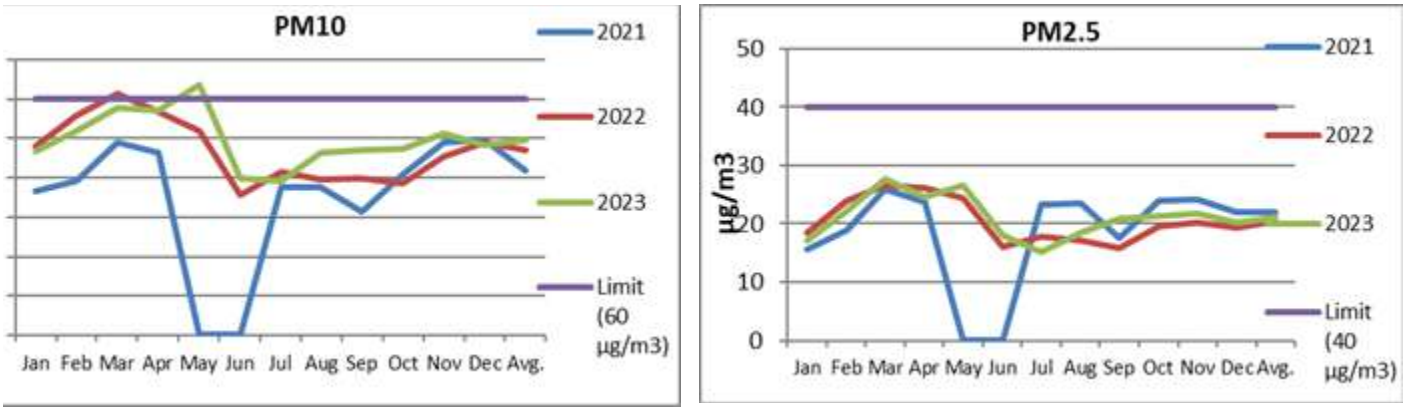


Fig.5.A9: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2021, 2022 and 2023 at Forest Rest House, Polo Hills, Shillong.

5A10: Ambient Air Quality monitored in the Mylliem Range Office, Social Forestry, 4 ½ Mile, Upper Shillong, (Station Code: 891)

The Board is regularly monitoring the Air Quality from the station under National Air Monitoring programme (NAMP). The results of monitoring during Jan-Dec 2021, Jan-Dec 2022 and Jan-Dec 2023 are given in Table: 5.A10 and depicted in Fig.5.A10.

Findings and Observations:

- As per the air quality data (Table 5.A10), maximum value **(62.1µg/m³)** of PM10 was observed during the month of March 2022 and minimum value **(28.0 µg/m³)** was observed during the month of September 2021.
- Maximum concentration **(31.3µg/m³)** of PM2.5 was observed during the month of March 2022 and minimum concentration **(13.6µg/m³)** was observed during the month of August 2022.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2021, 2022 and 2023.
- The Annual Average of Sulphur Dioxide (SO_2), Nitrogen dioxide (NO_2), Particulate Matter (PM10) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.A10: Ambient Air Quality data at Mylliem Range Office, Social Forestry, 4 ½ Mile, Upper Shillong, during 2021, 2022 and 2023

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Mylliem	2021 (Jan-Dec)	28.0 (Sep)	56.4 (Mar)	40.9	15.5 (Sep)	28.2 (Dec)	22.5	2.0	5.8	4.6	4.5	11.9	10.3
	2022 (Jan-Dec)	32.5 (June)	62.1 (Mar)	46.7	13.6 (Aug)	31.3 (Mar)	20.4	3.5	7.4	5.2	9.5	14.9	12.2
	2023 (Jan-Dec)	35.6 (July)	55.2 (April)	46.9	14.4 (June)	22.0 (Mar)	18.5	4.3 (Sept)	5.1 (April)	4.7	11.8 (Nov)	15.4 (April)	13.4

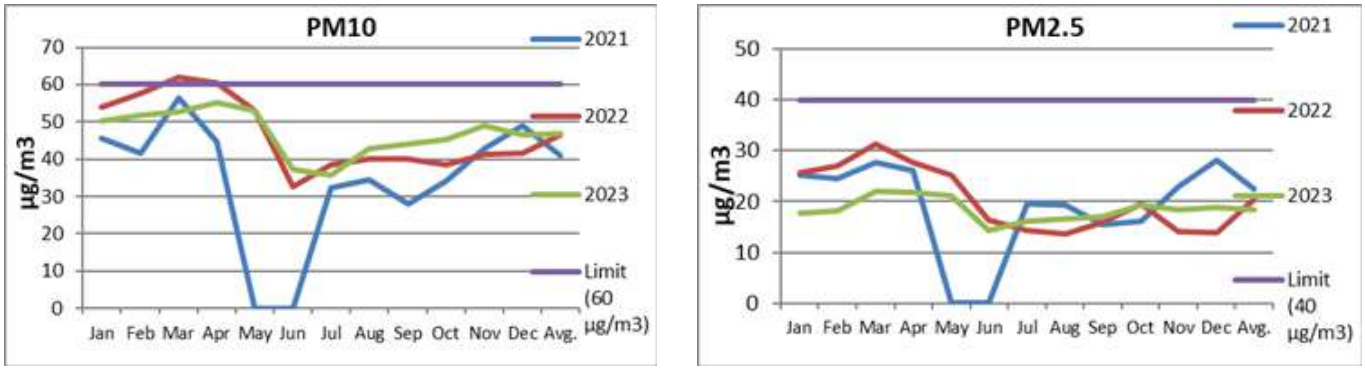


Fig.5.A10: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2020, 2021 and 2022 at Mylliem Range Office, Social Forestry, 4 ½ Mile, Upper Shillong.

5.A11: Ambient Air quality monitored in the 15th Mile, Nongthymmai, Byrnihat Ri Bhoi District (Station Code - 1088).

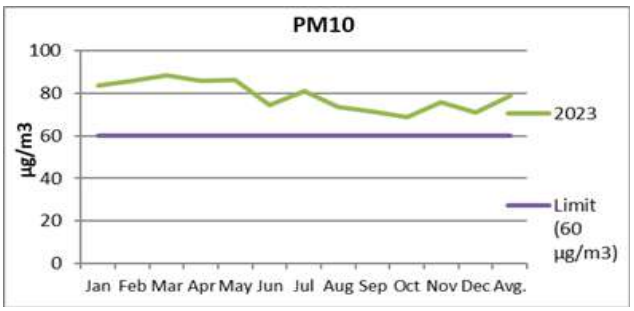
The Board is regularly monitoring the Air Quality from the station under National Air Monitoring programme (NAMP). The results of monitoring during Jan-Dec 2023 is shown in Table: 5.A11 and depicted in Fig. 5.A11.

Findings and Observations:

- As per the air quality data (Table 5.A11), maximum value **(88.5µg/m³)** of PM10 was observed during the month of March 2023 and minimum value **(68.6 µg/m³)** was observed during the month of October 2023.
- Maximum concentration **(49.5µg/m³)** of PM2.5 was observed during the month of February 2023 and minimum concentration **(36.6µg/m³)** was observed during the month of October 2023.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2023.
- The Annual Average of Sulphur Dioxide (SO_2), Nitrogen dioxide (NO_2), Particulate Matter (PM10) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.A11: Ambient Air Quality data at 15th Mile, Nongthymmai, Byrnihat, Ri Bhoi District during 2023.

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
15th Mile	2023 (Jan-Dec)	68.6 (Oct)	88.5 (Mar)	78.8	36.6 (Oct)	49.5 (Feb)	43.9	12.0 (Oct)	15.2 (Mar)	13.5	12.5 (Oct)	19.3 (Nov)	15.0



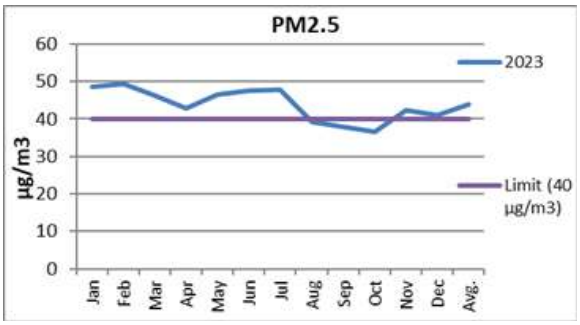


Fig.5.A11: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2023. at 15th Mile, Nongthymmai Byrnihat Ri Bhoi District.

5.A12: Ambient Air quality monitored in the 17th Mile, Byrnihat, Ri Bhoi District (Station Code - 1252).

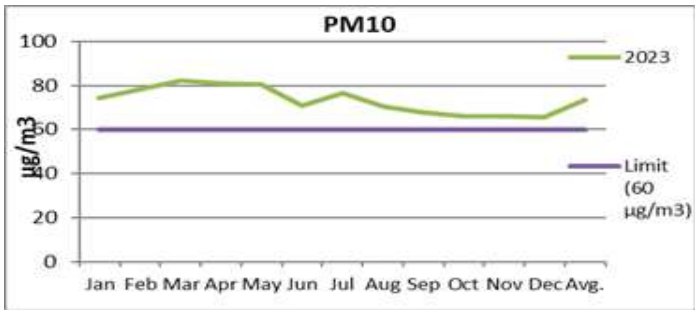
The Board is regularly monitoring the Air Quality from the station under National Air Monitoring programme (NAMP). The results of monitoring during Jan-Dec 2023 is shown in Table: 5.A12 and depicted in Fig. 5.A12.

Findings and Observations:

- As per the air quality data (Table 5.A12), maximum value **(82.1µg/m³)** of PM10 was observed during the month of March 2023 and minimum value **(65.5µg/m³)** was observed during the month of December 2023.
- Maximum concentration **(40.9µg/m³)** of PM2.5 was observed during the month of February 2023 and minimum concentration **(33.4µg/m³)** was observed during the month of December 2023.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2023.
- The Annual Average of Sulphur Dioxide (SO2), Nitrogen dioxide (NO2), Particulate Matter (PM10) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.A12: Ambient Air quality monitored in the 17th Mile, Byrnihat, Ri Bhoi District, during 2023.

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
17th Mile	2023 (Jan-Dec)	65.5 (Dec)	82.1 (Mar)	73.2	33.4 (Dec)	40.9 (Feb)	36.2	8.3 (Apr)	13.0 (Nov)	9.6	10.8 (Jan)	16.4 (Nov)	12.6



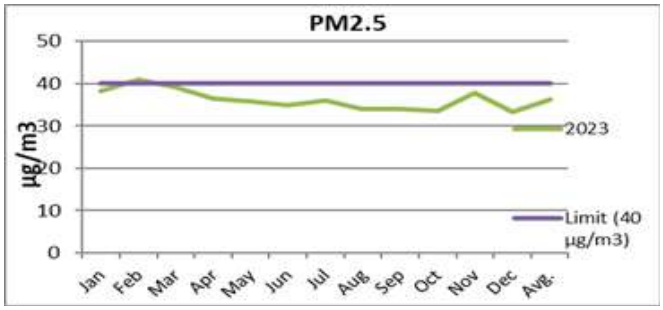


Fig.5.A12: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2023 at 17th Mile, Byrnihat Ri Bhoi District.

5.A13: Ambient Air quality monitored in the Khasi Kiling, Byrnihat, Ri Bhoi District (Station Code - 1254).

The Board is regularly monitoring the Air Quality from the station under National Air Monitoring programme (NAMP). The station was operational since August 2023, the results of monitoring during Aug-Dec 2023 is shown in Table: 5.A13 and depicted in Fig. 5.A13.

Findings and Observations:

- As per the air quality data (Table 5.A13), maximum value **(60.7µg/m³)** of PM10 was observed during the month of November 2023 and minimum value **(58.8 µg/m³)** was observed during the month of December 2023
- Maximum concentration **(32.4µg/m³)** of PM2.5 was observed during the month of August 2023 and minimum concentration **(26.7µg/m³)** was observed during the month of December 2023.
- As per findings, it was observed that there is minimal deviation of values when compared to concentration of particulate matter (PM10 and PM2.5) monitored during 2023.
- The Annual Average of Sulphur Dioxide (SO2), Nitrogen dioxide (NO2), Particulate Matter (PM10) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.A13: Ambient Air quality monitored in the Khasi Kiling, Byrnihat, Ri Bhoi District during 2023

Sampling Station	Year	PARAMETERS TESTED											
		PM10(µg/m³)			PM2.5 (µg/m³)			SO_2 (µg/m³)			NO_2 (µg/m³)		
		Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.	Range		Annual Avg.
		Min	Max		Min	Max		Min	Max		Min	Max	
Khasi Kiling	2023 (Aug-Dec)	58.8 (Dec)	60.7 (Nov)	59.4	26.7 (Dec)	32.4 (Aug)	30.5	7.1 (Oct)	10.3 (Nov)	8.6	4.5 (Sep)	11.1 (Nov)	4.5

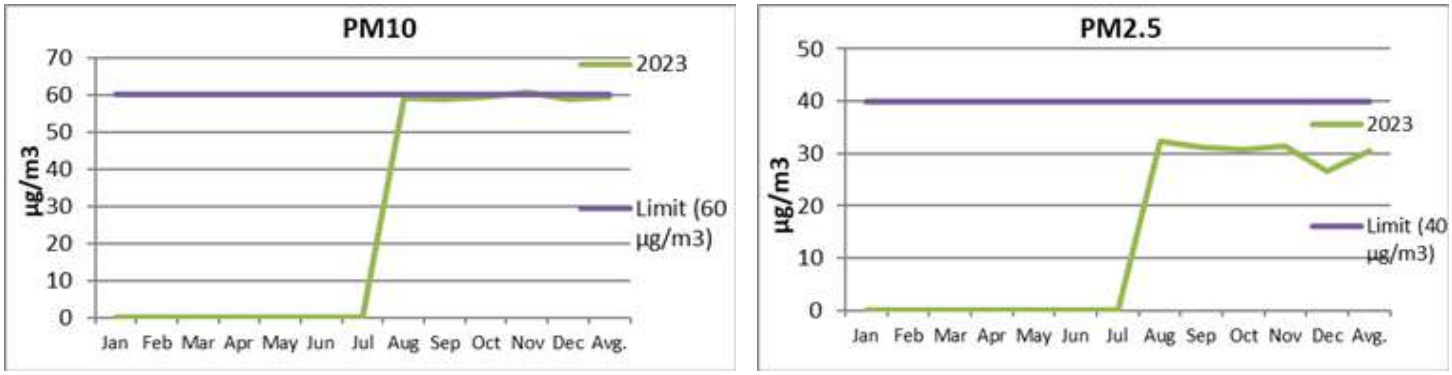


Fig.5.A13: Monthly and Annual average of major criteria pollutants PM10 and PM2.5 during 2023 at Khasi Killing, Byrnihat Ri Bhoi District.

5B: AMBIENT AIR QUALITY AND SOURCE EMISSION MONITORING

5B1: Ambient Air Quality monitoring (Survey): The Board carried out Ambient Air quality monitoring (Table 5.B1) in residential areas and industrial units operating in the state during 2023-2024.

Table 5.B1: Ambient Air Quality data during 2023

Sl.No.	Name of Industry/ Location	Sampling Station	Date of Monitoring	Parameters				Remarks
				PM10 (µg/m³)	PM2.5 (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	
1.	University of Science & Technology Megha-laya	Near Football Ground	11.04.23	152.8	77.3	7.7	12.0	A
2.	Khrikshon	Office	11.04.23	241.1	92.2	7.3	10.8	A
3.	M/S Perfect Dora En-terprise	Near Tea Stall	12.04.23	271.6	115.7	11.9	27.9	A
4.	Baridua	Community Hall	12.04.23	248.4	105.6	12.8	21.4	A
5.	Umnowe	Residents	13.04.23	128.2	52.6	6.6	12.8	A
6.	Khasi Kiling	Community Hall	13.04.23	230.3	97.4	10.3	25.8	A
7.	Maikhuli	School Playground	13.04.23	137.3	66.6	6.3	12.1	A
8.	M/S Meghalaya Steel (P) Ltd,EPIP	Near Office	13.04.23	74.7	46.1	23.8	25.1	W
9.	M/S Shyam Century (P) Ltd, EPIP	Near Office	13.04.23	96.3	68.9	24.6	26.4	A
10.	M/S Nezone Steel (P) Ltd,EPIP	Near Office	14.04.23	128.3	77.9	25.4	27.5	A
11.	M/S Khasi Alloys Ltd, EPIP	Near Office	14.04.23	169.9	83.5	22.4	25.3	A
12.	Upper Laitkseh,	Iapsngap	27.06.23	31.3	19.3	3.3	11.6	W
13.	Mawkynbat	Near Resident of Brilliant Marngar	27.06.23	35.1	19.5	3.8	12.3	W
14.	Dumping at Landfill site Marten Mawiong	Near old Dumping site	3.07.23	27.1	15.4	3.1	8.1	W
15.	Dumping at Landfill site Marten Mawiong	Near new Dumping site	3.07.23	29.5	17.2	2.8	8.0	W
16.	Mawtneng, Bhoilymbong, Ri Bhoi District.	Near Fishing Pond	04.07.23	25.3	11.2	4.5	12.0	W
17.	Umkaduh Vil-lage, Nongpoh	Umkaduh Village Resi-dential	05.07.23	24.2	9.2	4.5	12.2	W
18.	Lotara,Mawlyndiar, Khatarshong,Laitkroh, EKH.	Mawlyndiar Com-munity Hall	11.07.23	18.2	10.2	4.1	7.9	W
19.	Old Moilam Fishing Pond	Old Moilam (River)	18.07.23	17.5	10.1	4.5	11.4	W
20.	Umslashet,WJH,Fish-ing Pond (Namdong)	Umslashet Fishing Pond	09.08.23	26.3	11.6	14.2	4.5	W
21.	Madan Heh Thad-mansi Fish-ing Pond(Namdong)	Madan Heh Thad-mansi Fishing Pond	09.08.23	20.4	10.1	12.8	4.5	W
22.	Pam Masi, EJH Sai-pung / Jalaphet, Bri-sumer	Pam Masi	13.09.23	31.7	12.8	2.0	9.4	W
23.	Khloo Latyap,EJH Saipung/ Jalaphet, Bri-sumer	Khloo Latyap	13.09.23	32.1	14.2	2.0	9.5	W
24.	Dama Lake SMR, WGH` (Tikrikilla/ Lower Dama Chiga)	Dama Lake	22.08.23	27.5	14.9	2.0	4.5	W
25.	Noksik SMR,NGH (Resubelpa-ra/Rongpetshi)	Jolding Lake	23.08.23	26.3	14.5	2.0	4.5	W
26.	Highland Toya-to,Mawiong Rim,Shillong	Near Entrance Gate	18.10.23	69.3	35.4	6.2	17.4	W
27.	M/S Badri Rai & Co,P.O. Dulia-jan-786602,Dribugarh, Assam	Premises of Inte-grated Hospitality & Sport Com-plex, Shil-long	26.10.23	35.4	22.5	3.9	9.3	W

Sl.No.	Name of Industry/ Location	Sampling Station	Date of Monitoring	Parameters				Remarks
				PM10 (µg/m³)	PM2.5 (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	
28.	CASFOS,13th Mile,Byrnihat	Residential Quarter-1	1.11.23	153.2	82.1	23.4	24.5	A
29.	MSPCB,for Diwali Fes-tival	Board's Premises	05.11.23	50.8	26.4	4.4	9.1	W
30.	EPIP,Byrnihat	EPIP,NAMP Station	05.11.23	153.4	61.1	32.4	33.6	A
31.	GaneshDas Hospi-tal, Lawmali	GaneshDas Hospi-tal, Lawmali	05.11.23	68.2	25.6	3.8	9.7	W
32.	Location-B Assembly Premises	Assembly Premises	05.11.23	59.6	22.5	4.5	11.4	W
33.	MSPCB,for Diwali Fes-tival	Board's Premises	06.11.23	45.6	23.5	3.8	9.1	W
34.	EPIP,Byrnihat	EPIP,NAMP Station	06.11.23	141.5	64.3	31.8	32.9	A
35.	GaneshDas Hospi-tal, Lawmali	GaneshDas Hos-pi-tal,Lawmali	06.11.23	69.7	28.7	4.4	10.6	W
36.	Location-B Assembly Premises	Assembly Premises	06.11.23	62.4	23.8	4.2	12.4	W
37.	MSPCB,for Diwali Fes-tival	Board's Premises	07.11.23	40.9	26.8	3.9	9.0	W
38.	EPIP,Byrnihat	EPIP,NAMP Station	07.11.23	155.0	73.5	34.6	36.7	A
39.	GaneshDas Hospi-tal, Lawmali	GaneshDas Hospi-tal, Lawmali	07.11.23	67.0	27.6	4.5	9.4	W
40.	Location-B Assembly Premises	Assembly Premises	07.11.23	60.8	25.1	4.7	14.7	W
41.	MSPCB,for Diwali Fes-tival	Board's Premises	08.11.23	30.5	20.0	3.8	8.5	W
42.	EPIP,Byrnihat	EPIP,NAMP Station	08.11.23	143.9	65.1	30.8	32.1	A
43.	GaneshDas Hospi-tal, Lawmali	GaneshDas Hospi-tal, Lawmali	08.11.23	58.6	26.1	4.3	9.3	W
44.	Location-B Assembly Premises	Assembly Premises	08.11.23	64.3	21.1	5.8	12.2	W
45.	MSPCB,for Diwali Fes-tival	Board's Premises	09.11.23	37.6	22.5	3.5	8.4	W
46.	EPIP,Byrnihat	EPIP,NAMP Station	09.11.23	154.9	71.5	35.1	36.9	A
47.	GaneshDas Hospi-tal, Lawmali	GaneshDas Hospi-tal, Lawmali	09.11.23	64.7	25.9	4.0	9.0	W
48.	Location-B Assembly Premises	Assembly Premises	09.11.23	61.3	23.8	4.8	11.8	W
49.	MSPCB,for Diwali Fes-tival	Board's Premises	10.11.23	46.7	25.2	4.0	9.7	W
50.	EPIP,Byrnihat	EPIP,NAMP Station	10.11.23	145.1	67.2	34.8	36.1	A
51.	GaneshDas Hospi-tal, Lawmali	GaneshDas Hospi-tal, Lawmali	10.11.23	62.2	26.4	4.5	10.4	W
52.	Location-B Assembly Premises	Assembly Premises	10.11.23	62.9	24.8	5.6	13.2	W
53.	MSPCB,for Diwali Fes-tival	Board's Premises	11.11.23	47.9	27.3	4.3	9.1	W
54.	EPIP,Byrnihat	EPIP,NAMP Station	11.11.23	155.3	66.8	36.7	38.3	A
55.	GaneshDas Hospi-tal, Lawmali	GaneshDas Hospi-tal, Lawmali	11.11.23	67.6	27.8	3.4	10.8	W
56.	Location-B Assembly Premises	Assembly Premises	11.11.23	64.7	25.8	5.2	16.2	W
57.	MSPCB,for Diwali Fes-tival	Board's Premises	12.11.23	50.6	33.7	5.9	12.9	W

Sl.No.	Name of Industry/ Location	Sampling Station	Date of Monitoring	Parameters				Remarks
				PM10 ($\mu g/m^3$)	PM2.5 ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	
58.	EPIP,Byrnihat	EPIP,NAMP Station	12.11.23	161.5	73.8	38.6	39.0	A
59.	GaneshDas Hospi-tal, Lawmali	GaneshDas Hospi-tal, Lawmali	12.11.23	75.8	25.8	5.4	13.0	W
60.	Location-B Assembly Premises	Assembly Premises	12.11.23	70.6	28.1	6.2	18.4	W
61.	MSPCB, for Diwali Festival	Board's Premises	13.11.23	48.1	28.4	5.3	11.3	W
62.	EPIP, Byrnihat	EPIP,NAMP Station	13.11.23	153.8	72.1	37.1	38.8	A
63.	Ganesh Das Hospital, Lawmali	Ganesh Das Hospi-tal, Lawmali	13.11.23	70.4	23.9	3.7	11.2	W
64.	Location-B Assembly Premises	Assembly Premises	13.11.23	67.3	26.5	5.4	15.2	W
65.	MSPCB, for Diwali Festival	Board's Premises	14.11.23	46.8	18.4	4.3	10.0	W
66.	EPIP, Byrnihat	EPIP,NAMP Station	14.11.23	157.2	74.2	35.7	37.2	A
67.	Ganesh Das Hospi-tal,Lawmali	Ganesh Das Hospi-tal, Lawmali	14.11.23	67.0	29.9	4.5	10.1	W
68.	Location-B Assembly Premises	Assembly Premises	14.11.23	65.9	24.4	5.3	14.8	W
69.	MSPCB, for Diwali Festival	Board's Premises	15.11.23	50.0	22.4	4.5	9.4	W
70.	EPIP, Byrnihat	EPIP,NAMP Station	15.11.23	147.5	62.7	32.4	34.1	A
71.	Ganesh Das Hospital, Lawmali	Ganesh Das Hospital, Lawmali	15.11.23	60.8	26.7	4.5	10.6	W
72.	Location-B Assembly Premises	Assembly Premises	15.11.23	62.5	23.3	5.0	13.6	W
73.	MSPCB,for Diwali Festival	Board's Premises	16.11.23	48.2	17.2	4.7	9.1	W
74.	EPIP,Byrnihat	EPIP,NAMP Station	16.11.23	149.3	60.9	33.7	35.1	A
75.	Ganesh Das Hospital, Lawmali	Ganesh Das Hospital, Lawmali	16.11.23	65.8	24.8	3.8	8.9	W
76.	Location-B Assembly Premises	Assembly Premises	16.11.23	63.7	19.6	4.8	13.0	W
77.	MSPCB,for Diwali Festival	Board's Premises	17.11.23	2.5	1.0	2.0	4.5	W
78.	EPIP, Byrnihat	EPIP,NAMP Station	17.11.23	139.1	58.1	29.8	31.6	A
79.	Ganesh Das Hospital, Lawmali	Ganesh Das Hospital, Lawmali	17.11.23	2.5	1.0	2.0	4.5	W
80.	Location-B Assembly Premises	Assembly Premises	17.11.23	2.5	1.0	2.0	4.5	W
81.	MSPCB, for Diwali Festival	Board's Premises	18.11.23	28.8	11.9	3.9	8.2	W
82.	EPIP, Byrnihat	EPIP,NAMP Station	18.11.23	142.8	63.7	31.4	33.6	A
83.	Ganesh Das Hospital, Lawmali	Ganesh Das Hospital, Lawmali	18.11.23	49.6	22.3	1.3	8.0	W
84.	Location-B Assembly Premises	Assembly Premises	18.11.23	62.7	27.7	4.7	13.4	W
85.	MSPCB, for Diwali Festival	Board's Premises	19.11.23	29.4	12.1	4.0	9.1	W
86.	EPIP, Byrnihat	EPIP,NAMP Station	19.11.23	148.2	64.5	32.0	34.4	A
87.	Ganesh Das Hospital, Lawmali	Ganesh Das Hospital, Lawmali	19.11.23	51.2	23.2	1.5	8.4	W
88.	Location-B Assembly Premises	Assembly Premises	19.11.23	65.1	25.1	4.5	12.2	W

Sl.No.	Name of Industry/ Location	Sampling Station	Date of Monitoring	Parameters				Remarks
				PM10 (µg/m³)	PM2.5 (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	
89.	Green Economy Initiatives Private Ltd.	Laitumkhrah Police Point, Shillong	29.01.24	103.16	37.4	-	-	-
90.	Green Economy Initiatives Private Ltd.	Laitumkhrah Police Point, Shillong	29.01.24	-	-	4.08	35.6	-
91.	M/S Green valley Industries Ltd.	Terrace of Guest House	31.01.24	188.2	153.6	21.9	33.3	A
92.	M/S Green valley Industries Ltd.	Near CCR	31.01.24	193.3	155.4	23.0	34.6	A
93.	M/S Amrit Cement Ltd.	Infront of CCR	31.01.24	197.4	154.2	18.0	33.4	A
94.	M/S Amrit Cement	Near Guest House	31.01.24	195.4	141.3	17.5	31.4	A
95.	Nongsning Viilage	Community Hall	31.01.24	177.2	136.0	19.6	19.0	A
96.	Mynkre Village	Resident of Smti.Milanki Pala	31.01.24	164.2	131.5	16.2	21.1	A
97.	Grid Controller of India (POS-OCO)	Near NERLDC office	05.02.24	87.4	41.2	6.6	13.1	W
98.	Hills Cement Ltd.	Near HR Office	06.02.24	132.7	103.4	37.9	12.0	A
99.	Hills Cement Ltd.	Near CCR	06.02.24	169.5	116.2	39.2	12.5	A
100.	Gold Stone Cement Ltd.	Near Guest House	06.02.24	129.0	88.7	35.1	11.6	A
101.	Chuiehruphi Village	Terrace Community Hall	06.02.24	196.4	155.4	32.4	10.2	A
102.	Thangskai Village	Terrace of Watlang Syrti	06.02.24	96.1	66.4	18.8	28.2	A
103.	Musiang Lamare (old) Village	Terrace Headman	06.02.24	99.6	79.3	17.6	30.0	W
104.	MCL(Lumshnong)	Near CCR	13.02.24	157.1	105.4	25.3	38.2	A
105.	MCL(Thangskai)	Near HR Office	13.02.24	123.4	80.1	21.0	31.3	A
106.	Dalmia Cement Ltd.	Guest House	13.02.24	114.8	67.2	18.0	25.6	A
107.	Dalmia Cement Ltd.	Near CCR	13.02.24	138.8	119.9	31.9	27.3	A
108.	Star Cement Ltd.	Near CCR Office	14.02.24	147.0	115.9	43.9	31.9	A
109.	Star Cement Ltd.	HR Office	14.02.24	133.7	77.7	40.5	31.8	A
110.	Lumshong,PHC	PHC Lumshnong Premises	14.02.24	105.0	66.8	17.0	20.2	A
111.	Wahiajer Narpuh	Resident of Bah B.Mukhim	14.02.24	107.4	64.4	18.9	21.1	A
112.	Jaintia Cement Ltd.	Near CCR office	20.02.24	133.8	72.8	17.6	25.1	A
113.	Jaintia Cement Ltd.	Near Guest House	20.02.24	118.2	62.4	16.2	21.5	A
114.	Lamyrsiang village	Aganwadi centre	20.02.24	108.6	57.9	14.1	17.8	A
115.	Latyrke Village	Latyrke Community Hall	20.02.24	107.0	63.2	15.6	18.8	A
116.	Green Economy Initiatives Pvt Ltd. (PT-scheme)	NA	27.02.24	187.00	49.1	-	-	-
117.	Green Economy Initiatives Pvt Ltd. (PT-scheme)	NA	8.03.24	-	-	59.11	41.96	-
118.	Sakmal,Rajabala	R/o Abdul Motin Sardar	14.03.24	109.7	83.1	15.2	6.4	A
119.	Sakmal,Rajabala	R/o Amjad Hussain	14.03.24	137.4	62.9	29.8	6.9	A
120.	Gorband(Singwilgre), Rajabala	R/o Hasan Ali	15.03.24	326.1	91.4	24.5	10.4	A

Sl.No.	Name of Industry/ Location	Sampling Station	Date of Monitoring	Parameters				Remarks
				PM10 (µg/m³)	PM2.5 (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	
121.	Stone Quarry of Alpha D Marak,Budugre,Wanchi Agitok, Chokpot, SGH	Near cabin of the Quarry site	27.03.24	56.5	30.4	3.7	6.4	W
Permissible limits for Ambient Air Quality standards for Industrial, Residential, Rural, and Other Areas as per EPA Notification GSR 826(E), dated New Delhi, dated 16th Nov. 2009.								

W - Within Permissible Limits
A - Above Permissible Limits

5B2: Source Emission Monitoring (Survey): The Board carried out Source Emission monitoring (Table 5.B.2) in of industrial units operating in the state during 2023-2024.

STACK EMISSION DATA MONITORED DURING THE YEAR: 2023-2024

Table 5.B.2: Source Emission monitoring data during 2023-2024.

Sl.No	Name of Industry/Firm	Date of Sampling	Type of Stack	Parameters tested	Observed value (g/kwhr)	Permissible limits (g/kwhr)	Remarks
1.	Marten Dumping Site, Shillong	03.07.2023	BMW Incinerator	PM	17.4	50	Within
				NOx	99.6	400	Within
2.	Jio Reliance Infocom Ltd. SAG2	14.07.2023	DG Set 1	PM	0.33	0.2	Above
				NOx	1.7	4.0	Within
				CO	1.02	3.5	Within
3.	Jio Reliance Infocom Ltd. SAG2	14.07.2023	DG Set 2 750 Kva	PM	0.32	0.2	Above
				NOx	1.53	4.0	Within
				CO	1.01	3.5	Within
4.	Jio Reliance Infocom Ltd. SAG2	14.07.2023	DG Set 3 750 Kva	PM	0.19	0.2	Within
				NOx	1.53	4.0	Within
				CO	1.01	3.5	Within
5.	Highland Toyota, Mawiong Rim, Shillong	18.10.2023	DG Set Vertical Shaft	PM	0.31	0.2	Above
				NOx	2.0	4.0	Within
				CO	2.8	3.5	Within
6.	M/s Maithan Alloys Pvt Ltd., EPIP, Byrnihat	25.10.23	Submerge Arch Furnance	PM	40.5	50	Within
7.	M/s Nalari Ferro Alloys Pvt. Ltd., EPIP, Byrnihat	25.10.23	Submerge Arch Furnance	PM	48.2	50	Within
8.	M/s Pawan Casting Pvt. Ltd.,Haribagan, Byrnihat	26.10.23	Venturi Scrubber	PM	55.5	50	Above
9.	M/s Shyam Century Ferrous Pvt. Ltd., EPIP, Byrnihat	26.10.23	Submerge Arch Furnance	PM	78.8	50	Above
10.	M/s Shillong Ispat & Rolling Mills Pvt. Ltd., 13th Mile, Tamulkuchi, Byrnihat	01.11.23	Venturi Scrubber	PM	57.4	50	Above
11.	M/s Excel Foods Pvt Ltd., 10th Mile, Mawsmai, Brynihat	01.11.23	Boiler	PM	36.6	50	Within
12.	NERLDC, POSOCO, Lower Nongrah, Shillong	05.02.2024	DG Set 200KVa	PM	0.19	0.2	Within
				NOx	2.20	4.0	Within
				CO	1.43	3.5	Within

Sl.No	Name of Industry/Firm	Date of Sampling	Type of Stack	Parameters tested	Observed value (g/kwhr)	Permissible limits (g/kwhr)	Remarks
13.	NERLDC, POSOCO, Lower Nongrah, Shillong	05.02.2024	DG Set 1 125 KVa	PM	0.17	0.2	Within
				NOx	1.95	4.0	Within
				CO	1.24	3.5	Within
Permissible limits is as per Terms and Conditions stated in respective Consent To Operate orders for respective Industrial Units							

W - Within Permissible Limits

A - Above Permissible Limits

5C: ASSESSMENT OF VEHICULAR POLLUTION

The Board has an Auto-emission-testing centre in its office premises at Lumpyngngad, Shillong which has been functioning since January 1994. The centre caters to the exhaust testing needs for the commercial and private light petrol and diesel driven vehicles only.

As per arrangement with the Office of the Commissioner of Transport, Meghalaya, the periodical renewals of permits of taxis are subject to submission of "Green Certificates" issued from the Office of the Board. The number of vehicles tested during the period from 01.04.23 to 31.03.24 is as stated below:-

DIESEL DRIVEN						
Year	**Total Nos. of Vehicle Tested**		**Nos. Complying to Norms**	**Nos. Non-Complying to Norms**	**% of Vehicles Complying**	**% of Vehicles Non Complying**
01.04.2023 – 31.03.2024	LMV	2106	2071	35	98.3	1.67
	M/H	190	190	0	100	0
	Total	2296	2261	35	98.5	1.5

PETROL DRIVEN						
Year	**Total Nos. of Vehicle Tested**		**Nos. Complying to Norms**	**Nos. Non-Complying to Norms**	**% of Vehicles Complying**	**% of Vehicles Non Complying**
01.04.2023 – 31.03.2024	2 W	5269	5232	37	99.3	0.7
	3 W	10	10	0	100	0
	LMV	12968	12883	85	99.3	0.6
	Total	18247	18125	122	99.3	0.6

CHAPTER 6
WATER QUALITY MONITORING

6.1: MONITORING OF WATER QUALITY

The monitoring of the water quality is one of the functions for prevention and control of water pollution and maintaining or restoring the wholesomeness of water as enshrined in the Water (Prevention and Control of Pollution) Act 1974. In order to obtain information on the overall health and general environmental condition of the surface and ground water resources of the State, the Meghalaya State Pollution Control Board is monitoring the water quality of the selected water bodies in the State under National Water Monitoring Programme (NWMP) on regular basis. During the year 2023-2024 the monitoring network covers 36 rivers/streams, 4 lakes and 13 spring/well comprising a total of 84 sampling locations (67 nos. of surface water and 13 nos. of ground water and 4 lakes).The monitoring was done on monthly basis for surface and on half yearly basis for ground water. The regular parameters analyzed include pH, Conductivity, Turbidity, Total Suspended Solids, Total Dissolved Solids, Nitrite Nitrogen, Nitrate Nitrogen (NO3), Ammonia Nitrogen, Kjeldahl Nitrogen, Sulphate, Chloride, Hardness, Calcium, Magnesium, Sodium, Potassium, Total Phosphate Acidity, Alkalinity, Flouride, Dissolved Oxygen, Bio-Chemical Oxygen Demand, Chemical Oxygen Demand, Total Coliform, Faecal Coliform. The metals viz. Iron, Zinc, Manganese, Copper, Lead, Cadmium, Chromium and Nickel were analyzed once a year in the month of April. The detail of the monitoring stations with regard to location was as mentioned in the Table 6.1

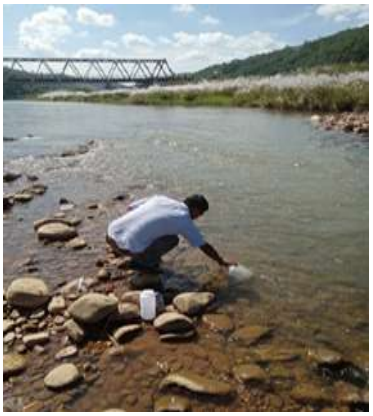


Table 6.1: Monitoring of Surface Water Quality in Meghalaya

SURFACE WATER			
District	**Name of Water Bodies**	**Locations of Sampling Station**	**Monitoring Frequency**
East Khasi Hills	Umkhrah River	1) Demthring 2) Umkaliar, Shillong 3) Mawlai Slaughter House 4) Mawpdang, Mawlai	Monthly
	Umkhen River	1) Wahkdait 2) Ksehpongdeng 3) Diengpasoh	
	Umshyrpi River	1) Risa Colony 2) Law College, Dhankheti 3) Umshyrpi Bridge	
	Umiam Mawphlang River	1) Nongkrem 2) Umtyngngar 3) Mawphlang 4) Shella	
	Umngot River	1) Smit 2) Dawki	
	Ward's Lake	Shillong	
	Sderkariah River	Sohra (Cherrapunjee)	
	Laitryngew Stream	Laitryngew	
	Wah KhlekKhlek River	Saitsohpen	
	Wahrew River	Majai	

SURFACE WATER			
District	**Name of Water Bodies**	**Locations of Sampling Station**	**Monitoring Frequency**
West Khasi Hills	Nonbah River	1) Nongstoin,Market 2) Phodsohsat	Monthly
	Kynshi River	1) Nongkhnum	
	Wahblei River	1) Riangdo 2) Shdaddkhar	
	Rwiang River	Rwiang	
South West Khasi Hills	Rilang River	Mawkyrwat	Monthly
	UmngiRiver	1) Jakrem 2) Umpung	
	Kynshi River	Ranikor	
Eastern West Khasi Hills	Kynshi River	Sohiong	Monthly
Ri – Bhoi	Umiam Lake	1) Outfall ofUmiam River into lake 2) Middle Point 3) Near United Christian College 4) Exit Point	Monthly
	Umtrew River	1) Umran 2) Byrnihat	
East Jaintia Hills	Lukha River	1) Lunar at Myndihati (Tributary of Lunar) 2) Sunapur 3) Khaddum	Monthly
	Thadlaskein Lake	Mukhla	
	Kyrhukhla River	Khliehriat	
	Kalipai River	Rymbai	
	Kme Um River	Rymbai	
	Waikhyrwi River	Mookhlot	
	Kwai River	Sutnga, Mawpun	
West Jaintia Hills	Myntdu River	1) Leshka 2) Jowai 3) MihMyntdu	Monthly
	Lamu River	Leshka	
	Lynriang River	Leshka	
	Myntang River	1) Nartiang 2) Mynso	
	Umiurem River	Iale	Monthly
	Kupli River	1) Iooksi 2) Khandong	
	Thlumuwi River	Thlumuwi	

SURFACE WATER			
District	**Name of Water Bodies**	**Locations of Sampling Station**	**Monitoring Frequency**
North Garo Hills	Damring River (Krishnei)	Resubelpara	Monthly
	Manda (Dudhnai) River	Wagaisi	
East Garo Hills	Manda	Jampa	
	Tasek Lake	Songsak (Naphak)	
	Simsang River	Williamnagar	
South Garo Hills	Bugi River	1) Mibanpara 2) Dalu	Monthly
	Simsang River	1) Baghmara 2) Nangalbibra	
	Nongal River	Nongal	
West Garo Hills	Ganol River	1) Tura 2) Garobada	Monthly
	Damring River	Boldamgre	
GROUND WATER			
District	**Name of Water Bodies**	**Locations of Sampling Station**	**Monitoring Frequency**
East Khasi Hills	Police Bazar Spring	Shillong	Half Yearly
	Mawpdang Spring	Shillong	
	Wah U DkharSpring	Sohra	
	Deep Tube Well at Dongkamon	Nongmynsong, Shillong	
	Dug Well at Forest Colony	Polo, Shillong	
	Deep Tube Well at Last Stop	Laban, Shillong	
Eastern West Khasi Hills	Mawthadrishan Well	Markasa	Half Yearly
South West Khasi Hills	Jakrem Hot Spring	Jakrem	Half Yearly
Ri-Bhoi	NarbongWell	Byrnihat	Half Yearly
West Jaintia Hills	UmsahepSpring	Shangpung	Half Yearly
East Jaintia Hills	Borewell at Good Shephard Parish	Ladrymbai	Half Yearly
	Borewell at KhliehwahShasem- A	Khliehriat	Half Yearly
	Borewell at KhliehwahShasem- B		

6.2: Water Quality of the Sampling Stations in the Districts of Meghalaya

a) WATER QUALITY OF RIVERS IN EAST KHASI HILLS

27 (Twenty Seven) sampling stations including Ground Water were located in East Khasi Hills. In all the monitored locations the pH was observed to be in the normal range of 6.5 to 8.5.The dissolved Oxygen was found to be very low in Umkhrah and Umshyrpi Rivers with the minimum value of Nil recorded at Umshyrpi River (Law College) and Umkhrah River (Demthring, Slaughter house & Mawpdang) during the dry winter months of February and March., whereas its concentration in other rivers was always above 5mg/l, which was the

minimum oxygen requirement for propagation of wildlife fisheries etc. The Bio-chemical Oxygen Demand was observed to be above 3mg/l in Umkhrah and Umshyrpi Rivers. The total coliform count was observed to be above 5000mpn/100ml in Umkhrah and Umshyrpi Rivers. The monitoring results indicated that organic pollutants and total Bacteria were the main pollutants in the water bodies. This was mainly due to direct discharge of waste water in an untreated form from the residential and commercial centres. The amount of waste received by the two rivers viz. Umkhrah and Umshyrpi Rivers was much beyond their assimilative capacity and thus has deteriorated the water quality to the extent that the water of these two rivers cannot be put to any beneficial uses. The water quality of Ward's Lake, meets the criteria for propagation of wildlife and fisheries. The water quality of other water bodies was relatively good as and can still be put for various beneficial purposes although it was not recommended to use directly for drinking purposes unless treated and disinfected by an organized water supply system.

b) WATER QUALITY OF RIVERS IN WEST KHASI HILLS, SOUTH WEST KHASI HILLS & EASTERN WEST KHASI HILLS

6 (Six) sampling stations were located in West Khasi Hills, 5 (Five) sampling stations including Ground Water were Located in South West Khasi Hills and 2 (Two) sampling stations including Ground Water were located in Eastern West Khasi Hills. In all the monitored locations the pH was observed to be in the normal range of 6.5to 8.5. The dissolved Oxygen content in all monitored rivers was always above 5.0mg/l, which was the minimum oxygen requirement for propagation of wildlife fisheries etc. The Bio-chemical Oxygen Demand of all the river monitored was observed to be below 3mg/l throughout the year and the total Coliform Count of Nanbah River at Nongstoin was found to be above 500mpn/100ml as it is located in the centre of the District headquarter of West Khasi Hills, this river is subjected to pollution arising out of direct disposal of solid and liquid waste from residential & commercial areas, automobile workshops and servicing centres etc. and agricultural runoff. However, the water of this river can be used for propagation of wildlife & fisheries and irrigation purposes. The water quality of other water bodies was relatively good and can still be put for various beneficial purposes although it was not recommended to use directly for drinking purposes unless treated and disinfected by an organized water supply system.

c) WATER QUALITY OF RIVERS IN RI-BHOI

A total of 7(Seven) sampling stations including Ground Water were located in Ri-Bhoi. In all the monitored locations the pH was observed to be in the normal range of 6.5 to 8.5. The dissolved Oxygen content in all the stations was found to be above 5mg/l, which was the minimum oxygen requirement for propagation of wildlife fisheries etc. The Bio-chemical Oxygen Demand was observed to be above 3mg/l in Umiam Lake, The total Coliform count of Umiam Lake and Umtrew River at Byrnihat was also observed to be high. The Umiam Lake received the waste that was generated in the Shillong city through the two rivers viz. Umkhrah and Umshyrpi Rivers whereas the Umtrew River was subjected to pollution originating from the residential, commercial and industrial areas.The water of Umiam Lake and Umtrew River can be used for propagation of wildlife & fisheries, and irrigation purposes.The water quality of other water bodies was relatively good and can still be put for various beneficial purposes although it was not recommended to use directly for drinking purposes unless treated and disinfected by an organized

water supply system

d) WATER QUALITY OF RIVERS IN EAST & WEST JAINTIA HILLS

A total of 24 (Twenty Four) sampling stations including Ground Water were located in Jaintia Hills, of which 12 were located at East Jaintia Hills and 12 were located at West Jaintia Hills. The pH in (i) Myntdu River at Leshka (ii) Lunar River at Myndihati (iii) Kyrhukhla River at Lad-Rymbai (iv) Kalipai River at Rymbai (v) Kme Um at Rymbai (vi) Waikhyrwi at Mookhlot (vii) Kwai River at Sutnga (viii) Lynriang River at Leshka (ix) Umiuremat Iale (x) Kupli River at Iooksi and Khangdong (xi) Thlumuwi River at Thlumuwi was observed to be very low, with the minimum value of 2.5 recorded at Lunar at Myndihati during months of December. Low pH indicates that water was acidic in nature which was mainly due to acid effluent from coal mines located on the catchment area in the upstream side. The dissolved Oxygen in all monitored rivers was always above 5mg/l, which was the minimum oxygen requirement for propagation of wildlife fisheries etc.

The Bio-chemical Oxygen Demand was observed to be below 3mg/l in all the Monitoring locations.The total Coliform count was observed to be above 500mpn/100 ml in Myntdu River at Jowaimainly due to contamination from the domestic waste water/sewage. The water quality of other water bodies was relatively good and can still be put for various beneficial purposes although it was not recommended to use directly for drinking purposes unless treated and disinfected by an organized water supply system.

e) WATER QUALITY OF RIVERS IN GARO HILLS

13 (Thirteen) sampling stations were located in Garo Hills. In all the monitored locations the pH was observed to be in the normal range of 6.5 to 8.5 except in Nongal River in Nongal it was found to be in the lower side where the average pH was 4.3. The dissolved Oxygen content in all the monitoring stations was found to be above 5mg/l, which was the minimum oxygen requirement for propagation of wildlife fisheries etc. The Bio-chemical Oxygen Demand was observed to be below 3mg/l in all the monitored water bodies. The total Coliform count was observed to be moderately high in Simsang & Ganol River. The water quality of all monitored water bodies was relatively good and can still be put for various beneficial purposes although it was not recommended to use directly for drinking purposes unless treated and disinfected by an organized water supply system.

Table 6.2(a): Classification of Water bodies in the State in term of the Primary Water Quality Criteria for various uses of fresh water specified by Control Pollution Board

USE CLASS	SL. NO.	NAME OF RIVER/ LAKE	STRETCHES	DISTRICT
(A) Drinking water source without conventional treatment but after disinfection	1.	Rilang River	Mawkyrwat (upstream)	South West Khasi Hills
	2.	Umngi River	Jakrem-Umpung (upstream)	
(B) Organised outdoor bathing including drinking water source with conventional treatment followed by disinfection	1.	Umkhen River	Ksehpongdeng - Diengpasoh	East Khasi Hills
	2.	Umshyrpi River	Risa Colony (Upstream)	East Khasi Hills
	3.	Umiam Mawphlang River	Shella	East Khasi Hills
	4.	Umngot River	Smit- Dawki	East Khasi Hills
	5.	Wah KhlekKhlek	Saitsohpen (Upstream)	East Khasi Hills
	6.	Wah Rew	Majai (Upstream)	East Khasi Hills
	7.	Nonbah River	Phodsohsat (Upstream)	West Khasi Hills
	8.	Kynshi River	Sohiong – Ranikor	West Khasi Hills
	9.	Wahblei River	Riangdo – SdadDkhar	West Khasi Hills
	10.	Rwiang River	Rwiang (Upstream)	West Khasi Hills
	11.	Umtrew River	Umran (Upstream)	Ri-Bhoi
	12.	Lukha River	Khadum- Sonapur	East Jaintia Hills
	13.	Myntang River	Nartiang – Mynso	West Jaintia Hills
	14.	Myntdu River	Jowai – Mihmyntdu	West Jaintia Hills
	15.	Lamu River	Lashka (Upstream)	West Jaintia Hills
	16.	Thadlaskein River	Mukhla	West Jaintia Hills
	17.	Damring River (Krishei)	Resubelpara (Upstream)	North Garo Hills
	18.	Manda (Dudnai) River	Wagasi – Jampa	East Garo Hills
	19.	Simsang River	William Nagar – Baghmara	East Garo Hills – South Garo Hills
	20.	Ganol River	Garobada	West Garo Hills
	21.	Damring River	Boldamgre (Upstream)	West Garo Hills
	22.	Tasek Lake	Songsak (Naphak)	East Garo Hills
(C) Drinking Water source with conventional treatment followed by disinfection	1.	Umtrew River	Byrnihat (Up & Down stream)	Ri- Bhoi
	2	Nonbah River	NongstoinMarhet (downstream)	West Khasi Hills
	3	Umkhen River	Wahkdait-Kseh	East Khasi Hills
	4	Umiam Mawphlang River	Nongkrem	
	5	Ganol River	Tura	West Garo Hills
(D) Propagation of Wildlife, Fisheries	1	Ward's Lake, Shillong	Whole Lake	East Khasi Hills
	2	Umiam Lake	Whole Lake	Ri-Bhoi
(E) Irrigation, Industrial Cooling and Controlled Waste Disposal	1	Umkhrah River	Whole Stretch	East Khasi Hills
	2	Umshyrpi River	Dhanketi (downstream)	

Table 6.2(b): Water Bodies in the State that cannot be classified for various use due to low PH value

Sl. No.	Name of Water Bodies (River/ Lakes)	Stretches	District
1.	Sderkariah River	Sohra (Cherrapunjee)	East Khasi Hills
2.	Laitryngew Stream	Laitryngew	East Khasi Hills
3.	Kyrhuhkhla River	Khliehriat	East Jaintia Hills
4.	Kalipai River	Rymbai	East Jaintia Hills
5.	Kmai Um River	Rymbai	East Jaintia Hills
6.	Waikhyrwi River	Mookhlot	East Jaintia Hills
7.	Kwai River	Sutnga- Mawpun	East Jaintia Hills
8.	Lynriang River	Leshka	East Jaintia Hills
9.	Myntdu River	Leshka	West Jaintia Hills
10.	Umiurem River	Iale	West Jaintia Hills
11.	Kupli River	Iooksi-Khangdong	West Jaintia Hills
12.	Thlumuwi River	Thlumuwi	West Jaintia Hills
13.	Lynriang River	Leshka	West Jaintia Hills
14.	Nongal River	Nong	South Garo Hills

6.3 Ground Water Quality

A total of 13 (Thirteen) ground water located all over the State was monitored on half-yearly basis. The water of all the monitored sources was used for different purposes. The pH level at hot spring Jakrem was recorded to be high which was probably due to increase solubility of salts in hot water. Flouride concentration was also recorded to be high at this hot spring which is the characteristic of any hot spring.

Table 6.3: Ground Water Quality in Meghalaya during 2023

District	Name of Rivers	Locations	Year	pH	Conductivity	Turbidity	Flouride	Iron	Total Coliform
East Khasi Hills	Dreamland Spring	Police Bazar, Shillong	2023	5.5	175.0	1.0	0.05	0.16	120
	Mawpdang Spring	Mawlai		6.2	244.0	1.0	0.06	0.14	<1.8
	Nongmynsong, Dongkamon DTW	Nongmynsong		6.7	117.0	1.0	0.05	0.12	24
	Laban Last Stop DTW	Laban		5.5	66.0	1.0	0.05	0.11	10
	Forest Colony DTW	Polo		6.2	206.0	1.1	0.05	0.14	50
	Wah-U-Dkhar	Sohra		5.9	110.0	1.0	0.05	0.12	<1.8

District	Name of Rivers	Locations	Year	pH	Conductivity	Turbidity	Flouride	Iron	Total Coliform
Ri - Bhoi	Narbong Well	Byrnihat	2023	6.3	135.0	1.1	0.06	0.18	16
Jaintia Hills	Umsahep Hot Spring	Shangpung		5.7	146.0	1.3	0.05	0.12	<1.8
West Khasi Hills	Mawthadrishan Well	Markasa		6.6	46.0	2.5	0.06	0.22	<1.8
South West Khasi Hills	Jakrem, Hot Spring	Jakrem		9.2	306.0	1.5	23.0	0.14	<1.8
East Jaintia Hills	Borewell at Good Shephard Parish in Lad Rymbai	Khliehriat		6.0	142.0	1.3	0.05	0.12	<1.8
	Borewell at Khliehwah-Shasem-A in Khliehriat	Khliehriat		5.5	166.0	2.7	0.06	0.2	<1.8
	Borewell at Khliehwah-Shasem-B in Khliehriat	Khliehriat		5.3	102.0	1.5	0.05	0.18	<1.8

6.4: Water Quality Monitoring during Idol Immersion

The Meghalaya State Pollution Control Board, Shillong, conducted water quality monitoring before and after puja festival of three immersion ghats in the state viz. (i)Polo immersion site, Shillong, located along the river Umkhrah (ii) Babupara immersion site, Tura, located along the Babupara-Rongkhon River and (iii) Syntu Ksiar (Lynterarchaka) immersion site, Jowai, located along the river Myntdu. The monitoring was conducted in order to assess the environmental impact due to such immersion.

TABLE 1: WATER QUALITY DATA OF RIVER WAH UMKHRAH DURING PRE-IMMERSSION, IMMERSION & POST-IMMERSION DAY, KALI PUJA FESTIVAL 2023

	Site I (100m Upstream of Immersion Ghat)					
	Pre-Immersion Day	Immersion Day	Post Immersion			
⟹ Date of Sampling	20.10.2023	24.10.2023	26.10.2023 (3rd)	28.10.2022 (5th)	30.10.2022 (7th)	01.11.2023 (9th)
Sample Code	I/3/23	I/12/23	I/21/23	I/30/23	I/39/23	I/48/23
Time	12:45	12:30	2:45	2:00	1:50	1:00
Weather	Clear	Clear	Clear	Raining	Clear	Rainy
Colour	Brown	Dark Brown	Brown	Brown	Light Brown	Clear
Temperature (°C)	17.2	17.2	18.0	17.8	18.2	16.8
pH	7.2	7.2	7.3	7.4	7.5	7.5
Conductivity µS/cm	309.0	295.0	323.0	338.0	330.0	300.0
Chloride mg/L	26.0	22.0	22.0	22.0	24.0	22.0

	Site I (100m Upstream of Immersion Ghat)					
	Pre-Immersion Day	Immersion Day	Post Immersion			
⟹ Date of Sampling	20.10.2023	24.10.2023	26.10.2023	28.10.2023 (5th)	30.10.2023 (7th)	01.11.2023 (9th)
Total Hardness mg/L	70.0	70.0	74.0	76.0	72.0	84.0
Alkalinity mg/L	92.0	92.0	114.0	106.0	106.0	76.0
Dissolved Oxygen mg/L	3.0	3.0	2.1	2.4	3.0	2.8
BOD (mg/L)	14.0	10.8	20.0	18.0	15.0	15.0
COD (mg/L)	60.0	50.0	80.0	75.0	60.0	60.0
Turbidity (NTU)	13.8	26.8	22.3	17.9	27.9	19.1
Total Dissolved Solids mg/L	213.0	204.0	223.0	223.0	221.0	206.0
Total Suspended Solids mg/L	21.0	21.0	37.0	27.0	48.0	28.0
Chromium mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Lead mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Zinc mg/L	0.01	0.09	0.05	0.06	0.07	0.07
Copper mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Cadmium mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Manganese mg/L	0.08	0.18	0.13	0.09	0.1	0.11

TABLE 2: WATER QUALITY DATA OF MYNTDU RIVER DURING PRE-IMMERSSION, IMMERSION & POST-IMMERSION DAY, KALI PUJA FESTIVAL 2023

	Site II (Site of Immersion Ghat)					
	Pre-Immersion Day	Immersion Day	Post Immersion			
⟹ Date of Sampling	20.10.2023	24.10.2023	26.10.2023 (3rd)	28.10.2023(5th)	30.10.2023 (7th)	1.11.2023 (9th)
Sample Code	I/6/23	I/15/23	I/24/23	I/33/23	I/42/23	I/51/23
Time	11:30	12:45	1:30	12:45	1:30	11:40
Weather	Clear	Clear	Clear	Clear	Clear	Cloudy
Colour	Clear	Clear	Clear	Clear	Clear	L. Brown
Temperature (°C)	17.2	15.0	16.0	18.5	18.4	15.9
pH	6.6	6.6	6.9	6.9	6.8	6.7
Conductivity µS/cm	34.0	36.0	44.0	46.0	43.0	48.0
Chloride mg/L	5.0	6.0	6.0	7.0	8.0	6.0
Total Hardness mg/L	10.0	10.0	18.0	12.0	14.0	20.0
Alkalinity mg/L	12.0	12.0	18.0	18.0	18.0	14.0
Dissolved Oxygen mg/L	6.4	5.8	6.0	7.0	7.6	6.7
BOD (mg/L)	1.1	1.7	2.5	1.4	1.2	1.5
COD (mg/L)	20.0	24.0	20.0	20.0	20.0	20.0
Turbidity (NTU)	12.3	7.7	4.7	7.0	5.9	6.1
Total Dissolved Solids mg/L	23.0	25.0	30.0	32.0	30.0	33.0
Total Suspended Solids mg/L	16.0	16.0	10.0	12.0	14.0	11.0
Chromium mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Lead mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Zinc mg/L	BDL	0.06	0.01	0.07	0.03	0.05
Copper mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Cadmium mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Manganese mg/L	0.01	0.02	0.02	0.09	0.09	0.08

TABLE 3: WATER QUALITY DATA OF RIVER BAPUPARA, RONGKHON, TURA DURING PRE-IMMERSSION, IMMERSION & POST-IMMERSION DAY, KALI PUJA FESTIVAL 2023

	Site III (100 m downstream of Immersion Ghat)					
	Pre-Immersion Day	Immersion Day	Post Immersion			
⟹ Date of Sampling	20.10.2023	24.10.2023	26.10.2023 (3rd)	28.10.2023 (5th)	30.10.2023 (7th)	1.11.2023 (9th)
Sample Code	I/9/23	I/18/23	I/27/23	I/36/23	I/45/23	I/54/23
Time	4:40	6:50	10:10	10:05	11:20	10:15
Weather	P. Cloudy	P. Cloudy	P. Cloudy	P. Cloudy	P. Cloudy	P. Cloudy
Colour	Clear	Clear	Clear	Clear	Clear	Clear
Temperature (°C)	26.0	25.0	25.1	25.0	25.0	25.0
pH	7.5	6.7	7.0	7.2	7.5	7.5
Conductivity µS/cm	100.0	125.0	97.0	98.0	94.0	98.0
Chloride mg/L	7.0	9.0	8.0	6.0	6.0	5.0
Total Hardness mg/L	36.0	40.0	40.0	36.0	34.0	46.0
Alkalinity mg/L	44.0	62.0	46.0	34.0	40.0	30.0
Dissolved Oxygen mg/L	7.3	7.5	7.3	7.6	7.5	7.2
BOD (mg/L)	1.5	1.3	1.8	1.3	1.4	1.5
COD (mg/L)	5.0	5.0	5.0	5.0	5.0	5.0
Turbidity (NTU)	6.1	9.1	6.7	5.5	5.4	5.5
Total Dissolved Solids mg/L	68.0	86.0	67.0	68.0	65.0	68.0
Total Suspended Solids mg/L	12.0	19.0	14.0	12.0	10.0	14.0
Chromium mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Lead mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Zinc mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Copper mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Cadmium mg/L	BDL	BDL	BDL	BDL	BDL	BDL
Manganese mg/L	BDL	BDL	BDL	BDL	BDL	BDL

6.5 : Monitoring of water bodies on account of NGT order

A total of 48 samples were collected and analyzed from the water bodies under NGT order

6.6 : Analysis of water samples received from Government Departments/Private Agencies/Public/etc.

In addition to the regular programme the Board was also engaged in analyzing water samples received from Government Departments, Private Agencies and Public. A total of 445 samples were analyzed during the year.

CHAPTER 7
NOISE LEVEL MONITORING

7.1 : Noise Level Monitoring of Industry/Firm/Org./Private

The Board conducted ambient Noise level monitoring of Industry/Firm/Org/Private, etc. during 2023-2024 and data of the same is presented below:

Table 7.1 : Noise level monitoring of Industry/Firm/Org/Private

Sl. No.	Name of Industry/Firm/Org/ Private	Sampling Location	Date of sampling	Category	Observed value {dB(A) Leq}		Prescribed Standard {dB(A) Leq}	Remarks
1.	Upper Mawprem, Shillong	Premises of A.Lyngdoh	03.04.2023	Residential	Day	56.6	55	A
					Night	54.2	45	A
2.	Upper Mawprem, Shillong	Premises of P.Siba	13.04.2023	Residential	Night	58.4	45	A
3.	Upper Mawprem, Shillong	Premises of P.Siba	15.04.2023	Residential	Night	48.3	45	A
4.	Upper Mawprem, Shillong	Premises of P.Bis	16.04.2023	Residential	Day	62.6 60.4 59.6	55	A
5.	Upper Mawprem, Shillong	Premises of P.Bis	24.04.2023	Residential	Day	57.2 58.1 59.6	55	A
6.	Upper Mawprem, Shillong	Premises of Roy Yoga EC	25.04.2023	Residential	Day	62.6 61.2 63.6	55	A
7.	Upper Mawprem, Shillong	Premises of Roy Yoga EC	29.04.2023	Residential	Day	69.8 62.6 68.3	55	A
8.	Lower Mawprem, Shillong	Premises of Y.Lanong	09.05.2023	Residential	Day	56.3	55	A
9.	Upper Mawprem, Shillong	Premises of M.Wahlang	10.05.2023	Residential	Day	62.4 65.2 61.5 67.4	55	A
10.	Lower Mawprem, Shillong	Premises of Y.Lanong	14.05.2023	Residential	Day	57.2	55	A
					Night	59.2	45	A
11.	M/S Shyam Century Ferrous (P) Ltd.,EPIP, Byrnihat	Near Office	13.06.2023	Industrial	Day	70.7	75	W
					Night	59.2	70	W
12.	M/S Shyam Century Ferrous (P) Ltd.,EPIP, Byrnihat	DG-Set- 600 KVA	13.06.2023	-	-	78.7	75	A
13.	M/s Meghalaya Steels (P) Ltd., EPIP, Byrnihat	DG-Set- 600 KVA	13.06.2023	-	-	76.6	75	A
14.	M/S Khasi Alloys Ltd, Byrnihat	DG-Set- 125 KVA	14.06.2023	-	-	94.5	75	A
15.	M/s NE Zone,NTL Steels (P) Ltd., EPIP, Byrnihat	DG-Set- 380 KVA	14.06.2023	-	-	81.5	75	A

Sl. No.	Name of Industry/Firm/Org/ Private	Sampling Location	Date of sampling	Category	Observed value {dB(A) Leq}		Prescribed Standard {dB(A) Leq}	Remarks
16.	M/s Meghalaya Steels (P) Ltd., EPIP, Byrnihat	Near Office	14.06.2023	Industrial	Day	73.3	75	W
					Night	52.3	70	W
17.	M/S Khasi Alloys Ltd, Byrnihat	Near Office	14.06.2023	Industrial	Day	63.9	75	W
					Night	43.7	70	W
18.	M/S Khasi Alloys Ltd, Byrnihat	Near Office	14.06.2023	Industrial	Day	75.5	75	A
					Night	60.0	70	W
19.	Upper Laitkseh	Iapsnap fish pond	27.06.2023	Residential	Day	46.5	55	W
					Night	42.5	45	W
20.	Mawkynbat	Mawkynbat fish pond	27.06.2023	Residential	Day	48.4	55	W
					Night	42.9	45	W
21.	Marten Dumping site, Shillong	New Dumping site	03.07.2023	Residential	Day	58.3	55	A
					Night	51.6	45	A
22.	Marten Dumping site, Shillong	Landfill site, Old Dumping site	03.07.2023	Residential	Day	56.4	55	A
					Night	50.6	45	A
23.	Marten Dumping site, Shillong	DG Set- 62.5 KVA	03.07.2023	-	-	56.8	75	W
24.	Mawtneng,Bhoi Rymbong	Mawtneng fish pond	03.07.2023	Residential	Day	49.6	55	W
					Night	44.3	45	W
25.	Umkaduh,Nongpoh	Umkaduh fish pond	05.07.2023	Residential	Day	49.1	55	W
					Night	44.2	45	W
26.	Mawlyndiar Village	Community Hall	11.07.2023	Residential	Day	48.8	55	W
					Night	44.3	45	W
27.	Jio Reliance Infocom Ltd.,SAG-2, Shillong	DG Set-1-750 KVA	14.07.2023	-	-	83.6	75	A
28.	Jio Reliance Infocom Ltd.,SAG-2, Shillong	DG Set-2-750 KVA	14.07.2023	-	-	83.5	75	A
29.	Jio Reliance Infocom Ltd.,SAG-2, Shillong	DG Set-3-750 KVA	14.07.2023	-	-	83.4	75	A
30.	Old Mailam, Balat	Old Mailam, Fish Pond	18.07.2023	Residential	Day	50.6	55	W
					Night	39.8	45	W
31.	Namdong,Umslashat	Umslashat Fish Pond	09.08.2023	Residential	Day	42.4	55	W
					Night	39.1	45	W
32.	Namdong, Madanheh	Thadmari Fish Pond	09.08.2023	Residential	Day	42.1	55	W
					Night	38.8	45	W
33.	Tikrikilla	Damachiga lake	22.08.2023	Residential	Day	48.6	55	W
					Night	43.5	45	W
34.	Resubelpara	Jolding Lake	23.08.2023	Residential	Day	49.2	55	W
					Night	42.7	45	W
35.	Pam Masi, EJH, (Saipung/ Jalaphet Bri Sumer	Pam Masi	13.09.2023	Residential	Day	41.1	55	W
					Night	39.6	45	W
36.	Khloo Laityap, EJH, (Saipung/ Jalaphet Bri Sumer	Khloo Laityap	14.09.2023	Residential	Day	40.7	55	W
					Night	38.6	45	W

Sl. No.	Name of Industry/Firm/Org/ Private	Sampling Location	Date of sampling	Category	Observed value {dB(A) Leq}		Prescribed Standard {dB(A) Leq}	Remarks
37.	M/S Highland Toyota, Mawiong Rim, Shillong	DG- Set 62.5 KVA	18.10.2023	-	-	72.7	75	W
38.	Polo Immersion Site, Durga Puja	Polo	24.10.2023	Residential	Day	71.3	55	A
39.	Jowai Immersion Site, Durga Puja	Jowai / Syntu Ksiar	24.10.2023	Residential	Day	60.6	55	A
40.	Polo, JN Stadium, MEIDP	Near office	26.10.2023	Residential	Day	52.7	55	W
					Night	43.0	45	W
41.	Rongkhon Babupara Immersion Site, Durga Puja	Rongkhon Babupara	24.10.2023	Residential	Day	71.4	55	A
42.	Ganesh Das Hospital Shillong	Hospital Premises	06.110.23	Silent Zone	Day	47.2	50	W
					Day	46.6	50	W
					Day	47.7	50	W
					Day	41.3	50	W
					Night	38.0	40	W
					Night	37.1	40	W
43.	Lumpyngngad, Shillong	MSPCB Premises	06.110.23	Residential	Day	52.7	50	A
					Day	53.4	50	A
					Day	49.1	50	W
					Day	48.4	50	W
					Night	41.2	40	A
					Night	40.2	40	A
44.	Meghalaya Legislative Assembly, Police Bazar	Assembly Premises	06.11.2023	Commercial	Day	61.7	65	W
					Day	63.3	65	W
					Day	60.1	65	W
					Day	61.9	65	W
					Night	53.3	55	W
					Night	54.5	55	W
45.	EPIP, Byrnihat, Ri-Bhoi	NAMP Station	06.11.2023	Industrial	Day	64.6	75	W
					Day	66.9	75	W
					Day	61.3	75	W
					Day	60.0	75	W
					Night	62.5	70	W
					Night	59.9	70	W
46.	Ganesh Das Hospital Shillong	Hospital Premises	12.11.2023	Silent Zone	Day	48.5	50	W
					Day	49.8	50	W
					Day	47.6	50	W
					Day	46.1	50	W
					Night	39.3	40	W
					Night	38.9	40	W
47.	Lumpyngngad, Shillong	MSPCB Premises	12.11.2023	Residential	Day	54.8	50	A
					Day	54.3	50	A
					Day	51.2	50	A
					Day	49.4	50	W
					Night	42.1	40	A
					Night	43.4	40	A

Sl. No.	Name of Industry/Firm/Org/ Private	Sampling Location	Date of sampling	Category	Observed value {dB(A) Leq}		Prescribed Standard {dB(A) Leq}	Remarks
48.	Meghalaya Legislative Assembly, Police Bazar	Assembly Premises	12.11.2023	Commercial	Day	63.6	65	W
					Day	64.7	65	W
					Day	64.2	65	W
					Day	63.9	65	W
					Night	54.6	55	W
					Night	53.9	55	W
49.	EPIP, Byrnihat, Ri-Bhoi	NAMP Station	12.11.2023	Industrial	Day	63.4	75	W
					Day	65.5	75	W
					Day	60.8	75	W
					Day	61.0	75	W
					Night	59.3	70	W
					Night	58.8	70	W
50.	M/S Green Valliey Industries Ltd	Terrace of Guest House	31.01.2024	Industrial	Day	68.0	75	W
					Night	65.3	70	W
51.	M/S Green Valliey Industries Ltd	Near CCR	31.01.2024	Industrial	Day	68.9	75	W
					Night	67.2	70	W
52.	M/S Amrit Cements Ltd	Infront of CCR	31.01.2024	Industrial	Day	62.3	75	W
					Night	61.7	70	W
53.	M/S Amrit Cements Ltd	Near Guest House	31.01.2024	Industrial	Day	62.1	75	W
					Night	61.4	70	W
54.	Nongsning Village	Community Hall	31.01.2024	Residential	Day	52.0	55	W
					Night	42.7	45	W
55.	Mynkre Village	Residence of Smti. M.Pala	31.01.2024	Residential	Day	52.0	55	W
					Night	42.7	45	W
56.	Grid Controller of India,(POSOCO), Nongrah, Shillong	DG- Set 200 KVA	05.02.2024	-	-	84.5	75	A
57.	Grid Controller of India, (POSOCO), Nongrah, Shillong	DG- Set 125KVA	05.02.2024	-	-	77.8	75	A
58.	M/S Hills Cement Ltd	Near HR office	06.02.2024	Industrial	Day	75.6	75	A
					Night	79.0	70	A
59.	M/S Hills Cement Ltd	Near CCR	06.02.2024	Industrial	Day	71.1	75	W
					Night	70.8	70	A
60.	M/S Goldstone Cements Ltd., Musniang, Lamare EJH	Guest House	06.02.2024	Industrial	Day	69.2	75	W
					Night	72.4	70	A
61.	M/S Goldstone Cements Ltd., Musniang, Lamare EJH	near CCR	06.02.2024	Industrial	Day	76.2	75	A
					Night	74.6	70	A
62.	Chiehruphi village,EJH	Community Hall	06.02.2024	Residential	Day	52.4	55	W
					Night	43.5	45	W
63.	Thangskai Village, EJH	Residence of W. Syrti	06.02.2024	Residential	Day	51.1	55	W
					Night	42.4	45	W
64.	Musniang Lamare (old) Village, EJH	Residence of Headman	06.02.2024	Residential	Day	53.0	55	W
					Night	43.2	45	W

CHAPTER 8
MONITORING DURING FESTIVALS

8.1: Diwali Festival 2023

The 'festival of lights' or "Diwali" is celebrated all over India with the bursting of crackers, burning of sparklers, beating of drums and playing of musical instruments etc. 'Deepawali', as it is also known, is said to be a celebration of the triumph of good over evil. On the occasion, the Indian sky is lit up with sparks and lights of different hues and colors while colored lightings and decorations adorn the homes of many celebrating this festival.

The sad thing, however, is the fact that accompanying the lights and colors is the emission of noise by the burning and bursting of crackers and sparklers etc. thus raising the overall ambient noise level in the surroundings and causing noise pollution. This therefore calls for a monitoring of the ambient noise level as well as the air quality at a place in order to assess the level of pollution due to observance of the festival.

With this objective, the Meghalaya State Pollution Control Board, Shillong, conducted the Ambient Noise Level and Air Quality monitoring before, on Diwali day and after, from 5th to 19th November 2023, in pursuance to the interim directions of the Honourable Supreme Court and the Central Pollution Control Board, Delhi.

Area Monitored

The city of Shillong was selected for conducting the ambient noise level and air quality survey during the festive occasion as it is Meghalaya's largest city as well as its capital and has a sizeable population celebrating the festival. Byrnihat, located in the district of Ri Bhoi, was selected as it has been categorized as a non-attainment town/city.

The three locations selected within Shillong are:

1. Lumpyngngad (Location A – Meghalaya State Pollution Control Board's premises), a residential area.
2. Police Bazar (Location B – Meghalaya Legislative Assembly office's premises), a commercial area &
3. Lawmali (Location C – Ganesh Das Hospital's premises), a silence zone.

Statistical and physical description of the city and the monitored areas is furnished in the following paragraphs entitled 'CITY' and 'MONITORING LOCATIONS' (as per the Central Pollution Control Board's prescribed format).

METHODOLOGY

The monitoring was conducted from 5th to 19th November 2023, whereby pre-Diwali monitoring was taken as one week before the 12th of November (Diwali day), 2023, and post-Diwali monitoring, one week after the mentioned day. The monitoring methodology is as per the Protocol specified by Central pollution Control Board,Delhi.

The monitoring team was equipped with Envirotech SLM 109 Sound level meters. The noise levels were measured in dB(A) i.e. the level of sound in decibels on scale – A as per the human ear sensitivity requirements. The result was expressed in Lmin, Lmax and Leq, wherein Lmin indicates the minimum value of the sound level in decibels and Lmax the maximum value of sound level in decibels occurring during the single event and Leq denotes the A weighted energy mean of the noise level averaged over the measurement period. The noise level was monitored on 6th November (pre-Diwali day) and 12th November (Diwali day), 2023, for continuous 6 hours duration i.e. from 18:00 Hours (6:00 pm) to 24:00 Hours (12:00 midnight) where Lmin, Lmax and Leq readings were recorded for every hourly interval.

The Ambient Air Quality was performed using Respirable Dust Sampler (Envirotech APM 460 & APM 460NL) and PM 2.5 Sampler (Envirotech APM 550 MFC). The monitoring for SO2, NO2, PM2.5 and PM10 was carried out for a sampling period of 24 hours (8 hrs. intervals for Particulate Matter & 4 hour's interval for gaseous pollutants). The results were expressed in $\mu g/m_3$.

CITY

Name: **SHILLONG,**

State: **Meghalaya**

Coordinates: **25°34'00''N & 91°53'00"E**

Elevation: **1496m (4,908 feet) above sea level**

Climate/Meteorology: **Yearly average minimum temperature is 13.6°C (56.5°F) and maximum is 21.7°C (71.1°F) and the average yearly rainfall is 4,931 mm (194.13 inches).**

Population: **1, 43,229 as per 2011 census**

Major Land use: According to the Master Plan of Shillong city, which includes the Shillong Agglomeration and 35 other surrounding villages covering an area of 174 Sq. km., the existing land-use has been classified into the categories viz. Residential, Commercial, Public, semi-Public (administrative, institutional, open space i.e. parks, play ground and graveyards), Industrial, Security, Circulation (roads, parking lots, etc.), Vacant (areas with poor accessibility, steep slopes, etc.), Urban agriculture, Forests and water bodies.

MONITORING LOCATIONS IN SHILLONG

Map showing the monitoring locations in Shillong city
INDEX: - Sampling Locations

Description of monitoring site

i. **Location A – Lumpyngngad:** Lumpyngngad is an area located in the outskirts of the city. A purely residential area, this location is basically a quiet place. There are no commercial complexes here and the main noise sources are vehicular traffic and construction activity. There are a good number of residents celebrating the Diwali festival in this area and noise study on a normal day and on the occasion would give a good comparison on the noise scenario prior to and during the festival period.

ii. **Location B - Police Bazar:** This location is a commercial area and the major shopping and business area of the city. People from all over the city as well as the state and even visitors from outside the state and country frequent here for their business and shopping activities. The main noise sources here are vehicular traffic and pedestrians, shoppers and that arising from business activities. The shop owners and residents of this area celebrate the Diwali festival with much pomp and enthusiasm and therefore the location is suitable for the undergoing noise study.

iii. Location C - Lawmali: This station is located in the premises of the Ganesh Das Hospital, which is categorized as a silence zone. It is a Government hospital and one of the biggest in the city. The place is close to Polo and Jail Road, localities that have sizeable residents celebrating Diwali. Therefore it is a suitable location for the undergoing noise study.

DATA /OBSERVATIONS
NOISE LEVEL DURING DIWALI FESTIVAL, 2023

Table A

Lumpyngngad						
Location : A	**Pre-Diwali Day (06.11.2023)**			**Diwali Day (12.11.2023)**		
Time duration	**Lmin**	**Lmax**	**Leq dB(A)**	**Lmin**	**Lmax**	**Leq dB(A)**
18:00 to 19:00 Hr.	43.4	76.2	52.7	46.7	88.9	54.8
19:00 to 20:00 Hr.	44.7	77.9	53.4	43.5	90.2	54.3
20:00 to 21:00 Hr.	42.2	70.8	49.1	45.1	91.7	51.2
21:00 to 22:00 Hr.	40.7	65.8	48.4	44.2	90.7	49.4
22:00 to 23:00 Hr.	38.7	66.9	41.2	42.5	87.8	42.1
23:00 to 24:00 Hr.	37.4	69.5	40.2	40.2	79.6	43.4

Table B

Police Bazar						
Location : B	**Pre-Diwali Day (06.11.2023)**			**Diwali Day (12.11.2023)**		
Time duration	**Lmin**	**Lmax**	**Leq dB(A)**	**Lmin**	**Lmax**	**Leq dB(A)**
18:00 to 19:00 Hr.	39.2	85.1	61.7	40.1	88.9	63.6
19:00 to 20:00 Hr.	42.6	73.6	63.3	43.9	92.0	64.7
20:00 to 21:00 Hr.	41.6	84.2	60.1	42.4	90.4	64.2
21:00 to 22:00 Hr.	40.2	82.5	61.9	49.2	92.6	63.9
22:00 to 23:00 Hr.	40.1	80.1	53.3	41.5	90.2	54.6
23:00 to 24:00 Hr.	39.8	82.4	54.5	40.1	88.8	53.9

Table C

Lawmali						
Location : C	**Pre-Diwali Day (06.11.2023)**			**Diwali Day (12.11.2023)**		
Time duration	**Lmin**	**Lmax**	**Leq dB(A)**	**Lmin**	**Lmax**	**Leq dB(A)**
18:00 to 19:00 Hr.	46.7	80.8	47.2	40.6	87.8	48.5
19:00 to 20:00 Hr.	41.1	83.5	46.6	40.3	84.3	49.8
20:00 to 21:00 Hr.	40.0	60.1	47.7	48.1	89.6	47.6
21:00 to 22:00 Hr.	33.6	61.6	41.3	45.6	96.5	46.1
22:00 to 23:00 Hr.	33.8	56.3	38.0	46.0	73.6	39.3
23:00 to 24:00 Hr.	32.8	59.5	37.1	35.7	60.4	38.9

Interpretation of Noise Data/Results

1. **Location A – Lumpyngngad (Meghalaya State Pollution Control Board's office premises)**
It is observed from the Table A (Location A - Lumpyngngad) that, on 6th November, 2023 (i.e. pre-Diwali day), the monitored ambient noise level from 18:00 Hrs. (6:00 pm) to 22:00 Hrs. (10:00 pm) is well within the ambient noise level standard (for Residential Area) of 55.0 dB(A) Leq for day time while the night time

noise level from 22:00 Hrs. (10:00 pm) to 24:00 Hrs. (12:00 midnight) is also within the (night time) ambient noise level standard of 45.0 dB(A) Leq.

On 12th November, 2023 (i.e. Diwali day), it is also observed that the ambient noise level at the location during day time is well within the ambient noise standard of 55.0 dB(A) Leq throughout the time duration from 18:00 Hrs. (6:00 pm) to 22:00 Hrs. (10:00 pm). During the night time, the levels measured were found to be within the standard of 45.0 dB(A) Leq from the time duration of 22:00 Hrs. (10:00 pm) to 24:00 Hrs. (12:00 midnight).

2. **Location B - Police Bazar (Office of the Meghalaya Legislative Assembly's premises)**
It is observed from Table B (Location B - Police Bazar) that the noise level on 6th November, 2023 (i.e. pre-Diwali day), is within the standard limit of 65.0 dB (A) Leq for day time (for a Commercial Area) from 18:00 Hrs. (6:00 pm) to 22:00 Hrs.(10:00 pm). It is also within the night time ambient noise level standard of 55.0 dB(A) Leq from 22:00 Hrs. (10:00 pm) up to 24:00 Hrs.(12:00 midnight).

On 12th November, 2023 (i.e. Diwali day), it is observed that the noise level for day and night time is found to be within the above mentioned day and night time noise standard limits for the duration from 18:00 Hrs. (6:00 pm) to 22:00 Hrs.(10:00 pm) and 22:00 Hrs.(10:00 pm) to 24:00 Hrs.(12:00 midnight) respectively.

3. **Location C - Lawmali (Ganesh Das Hospital's premises)**
It is observed from table C (Location C – Lawmali) that on 6th November, 2023 (i.e. pre-Diwali day), the noise level during respective day and night time, i.e. from 18:00 Hrs. (6:00 pm) to 22:00 Hrs. (10:00 pm) and 22:00 Hrs. (10:00 pm) to 24:00 Hrs. (12:00 midnight), is within the day and night time standards (for Silence Zone) of 50.0 dB (A) Leq and 40.0 dB(A) Leq respectively.

On 12th November, 2023 (i.e. Diwali day), it is observed that the ambient noise level (Leq) for day and night i.e. from 18:00 Hrs. (6:00 pm) to 22:00 Hrs.(10:00 pm) and 22:00 Hrs.(10:00 pm) to 24:00 Hrs.(12:00 midnight) respectively, is well within the mentioned standard limits for day and night time.

Conclusion

The findings of the study reveal that the ambient noise level during Diwali day (i.e. 12th November, 2023) is similar to that as recorded during a normal/pre-Diwali day (i.e. 6th November, 2023) at all monitored locations. The monitored noise level is well within the mentioned standard limits for day and night time. The lower noise level recorded during this festive occasion may perhaps be attributed to the restriction on sale and use of high sounding firecrackers as well as restriction on timings and duration for sale and bursting of crackers etc.

City/Town

Name: EPIP, BYRNIHAT, Ri Bhoi

Byrnihat is mainly an industrial area where the majority of the industries in the state are located. It is situated along the boundary of Meghalaya and Assam. The national highway passing through the town ensures that the business and industrial activity there continue to thrive and prosper making it the main hub of industrial activity within Meghalaya. The town is one among the 131 designated non-attainment cities/towns in India. The monitoring station is located in the Export Promotion Industrial Park (EPIP).

Map showing the monitoring location in Byrnihat
INDEX: - Sampling Location △

DATA /OBSERVATIONS
NOISE LEVEL DURING DIWALI FESTIVAL, 2023

Table D

EPIP, Byrnihat						
Location : D	**Pre-Diwali Day (18.10.2022)**			**Diwali Day (24.10.2022)**		
Time duration	**Lmin**	**Lmax**	**Leq dB(A)**	**Lmin**	**Lmax**	**Leq dB(A)**
18:00 to 19:00 Hr.	52.5	72.1	61.2	62.0	77.2	64.0
19:00 to 20:00 Hr.	51.6	72.2	59.1	67.2	73.4	68.3
20:00 to 21:00 Hr.	51.1	74.5	58.2	65.4	73.7	69.0
21:00 to 22:00 Hr.	51.5	80.9	62.9	65.7	75.7	66.5
22:00 to 23:00 Hr.	53.2	77.4	60.3	67.1	78.4	67.9
23:00 to 24:00 Hr.	52.8	74.1	61.4	65.4	76.8	66.5

Interpretation of Noise Data/Results

It is observed from the above Table D (Location – EPIP, Byrnihat) that on 6th November, 2023 (i.e. pre-Diwali day), the monitored ambient noise level from 18:00 Hrs. (6:00 pm) to 22:00 Hrs. (10:00 pm) is within the ambient noise level standard (for Industrial area) of 75.0 dB(A) Leq for day time while the night time noise level from 22:00 Hrs. (10:00 pm) to 24:00 Hrs. (12:00 midnight) is also within the (night time) ambient noise level standard of 70.0 dB(A) Leq.

On 12th November, 2023 (i.e. Diwali day), it is observed that the average equivalent noise level (Leq) is also within the above mentioned ambient noise standards for day and night time (for an Industrial Area). It is therefore observed that the recorded ambient noise levels during pre-Diwali and Diwali day are similar and there is no major significant difference in the levels between them.

AMBIENT AIR QUALITY DATA DURING DIWALI FESTIVAL 2023

Table-1 : Lumpyngngad, Shillong (Meghalaya State Pollution Control Board's Office Premises)

Sl.No.	Period	Date of monitoring	Parameters				AQI	
			PM10 (µg/m³)	PM2.5 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	Value	Rating
1.	Pre-Diwali	17-10-2022	24.9	14.8	2.0	4.5	25	Good
2.		18-10-2022	25.8	16.2	2.0	4.5	27	Good
3.		19-10-2022	32.6	16.5	2.0	4.5	33	Good
4.		20-10-2022	32.8	16.6	2.0	4.5	33	Good
5.		21-10-2022	32.0	16.8	2.0	4.5	32	Good
6.		22-10-2022	24.2	12.3	2.0	4.5	24	Good
7.		23-10-2022	16.5	7.4	2.0	4.5	17	Good
8.	**Diwali Day**	**12.11.2023**	**50.6**	**33.7**	**5.9**	**12.9**	**51**	**Satisfactory**
9.	Post-Diwali	13.11.2023	48.1	28.4	5.3	11.3	48	Good
10.		14.11.2023	46.8	18.4	4.3	10.0	47	Good
11.		15.11.2023	50.0	22.4	4.5	9.4	50	Satisfactory
12.		16.11.2023	48.2	17.2	4.7	9.1	48	Good
13.		17.11.2023	2.5	1.0	2.0	4.5	2	Good
14.		18.11.2023	28.8	11.9	3.9	8.2	29	Good
15.		19.11.2023	29.4	12.1	4.0	9.1	29	Good

Table-2: Police Bazar, Shillong (Meghalaya Legislative Assembly Office's Premises)

Sl.No.	Period	Date of monitoring	Parameters				AQI	
			PM10 (µg/m³)	PM2.5 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	Value	Rating
1.	Pre-Diwali	5.11.2023	59.6	22.5	4.5	11.4	60	Satisfactory
2.		6.11.2023	62.4	23.8	4.2	12.4	62	Satisfactory
3.		7.11.2023	60.8	25.1	4.7	14.7	61	Satisfactory
4.		8.11.2023	64.3	21.1	5.8	12.2	64	Satisfactory
5.		9.11.2023	61.3	23.8	4.8	11.8	61	Satisfactory
6.		10.11.2023	62.9	24.8	5.6	13.2	63	Satisfactory
7.		11.11.2023	64.7	25.8	5.2	16.2	65	Satisfactory
8.	**Diwali Day**	**12.11.2023**	**70.6**	**28.1**	**6.2**	**18.4**	**71**	**Satisfactory**
9.	Post-Diwali	13.11.2023	67.3	26.5	5.4	15.2	67	Satisfactory
10.		14.11.2023	65.9	24.4	5.3	14.8	66	Satisfactory
11.		15.11.2023	62.5	23.3	5.0	13.6	63	Satisfactory
12.		16.11.2023	63.7	19.6	4.8	13.0	64	Satisfactory
13.		17.11.2023	2.5	1.0	2.0	4.5	2	Good
14.		18.11.2023	62.7	27.7	4.7	13.4	63	Satisfactory
15.		19.11.2023	65.1	25.1	4.5	12.2	65	Satisfactory

Table-3: Lawmali, Shillong (Ganesh Das Hospital Premises)

Sl.No.	Period	Date of monitoring	Parameters				AQI	
			PM10 (µg/m³)	PM2.5 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	Value	Rating
1.	Pre-Diwali	5.11.2023	68.2	25.6	3.8	9.7	68	Satisfactory
2.		6.11.2023	69.7	28.7	4.4	10.6	70	Satisfactory
3.		7.11.2023	67.0	27.6	4.5	9.4	67	Satisfactory
4.		8.11.2023	58.6	26.1	4.3	9.3	59	Satisfactory
5.		9.11.2023	64.7	25.9	4.0	9.0	65	Satisfactory
6.		10.11.2023	62.2	26.4	4.5	10.4	62	Satisfactory
7.		11.11.2023	67.6	27.8	3.4	10.8	68	Satisfactory
8.	**Diwali Day**	**12.11.2023**	**75.8**	**25.8**	**5.4**	**13.0**	**76**	**Satisfactory**
9.	Post-Diwali	13.11.2023	70.4	23.9	3.7	11.2	70	Satisfactory
10.		14.11.2023	67.0	29.9	4.5	10.1	67	Satisfactory
11.		15.11.2023	60.8	26.7	4.5	10.6	61	Satisfactory
12.		16.11.2023	65.8	24.8	3.8	8.9	66	Satisfactory
13.		17.11.2023	2.5	1.0	2.0	4.5	2	Good
14.		18.11.2023	49.6	22.3	1.3	8.0	50	Good
15.		19.11.2023	51.2	23.2	1.5	8.4	51	Satisfactory

Table-4: Byrnihat, (Export Promotion Industrial Park (EPIP), Byrnihat.

Sl.No.	Period	Date of monitoring	Parameters				AQI	
			PM10 (µg/m³)	PM2.5 (µg/m³)	SO2 (µg/m³)	NO2 (µg/m³)	Value	Rating
1.	Pre-Diwali	5.11.2023	153.4	61.1	32.4	33.6	136	Moderate
2.		6.11.2023	141.5	64.3	31.8	32.9	128	Moderate
3.		7.11.2023	155.0	73.5	34.6	36.7	145	Moderate
4.		8.11.2023	143.9	65.1	30.8	32.1	129	Moderate
5.		9.11.2023	154.9	71.5	35.1	36.9	138	Moderate
6.		10.11.2023	145.1	67.2	34.8	36.1	130	Moderate
7.		11.11.2023	155.3	66.8	36.7	38.3	137	Moderate
8.	**Diwali Day**	**12.11.2023**	**161.5**	**73.8**	**38.6**	**39.0**	**146**	Moderate
9.	Post-Diwali	13.11.2023	153.8	72.1	37.1	38.8	140	Moderate
10.		14.11.2023	157.2	74.2	35.7	37.2	147	Moderate
11.		15.11.2023	147.5	62.7	32.4	34.1	132	Moderate
12.		16.11.2023	149.3	60.9	33.7	35.1	133	Moderate
13.		17.11.2023	139.1	58.1	29.8	31.6	126	Moderate
14.		18.11.2023	142.8	63.7	31.4	33.6	129	Moderate
15.		19.11.2023	148.2	64.5	32.0	34.4	132	Moderate

Interpretation of Ambient Air Quality Data/Results

The findings of the monitoring results indicate that:

(i) The concentrations of SO2, NO2, PM10 and PM2.5 at Lumpyngngad (the Meghalaya State Pollution Control Board's Premises, Table – 1) was found to be within the prescribed limits of National Ambient Air Quality Standards (NAAQS) on Deepawali day (i.e. 12th November, 2023) as well as before and after the festival date throughout the monitored duration from 5th to 19th November 2023.

(ii) The concentrations of SO2, NO2, PM10 and PM2.5 at Police Bazar (Meghalaya Legislative Assembly Premises, Table – 2) was found to be within the prescribed limits of National Ambient Air Quality Standards (NAAQS) on Deepawali day (i.e. 12th November, 2023) as well as before and after the festival date throughout the monitored duration from 5th to 19th November 2023.

However, it is observed that the concentration of PM10 and PM2.5 was found to be higher during Deepawali day as compared to pre and post Deepawali days. This may be due to bursting of firecrackers on Deepawali day. The Air Quality Index (AQI) rating was found to be 'Satisfactory' during the monitored duration.

(iii) The concentrations of SO2, NO2, PM10 and PM2.5 at Lawmali (Ganesh Das Hospital Premises, Table – 3) was found to be within the prescribed limits of National Ambient Air Quality Standards (NAAQS) before, on Deepawali day (i.e. 12th November, 2023) and after the festival date throughout the monitored duration from 5th to 19th November, 2023. However, it is observed that the concentration of PM10 and PM2.5 was found to be higher during Deepawali day as compared to pre and post Deepawali days. This may be due to bursting of fire-crackers on Deepawali day. The Air Quality Index (AQI) rating was found to be 'Satisfactory' during the monitored duration.

(iv) The concentrations of, PM10 and PM2.5 at EPIP, Byrnihat (NAMP Station Byrnihat, Table – 4) was found to be above the prescribed limits of National Ambient Air Quality Standards (NAAQS) before, on Deepawali day (i.e. 12th November, 2023) as well as after the festival date throughout the monitored duration from 5th to 19th November, 2023. The concentrations of SO2 and NO2 was of course found to be within the prescribed limits of NAAQS. The Air Quality Index (AQI) rating was found to be 'Moderate' throughout the monitored duration.

CONCLUSION

The data collected reveals that the concentration of monitored parameters like SO2, NO2, PM10 and PM2.5 was observed to be within the prescribed limits of National Ambient Air Quality Standards (NAAQS) on Deepawali day (i.e. 12th November, 2023) as well as before and after the festival date throughout the monitored duration from 5th to 19th November, 2023, in all monitored locations except EPIP at Byrnihat, where the PM10 and PM2.5concentrations was found to be above the prescribed limits of National Ambient Air Quality Standards before (NAAQS) on Deepawali day (i.e12th November, 2023) as well as before and after the festival date throughout the monitored duration from 5th to 19th November, 2023. The high concentration of Particulate Matter (PM10 and PM2.5) levels in EPIP, Byrnihat, is mainly attributed to the buildup of pollutants owing to emissions from industries located in the industrial area , natural dust, movement of vehicles, construction activities etc.

8.2: The Meghalaya State Pollution Control Board, Shillong, conducted water quality monitoring before and after puja festival of three immersion ghats in the state viz. (i)Polo immersion site, Shillong, located along the RiverUmkhrah (ii) Babupara immersion site, Tura, located along the Babupara-Rongkhon River and (iii) SyntuKsiar (Lynterarchaka) immersion site, Jowai, located along the river Myntdu. The monitoring was conducted in order to assess the environmental impact due to such immersion.

CHAPTER 9
ENVIRONMENTAL AWARENESS

9.1 Report on the 'Capacity Building Workshop on National Clean Air Programme (NCAP) and Its Effective Implementation in the State and City' Held on 26th April, 2023, at Hotel Poinisuk, Shillong

The "Capacity Building Workshop on National Clean Air Programme and its effective implementation in the State and City" was held on 26th April, 2023 at Hotel Poinisuk, Shillong. This workshop was organized by MSPCB, Forests & Environment Department and sponsored under sub-component of Control of Pollution scheme of Ministry of Environment, Forest and Climate Change, Delhi. The objective of the workshop to improve air quality in the State and Non-Attainment City-Byrnihat with collaborative approach of all concerned departments, Stakeholders and local bodies. The programme recorded an attendance of seventy participants from various organizations including state and central govt. agencies, stakeholders as well as representatives from the industrial sector.

During the occasion, welcome address was given by Shri R. Nainamalai, IFS, Member Secretary, MSPCB and the introductory and inaugural speech was delivered by Dr. Manjunatha. C., IFS, Secretary to the Government of Meghalaya, Forests & Environment Department and Chairman, MSPCB. This was then followed by short speeches from Shri M. K. Choudhury, Regional Director, CPCB, North East Regional Directorate, Shillong, Shri W.S. Manner, IFS, Chief Conservator of Forests, and Shri Naba Bhattacharjee, Chairman, State Expert Appraisal Committee. Shri Syed Md. A. Razi, IRTS, Commissioner & Secretary to the Government of Meghalaya, Forests & Environment Department, then delivered the keynote address after which Dr. B. Nongbri, Chief Scientist, MSPCB, delivered the vote of thanks ending the first session.

During the second session the following presentations were delivered:

1)	'Air Quality scenario in the State and non-attainment city'	*: By Dr. B. Nongbri, Chief Scientist, MSPCB*
2)	'Overview of NCAP and convergence of funds from various Schemes/Programmes for effective implementation of NCAP and Mission Life'	*: By Shri S. Swer, Senior Scientist, MSPCB*
3)	'Importance of PRANA portal with respect to City Action Plan and Micro Action Plan: Role/responsibility of various stakeholders/ Departments'	*: By Shri Sundaram, Scientist-B, CPCB, Delhi*
4)	'Control of industrial emission, transport/vehicular norms/compliances and waste management'	*: By Shri W.R. Kharkrang, Senior Environmental Engineer, MSPCB*
5)	Overview of Emission Inventory & Source Apportionment Study & Air Pollution Health aspects'	*: By Dr. Deepanjan Majumdar, Sr. Principal Scientist & Head, CSIR-NEERI, Kolkata Centre*
6)	'Physical and financial progress of Non-attainment City-Byrnihat'	*: By Dr. Gaurav Singh, NCAP-Consultant, CPCB*
7)	'Best practices for achieving clean air'	*: By Shri Arnab Mandal, Scientist-B, CPCB, RD, Shillong*

The above was followed by an interaction and discussion among the officials/participants, after which the programme ended with a vote of thanks from Shri S. Swer, Senior Scientist, MSPCB.

9.2 Report on the Capacity Building Workshop on National Clean Air Programme (NCAP) and Its Effective Implementation in the State and City Held on 27th April, 2023, at the Conservation Training Institute, Soil & Water Conservation, Byrnihat, Ri-Bhoi.

The "Capacity Building Workshop on National Clean Air Programme and its effective implementation in the State and City" was held on 27th April, 2023 at the auditorium of the Conservation Training Institute (CTI), Soil & Water conservation, Byrnihat, Ri-Bhoi. This workshop was organized by Meghalaya State Pollution Control Board, Forests & Environment Department and sponsored under sub-component of Control of Pollution scheme of Ministry of Environment, Forest and Climate Change, Delhi. The programme recorded an attendance of sixty participants from various organizations including state and central Govt. agencies and industrial units.

The workshop started with the welcome address by Shri R. Nainamalai, IFS, Member Secretary, MSPCB. Dr. Manjunatha C., IFS, Secretary to the Government of Meghalaya, Forests & Environment Department and Chairman, MSPCB delivered the introductory & inaugural speech about NCAP and collaborative approaches each Dept./Stakeholder is to take in order to control/ mitigate air population and achieve PM10 targeted reduction. Shri M. B. Tongper, Additional Deputy Commissioner, Ri Bhoi District, Nongpoh delivered a short speech followed by Dr. S. K. Dutta, Member Secretary, Pollution Control Board Assam.

During the second session the following presentations were delivered:

1)	'Air Quality scenario in the State and non-attainment city'	*: By Dr. B. Nongbri, Chief Scientist, MSPCB*
2)	'Overview of NCAP and convergence of funds from various Schemes/Programmes for effective implementation of NCAP and Mission Life'	*: By Shri S. Swer, Senior Scientist, MSPCB*
3)	'Importance of PRANA portal with respect to City Action Plan and Micro Action Plan: Role/responsibility of various stakeholders/ Departments'	*: By Shri Sundaram, Scientist-B, CPCB, Delhi*
4)	'Physical and financial progress of Non-attainment City-Byrnihat with some suggested points for Byrnihat need to be looked out by concerned Depts./Agencies'	*: By Dr. Gaurav Singh, NCAP-Consultant, CPCB*
5)	'Overview of Emission Inventory & Source Apportionment Study & Air Pollution Health aspects'	*: By Dr. Deepanjan Majumdar, Sr. Principal Scientist & Head, CSIR-NEERI, Kolkata Centre*
6)	'Environmental Problems in Burnihat (Assam) Area'	*: By Shri P.K. Sarmah, Executive Env. Scientist, PCB Assam.*
7)	'Best practices for achieving clean air'	*: By Shri Arnab Mandal, Scientist B, CPCB, RD, Shillong*
8)	'Control of industrial emission, norms/compliances and wastes managements'	*: By Smti. D. Syiemlieh, Senior Environmental Engineer, MSPCB*

The programme finally ended with a vote of thanks from Shri S. Swer, Senior Scientist, MSPCB, Shillong.

9.3: "Workshop on National Clean Air Programme (NCAP) and Convergence of Schemes for Its Effective Implementation" on the occasion of 'International Day of Clean Air for Blue Skies' held on 06th September, 2023, at the Science Hall, Nongpoh, Ri-Bhoi.

On the occasion of 'International Day of Clean Air for Blue Skies' the MSPCB, Forest & Env. Dept., organized workshop on 'National Clean Air Programme (NCAP) and Convergence of Schemes for Its Effective Implementation' on 06th September, 2023, at the Science Hall, Nongpoh, Ri-Bhoi. This workshop was sponsored under sub- component of Control of Pollution scheme of Ministry of Environment, Forest and Climate Change, Delhi. About 70 officials, staffs form concerned Deptts./Agencies and representative form industrial units participated in the workshop.

The workshop started with the welcome address and introductory remarks by Shri R. Nainamalai, IFS, Member Secretary, MSPCB. Shri M. K. Choudhury, Regional Director, CPCB, Regional Directorate (North-East), Shillong delivered a short speech about NCAP and collaborative approaches each Dept./Stakeholder is to take in order to control/mitigate air population. During his speech, Shri B. J. Kharshandi, Additional Deputy Commissioner, Ri-Bhoi District, emphasised on air quality & its human health impact and climate change. The session was then followed by presentations from various departments/stakeholders:

1)	'Overview of NCAP, Importance of PRANA portal and Mission LiFE'	*: By Shri S. Swer, Senior Scientist, MSPCB*
2)	'Physical and financial progress of Byrnihat with convergence of schemes for its effective implementation'	*: By Dr. G. Singh, NCAP-Consultant, CPCB*
3)	'Short speech with respect industrial emission, inspection, PCDs, water sprinkler etc. in EPIP, Byrnihat'	*: By Shri Y.F. Laloo, Environmental Engineer, MSPCB*
4)	'Best practices for achieving clean air'	*: By Shri A. Mandal, Scientist B, CPCB, RDNE, Shillong*
5)	'NCAP activities implemented by MIDC: Physical & financial progress'	*: By Shri A. Waanbah, Manager, MIDC, Shillong*
6)	'NCAP activities implemented by DFO: Physical & financial progress'	*: By Shri B. Lyngdoh, DFO, North Khasi Hills (SF) Division, Nongpoh*
7)	'NCAP activities implemented by DAO: Physical & financial progress '	*: By Shri H. Papang, Agriculture Development Officer, Umsning C&RD Block, Ri-Bhoi*

After a short group discussion, the programme ended with closing remark and vote of thanks from Dr. B. Nongbri, Chief Scientist, MSPCB, Shillong.




9.4: Awareness-Cum-Workshop Programme on the Occasion of 'International Day of Clean Air for Blue Skies' celebrated on 8th September 2023 at Byrnihat, Ri Bhoi.

On the occasion of "International Day of Clean Air for Blue Skies 2023", the MSPCB conducted an Awareness-Cum-Workshop programme on 8th September, 2023 at Charity Educare Secondary School, Nongthymmai, Byrnihat, Ri Bhoi District (Non-Attainment City under NCAP) on the theme "Together for Clean Air". The programme was conducted for School students and about 70 students along with teachers participated in the said programme.

At the outset, Shri S. Swer, Senior Scientist, MSPCB, welcomed the participants after which Dr. Gaurav Singh, Consultant, NCAP-CPCB, delivered a presentation on 'Air Pollution and Control Measures' and public participation for improving the air quality and achieving the objective of a 'clean air for blue skies'. Then Shri S. Swer, Senior Scientist delivered a presentation on 'Mission LiFE (Lifestyle For Environment)' and individual participation in order to have a cleaner environment. After this, live demonstration on the use of Respirable Dust Sampler (RDS) & PM2.5 Sampler was shown by Shri S. Swer. The motive of the programme was to make the students aware on the action required to mitigate & reduce pollution and simultaneously adopt a lifestyle that will protect & preserve the environment. The programme ended with a vote of thanks from the school authority and the organizer.

9.5: National Clean Air Programme

Byrnihat town in Ri-Bhoi district of Meghalaya has been designated as Non-Attainment City (NAC) under the National Clean Air Programme (NCAP) of the Ministry of Environment, Forest and Climate Change (MoEF&CC), Govt. of India. During FY 2023-24, Rs.4.50 Crore was released by the MoEF&CC via CPCB and the same amount was transferred by the Meghalaya State Pollution Control Board to the NCAP-Account of the O/o the Deputy Commissioner, Ri-Bhoi, Cum-Chairman of Implementation Committee under NCAP, for timely implementation of the finalized action plan/activities related to air quality improvement in Byrnihat aligned with the approved City Action Plan (CAP).

The brief summary of physical and financial progress of activities undertaken in Byrnihat town during 2022-2023 and 2023-24 from previous NCAP fund is given below:

Table 9.5 : Summary of physical and financial progress in Byrnihat during 2022-23 and 2023-24.

S.N.	Particular/Activities	Measured Unit	Expenditure Rs. (Lakhs)
1	Improvement of internal roads in EPIP, Byrnihat(by MIDC)	3.42Km	169.57
2	Greening of open areas i.e. raising 0.5ha plantation, and creation of 1km green buffer plantation at Byrnihat Industrial area (by O/o the DFO, SFD, Nongpoh)	0.5ha, 1 Km	6.69
3	Emission Inventory (EI) & Source Apportionment (SA) Study of Byrnihat, Meghalaya (by MSPCB through CSIR-NEERI, Kolkata) : ongoing	1 No.	60.71
4	Expansion of manual ambient air quality monitoring Station, including procurement of monitoring instrument in Byrnihat (by MSPCB)	1 No. 1 No.	12.27
5	Awareness-cum-workshop programsin Byrnihat (by MSPCB)	2 No.	0.57

S.N.	Particular/Activities	Measured Unit	Expenditure Rs. (Lakhs)
6	Maintenance of pot-holes free road of Byrnihat Dehal-Damsite road (by PWD, Nongpoh)	5.20 km	20.14
7	Mechanized road water sprinkler with fog/mist cannon (by MIDC)	1 No.	23.38
8	Public awareness on pollution source and control measures (by O/o the DAO, Ri-bhoi)	10 Nos.	2.07
9	Monitoring of fuel adulteration through inspections of petrol pumps and awareness programs [by O/o the DC(Supply), Ri-bhoi]	31 Nos.	2.80
10	Other expenses (GST, professional tax&bank charges)	-	0.23
	Total Rs.		**298.42**

Air Quality monitoring for Source Apportionment study at Byrnihat by NEERI

Manual AmbientAir Quality Monitoring Station at 15th mile, Byrnihat

Mechanized road water sprinkler in EPIP Byrnihat

Raising 0.5ha plantation, and green buffer/road side plantation-1km in Byrnihat

Awareness on pollution source and control measuresby O/o the DAO, Ri-Bhoi

9.6 PROMOTION OF ALTERNATIVES TO BANNED SINGLE USE PLASTIC

A 2-day Awareness Programme was conducted at Tura, West Garo Hills on 7th – 8th November, 2023 by the Meghalaya State Pollution Control Board in collaboration with the Tura Municipal Board with the objective of targeted awareness at educational institutes and market areas on promotion of alternatives to banned single use plastic items as identified vide MoEF&CC notification G.S.R. 571(E) dated 12th August, 2021.

Resource persons: Smt. R.R. Marak, Asst. Environmental Engineer, MSPCB

Shri. S.M. Sangma, Supervisor, Tura Municipal Board

Day 1 : 7th November, 2023

On day 1, the awareness programme was held at the following locations :–

Educational Institutes

Don Bosco Higher Secondary School

Tura Government College

1. Market areas

i. Tura Super Market
ii. Urban Hub

A total of about 700 nos. of participants attended the programme

Tura Super Market

Urban Hub

Day 2 : 8th November, 2023

On day 2, the awareness programme was held at the following locations :–

1. Educational institutes

i. Tura Govt. Girls Higher Secondary School

ii. Don Bosco College

Government Girls' Higher Secondary School

Don Bosco College

2. Market areas

i. Nakam Bazaar
ii.Megong Bazaar, near P.A. Sangma Stadium

A total of about 900 nos. of participants attended the programme.

The resource persons highlighted on the ban on identified single use plastics by the Govt. and the ban on plastic carry bags of size less than 120 microns as well as non-woven carry bags of size less than 60 GSM.

The items included in the ban such as ear buds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice-cream sticks, polystyrene (Thermocol) for decoration, plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, stirrers, wrapping or packing films around sweet boxes, invitation cards, and cigarette packets, plastic or PVC banners less than 100 micron, were demonstrated to the public.

The public was also made aware of the presence of labeling and marking on the plastic carry bags and how to distinguish from the counterfeits.

The alternatives to the banned plastic carry bags and single use plastics that are readily available in the markets such as cloth bags, paper products, jute bags, bamboo products, arecanut leaf products, wooden cutlery, reusable and recyclable plastic products as well as compostable and biodegradable items were also displayed.

The participants were also encouraged for maximum public cooperation and the utmost need to make behavioral changes for the successful implementation of the ban.

CHAPTER 10
PRESENT STATE OF THE ENVIRONMENT, ENVIRONMENTAL PROBLEMS AND COUNTER MEASURES

One of the beautiful hill states of North Eastern Region of India is Meghalaya measuring 22,429 Sq. Kms. of area with 29,66,889 population as per 2011 Census. The State is rich in mineral resources which are found almost in its entire southern belt. Private mining activities were very unscientific and unplanned thus causing severe water pollution and environmental degradation. Small scale industries have been increasing into larger ones, for example, from small scale industries of stone crushing into large scale cement industries which gives rise to the ecological imbalance in the State. To curb these ever increasing problems, this Board therefore, applies different measures as per the Rules in force.

10.1: Pollution Control and Waste Management:

(a) Solid Waste Management

Indiscriminate dumping of garbage, indiscriminate discharge or disposal of domestic sewage, trade effluents, urban solid wastes due to rapid population growth and fast urbanization also contributed to the ecological imbalance in the State. In this respect, the Meghalaya State Pollution Control Board has issued a direction to all Urban Local Bodies in the State to implement the provisions of the Solid Waste Management Rules, 2016 relating to development of infrastructure for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes (in areas within its jurisdiction) in accordance to the provisions and compliance criteria/ standards as stipulated in the Solid Waste Management Rules, 2016.

(b) Bio-Medical Waste Management:

Hospitals, Nursing Homes, Health Care Facilities has increased tremendously in recent years in the State and without proper methods of disposal of wastes from the health care units may pose great risk to human health and may create environmental pollution. Thus, prompting the government to implement new ways of scientific management of bio-medical wastes. The Board has issued direction to ensure that all health care units to apply for authorization in the prescribed Form II as required under Rule 10 of the Bio-Medical Waste Management Rules, 2016.

(c) Consent Management:

Under the large-scale industrial sector cement plant, captive thermal power plant, distillery plant falls under the 17 categories of highly polluting industries. The others were medium and small-scale industries such as captive thermal power plant, lime calcination plants, ingot manufacturing and steel rolling mills, Ferro alloys manufacturing unit, stone crushing units, auto workshops, auto servicing units, D.G. Sets etc. Most of the lime calcination units were coal – fired and kilns were of traditional types (pajwa), which do not have even hood and chimney for venting out the smoke.

The Board was regulating the discharged of effluents and air emissions from industries through the issuance of Consents to Establish/Operate under Water & Air Acts. While issuing Consents, conditions were being imposed with regard to the effluent and the emission standards to which industries have to comply with. Conditions were also stipulated for setting up effluent treatment plants and/or installing of air pollution control systems whenever they were found necessary. The Board periodically collects and analyses effluent samples for verification of compliance to the consent conditions by industrial units. The industries were also instructed to ensure that pollution control systems, whenever necessary, were installed and commissioned within a stipulated period.

During the year **2023-2024** the number of Consent to Establish recommended and cleared is 82 numbers granted to different types of units. Also, the industries/firms/units which the Board granted for Consent to Establish, Consent to Operate and Renewal of Consent to Operate under the Water (Prevention& Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 is appended in **Annexure-III.**

(d) Water Quality Assessment:

The Meghalaya State Pollution Control Board (MSPCB) has established a network of Water Quality monitoring stations in the State. The present network comprises of 84 stations in the State under the National Water Monitoring Programme (NWMP). The monitoring network covers 67 Rivers, 4 Lakes, 13 springs/wells.
Out of the 81 stations, the following water bodies have been identified by CPCB as polluted stretched in the State of Meghalaya with respect to BOD level.

	Name of River	District
1.	Umkhrah & Umshyrpi Rivers	: East Khasi Hills District
2.	Kyrhukhla River, Lunar River (Tributary of Lukha River) at Myndihati	: East Jaintia Hills District
3.	Umtrew River (Byrnihat)	: Ri-Bhoi District
4.	Myntdu River (Jowai)	: West Jaintia Hills District
5.	Nanbah River (Nongstoin)	: West Khasi Hills District

Measures taken:

1. The Board had informed the respective Deputy Commissioners of the district regarding the status of the water bodies with a request to take necessary steps to formulate action plan to control the pollution sources.The respective Deputy Commissioners had taken up with the line Departments for formulation of action plan. The District Administration has also issued prohibitory orders against dumping of solid waste and liquid waste in the respective rivers/streams.

2. The respective Deputy Commissioners had taken up with the line Departments for formulation of action plan. The District Administration has also issued prohibitory orders against dumping of solid waste and liquid waste in the respective rivers/streams.

(e) Air Quality Assessment:

The Meghalaya State Pollution Control Board has been assessing the ambient air quality in the State over a period of time. A monitoring network with 11 (Eleven) Ambient air quality-monitoring stations under National Air Monitoring Programme (NAMP) were placed to assess the changes in air quality.

Four criteria pollutants viz. PM10 (Particulate Matter having an aerodynamic diameter less than or equal to 10 μm), PM2.5 (Particulate Matter having an aerodynamic diameter less than or equal to 2.5 μm), Sulphur dioxide (SO2) and Nitrogen dioxide (NO2) were monitored for regular monitoring of air quality. The monitoring of meteorological parameters such as wind speed and direction, relative humidity and temperature were also integrated with the monitoring of air quality.

Air quality monitored during 2023 indicates that PM10 and PM2.5 levels exceeded the NAAQS (annual average) at Export Promotion Industrial Park (EPIP), Byrnihat, (Stn-III- Industrial area) and at Umiam Industrial Estate, Ri-Bhoi District (Industrial area).

High concentrations of Particulate Matter (PM10 and PM2.5) levels observed at Export Promotion Industrial Park (EPIP), Byrnihat, (Industrial area) and Umiam Industrial Estate, Ri-Bhoi District which may be attributable to the buildup of pollutants owing to emissions from industries located in the industrial area, dust generated due to movement of vehicles, natural dust, and construction activities.

Industrial Pollution Control:

1. The air pollution control devices installed should be properly maintained so as to ensure control of the Particulate Emission of the plant.
2. The ambient air quality within the Plant premises and surrounding areas should be maintained within the National Ambient Air Quality Standards.

3. The Board officials inspect the industries regularly to observe the measures taken for compliance of pollutioncontrol norms.
4. Appropriate preventive measures should be adopted to reduce fugitive emission so as to control the concentration of particulate matter in the ambient air.

CHAPTER 11
ENVIRONMENTAL TRAINING

Officers of the Board have undergone training on various environmental issues conducted by Central Pollution Control Board and other Institution and Organizations. The Environmental Training attended by the officials of the Board during the year 2023-2024 is shown in the following Table-11.1

Table-11.1: Environmental Training attended by the Board's Officials

SL. No.	Name of Officer/ Staff	Designation	Date	Subject	Training Organizers
1.	Smti A.D. Synrem	Law Officer	12th – 14th July 2023	Human Rights, The Sexual Harassment of Women at Workplace Act, 2013 and Legislative Initiatives for Justice Delivery	MATI, Shillong
2.	Smti A.D. Synrem	Law Officer	8th August 2023	Sevottam for Officers of Head of Department	MATI, Shillong
3.	Smti E. Shilla	Assistant Environmental Engineer	31st October 1st November 2023	Grievance Redressal through CPGRAMS & megPGRAMS for PGROs	MATI, Shillong
	Smti L. Kharbudon	Data Entry Operator			
4.	Shri R. Nainamalai, IFS	Chairman	10th – 12th October 2023	Conference as per NGT order, Goa to showcase the state of the Art Infrastructural Facilities in Solid Waste Management and Sewage Waste Management	Goa Waste Management Corporation Office organised by Government of Goa
	Shri S. Syiem	Environmental Engineer			
	Shri J.F. Lamurong	Environmental Engineer			
5.	Smti E.B. Syiem	Upper Divisional Assistant	10th – 12th October 2023	State Level Mock Exercise on Earthquake and Landslide	State Convention Centre, Shillong
	Shri B. Wanswett	Upper Divisional Assistant			
6.	Dr.G.H. Chyrmang, MFS	Member Secretary	20th November 2023	Eastern Regional Interaction Meet on EPR	Kolkata
	Shri S. Syiem	Environmental Engineer			
7.	Shri Gaurav Singh	Consultant NCAP	20th & 23rd November 2023	Central Nodal Agency (CNA Model II) and Expenditure, Advance & Transfer (EAT) Module of PFMS	Online Training organizes by Government of India, Department of Expenditure, Ministry of Finance, New Delhi
8.	Shri S. Syiem	Environmental Engineer	29th November 2nd December 2023	IconSWM-CE & IPLA GF 2023	Mumbai
9.	Dr. G.H. Chyrmang, MFS	Member Secretary	6th – 8th December 2023	Conference to Showcase State of Art Infrastructure Facilities & Initiatives	Goa at the Waste Management Corporation (GWMC)

CHAPTER 12
LEGAL MATTERS

CASES PENDING IN THE COURTS INVOLVING THE MEGHALAYA STATE POLLUTION CONTROL BOARD AS ON 31.03.2024.

Cases on Environmental issues involving the Meghalaya State Pollution Control Board (MSPCB) either directly or indirectly and which are pending in the Hon'ble Supreme Court, the High Court, the National Green Tribunals and District Courts are highlighted in the following tables:-

12.1: CASES IN THE HON'BLE SUPREME COURT

The following table highlights the cases involving Meghalaya State Pollution Control Board in the Hon'ble Supreme Court during 2023-2024:-

Number of Cases Pending	Number of Cases Disposed
22	10

12.2: CASES IN THE HON'BLE HIGH COURT

In the Hon'ble High Court, the cases involved the Meghalaya State Pollution Control Board either as Direct Respondent or as Proforma Respondent and when involved indirectly the Meghalaya State Pollution Control Board answers through the State Government.

The following table highlights on the number of pending cases in which the Meghalaya State Pollution Control Board is involved in the Hon'ble High Court and the number of cases disposed of during 2023-2024:-

Number of Cases Pending	Number of Cases Disposed
2	4

12.3: CASES IN THE HON'BLE NATIONAL GREEN TRIBUNALS

Since the inception of the National Green Tribunal (NGT), cases involving the Meghalaya State Pollution Control Board have been mostly filed in the Tribunals Zonal Benches for hearing cases in the Eastern Zone, in the Western Zone, in the Southern Zone and the Central Zone have also been constituted. The Principal Bench sometimes carries out Circuit Benches in the different States of India in matters having direct connection with the concerned state for quick disposal of the cases.

The following table highlights on the number of pending cases in which the Meghalaya State Pollution Control Board is involved in the Hon'ble National Green Tribunal and the number of cases disposed of during 2023-2024:-

CASES IN THE HON'BLE NATIONAL GREEN TRIBUNAL

12.4: PRINCIPAL BENCH, NEW DELHI

Number of Cases Pending	Number of Cases Disposed
14	2

12.5: NGT EASTERN ZONE, KOLKATA

Number of Cases Pending	Number of Cases Disposed
3	1

12.6: NGT SOUTHEREN ZONE, PUNE

Number of Cases Pending	Number of Cases Disposed
1	0

12.4: CASES FILED IN THE DISTRICT COURTS OF MEGHLAYA

The NGT, Eastern Zone Bench, Kolkata in its various orders of the cases pending before it (mentioned above) had directed the Meghalaya State Pollution Control Board to take Legal action against the defaulting industries violating the provision of the Water (Prevention and Control of Pollution) Act, 1974 and under the Air (Prevention and Control of Pollution) Act, 1981. Accordingly, complaints have been made against the defaulting industries before the Magistrate First Class of concerned Districts as empowered under relevant Sections of the Water (Prevention and Control of Pollution) Act, 1974 and Chapter VI of the Air (Prevention and Control of Pollution) Act, 1981.

The following are the numbers of Complaints pending before the District Courts:

Number of Cases Pending		**Number of Cases Disposed**	
East Khasi Hills	4	East Khasi Hills	2
West Khasi Hills	18	West Khasi Hills	Nil
East Jaintia Hills	29	East Jaintia Hills	4
West Jaintia Hills	Nil	West Jaintia Hills	3
Ri Bhoi	44	Ri Bhoi	59
Total	**95**	**Total**	**68**

CHAPTER 13
FINANCE & ACCOUNTS

The fund of the Meghalaya State Pollution Control Board comprises of contribution by the State Government in the form of Grant-in-Aid under Salary and Non-Salary Head, the Financial Assistance from the Ministry of Environment, Forests and Climate Change (MoEF&CC) under the Scheme "Assistance for Abatement of Pollution" and the Financial Assistance from the Central Pollution Control Board for monitoring of the Environment Quality under the National Programme viz. National Water Monitoring Programme (NWMP) and National Air Monitoring Programme (NAMP).

Besides, the Board is also generating its own financial Resources through collection of Consent/Authorization Fees and Publications, Analysis Fees of Air and Water Samples, Vehicular Emission Test, etc.

During the Financial Year 2023-2024, the Receipt and Expenditure of the Board is Rs.2093.73 Lakhs and Rs.1859.54 Lakhs respectively.

The financial summary of the Board during the year 2023-2024 is as shown in Table13.1

TABLE-12.1: FINANCIAL SUMMARY FOR THE YEAR 2023-2024

Sl.No.	Head of Accounts	Amount Rs.(in Lakhs)	
		Receipt	Expenditure
1.	Board's Own Resources		
	i. Consent Fees, Authorization Fees, Vehicle Emission Test, Water and Air Sample Analysis etc.	**304.57**	**175.78**
	ii. Bank Interest	**75.12**	-
	Sub Total 1 (i & ii)	**379.69**	**175.78**
2.	i. Grant -in-Aid, State Govt. (Salary)	**799.95**	**782.44**
	ii. Grant -in-Aid, State Govt. (Non-Salary)	**125.00**	**174.05**
	Sub Total 2 (i & ii)	**924.95**	**956.49**
3.	Grant -in Aid, Financial Assistance from Ministry of Environment, Forest & Climate Change/Central Pollution Control Board, New Delhi	**789.09**	**727.27**
	Total (1 to 5)	**2093.73**	**1859.54**

Total Receipt Rupees Two Thousand Ninety-Three Lakhs and Seventy-Three Thousand only

Total Expenditure Rupees One Thousand Eight Hundred Fifty-Nine Lakhs and Fifty-Four Thousand only.

CHAPTER 14
OTHER ACTIVITIES OF THE BOARD

14.0 WASTE MANAGEMENT

14.1 Bio-Medical Waste Management

The Meghalaya State Pollution Control Board as a Prescribed Authority for implementation of the Bio-Medical Waste Management Rules, 2016 in the State of Meghalaya carried out the following duties and responsibilities in implementation of the Bio-Medical Waste Management Rules, 2016.

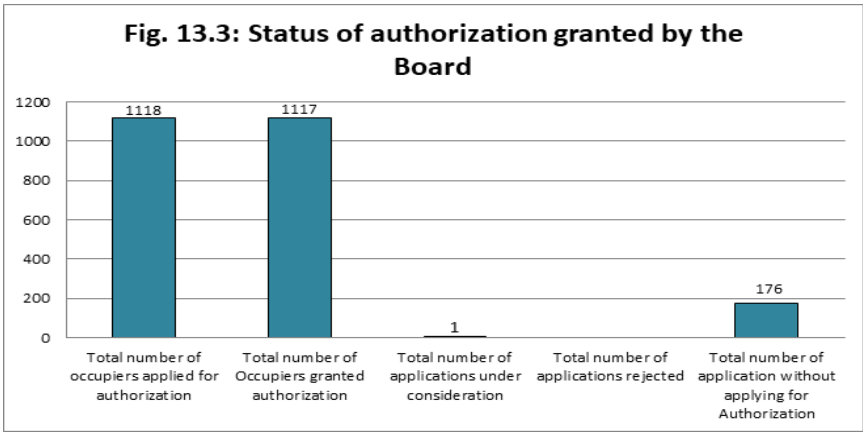
1. Compilation of data and submission of the same in annual report to the Central Pollution Control Board.
2. Grant and renewal, suspension or refusal, cancellation or of authorization under these rules.
3. Monitoring of compliance of various provisions and conditions of authorization.
4. Action against health care facilities or common bio-medical waste treatment facilities for violation of these rules.
5. Organising training programmes for staff of health care facilities and common bio-medical waste treatment facilities on segregation, collection, storage, transportation, treatment and disposal of bio-medical wastes.
6. Inspection of Health Care Facilities from time to time to ensure compliance to the provisions of the Bio-Medical Waste Rules, 2016.

14.2 Status of Health Care Facilities

The category of Health Care Facilities (HCFs) in the State of Meghalaya is shown in the Table – 14.2

Table – 14.2 Number of HCFs Category-wise in the State as on March 2024

Sl. No.	Name of Health Care Facilities	2023-2024
1	Bedded Hospitals and Nursing Homes (Bedded)	193
2	Dispensaries, Sub Centers, Urban Primary Health Centre	531
3	Veterinary Hospitals/Dispensary	202
4	Pathological Laboratories, Daignostic Centres	94
5	Clinical Establishment, Eye Care Centres, Pharmacies	270
6	Research Institutions	1
7	AYUSH	2
	TOTAL	**1293**



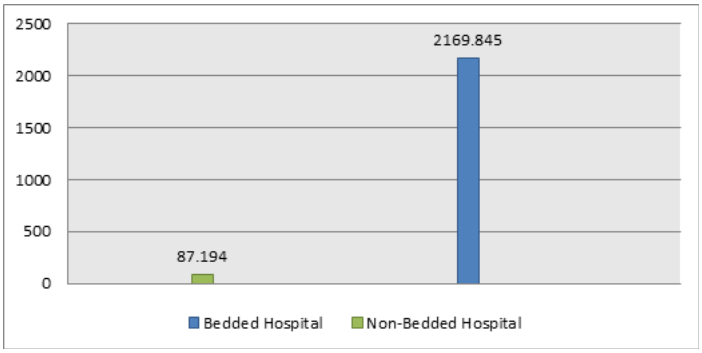
14.3 Status of Authorization under Bio-Medical Waste Management Rules, 2016

Status of authorization granted by the Board to the Health Care Facilities under Bio-Medical Waste Management Rules, 2016 is shown in the figure :

14.4 Status of Bio-medical Waste Generation

The total quantity of Bio-medical Waste Generation in the State during the year was 2257.039 kg/day. Out of which, 2169.845 kg/day was generated by bedded HCFs and 87.194 kg/day from non-bedded HCFs (Fig. 14.4)

Fig. 14.4 Bio-medical Waste from Bedded and Non-bedded HCF



Total 2257.039 Kg/day

The district-wise distribution of Bio-medical Waste Generation is as shown in Table 14.4.

Table 14.4 District Wise Bio-medical Waste Generation (for the year 2022-2023)

Sl. No.	Name of the District	Number of Health Care Facility submitting Annual Report	Bio-medical Waste Generation (in Kg/day)	Existing total Bio-medical waste treatment capacity (both captive and CBMWTF) in kg/day	
1.	East Khasi Hills	176	1332.11	Equipment	Total
2.	West Khasi Hills	8	391.8071	Incinerator	800
3.	South West Khasi Hills	2	0.378	Autoclave	821
4.	West Jaintia Hills	33	128.286	Deep Burial	634.434
5.	East Jaintia Hills	12	17.295	Any Other	1449.49
6.	West Garo Hills	44	179.4989		
7.	South Garo Hills	38	33.6692		
8.	East Garo Hills	3	2.5987		
9.	North Garo Hills	8	5.7518		
10.	Ri Bhoi	73	114.6728		
11.	South West Garo Hills	18	26.815		
12.	Eastern West Khasi Hill	12	24.14573		

14.5 Bio-medical Waste Treatment and Disposal

The number of Health Facilities having captive treatment and disposal facilities were 403 and the total bio-medical waste treated and disposed by captive treatment facilities in kg/day were 1348.216.

Bio-medical waste treatment and disposal by Common Bio Medical Waste Treatment Facilities was available only in Shillong. The facility comprised of a double chambered incinerator of 100 kg/hr – 50 kg/hr Autoclave, 50 kg/hr

Shredder and 1 LKD Effluent Treatment Plant capacity and located at Mawlai Mawiong, Shillong. The facility is being operated by the Shillong Municipal Board and has been providing service to hospitals, Veterinary Hospital, Medical Research Institution, Diagnostic Centres, Dispensaries etc. The average quantity of bio-medical waste disposed in the facility is about 908.823 kg/day.

14.6 Batteries Waste Management.

The implementation of the Batteries Waste Management was a continuous process.

Part-A: Quantity of used leads batteries channelized to registered recyclers for the year 2023-2024

A - Manufacturer

No. of Manufaturers	No. of Manufacturers submitted returns	Quantity of Batteries Sold		Quantity of used Batteries sent to Authorised Recyclers		No. of Collection Centres	No. of Dealers	No. of Registered Dealers
		Nos.	Weight(kg)	Nos.	Weight (kg)			
7	Amrit Cement Limited	1989	19071	Nil	Nil	Nil	Nil	Nil
	Megha Technical & Engineers (Pvt.) Ltd.	4	0.14	Nil	Nil	Nil	Nil	Nil
	Star Cement Limited	99	2039	32	280			
	Meghalaya Power Limited	16	128	Nil	Nil	Nil	Nil	Nil
	Star Cement Meghalaya Limited	21	485	Nil	Nil	Nil	Nil	Nil
	Amrit Cement Limited	1989	19071	Nil	Nil	Nil	Nil	Nil
	Megha Technical & Engineers (Pvt.) Ltd.	4	0.14	Nil	Nil	Nil	Nil	Nil

B - Assembler

Quantity of used Batteries sent to Authorised Recyclers	No. of Importer submitted returns	Quantity of Batteries Assembled and Sold		Quantity of used Batteries sent to Authorised Recyclers		No. of Collection Centres	No. of Dealers	No. of Registered Dealers
		Nos	Weight(kg)	Nos	Weight(kg)			
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

C - Bulk Consumers

No. of Bulk Consumers	No. of Bulk Consumers submitted returnss	Quantity of Batteries Sold		Quantity of used Batteries sent to Authorised Recyclers	
		Nos.	Weight(kg)	Nos.	Weight(kg)
7	Amrit Cement Limited	1989	19071	Nil	Nil
	Megha Technical & Engineers (Pvt.) Ltd.	4	0.14	Nil	Nil
	Star Cement Limited	99	2039	32	280
	Meghalaya Power Limited	16	128	Nil	Nil
	Star Cement Meghalaya Limited	21	485	Nil	Nil
	Amrit Cement Limited	1989	19071	Nil	Nil
	Megha Technical & Engineers (Pvt.) Ltd.	4	0.14	Nil	Nil

D - Bulk Consumers

No. of Auctioneers	No. of Auctioneers submitted returns	Quantity of Batteries Sold		Quantity of used Batteries sent to Authorised Recyclers		No. of Collection Centres	No. of Dealers	No. of Registered Dealers
		Nos.	Weights in kgs	Nos.	Weights in kgs			
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

E - Auctioneers

No. of Authorised Recyclers	Capacity of Recyclers in MT/Year	No. of Recyclers submitted returns	Weight of used Batteries received from and recycled							
			Manufacturer	Assembler	Dealer	Importer	Bulk Consumers	Auctioneer	Self-imported	Others Sources
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

14.7 E-Waste Management.

The Ministry of Environment, Forest & Climate Change, New Delhi has comprehensively revised the E-Waste (Management) Rules, 2016 and notified the E-Waste (Management) Rules, 2022 in November, 2022 and the same is in force since 1st April, 2023. These new rules intend to manage e-waste in an environmentally sound manner and put in place an improved Extended Producer Responsibility (EPR) regime for e-waste recycling wherein all the manufacturer, producer, refurbisher and recycler are required to register on portal developed by CPCB. The new provisions would facilitate and channelize the informal sector to formal sector for doing business and ensure recycling of E-waste in environmentally sound manner. Provisions for environmental compensation and verification & audit has also been introduced. These rules also promote Circular Economy through EPR regime and scientific recycling/disposal of the e-waste.

The electrical and electronic equipment after their end of life when they become e-waste, may not cause any harm to health and environment if it is stored and processed in scientific and environmentally sound manner. However, if un-scientific and crude methods are used for processing for retrieval of useful components or material or if the material is disposed in open, then it may cause health risks and damage to environment. Looking to the impact

of e-waste on health and environment, the Government had notified the E-Waste (Management) Rules, 2022. Under these rules, collection and processing of e-waste can be carried out only by registered producers, recyclers and refurbisher.

These rules shall apply to every manufacturer, producer refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, refurbishing, dismantling, recycling and processing of e-waste or electrical and electronic equipment listed in Schedule I of these Rules, including their components, consumables, parts and spares which make the product operational but shall not apply to:

a. Waste batteries as covered under the Battery Waste Management Rules, 2022;
b. Packaging plastics as covered under the Plastic Waste Management Rules, 2016;
c. Micro enterprise as defined in the Micro, Small and Medium Enterprises Development Act, 2006 (27 of 2006); and
d. Radio-active wastes as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and rules made there under.

Presently, there is no e –waste dismantler/recycler in the State of Meghalaya. Only one Refurbishing unit viz M/s Rynjah Institute of Information Technology located at Don Bosco Square , Shillong is currently operating in the State.

For collection and proper disposal of E-Waste generated by Bulk Consumer, Industries, Institution etc the Recyclers viz M/s Hulladek Recycling Pvt.Ltd. and M/s Karo Sambhav Pvt. Ltd. were actively engaged in collecting the E-Waste for scientific disposal .

The total quantity of E-waste collected is 45148.52 kg for the year 2023-2024 by Hulladek Recycling Private Limited and Karo Sambhav Private Limited.

The E-Waste collected by J.S. Enterprise on behalf of M/s Hulladek Recycling Pvt. Ltd., an e-waste recycler is as below:

Sl. No.	Month	Weight (KG)
1.	July, 2023	11066.78
2.	August, 2023	2550
3.	September, 2023	750
4.	October, 2023	4382.6
5.	November, 2023	604
6.	December, 2023	3703.09
7.	January, 2024	5026.34
8.	February, 2024	3570.38
9.	March, 2024	6337.33
	Total	**38604.52**

The E-waste collected by Karo Sambhav Private Ltd. is 7158 Kg.

14.7 Construction and Demolition Waste Management:

Construction and Demolition Waste Management Rules, 2016 which was notified vide Notification No.G.S.R.317(E) dated 29th March 2016 by the Ministry of Environment, Forest and Climate Change, New Delhi with the objective of this Rule is to improve the management of waste resulting from construction, re- modeling, repair and demolition of any civil structure of individual or organisation or authority who generates construction and demolition waste such as building materials, debris, rubble.

The Construction and Demolition Waste Management Rules, 2016 implies mostly to service provider who provide services like water, sewerage, electricity, telephone, roads, drainage etc. often generate construction and demolition waste during their activities, which includes excavation, demolition and civil work. The Board had advised the Director, Urban Affairs Department to ensure formulation of the policy on Construction and Demolition Waste Management Rules, 2016. The Board, had also instructed the Government Departments/ Agencies viz Meghalaya Urban Development Authority, Public Works Department (Roads & Buildings) to prepare Comprehensive Waste Management Plan as required under Construction and Demolition Waste Management Rules, 2016. The Public Works Department had intimated the Board that the Department had already initiated the process for identification of land required for disposal of construction and demolition wastes generated due to construction.

The Meghalaya Urban Development Authority issued a Press Release that prohibited all owner, contractors, firms including Government Department undertaking building construction to dump construction and demolition waste of building materials etc. on roadside, drains and public space.

Site for collection and processing facility yet to be identified by the concerned State Department.

14.8 Solid Waste Management

The Meghalaya State Pollution Control Board enforced the Solid Waste Management Rules, 2016 through local bodies and review implementation of these rules twice a year in coordination with the Directorate of Urban Affairs, Government of Meghalaya and the Deputy Commissioner of the respective District. The Board inspects/ monitors environmental standards and adherence to conditions as specified under the Schedule-I and Schedule-II for waste processing and disposal sites, examine the proposal for authorization for waste processing and disposal from the local body or any other agency authorized by the local body. The State is having 7(Seven) Local Bodies viz. Shillong Municipal Board (SMB), Shillong Cantontment Board (SCB), Jowai Municipal Board (JMB), Tura Municipal Board (TMB), Williamnagar Municipal Board (WMB), Resubelpara Municipal Board (RMB) and Baghmara Municipal Board (BMB). These Municipal Authorities were responsible for managing the solid waste generated within their respective jurisdiction. The Shillong Municipal Board however, has extended its disposal facility for other town outside its jurisdiction falling under the Shillong Urban Agglomeration. The status of generation and collection of Solid in the respective towns during 2023-2024 is as shown in the Figure and Chart 14.9

Status of Solid Waste Management in the State (2022-2023)	
Total number of towns/cities	22
Total number of ULBs	7
Number of Class I & II Cities/ Towns	Class-I: 1No. Class-II: 2Nos
Authorisation	1) Shillong Municipal Board 2) Jowai Municipal Board 3) Tura Municipal Board 4) Williamnagar Municipal Board 5) Resubelpara Municipal Board 6) Baghmara Municipal Board
Solid Waste Generation	Municipal Area Generated – 179.12 TPD Collected – 150.5 TPD Treated – 65 TPD Landfilled – 85.5 TPD

Summary Statement on progress made by local bodies in respect of Solid Waste Management Good practices in cities/towns - Shillong Municipal Board

House-to-house collection	- 5 -	Shillong Municipal Board, Tura Municipal Board, Williamnagar Municipal Board, Baghmara Municipal Board, Jowai Municipal Board.
Segregation	- 2 -	Shillong Municipal Board and Resubelpara Municipal Board
Storage	- 5 -	Williamnagar Municipal Board, Jowai Municipal Board, Baghmara Municipal Board, Shillong Cantonment Board and Resubelpara Municipal Board.
Covered transportation	- 7 -	Shillong Municipal Board, Williamnagar Municipal Board, Baghmara Municipal Board, Jowai Municipal Board, Shillong Cantonment Board.

Solid Waste processing facilities setup:

Sl. No.	Composting & Recycling	Vermi-composting	Biogas	RDF/Pelletization
1	(Shillong Municipal Board) 63 T/Day	Nil	Nil	Nil

Processing facility operational:

Sl. No.	Composting & Recycling	Vermi-composting	Biogas	RDF/Pelletization
1	(Shillong Municipal Board) 63 T/Day	Nil	Nil	Nil

Processing facility under installation/planned:

Sl. No.	Composting & Recycling	Vermi-composting	Biogas	RDF/Pelletization
1	Nil	Nil	Nil	Nil

Waste-to-Energy Plants: (Number/names of towns/capacity)

Sl. No.	Plant Location	Status of operation	Power generation (MW)	Remarks
1	Tura (Refuse Derived Fuel Plant RDF- 10 TPD	Not Operational	Nil	Nil

Monitoring at Waste Processing/Landfills Sites (2023-2024)

Sl. No.	Name of Facilities	Ambient Air	Ground Water	Leachate Quality	Compost Quality	VOCs
1	Landfill Site of Shillong Municipal Board	Yes	Yes	Yes	No	No

14.9 PLASTIC WASTE MANAGEMENT

The implementation of the Plastic Waste Management Rules 2016 is conjunction with the Solid Waste Management Rules, 2016. All the Municipalities in the State are responsible for proper management of Plastic Waste generated within their respective jurisdiction.

14.9.1 Status of Plastic Waste Management in the State

Fig. – 14.9

<table>
<tr><th colspan="6">Status of Plastic Waste Management</th></tr>
<tr><td>Estimated Plastic Waste Generation Tons Per Annum (TPA)</td><td colspan="5">4409.236</td></tr>
<tr><td>Registered Plastic Manufacturing or Recycling (including multilayer, compostable) units</td><td colspan="5">1. M/S Kakarania Innovative Systems (P) Ltd.
2. M/s Umadutt Industries Limited</td></tr>
<tr><td></td><td colspan="5">A: By Urban Local Body</td></tr>
<tr><td rowspan="10">Collection, Segregation, Disposal (Co-processing road construction etc.)</td><td>Sl. No.</td><td>Urban Local Body</td><td>Generation in TPA</td><td>Collection & Segregation in TPA</td><td>Processing & Dis- posal in TPA</td></tr>
<tr><td>1.</td><td>Shillong Cantonment Board</td><td>227</td><td>227</td><td>Nil</td></tr>
<tr><td>2.</td><td>Baghmara Municipal Board</td><td>Nil</td><td>Nil</td><td>Nil</td></tr>
<tr><td>3.</td><td>Tura Municipal Board</td><td>1523.504</td><td>1523.504</td><td>240-Channelized for Recycling</td></tr>
<tr><td>4.</td><td>Jowai Municipal Board</td><td>41.832</td><td>41.832</td><td>Nil</td></tr>
<tr><td>5.</td><td>Shillong Municipal Board</td><td>2305.8</td><td>2305.8</td><td>270.84 – outsource for recycling</td></tr>
<tr><td>6.</td><td>Resubelpara Municipal Board</td><td colspan="3">Annual Report not submitted</td></tr>
<tr><td>7.</td><td>Williamnagar Municipal Board</td><td>311.1</td><td>311.1</td><td>Nil</td></tr>
<tr><td colspan="2">Total</td><td>4409.236</td><td>3702.512</td><td>510.84</td></tr>
<tr><td colspan="5">B: By Industries
Co-processing of plastic waste in cement kilns undertaken by the following cement plants in the state of Meghalaya –
1. Dalmia Bharat Limited, Lumshnong, East Jaintia Hills District Meghalaya Cements Limited, Lumshnong, East Jaintia Hills District
C: By Public Works Department
A 1(one) km road was constructed in Nongkynjeng Village in West Khasi Hills, Meghalaya using plastic waste.</td></tr>
</table>

Partial or complete ban on usage of plastic carry bags (through Executive order)	1. Use and sale of plastic bags less than 120 microns, Non-woven plastic carry bag less than 60 GSM; manufacture, import, stocking, distribution, sale and use of ear buds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice- cream sticks, polystyrene (Thermocol) for decoration, plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, wrapping or packing films around sweet boxes, invitation cards, and cigarette packets, plastic or PVC banners less than 100 micron, stirrers have been prohibited. 2. Products claiming to be biodegradable and oxo-biodegradable without CPCB certification have been prohibited. 3. Public notices have been issued vide No.MSPCB/PWM -2/ 2019/ 2023-24/ 133 dated 24th May, 2023 and No.MSPCB/ PWM-2/ 2019/ 2023-24/ 32 dated 24th May, 2023 4. Inspections and seizures were conducted by MSPCB along with District Administrations, Autonomous District Councils, Urban Affairs Department, Municipal Boards and Police Department at major urban areas for compliance to the PWM (Amendment) Rules 2021.
Constitution of State Level Advisory Body	State Level Advisory Body constituted vide Notification No. UAU.70/2016/81 dated Shillong the 25th January 2018

14.9.2 Steps taken on elimination of single use plastic:

The Board has made the following progress in matters relating to elimination of single use plastics in the State-

1. Joint Inspections, raids & seizures along with Urban Local Bodies and District Task Forces were carried out in the state at major commercial areas targeting vegetable markets, wholesalers, retail stores, restaurants, bakeries and confectionaries. Around 24 kg of single use plastic items were seized during the exercise in the period 2023-24.
2. Awareness generation and capacity building. A 2-day Awareness Programme was conducted at Tura, West Garo Hills on 7th – 8th November, 2023 by the Board in collaboration with Tura Municipal Board with the objective of targeted awareness at educational institutes and market areas on promotion of eco alternatives to banned single use plastic items.
3. Measures to bring Plastic Waste Processors and Producers Importers Brand Owners under Extended Producer Responsibility regime.
4. Reviewing Draft "Meghalaya State Policy and Strategy on Plastic Waste Management in Urban Areas" prepared by Urban Affairs Department, Govt. of Meghalaya
5. Public Notices have been issued by the Board in English as well as vernacular languages (Khasi, Garo, Jaintia) with regard to Single Use Plastic vide No.MSPCB/PWM-2/2019/2023-24/132 dated 24th May 2023.

14.10 Hazardous Waste Management

All the hazardous waste generating industries in the State are responsible for proper implementation of the Hazardous & Other Waste Management Rules 2016.

Annual Inventory of Hazardous Waste Management (2023-2024)

Sl. No.	Name of the District	Total Number of Hazardous Waste Generating Industry	Number of Units possessing authorization	Authorized Quantity of Hazardous Waste (Metric Tonne)				To-tal Quanti-ty	Quantity of Hazardous Waste generated as per Annual Re-turn within the State/UT (Met-ric Tonne)				Total Quantity	Quanti-ty of Haz-ardous Waste import-ed dur-ing the year (Metric Tonne)	Quan-tity of Haz-ardous Waste ex-ported during the year (Metric Tonne)
				Landfillable	Incinerable	Recyclable	Utilizable		Landfillable	Incinerable	Recyclable	Utilizable			
0.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Ri-Bhoi	7	7	24		612			10.495		587.76		598.255		
2.	East Khasi Hills	3	3			24.63					14.05		14.05	Nil	Nil
3.	East Jaintia Hills	12	12			64.133					59.838		59.838		

14.11 Details on Inter-state movement of Hazardous Waste for Recycling/Utilisation/ Disposal

Sl. No.	Hazardous Waste	Hazardous Waste received from other State/UT		Hazardous Waste sent from other State/UT	
		Name of State/UT from which waste received	Quantity Received	Name of State/UT from which waste sent (MT)	Quantity Received
1	For disposal at common secured landfill				
2	For disposal at common incinerator				
3	For recycling by Scheduled IV recyclers			Meghalaya	14.88
4	For Utilization in co-process-ing (Cement plants)				
5	For non-captive utilization based on CPCBs SOPs				

14.11(A) Details on Hazardous Waste Recycled and Utilized

Sl. No.	Name of the District	Recycling/Utilization of Hazardous Waste (generated within the State/UT)							Recycling/Utilization of Hazardous Waste (received within the State/UT)		
		Quantity of waste recy-cled (listed under Schedule-IV Hazardous Wastes) (MT)		Quantity Utilized (MT)				Captive uti-lization of Hazardous Waste and other	Quantity of waste recycled (listed under Schedule-IV Hazardous Wastes) (MT)	Quantity Utilized (MT)	
				Co-processing in Cement Plant		Non-captive utilization based on CPCBs SOPs				Co-processing in Cement Plant	Non-captive utilization based on CPCBs SOPs
		Gen-erated within State	Imported	Gen-erated within State	Imported	Gen-erated within State	Imported				
1	East Jaintia Hills District							44.958			
							Total	**44.958**			

14.11(B) Details on Hazardous Disposed

Sl. No.	Name of the District	Disposal of Hazardous Waste (generated with-in the State/UT)				Recycling/Utilization of Hazardous Waste (received within the State/UT)	
		Quantity Disposed in secured Landfill (MT)		Non-captive utilization based on CPCBs SOPs		Quantity Disposed in common (MT)	
		Common	Captive	Common	Captive	SLF	Incinerator
1	Ri-Bhoi		587.76				

14.12 Online Continuous Emission/Effluent Monitoring Systems (OCEMS)

In line with our vision of cleaner and greener India, Meghalaya State Pollution Control Board entrusted Knowledge Lens Pvt. Ltd. with the job of connecting all the industries in Meghalaya State to Meghalaya State Pollution Control Board as well as the Central Pollution Control Board. Keeping up with the current government norms and applying the latest technologies all the industries data pertaining to Emission Monitoring and Air Quality Monitoring using various instruments available in the market is being captured and transmitted to the Pollution Control Boards.

Knowledge Lens Pvt. Ltd. has specifically developed and provided single server platform known as Green Lens (Glens) and installed it on the cloud server for the Pollution Control Board. The pollution data pertaining to Emission and Air Quality is directly captured from different make of instruments installed at the industries and the data is transmitted to Pollution Control Board using dedicated internet connection provided by these industries. The data is presented to the Pollution Control Boards as well as the industries in a user friendly and easy to understand format. A website address as well as username and password have been provided to Pollution Control Board and the industries for viewing the transmitted data in graphical as well as text format and also for downloading the reports. Using their respective username and passwords, the Pollution Control Board can view the data of all the industries present in Meghalaya State connected to the single server platform while the industry can view its individual data only.

The single server platform provided to Meghalaya State Pollution Control Board on cloud platform can keep the data record of all the connected industries for more than 10 years and present it to the Pollution Control Board as and when required. The software is highly customizable and scalable. Various tools have been made available to the Pollution Control Board for monitoring the pollution level. Alarms are generated and sent to the Pollution Control Board as well as industries in case there is a breach of prescribed level of pollutants being discharged into the environment. The software is also equipped with data validation and helps the Pollution Control Board monitor any manipulations that may take place. There is also a provision for integrating the cameras of the industries meeting with Zero Liquid Discharge guidelines. In compliance with the guidelines, video is shown to the Pollution Control Board and the industry without any plug-in and there is a provision of controlling the camera from within the software.

Apart from the single server platform, Knowledge Lens Pvt. Ltd. has provided a separate URL for public viewing as per the Hon'ble Supreme Court order. The same can be viewed on Meghalaya Pollution Control Board website.

The software for Meghalaya Pollution Control Board was customized, installed and made operational in November 2016 and Knowledge Lens will maintain the software platform from the date of installation.

During the year 2023-2024, the Meghalaya State Pollution Control Board monitored 42 industries that comprises of Cement Plant, Coke Oven, Captive Thermal Power Plant, Distillery and Iron & Steel around the State of Meghalaya.

The List of Industries is as follows:

Real Time Data Acquisition and Monitoring				
Report Name: Site Details Report				
Sl. No.	**Industry Name**	**Industry Category**	**City**	**State**
1.	M/s M.D. Coke Industries	Mining	Shallang	Meghalaya
2.	M/s. Kantalo Coke	Mining	Elaka Sutnga	Meghalaya
3.	M/s Special Coke	Mining	Mynska	Meghalaya
4.	M/s. North East Carbon Industries	Mining	Elaka Sutnga	Meghalaya
5.	Lafarge Umiam Mining Pvt. Ltd.	Mining	Nongtrai	Meghalaya
6.	M/s Khasi Alloys Pvt Ltd	Alloy Processing	Byrnihat	Meghalaya
7.	M/s Shillong Ispat & Rolling Mill (P) LTD	Iron and Steel	Byrnihat	Meghalaya
8.	M/s. Jaintia Ferro Alloys Pvt. Ltd.	Ferrous and non ferrous metal	Byrnihat	Meghalaya
9.	RNB Cements Pvt. Ltd.	Cement	Umiam	Meghalaya
10.	Adhunik Cement Limited (Subsidiary of Dalmia Cement Bharat Limited)	Cement	Thangskai	Meghalaya
11.	M/s. Amrit Cement Limited	Cement	Lumshnong	Meghalaya
12.	Meghalaya Cement Limited	Cement	Lumshnong	Meghalaya
13.	Green Valliey Industries Limited	Cement	Khliehriat	Meghalaya
14.	M/s .Mawmluh Cherra Cements Limited	Cement	Cherrapunjee	Meghalaya
15.	Megha Technical & Engineers Pvt. Ltd.	Cement	Lumshong	Meghalaya
16.	H.M. Cements Private Limited	Cement	Byrnihat	Meghalaya
17.	CMJ Breweries Pvt. Ltd.	Distillery	Byrnihat	Meghalaya
18.	M/s Unique Industry	Coke Oven	Diensatlang	Meghalaya
19.	M/s Mahajong Coke LLP	Coke Oven	Khliehriat	Meghalaya
20.	M/s N M Fules	Coke Oven	Sutnga	Meghalaya
21.	M/s Ioanis Industries(P)Ltd.	Coke Oven	Elaka Sutnga	Meghalaya
22.	M/s Khliehumim COKE	Coke Oven	ElakaSutnga	Meghalaya
23.	M/s Jaintia Coke Industries	Coke Oven	Khelerihat	Meghalaya
24.	M/s Meghalaya Coke	Coke Oven	Khliehriat	Meghalaya
25.	M/s Rilangam Coke Industries	Coke Oven	Shallang	Meghalaya
26.	Shree Shakambari Ferro Alloy Private Limited	Power Plant	Nongstoin	Meghalaya
27.	RNB Carbides and Ferro Alloys Pvt. Ltd.	Alloy Processing	Umiam	Meghalaya
28.	Maithan Alloys Limited	Ferro Alloys	Byrnihat	Meghalaya
29.	SD Coke Industries	Manufacturing	Elaka Sutnga	Meghalaya
30.	M/s. F.W Ferro Tech Pvt. Ltd.	Iron and Steel	Byrnihat	Meghalaya
31.	Shyam Century Ferrous Ltd	Power Plant	Shillong	Meghalaya
32.	M/s. Pawan Castings Meghalaya Pvt.Ltd	Iron and Steel	Byrnihat	Meghalaya
33.	M/s. Ri Bhoi Ispat & Rolling Mills	Common Hazardous Waste incinerators	Byrnihat	Meghalaya

Sl. No.	Industry Name	Industry Category	City	State
34.	M/S Nalari Ferro Alloys Pvt Ltd	Others(Alloy Processing)	Byrnihat	Meghalaya
35.	M/s Meghalaya Cast and Alloys (P) Ltd	Alloy Processing	Byrnihat	Meghalaya
36.	M/S PIONEER Carbide Pvt Ltd	Alloy Processing	Byrnihat	Meghalaya
37.	Hills Cement Company limited	Cement	Khliehriat	Meghalaya
38.	Star Cement Meghalaya Limited	Cement	Lumshnong	Meghalaya
39.	Star Cement Limited	Cement	Lumshnong	Meghalaya
40.	Meghalaya Power Limited	Power Plant	Lumshong	Meghalaya
41.	Goldstone Cements Limited	Cement	Lumshnong	Meghalaya
42.	M/s. JUD Cements Private Limited	Cement	Lumshnong	Meghalaya

14.13 Consent Committees

The function of the Consent Committee is to examine/scrutinize the applications for Consent and recommend the grant or otherwise of Consent in respect of industries/developmental projects with project costs of Rs.25.00 lakhs and above.

The number of Consent Committees held during the financial year 2023-2024 is as per list below:

Consent Committee during the year 2023-2024				
Sl. No.	**Dates of Consent Committee**	**Numbers of Agendas**	**Cleared**	**Not Cleared**
1.	8th May 2023	21	15	6
2.	21st July 2023	8	8	0
3.	1st November 2023	25	19	6
4.	12th January 2024	23	20	3
5.	14th February 2024	13	12	1
6.	20th March 2024	9	8	1

14.14 Environmental Compensation

(CIVIL) No.375/2012), Paryavaran Suraksha Samiti & Anr. Vs. Union of India & Ors has unambiguously directed State & Central Boards to levy Environmental Compensation on violators of Environmental laws.

The NGT Order on the matter is as follows: "The CPCB may take penal action for failure, if any, against those accountable for setting up and maintaining STPs, CETPs and ETPs. CPCB may also assess and recover compensation for damage to the environment and said fund may be kept in a separate account and utilized in terms of an action plan for protection of the environment."

In pursuance to the Resolution of Agenda No. 6 of the 82nd Meeting of the Meghalaya State Pollution Control Board held on the 19th March, 2022 the Board recommends that the **"Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund"** be adopted for assessment, imposing, collection and utilization of environmental compensation from polluting units in the State of Meghalaya.

During the financial year of 2023-2024, a total of Rs.56,38,500/- (Rupees Fifty Six Lakhs Thirty Eight Thousand Five Hundred) has been recovered from the violators/ polluting units in the State of Meghalaya.

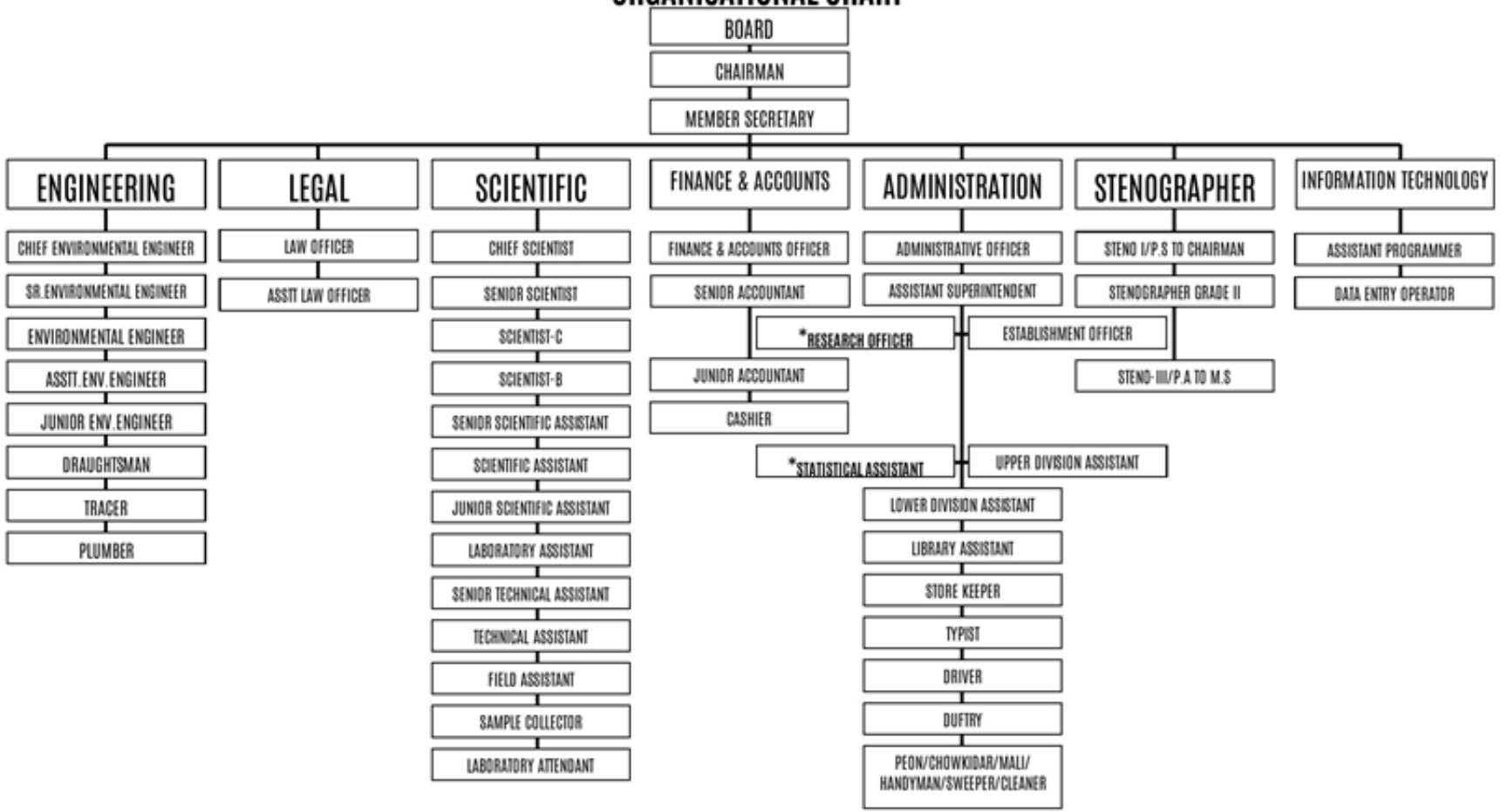
ANNEXURE-I

MEGHALAYA STATE POLLUTION CONTROL BOARD STAFF POSITION AS ON 31-03-2024

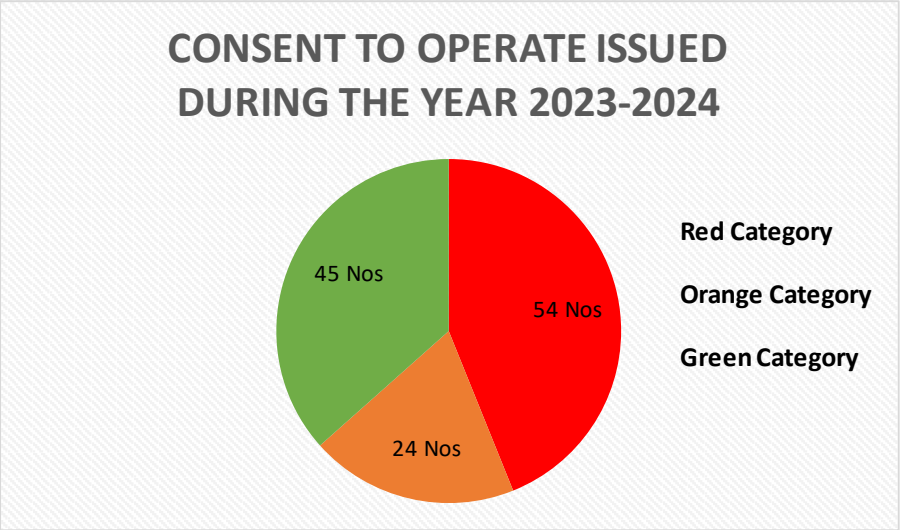
BRANCH	SL. NO.	NAME OF THE POST	SANCTIONED STRENGTH	WORKING STRENGTH	VACANCY
TECHNICAL	1.	Chief Environmental Engineer	1	0	1
	2.	Senior Environmental Engineer	2	2	0
	3.	Environmental Engineer	3	3	0
	4.	Assistant Environmental Engineer	7	3	4
	5.	Junior Environmental Engineer	1	1	0
	6.	Draftsman	1	0	1
	7.	Tracer	1	0	1
	8.	Plumber	1	1	0
LEGAL	1.	Law Officer	1	1	0
	2.	Assistant Law Officer	1	0	1
SCIENTIFIC	1.	Chief Scientist	1	0	1
	2.	Senior Scientist	2	2	0
	3.	Scientist-C	2	0	2
	4.	Scientist-B	3	2	1
	5.	Senior Scientific Assistant	3	1	2
	6.	Scientific Assistant	5	3	2
	7.	Junior Scientific Assistant	6	2	4
	8.	Senior Technical Assistant	1	1	0
	9.	Technical Assistant	2	0	2
	10.	Laboratory Assistant	8	0	8
	11.	Field Attendant/Assistant	2	1	1
	12.	Sample Collector	12	9	3
	13.	Laboratory Attendant	5	4	1
FINANCE & ACCOUNTS	1.	Finance & Accounts Officer	1	0	1
	2.	Senior Accountant	2	2	0
	3.	Junior Accountant	2	0	2
ADMINISTRATION	1.	Administrative Officer	1	0	1
	2.	Research Officer (Info. & Pub.)	1	0	1
	3.	Establishment Officer	1	1	0
	4.	Assistant Superintendent	1	1	0
	5.	Upper Divisional Assistant	5	5	0
	6.	Statistical Assistant (Info. & Pub.)	1	0	1
	7.	Lower Division Assistant	13	10	3
	8.	Typist Grade III	4	1	3
	9.	Library Assistant	1	0	1
	10.	Store Keeper	1	0	1
	11.	Senior Driver/Driver	10	9	1
	12.	Duftry	1	1	0
	13.	Handy Man	1	0	1
	14.	Peon	21	9	12
	15.	Mali	1	0	1
	16.	Chowkidar	4	2	2
	17.	Cleaner	2	1	1
	18.	Sweeper	2	1	1
STENOGRAPHER	1.	Stenographer Grade-II	1	1	0
INFORMATION TECHNOLOGY	1.	Assistant Programmer	1	1	0
	2.	Data Entry Operator	3	1	2
		GRAND TOTAL	**152**	**82**	**70**

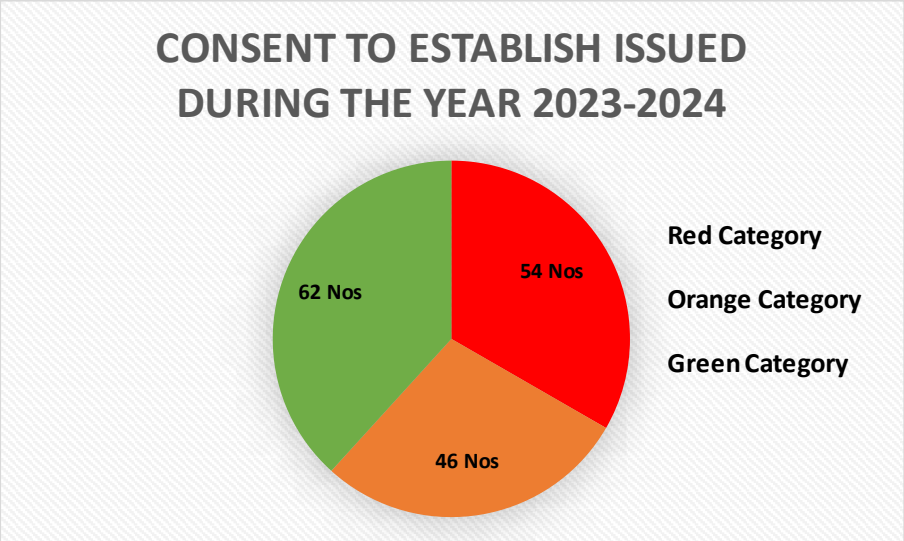
ANNEXURE-II

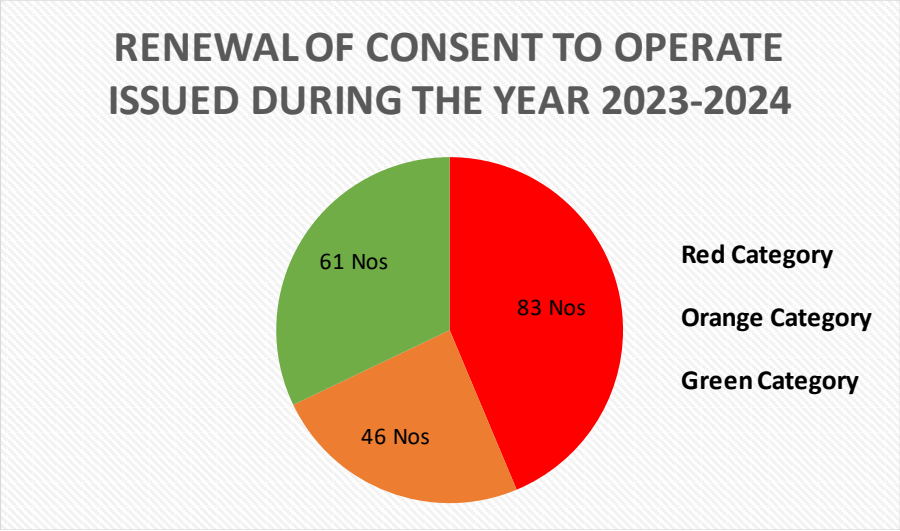
ORGANISATIONAL CHART



ANNEXURE-III







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MEMBER SECRETARY

MEGHALAYA STATE POLLUTION CONTROL BOARD

(Forests & Environment Department, Government of Meghalaya)

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