MSPCB

MEGHALAYA STATE POLLUTION CONTROL BOARD

FORESTS & ENVIRONMENT DEPARTMENT, GOVERNMENT OF MEGHALAYA

'ARDEN' LUMPYNGNGAD,
SHILLONG

2020-2021
ANNUAL REPORT

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ONE EARTH · ONE FAMILY · ONE FUTURE

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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 Waste (Management and Handling) Rules, 1989 as amended 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 & Handling) Rules, 1998 as amended in 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 Municipal Solid Wastes (Management & Handling) Rules, 2000 as amended in 2016.
- The Batteries (Management & Handling) Rules 2001.
- 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 88 Employees as on 31st March 2021 against a sanctioned strength of 151. 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. ***Shri C.P. Marak, IFS, (Retired)***
Principal Chief Conservator of Forests & HoFF ,
Meghalaya (upto 30.09.2020) : Chairman

Shri B. K. Lyngwa, IFS,
Principal Chief Conservator of Forests & HoFF
Meghalaya (with effect from 30.09.2020)

2. ***Shri J.H. Nengnong,***
Senior Environmental Engineer : Member Secretary
Meghalaya State Pollution Control Board
(upto 31.12.2020)

Smti M.J.A. Sangma, MFS
Meghalaya State Pollution Control Board
(with effect from 01.02.2021)

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 : Member

16. ***Shri Sanggra A. Sangma, (upto 28.01.2021)***
Asstt. Professor, Don Bosco College, Tura : Member

17. ***Dr. (Mrs) M.P.R. Lyngdoh, (Retired) (upto 28.01.2021)***
Principal, Shillong College, Shillong : Member

18. ***Shri Y. Shylla, (with effect from 28.01.2021)***
Retired Director of Horticulture, Mynthong,
Near District Library, Jowai, West Jaintia Hills District : Member

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

CHAPTER 3

MEETING OF THE BOARD WITH MAJOR DECISIONS

3.1 Major Decisions Taken During The 76th Board Meeting Held On The 6th July, 2020.

3.1.1: Budget estimate for Expenditure from Board's Resources

The internal Budget estimate for the financial year 2019-2020 was approved for Rs.310.50 Lakhs to incur the expenditure from the Board's Resources for Office Expenses, Travelling Expenses, Tools & Plants, Furniture & Fixtures, Medical Re-imbursement Bills, Running and Maintenance of Vehicles, Training, Awareness, Workshop, Procurement of Instruments, Acquisition & Maintenance of Laboratory, Chemicals & Glassware, Legal Fees & T.A., Repairing & Maintenance of Office Building, Contingency Fund, Gratuity Fund, Insurance of Laboratory Instruments, etc. The total expenditure incurred under Board resources during financial year 2019-2020 is Rs.237.00 Lakhs.

The Member Secretary stated that less expenditure is incurred as there is reduction in payment of T.A. since most of the works like NGT Meetings have been carried out by video conferencing.

The Member Secretary also placed before the Board the internal Budget estimate for the financial year 2020-2021 to be incurred from the Board's Resources estimated at Rs.301.41 Lakhs. The matter was placed before the Board for approval.

The Board approved the proposed internal Budget with the following corrections and adjustments: -

i) Medical Re-imbursement Bills – To increase by 30% more from last financial year

ii) Repairing & Maintenance of Office Building – To increase to Rs.10 Lakhs

iii) Training, Awareness, Workshop – To keep Rs.15 Lakhs for SWM and Rs.15 Lakhs for BWM

The Board also decided that the office of the Board should ensure that break-up is properly done.

3.1.2: Adoption of Distance Criteria for permitting Stone Quarrying issued by Central Pollution Control Board

The Central Pollution Control Board in compliance to NGT Order Dated 28-02-2020 in O.A. No. 304/2019, M. Haridasan & Ors Vs. State of Kerala has examined and prepared a report on Distance Criteria for permitting Stone Quarrying. As per the report, it was concluded that:

i) When blasting is not involved - a minimum distance of 100m and

ii) When blasting is involved – a minimum distance of 200m from location like Residential/ Public building, Inhabited Sites, Protected Monuments, Heritage Sites, National/ State Highway, District Roads, Public Roads, Railway Lines/area, Ropeway Trestle or Station, Bridges, Dams, Reservoirs, Rivers, Canals, Lakes or Tanks or any other location to be considered by States.

The report has been sent to all State Pollution Control Boards by the CPCB for adoption in Consent Mechanism vide No.CPCB/IPC-II/NGT-OA 304 of 2019/2020 dated 12th May, 2020 and the Report was placed before the Board for perusal and deliberation.

The Chairman informed that the MMMCR 2016 are in the process of being amended to incorporate the same.

The DCF informed that as per the Meghalaya Protection of Catchment Areas Act 1990, quarrying of stone and sand is prohibited within a distance of 200m.

After a thorough deliberation, the Board accepted the Guidelines of the CPCB and resolved that the Guidelines be adopted by the Meghalaya State Pollution Control Board in Stone Quarrying activities. The Board also noted the provisions of MPC Act, 1990 which will run concurrently in notified catchment areas.

3.1.3: Adoption of Frequency of monitoring of Industries as per direction of CPCB Order under Section 18 (1) (b) of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981

The Central Pollution Control Board vide letter No. 29012/Inspection-Policy/IPC-VI/2019-20/9933 dated 12th December 2019 has directed the Board to ensure that for environmental surveillance, industries need to be inspected preferably at the frequency as mentioned below: -

Sl. No.	Industrial Category / Facility	Frequency of mandatory Inspection for Environmental Surveillance
1.	Highly polluting 17 category industries	3 months
2.	Red category (other than 17 category industries)	6 months
3.	Orange category industries	1 year
4.	Green category industries	2 years
5.	CPWTF/CHWSRDF/CMSWTDF/ CETP/STP	3 months

The matter is placed before the Board for discussion and necessary decision.

The Chairman stated that the adoption of the frequency will pose a heavy burden on the existing strength of officers of the Board; however, the Board has to follow the directions of the CPCB.

The Board resolved to adopt the frequency of monitoring of industries as per direction of CPCB.

3.1.4: Adoption of additional industrial units included by CPCB in the categorization of industries

The classification of Industrial Sectors in terms of their pollution potential was categorized by the Board into Red/ Orange/Green/White vide T.O. No. MPCB/INV=3/2016/8 dated 26th September 2016. However, a need was felt to categorize some industrial sectors on PAN India Level and to resolve anomalies in categorization, if any. Accordingly, CPCB has constituted a Committee to deal with the matter related to categorization of industrial sectors under Red/Orange/Green/White categories. The Central Pollution Control Board in its letter No.B-29016/ ROGW/IPC-VI/2020-21/66 dated 30-12-2019 has directed all the SPCBs/PCCs to adopt the revised criteria of categorization. The revised Classification of Industrial Sectors under Red/Orange/Green/White is placed before the Board for adoption.

The Board accepted the revised Classification of Industrial Sectors and resolved that the office of the Board adopt the same.

3.1.5: Inclusion of Fuel Dispensing Station (Petrol Pumps) in Consent Management

The Central Pollution Control Board vide Memorandum No.B-13011/2019-20/AQM/10809 dated 7th January 2020 has forwarded Guidelines for setting up of New Petrol Pumps in compliance to Hon'ble NGT Order dated 18th January 2019 in OA No. 86/2019 Gyanprakhash@Pappu Singh Vs. Government of India & Others. The CPCB in its revised Classification of Industrial Sectors under Res/Orange/Green/White has listed Automobile Fuel Outlets (only dispensing) as Non-Industrial Sector falling under Green Category. For proper implementation of the Guidelines, it is felt that all Automobile Fuel Outlets (only dispensing) in the State may be brought under the purview of Consent Management. The matter was placed before the Board for discussion and necessary decision.

The concerned Assistant Environmental Engineer of the Board clarified that Assam Pollution Control Board has brought the Petrol Pumps under consent regime. He also stated that Petrol Pumps require Authorization under Hazardous Waste (Management & Handling) Rules, 1989 since they produce sludge.

After a thorough deliberation, the Board approved the proposal to bring Automobile Fuel Outlets (Petrol Pumps) under Consent management.

3.1.6: Operation of Accounts and Signing of Cheque

The Accounts of the Board is operated by the Member Secretary as a Drawing and Disbursing Officer in accordance with the provisions of Rule 38(2) and Rule 39 (2) of the Meghalaya Water (Prevention & Control of Pollution) Rules, 1996. Extracts of the Rules are given below: -

Rule 38 (2) - "The Fund of the Board shall be operated by the Member Secretary or in his absence by any Officer of the Board duly authorised by the Chairman of the Board as the case may be."

Rule 39 (2) – "The account of the Board shall be operated by the Member Secretary who will sign all cheque and payment orders;

In accordance with the above provisions, signing of cheque for any payment is on the signature of the Member Secretary only. For security and authenticity of payments made by the Board, it is proposed that cheque payment may be made on dual signatures i.e. on the signature of the Member Secretary and the Senior Accountant of the Board. The matter is placed before the Board for necessary decision.

The Chairman stated that the Forests & Environment Department has issued directions that all Agencies under the Forest Department to conduct financial transaction on dual signatures.

After a thorough deliberation, the Board approved the proposal to have dual signatures for cheque payments i.e. on the signature of the Member Secretary and the Senior Accountant of the Board.

3.1.7: Powers & function of Member Secretary with respect to issue sanction and authorize payment

The issue of sanction and authorize payment by the Member Secretary is as per the provisions of Rule 14 (9) of the Meghalaya Air (Prevention & Control of Pollution) Rules, 1988 and Rule 25 (e) of the Meghalaya Water (Prevention & Control of Pollution) Rules, 1996. Extract of the Rules are given below: -

Rule 14 (9) – "The Member Secretary shall authorize sanction or pass and make all payments against all estimates sanctioned within the allocation made for such purposes in the Budget of the Board."

Rule 25 (e) – "The Member Secretary shall issue sanction or authorize payments subject to such terms and conditions as may be delegated to him by the Chairman or the Board as the case may be."

Further, Rule 25 (e) of the Meghalaya Water (Prevention & Control of Pollution) Rules, 1996 provides that "the Member Secretary shall exercise such other powers as generally exercised by the Superintending Engineer of the State Public Works Department."

It is proposed that the powers of the Member Secretary in the matter of issue sanction and authorize payment shall be limited to that of the powers of the Superintending Engineer of the State PWD and that for any sanction or payment beyond the powers of SE, PWD, the Member Secretary shall obtain the prior approval of the Chairman of the Board.

Matter placed before the Board for necessary decision.

The Member Secretary informed that in practice, the office of the Board is following Rule 25 (e).

After a thorough deliberation, the Board resolved that the powers of the Member Secretary in the matter of issue sanction and authorize payment shall be limited to that of the powers of the Superintending Engineer of the State PWD and that for any sanction or payment beyond the powers of SE, PWD, the Member Secretary shall obtain the prior approval of the Chairman of the Board within the Budget allocation.

3.1.8: Rotation of Posting and assignment of duties/works, etc. of officers and staff of the Board

The activities of the Board are multi-disciplinary in nature dealing with various activities under the Acts & Rules and Notifications issued from time to time. At present, the office of the Board has made arrangements and posted a particular officer and staff to deal with various Rules such as the Hazardous Waste Rules, Bio-Medical Rules, Municipal Solid Waste Rules, E-Waste Management Rules, etc. and these officers and staff are posted to look after the activities under these Rules in the different Districts of the State under the supervision of the Member Secretary and Chairman of the Board. To give opportunity to all the officers and staff of the Board to get acquainted with all the Acts & Rules and the activities spelled therein and also to work in different Districts, it is proposed that the duties and works of the officers and staff be rotated every three years. The matter was placed before the Board for approval.

The Board approved the proposal to rotate the assignment of duties/works of the officers and staff of the Board every three years.

3.2. Major Decisions Taken During The 77th Board Meeting Held On The 25th September 2020.

3.2.1: Budget proposal of Salary & Non-Salary expenditure of the Board from State Govt. during the financial year 2021-2022.

The Budget proposal for the financial year 2021-2022 for Salary amounting to Rs.9,53,66,802/- (Rupees Nine Crores Fifty Three Lakhs Sixty Six Thousand Eight Hundred Two) only and Non-Salary amounting to Rs.1,75,00,000/- (Rupees One Crore Seventy Five Thousand) only to be submitted to the Govt. in the Forests & Environment Department for necessary action was presented before the Board for perusal and approval.

After a thorough deliberation on the matter, the Board approved the Budget proposal for the financial year 2021-2022 for Salary amounting to Rs.9,53,66,802/- (Rupees Nine Crores Fifty Three Lakhs Sixty Six Thousand Eight Hundred Two) only and Non-Salary amounting to Rs.1,75,00,000/- (Rupees One Crore Seventy Five Thousand) for submission to the State Government.

3.2.2: Grant of financial benefit under MACPS.

The Screening Committee held on 1st July 2020 at 1:00 pm has recommended granting financial benefits to the following Staff of the Board who have completed Ten years, Twenty years & Thirty years of their service under the Modified Assured Career Progression Scheme (MACPS)

i. Smti. A.M.T. Pajat, Stenographer Grade – II
ii. Smti. Lawandapbiang Kharbudon, D.E.O.
iii. Shri. Wister Nongkhlaw, Senior Driver.
iv. Shri. I.B. Kala, Duftry

After deliberation the Members approved the grant of financial benefit to the above mentioned employees as recommend by the screening committee.

3.2.3: Appointment of Multitasking Casual Workers (Skilled)

The activities of the Board have increased tremendously in recent years particularly in the field of waste management, consent management, authorizations etc. for which specific duties and responsibilities are vested upon the Board for regulating, enforcing and monitoring with limited available manpower. The duty and responsibility for implementation of these activities mostly lies with the Technical/Scientific branch of the Board. With the increasing workload and current available manpower strength of the Technical/Scientific branch it has become greatly difficult for the Engineers, Scientists to perform their duties effectively.

It is therefore proposed that 6(six) multitasking casual workers (skilled) to be attached to the Engineering/Scientific branch in order to strengthen these branches in discharging of their duties and responsibilities maybe engaged depending on necessity.

After thorough deliberation the Board approved the proposal with conditions that such engagement shall be done only on necessity depending on the availability of fund from the Board's resources.

3.2.4: Proposal for grant of financial assistance to Green-Tech Foundation to conduct awareness program

According to the guidelines issued by the Central Pollution Control Board for proper handling & management of COVID – 19 wastes as per NGT orders in O.A. No.72/ 2020, one of the functions and responsibilities of the Board is to create awareness among the public for proper handling and disposal of used Mask, PPE, Gloves, Tissues, etc. However, due to shortage of manpower the Board has not been able to conduct awareness programs besides issuing of Public Notice through the Print Media.

It was further stated that the Green-Tech Foundation has approached the Meghalaya State Pollution Control Board for financial assistance in conducting an awareness program with regard to ethical, proper and prescribed manner of disposing face masks, PPE kits, Gloves etc in lieu of the prevailing COVID-19 pandemic and to educate and create awareness the importance of the link between environment and development the Organization has submitted an outline of the proposal which includes objectives, outcomes and the estimated cost for the awareness program to be conducted at 4(four) locations i.e Kynshi (West Khasi Hills District), Jowai (West Jaintia Hills District), Umsning (Ri-Bhoi District) and Shillong (East Khasi Hills District) along with the cost estimate as given below:

Sl. No.	Locations	Estimated
1.	Kynshi, West Khasi Hills District	Rs.1,25,600/-
2.	Jowai, West Jaintia Hills District	Rs.1,25,100/-
3.	Umsning, Ri-Bhoi District	Rs.1,25,600/-
4.	Shillong, East Khasi Hills District	Rs.1,13,600/-

Considering the workload and shortage of manpower with the Office of the Board, the proposal for conducting the Awareness Program submitted by the above mentioned organization is placed before the Board with financial assistant limited to Rs.1.0 Lakhs for each District under the condition that one resource person should be from the Board.

After thorough deliberation on the seriousness of the haphazard disposal of used face masks, PPE kits, Gloves etc, the Board resolved to consider the proposal of financial assistance of Rs.1 Lakhs for each District and that the awareness program shall be conducted in Jowai, West Jaintia Hills District, Nongpoh, Ri-Bhoi District, & Tura, West Garo Hills District.

3.3 Major Decisions Taken During the 78th Board Meeting Held On The 22nd December 2020

3.3.1: Proposal for prescribing of Norms/Criteria for siting of Coke Plants in the State of Meghalaya

The proposal for prescribing siting norms/criteria for location of Coke Plants was placed in the 77th Meeting of the Board where it was decided that the matter should be finalized in the next Meeting on obtaining the views/comments from the Members and due consultation to Environmental Legislatures and Industrial Policy of the State. So far, no response was received from the Members. After due consultation of the provisions of the Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1981 and considering the mushrooming of coke plants in some Districts of the State which may cause adverse impact to

the environment, the Norms/criteria for siting of Coke Plants (with installed production capacity less than 25,000 MTPA) in Meghalaya is proposed as below:

1. Stand Alone Coke Plants (single units)

Siting criteria/norms shall be as specified below:

(a) Distance from Main Road (PWD)	: 500 m
(b) Distance from Outer limit of Village habitation	: 1 Km
(c) Distance from Important Public Places (Hospitals, Schools, Tourist Spots)	: 1 Km
(d) Distance from Major Stream/River/Lake	: 100 m
(e) Minimum distance between 2(two) standalone Coke Plants	: 1 Km

2. Cluster of Coke Plants:

Cluster is defined when 2(two) of more units are located within a distance of 1Km from each other.

Siting criteria/norms for Cluster shall be as specified below:

(a) Distance from Main Road (PWD)	: 1 Km
(b) Distance from Outer limit of Village habitation	: 3 Km
(c) Distance from Important Public Places (Hospitals, Schools, Tourist Spots)	: 3 Km
(d) Distance from Major Stream/River/Lake	: 200 m
(e) Minimum distance between 2(two) Clusters	: 5 Km

3. A minimum buffer zone of 100 meters (in case of standalone units) and 300 meters (in case of Clusters) should be provided around the periphery for green belt.

4. There should be a provision for a common approach for units in cluster.

5. Measures to be adopted for prevention and control of Pollution and Standards of emission, etc. shall be as prescribed under the Environmental (Protection) Act, 1986 and Rules/Notifications made there under.

After a thorough deliberation, the Board approved to the proposed Norms/Criteria provided that their implementation shall have no infringement on the application of the provisions of other relevant Acts and Rules with a Clause that the norms will be reviewed from time to time.

3.3.2: Appointment by transfer within the service of the Board

The Draft Guidelines for appointment on transfer from one cadre to another cadre has been prepared as per decision of the Board in its last Meeting.

It was also informed that Regulation No. 22 of the Meghalaya State Pollution Control Board Service Regulation states that:

"22. Appointment by transfer within the service of the Board:

The Chairman may, in public interest and for reasons to be recorded in writing and also subject to any general or special orders that may be issued by the Board in its behalf appoint by transfer a Member belonging to Grade-C or Grade-D service from a post in one branch of service in the Board to a post carrying an equivalent scale of pay or grade in another branch of service in the Board."

Under the above Regulation, read with Rule 16 of the Meghalaya FRs & SRs, 1984 reproduced here below:

"F.R. 16 (a) - The State Government may transfer a Government servant from one post to another; provided that except- (i) on account of inefficiency or misbehavior, or (ii) on his written request. A Government servant shall not be transferred substantively to, or, except in a case covered by Rule 48, appointed to officiate in a post carrying less pay than the pay of the permanent post on which he holds a lien or would hold a lien had his lien not been suspended under Rule 13."

The Guidelines for implementation of the above provisions is proposed as under: -

The incumbent of the Board may be transferred from one post of a cadre to another post of a cadre and branch under the same Scale of Pay provided that the incumbent:

1. Complete nine years of service in his or her present cadre
2. Meets all the criteria as demanded in the mode of recruitment
3. The Branch Officer has no objection to the prayers of the incumbent who seeks transfer from his Branch to another post of another cadre and Branch
4. Bears no Adverse Remarks in the last five years of his ACRs
5. His integrity is beyond doubt
6. Has good health status to be verified by the authorized Health Officer
7. His health status does not permit to travel or exert his physical strength very often, however, could manage to render his services in a new post so transferred without causing much inconvenience to the Board
8. Has become physically handicapped and requests to be transferred to his native place/District (may be given preference)
9. Expresses the dire need to be in the same station with the spouse in pursuance to the facility of Child Care Leave which is admissible till he children attain the age of 18 years in order to enable them to lead a normal family life and look after the welfare of their children
10. Faces extreme hardship in rarest of cases (that requires to be transferred to his native District/Town) due to (a) threats of life of his immediate family (b) severe health problems to the employee or his immediate family due to the climate or environment of the State to which he is allocated

After a thorough deliberation, the Board accepted and approved the draft Guidelines for appointment on transfer from one cadre to another cadre.

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.	Senior Inspector of Boilers & Factories, Inspectorate of Boilers & Factories, Meghalaya, Shillong.	: Member
3.	Conservator of Forests, Meghalaya, Shillong.	: Member
4.	Deputy Director, Directorate of Commerce and Industries, Meghalaya, Shillong.	: Member
5.	Director of Mineral Resources, Meghalaya, Shillong.	: Member
6.	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.	Director of Commerce and Industries or his nominee.	: Member
3.	Chief Engineer P.H.E Deptt. Meghalaya or his nominee	: Member
4.	The Director, Regional Sophisticated Instrument Centre Bijni Complex, N.E.H.U, Shillong.	: Member
5.	Senior Scientist, Indian Council of Agricultural Research (I.C.A.R), Umiam.	: Member
6.	Member Secretary, Meghalaya State Pollution Control Board, Shillong.	: 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

*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 & Environment) 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

5.0 NATIONAL AIR QUALITY MONITORING

The Meghalaya State Pollution Control Board monitored the Ambient Air Quality at 10 (ten)stations in the State under National Air Monitoring Programme (NAMP) sponsored by Central Pollution Control Board (Fig.5.0). The frequency of monitoring was twice a week. Particulate Matter (PM_{10}), Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO_2) and meteorological parameters viz. wind speed, wind direction, ambient air temperature, humidity, etc. were monitored at these stations and the observations are presented below:-

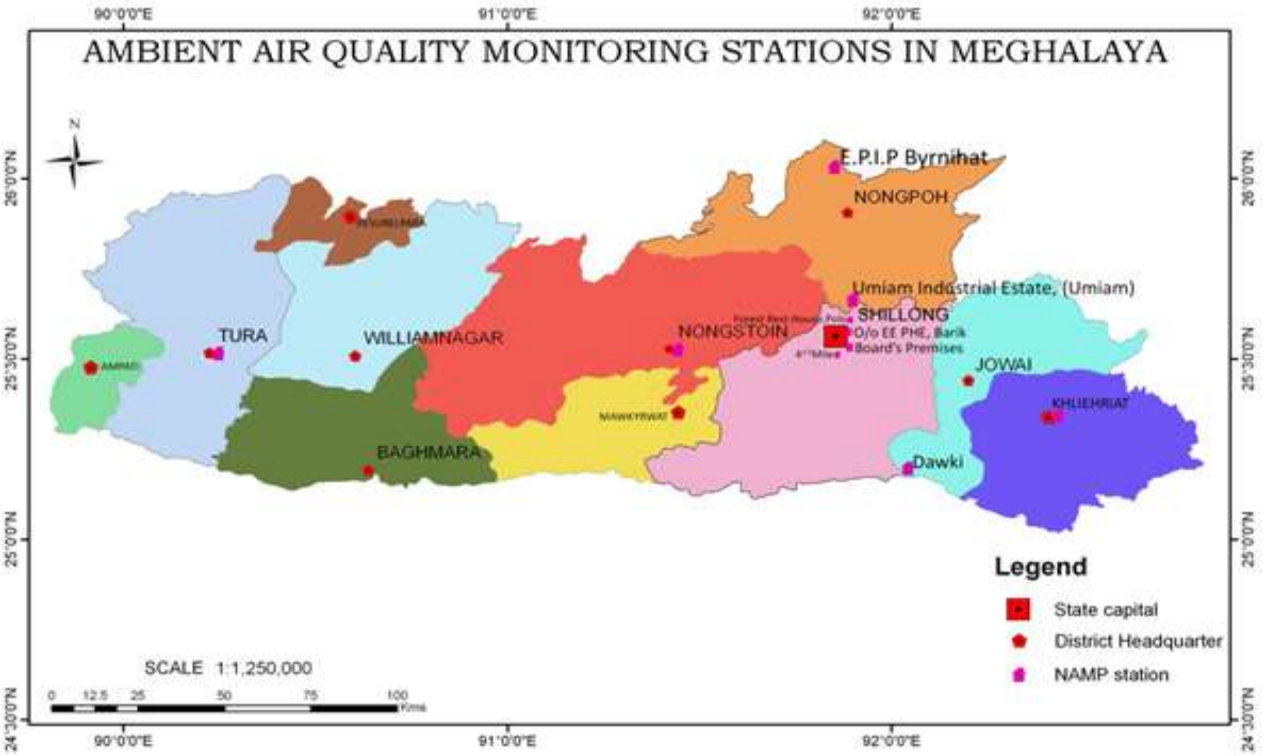


FIG. 5.0: LOCATION OF NAMP STATIONS IN THE STATE

5.1: Board's Office Premises, Lumpyngngad, Shillong (Station – I):

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.1 and depicted in Fig. 5.1

Findings and Observations:

As per the air quality data (Table5.1), maximum value **(41.9 µg/m³)** of PM_{10} was observed during the month of March and minimum value **(22.4 µg/m³)** was observed during the month of July. Maximum concentration **(22.5 µg/m³)** of PM2.5 was observed during the month of March and minimum concentration **(9.7µg/m³)** was observed during the month of June.

The Annual Average of Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO2), Particulate Matter (PM_{10}) & Particulate Matter (PM2.5) levels were within the National Ambient Air Quality standards.

Table 5.1: Ambient Air Quality data at Board's Office Premises, Lumpyngngad, Shillong, (Station – I), 2020.

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} ($\mu g/m^3$)	34.0	36.5	41.9	23.2	23.2	30.2	22.4	24.9	24.1	32.4	30.1	32.0	29.6
PM2.5 ($\mu g/m^3$)	15.4	17.1	22.5	14.1	11	9.7	11.3	10.5	10.5	14.1	14.7	13.5	13.7
SO_2 ($\mu g/m^3$)	2.0	2.6	2.0	2.8	2.6	2.4	2.0	2.3	2.6	3.2	2.8	2.9	2.5
NO_2 ($\mu g/m^3$)	4.5	8.8	4.5	5.4	7.3	8.2	6.2	7.0	7.6	9.1	8.6	9.1	7.2
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 $\mu g/m^3$; PM2.5: 40 $\mu g/m^3$; SO_2 : 50 $\mu g/m^3$; NO_2 : 40 $\mu g/m^3$													

Fig.5.1: Monthly average of PM_{10}, SO_2, and NO_2 levels at Board's Premises, Shillong.

5.2: Office of the EE (PHE), Hills Division, Barik, Shillong. (Station – II)

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.2 and depicted in Fig. 5.2

Findings and Observations:

- As per the air quality data (Table 5.2), maximum value **(64.0 µg/m³)** of PM_{10} was observed during the month of December and minimum value **(34.7 µg/m³)** was observed during the month of May. Maximum concentration **(33.8 µg/m³)** of PM2.5 was observed during the month of December and minimum concentration **(16.8 µg/m³)** was observed during the month of September.

- The Annual Average of Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO_2), and Particulate Matter (PM_{10}) levels remained within the National Ambient Air Quality standards.

- High levels of Particulate Matter (PM_{10}) may be due to emission from vehicle, dust generated due to movement of vehicles, natural dust, traffic congestion, and construction activities.

Table 5.2: Ambient Air Quality data at the Office of the EE (PHE), Hills Division, Barik, Shillong (Station – II), 2020

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} ($\mu g/m^3$)	53.6	58.0	52.9	46.7	34.7	40.9	37.6	40.3	37.5	49.0	57.3	64.0	47.7
PM2.5 ($\mu g/m^3$)	-	28.1	28.8	20.1	18.4	19.5	17.8	17.4	16.8	22.6	27.4	33.8	22.8
SO_2 ($\mu g/m^3$)	6.0	6.2	6.3	5.6	4.9	5.9	5.8	5.3	5.8	6.9	8.2	8.9	6.3
NO_2 ($\mu g/m^3$)	23.2	25.9	24.5	20.2	17.6	16.6	16.0	14.8	17.2	21.6	24.6	26.9	20.8
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 $\mu g/m^3$; PM2.5: 40 $\mu g/m^3$; SO_2 : 50 $\mu g/m^3$; NO_2 : 40 $\mu g/m^3$													

Fig.5.2: Monthly average of PM_{10}, SO_2, and NO_2 levels at Barik, Shillong.

5.3: Export Promotion Industrial Park (EPIP), Byrnihat, Ri-Bhoi District (Station – III):

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.3 and depicted in Fig. 5.3.

Findings and Observations:

- As per the air quality data (Table 5.3), maximum value **(161.6 µg/m³)** of PM_{10} was observed during the month of December and minimum value **(76.2 µg/m³)** was observed during the month of May. Maximum concentration **(70.1 µg/m³)** of PM2.5 was observed during the month of March and minimum concentration **(22.8 µg/m³)** was observed during the month of September.
- The Annual Average of Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO_2) levels remains within the National Ambient Air Quality standards.
- The Annual Average of Particulate Matter (PM_{10}) and Particulate Matter (PM2.5) levels exceeded the prescribed standards.

- High concentrations of Particulate Matter (PM_{10}) and Particulate Matter (PM2.5) levels may be 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 construction activities.

Table 5.3: Ambient Air Quality data at EPIP, Byrnihat, Ri-Bhoi District, (Station – III), 2020

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} ($\mu g/m^3$)	145.6	154.1	143.5	-	76.2	83.4	77.6	82.7	79.2	111.2	157.3	161.6	115.7
PM2.5 ($\mu g/m^3$)	-	68.9	70.1	-	33.2	24.1	22.9	55.4	22.8	29.6	60.0	64.3	45.1
SO_2 ($\mu g/m^3$)	17.3	17.1	16.6	-	11.7	14.5	15.8	19.1	18.8	17.5	13.3	13.4	15.9
NO_2 ($\mu g/m^3$)	14.5	14.6	14.3	-	13.6	14.8	14.9	16.9	16.8	16.4	15.8	15.7	15.3
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 $\mu g/m^3$; PM2.5: 40 $\mu g/m^3$; SO_2 : 50 $\mu g/m^3$; NO_2 : 40 $\mu g/m^3$													

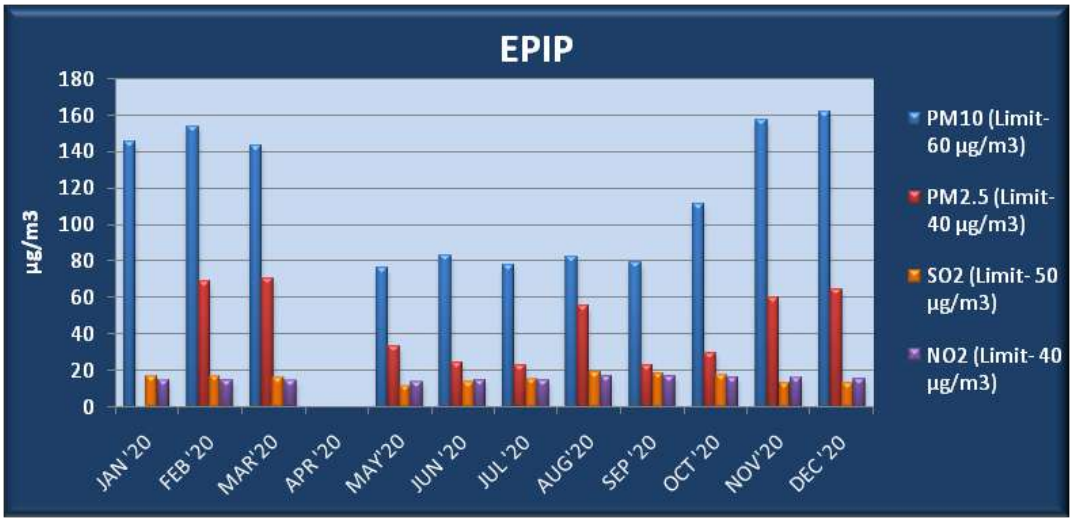


Fig.5.3: Monthly average of PM_{10}, SO_2, and NO_2 levels at EPIP, Byrnihat, Ri-Bhoi District

5.4: Dawki, West Jaintia Hills District (Station – IV):

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.4 and depicted in Fig. 5.4.

Findings and Observations:

- As per the air quality data (Table 5.4), maximum value **(37.9 µg/m³)** of PM_{10} was observed during the month of March and minimum value **(17.9 µg/m_3)** was observed during the month of May. Maximum concentration **(26.2 µg/m³)** of PM2.5 was observed during the month of February and minimum concentration **(9.5 µg/m³)** was observed during the month of May.
- The Annual Average of Sulphur Dioxide (SO_2), Nitrogen dioxide (NO_2), Particulate Matter (PM_{10}) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.4: Ambient Air Quality data at Dawki, West Jaintia Hills District, (Station – IV), 2020

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} (µg/m³)	31.2	34.7	37.9	-	17.9	17.9	19.1	26.9	27.3	29.1	34.4	34.6	28.3
PM2.5 (µg/m³)	-	26.2	22.4	-	9.5	11.4	11.4	14.8	16.6	18.6	16.2	18.9	16.6
SO_2 (µg/m³)	2.0	3.5	2.0	-	1.9	2.6	2.2	3.2	3.1	3.9	4.2	4.5	3.0
NO_2 (µg/m³)	15.9	14.7	14.0	-	8.1	9.6	9.5	13.4	14.0	15.7	14.3	16.7	13.3
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 µg/m³ ; PM2.5: 40 µg/m³ ; SO_2 : 50 µg/m³ ; NO_2 : 40 µg/m³													

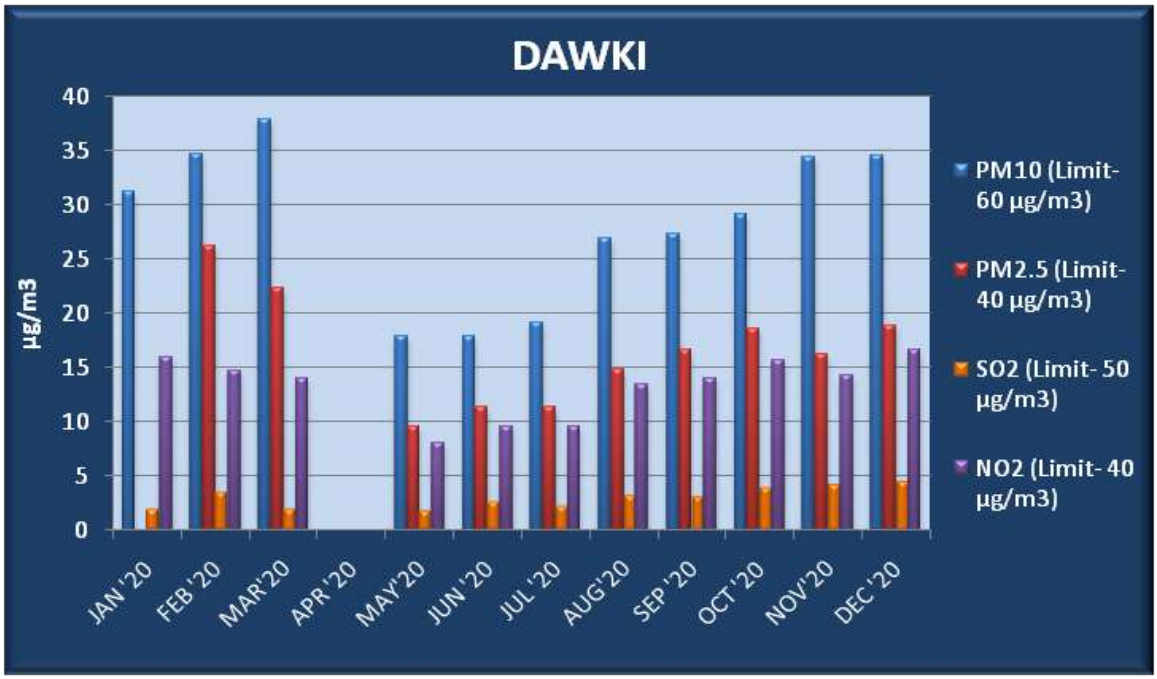


Fig. 5.4: Monthly average of PM_{10}, SO_2, and NO_2 levels at Dawki, West Jaintia Hills District.

5.5: Tura, West Garo Hills District (Station – V):

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.5 and depicted in Fig. 5.5.

Findings and Observations:

- As per the air quality data (Table 5.5), maximum value **(39.6 µg/m³)** of PM_{10} was observed during the month of December and minimum value (26.7 µg/m³) was observed during the month of April. Maximum concentration **(13.6 µg/m³)** of PM2.5 was observed during the month of December and minimum concentration **(11.6 µg/m³)** was observed during the month of May.
- The Annual Average of Sulphur Dioxide (SO_2), Nitrogen dioxide (NO_2), Particulate Matter (PM_{10}) and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.

Table 5.5: Ambient Air Quality data at Tura, West Garo Hills District, (Station – V), 2020

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} (µg/m³)	36.7	35.3	32.7	26.7	26.9	29.2	28.7	32.9	29.9	32.4	37.2	39.6	32.4
PM2.5 (µg/m³)	-	-	-	-	11.6	11.7	11.7	12.4	11.8	12.2	12.3	13.6	12.2
SO_2 (µg/m³)	2.0	3.2	2.0	2.0	5.3	2.0	2.1	2.0	2.2	2.9	3.3	2.0	2.6
NO_2 (µg/m³)	14.0	4.6	13.3	12.7	12.7	12.9	12.9	13.6	12.9	13.1	13.4	13.9	12.5
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 µg/m³ ; PM2.5: 40 µg/m³ ; SO_2 : 50 µg/m³ ; NO_2 : 40 µg/m³													

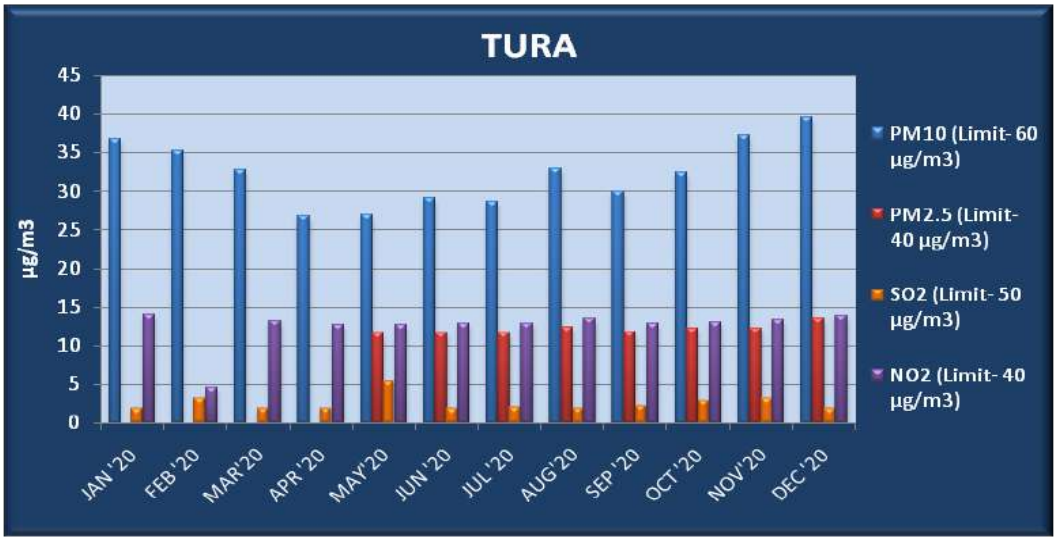


Fig. 5.5: Monthly average of PM_{10}, SO_2, and NO_2 levels at Tura, West Garo Hills District

5.6: Khliehriat, Jaintia Hills District, (Station – VI):

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.6 and depicted in Fig. 5.6.

Findings and Observations:

- As per the air quality data (Table 5.6), maximum value **(48.0 µg/m³)** of PM_{10} was observed during the month of March and minimum value **(28.3 µg/m³)** was observed during the month of May. Maximum concentration **(24.6 µg/m³)** of PM2.5 was observed during the month of March and minimum concentration **(10.8 µg/m³)** was observed during the month of May.
- 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 5.6: Ambient Air Quality data at Khliehriat, East Jaintia Hills District, (Station–VI), 2020

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} (µg/m³)	47.8	42.8	48.0	-	28.3	33.8	31.1	31.7	30.5	36.8	39.4	41.4	37.4
PM2.5 (µg/m³)	-	22.6	24.6	-	10.8	13.6	15.2	15.3	16.2	17.6	16.4	18.2	17.1
SO_2 (µg/m³)	2.0	3.9	4.2	-	2.1	2.0	2.0	2.0	2.3	3.4	3.8	3.6	2.8
NO_2 (µg/m³)	13.0	12.8	13.3	-	6.1	10.4	9.4	10.8	10.4	12.1	12.2	12.4	11.2
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 µg/m³ ; PM2.5: 40 µg/m³ ; SO_2 : 50 µg/m³ ; NO_2 : 40 µg/m³													

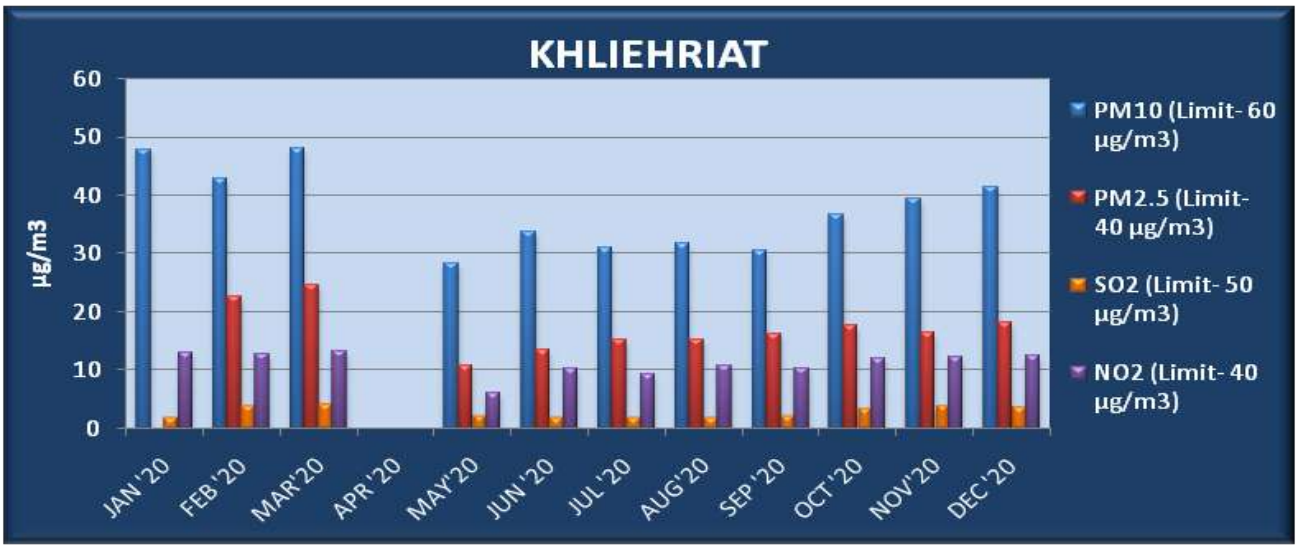


Fig. 5.6: Monthly average of PM_{10}, SO_2, and NO_2 levels at Khliehriat, East Jaintia Hills District

5.7: Nongstoin, West Khasi Hills District (Station – VII):

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.7 and depicted in Fig. 5.7.

Findings and Observations:

- As per the air quality data (Table 5.7), maximum value **(34.6 µg/m³)** of PM_{10} was observed during the month of March and minimum value **(25.2 µg/m³)** was observed during the month of May. Maximum concentration **(22.1 µg/m³)** of PM2.5 was observed during the month of March and minimum concentration**(14.5 µg/m³)** was observed during the month of September.
- 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 5.7: Ambient Air Quality data at Nongstoin, West Khasi Hills District. (Station–VII), 2020

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} (µg/m³)	32.8	32.3	34.6	-	25.2	31.5	33.2	31.2	28.9	34.3	32.7	34.1	31.9
PM2.5 (µg/m³)	-	21.4	22.1	-	16.6	18.4	17.9	14.7	14.5	18.1	17.9	17.4	17.9
SO_2 (µg/m³)	2.0	2.5	2.7	-	2.0	2.0	2.0	2.0	2.3	2.8	2.9	2.4	2.3
NO_2 (µg/m³)	13.6	13.5	13.9	-	11.4	12.8	13.3	13.2	12.2	14.8	14.6	13.9	13.4
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 µg/m³ ; PM2.5: 40 µg/m³ ; SO_2 : 50 µg/m³ ; NO_2 : 40 µg/m³													

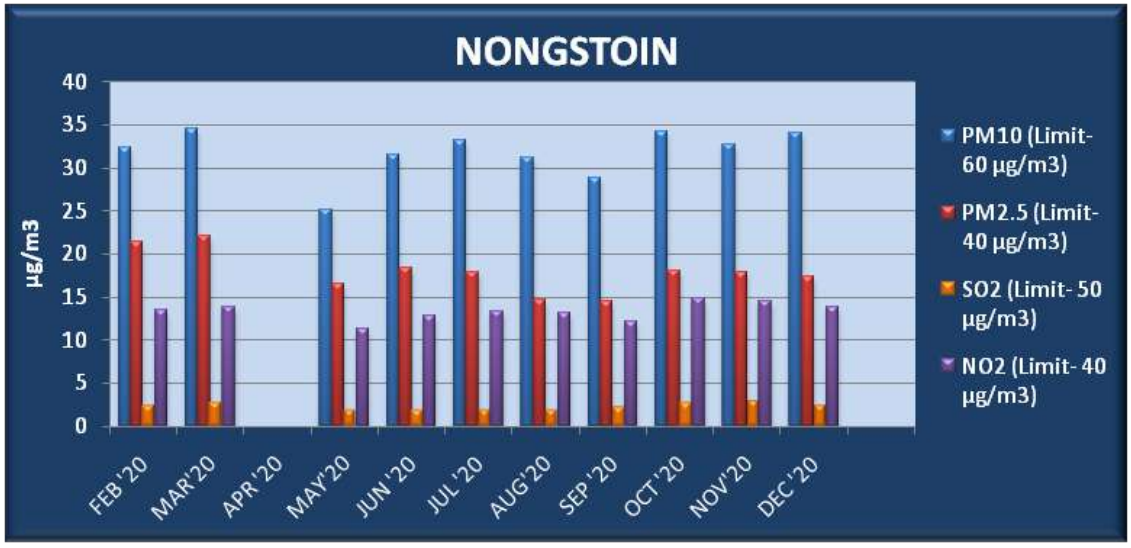


Fig 5.7: Monthly average of PM10, SO_2, and NO_2 levels at Nongstoin, West Khasi Hills District

5.8: Umiam Industrial Estate, Umiam, Ri-Bhoi District. (Station – VIII):

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.8 and depicted in Fig. 5.8.

Findings and Observations:

- As per the air quality data (Table 5.8), maximum value **(117.9 µg/m³)** of PM_{10} was observed during the month of March and minimum value **(56.5 µg/m³)** was observed during the month of September. Maximum concentration **(31.6 µg/m³)** of PM2.5 was observed during the month of December and minimum concentration **(20.1 µg/m³)** was observed during the month of September.
- The Annual Average of Sulphur Dioxide (SO_2), Nitrogen dioxide (NO_2), and Particulate Matter (PM2.5) levels remain within the National Ambient Air Quality standards.
- The Annual Average Particulate Matter (PM10) levels observed to be above the National Ambient Air Quality standards.
- High levels may be due to emission from vehicle, dust generated due to movement of vehicles, natural dust, and construction activities, emissions from industries located in the industrial area.

Table 5.8: Ambient Air Quality data at Umiam Industrial Estate, Ri-Bhoi District, 2020

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} (µg/m³)	94.5	84.6	117.9	-	61.9	62.5	62.3	62.4	56.5	63.7	67.4	86.9	74.6
PM2.5 (µg/m³)	-	-	-	-	22.4	20.5	20.7	23.4	20.1	24.1	25.5	31.6	23.5
SO_2 (µg/m³)	4.0	4.6	4.9	-	4.2	4.5	4.4	4.3	4.3	4.3	4.5	3.6	4.3
NO_2 (µg/m³)	12.1	11.7	12.9	-	10.9	11.4	11.0	11.3	10.9	11.2	11.2	11.7	11.5
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 µg/m³ ; PM2.5: 40 µg/m³ ; SO_2 : 50 µg/m³ ; NO_2 : 40 µg/m³													

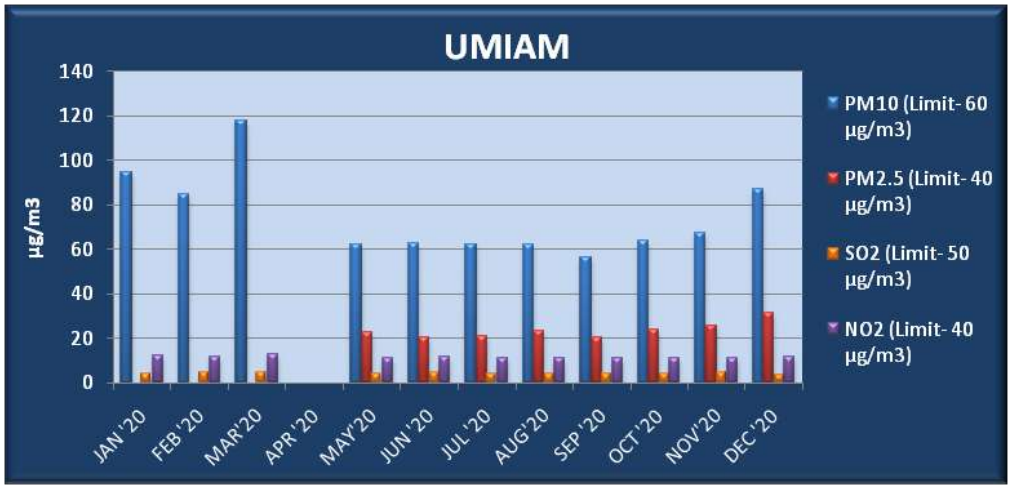


Fig. 5.8: Monthly average of PM10, SO_2, and NO_2 levels at Umiam Industrial Estate, Ri-Bhoi District

5.9: Forest Rest House, Polo Hills, Shillong, (Station – IX):

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.9 and depicted in Fig. 5.9.

Findings and Observations:

- As per the air quality data (Table 5.9), maximum value **(42.2 µg/m³)** of PM10 was observed during the month of February and minimum value **(28.0 µg/m³)** was observed during the month of July. Maximum concentration **(21.8 µg/m³)** of PM2.5 was observed during the month of October and minimum concentration **(12.6 µg/m³)** was observed during the month of April.
- 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 5.9: Ambient Air Quality data at Forest Rest House, Polo Hills, Shillong, 2020

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} (µg/m³)	40.5	42.2	38.0	32.7	31.3	32.3	28.0	35.8	34.3	37.7	36.6	34.0	35.3
PM2.5 (µg/m³)	-	18.8	19.2	12.6	13.1	19.2	14.0	14.5	14.7	21.8	18.7	15.8	16.6
SO_2 (µg/m³)	4.8	4.4	4.5	3.4	3.0	3.7	4.0	3.8	3.6	4.4	4.7	3.9	4.0
NO_2 (µg/m³)	12.4	13.1	12.9	10.5	9.8	11.4	10.1	10.1	9.4	10.9	11.9	10.3	11.1
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 µg/m³ ; PM2.5: 40 µg/m³ ; SO_2 : 50 µg/m³ ; NO_2 : 40 µg/m³													

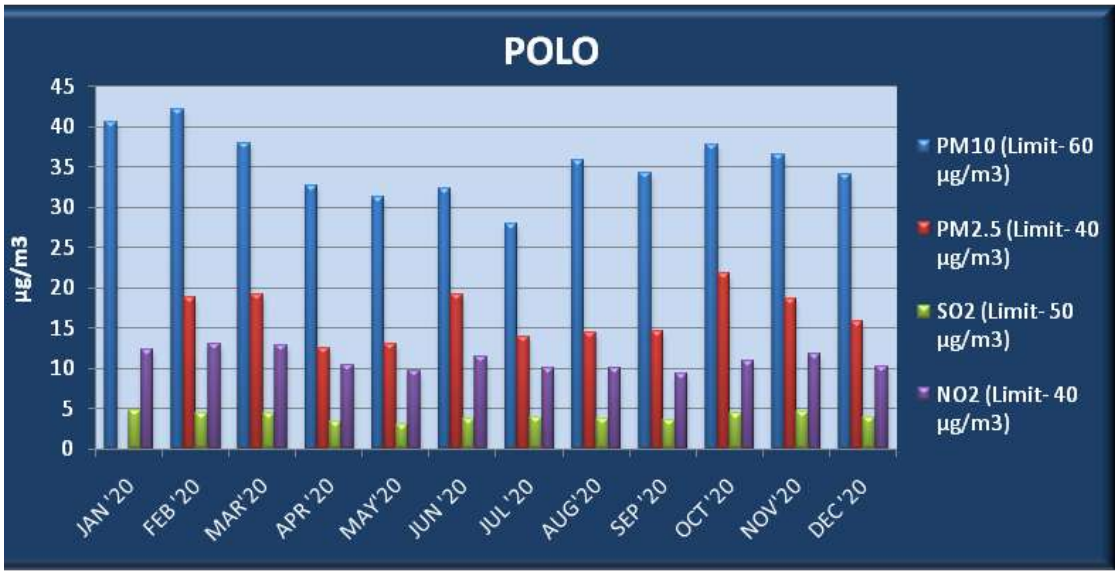


Fig.5.9: Monthly average of PM10, SO_2, and NO_2 levels at Forest Rest House, Polo Hills, Shillong.

5.10: Mylliem Range Office, Social Forestry, 4 ½ Mile, Upper Shillong, (Station – X):

The Air Quality data monitored at the station during January to December 2020 are given in Table: 5.10 and depicted in Fig.5.10.

Findings and Observations:

- As per the air quality data (Table 5.10), maximum value **(44.3 µg/m³)** of PM10 was observed during the month of February and minimum value **(18.0 µg/m³)** was observed during the month of August. Maximum concentration **(23.6 µg/m³)** of PM2.5 was observed during the month of March and minimum concentration **(13.5 µg/m³)** was observed during the month of September.
- 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 5.10: Ambient Air Quality data at Mylliem Range Office, Social Forestry, 4 ½ Mile, Upper Shillong, 2020

Months → Parameters ↓	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual Avg.
PM_{10} (µg/m³)	28.6	44.3	37.7	37.8	30.7	33.4	29.2	18.0	27.7	32.3	34.9	42.0	33.1
PM2.5 (µg/m³)	-	22.3	23.6	22.1	16.4	18.1	18.7	15.5	13.5	16.8	17.6	21.5	18.7
SO_2 (µg/m³)	2.0	3.1	2.0	2.0	2.6	3.1	3.4	3.4	3.3	3.7	3.5	3.5	3.0
NO_2 (µg/m³)	9.0	10.3	4.5	5.2	8.1	10.4	10.3	9.4	7.7	9.8	9.8	10.8	8.8
Permissible limits (Annual Average) of Ambient Air Quality Standards as per EPA Notification GSR 826(E), dated 16th November 2009. PM_{10}: 60 µg/m³ ; PM2.5: 40 µg/m³ ; SO_2 : 50 µg/m³ ; NO_2 : 40 µg/m³													

Fig.5.10: Monthly average of PM10, SO_2, and NO_2 levels at Mylliem Range Office, Social Forestry, 4½ Mile, Upper Shillong.

5.1.0: AMBIENT AIR QUALITY AND SOURCE EMISSION MONITORING

The Board carried out Ambient Air Quality (Table 5.1.0) and Source Emission Monitoring (Table 5.1.1) in residential areas and industrial units operating in the State during 2020-2021. The following results were obtained during the monitoring: -

Table 5.1.0: Ambient Air Quality data during 2020-2021

Sl.No.	Name of Industry/Location	Date of Monitoring	Sampling Station	Parameters				Remarks
				PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	
1.	Marak Pavers, Samanda	15.09.2020	Industries Premises	25.2	8.8	2.0	4.5	W
2.	USTM,Killing	21.09.2020	Near Football Ground	43.8	30.6	2.0	10.2	W
3.	Khrikshon Lyngkhoi Crusher, Killing	21.09.2020	Near Quarry	51.5	28.5	4.2	13.3	W
4.	Summerset Enterprise, Killing	22.09.2020	Near Workshop	54.5	26.5	4.6	14.8	W
5.	J. Sangma, Killing	22.09.2020	Umduba Stone Quarry	46.3	20.9	2.0	12.7	W
6.	Jorbil, Killing	23.09.2020	Near Community Halls	52.3	25.9	2.0	15.2	W
7.	Baridua, Byrnihat	23.09.2020	Near Community Halls	58.1	21.5	2.0	13.1	W
8.	Mikhuli, Killing	24.09.2020	Residence	33.1	17.4	2.0	9.5	W
9.	Baridua, Byrnihat	05.10.02020	Near Community Halls	73.7	41.5	2.0	15.2	W
10.	USTM, Killing	05.10.02020	Near Football Ground	64.6	37.7	2.0	11.8	W
11.	Summerset Enterprise, Killing	05.10.2020	Near Auto Workshop	82.0	50.0	4.4	17.4	W
12.	Jorbil, Killing	06.10.2020	Near Community Halls	76.6	40.2	4.5	18.2	W
13.	Maikhuli	06.10.2020	Residence	41.2	23.3	2.0	10.8	W
14.	Khrikshon Lyngkhoi, Killing	07.10.2020	Near Office	96.4	40.6	4.7	15.7	W
15.	J.Sangma, Killing	07.10.2020	Stone Quarry	88.9	35.5	2.0	14.6	W
16.	Sohra Govt College, Sohra.	14.10.2020	Near Principal Office Campus	21.0	18.1	2.0	4.5	W
17.	Sohra Govt College, Sohra.	14.10.2020	Near Campus near Wah Khlek khlek	19.7	11.3	2.0	4.5	W
18.	Komorah Lime Stone, Bholaganj.	04.11.2020	Loading Station	40.7	24.5	2.0	4.5	W
19.	Komorah Lime Stone, Bholaganj.	04.11.2020	Near Dispensary	52.6	27.1	2.0	8.1	W
20.	Komorah Lime Stone, Bholaganj.	04.11.2020	Quarry	43.0	25.2	2.0	6.5	W

Sl. No.	Name of Industry/Location	Date of Monitoring	Sampling Station	Parameters				Remarks
				PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_2 (µg/m³)	
21.	Highland Toyota	01.12.2020	Near Entrance	36.6	21.9	2.0	10.4	W
22.	St. Anthony College, Shillong.	14.12.2020	Basketball Court	47.6	26.7	2.0	11.2	W
23.	Shillong, (Christmas Festival)	24/25.12.20	Meghalaya Assembly Premises, Police Bazar	38.9	9.7	4.9	18.0	W
24.	Shillong, (New Year's Eve)	31.12.21	Meghalaya Assembly Premises, Police Bazar	34.0	22.3	5.3	17.9	W
25.	Summerset Enterprise, Killing, Ri Bhoi District.	02.02.21	Near Weighbridge	135.1	98.5	4.7	16.5	A
26.	Dura Enterprise, Killing, Ri Bhoi District.	02.02.21	Near Office	144.3	102.2	5.1	17.9	A
27.	Susi Manners Crusher, Baridua, Ri Bhoi District.	03.02.21	Near Crusher Unit	133.7	88.1	5.5	24.6	A
28.	Megha Mansions Pvt. Ltd., Baridua, Ri Bhoi District.	03.02.21	Near Office	110.7	100.5	4.6	15.4	A
29.	Dhar Stone Crusher, Killing	04.02.21	Near Office	138.2	104.0	4.3	18.8	A
30.	Uranus Stone Products, Killing	04.02.21	Near Office	158.3	109.3	5.2	19.2	A
31.	Dayanidhi Ventures Pvt. Ltd., Killing	04.02.21	Near Weighbridge	145.8	111.5	5.1	22.3	A
32.	Kiang Nangbah Govt. College, Jowai	09.02.21	Basketball Court	53.7	20.7	2.0	4.5	W
33.	Shillong Expressway, Mawkhanu.	18.02.21	Near Office	52.8	27.6	6.3	12.3	W

W - Within Permissible Limits
A - Above Permissible Limits

Table 5.1.1: Source Emission Monitoring data during 2019-2020

Sl. No.	Name of Sampling Location	Date of Sampling	Type of Stack	Parameters tested	Observed value (mg/Nm³)	Remarks
1.	Jaintia Cements Ltd., Latyrke, Sutnga.	20.08.20	Kiln (VS)	PM	86.5	A
				(mg/Nm³)	924.9	A
				SO2	13.5	W
2.	Power System Operation Corporation Ltd., Nongrah, Shillong.	09.11.20	DG Set	PM (g/kW-hr)	0.65	A
				NOx (g/kW-hr)	3.0	W
				CO (g/kW-hr)	1.6	W
3.	Highland Toyota, Mawiongrim, Shillong.	01.12.20	DG Set	PM (g/kW-hr)	0.6	A
				NOx (g/kW-hr)	6.8	A
				CO (g/kW-hr)	2.8	W

W - Within Permissible Limits
A - Above Permissible Limits

5.1.2 Ambient Air Quality monitoring of Stone Crusher units located in Killing-Baridua,Ri Bhoi District, Meghalaya.

The Meghalaya State Pollution Control Board, has carried out the Ambient Air Quality monitoring of 7 (seven) stone crusher units located in Killing-Baridua area, Ri Bhoi District, during 2nd February to 5th February 2021. The monitoring locations are as follows:

1. Summerset Enterprise, Killing, Ri Bhoi District (Near Weighbridge).
2. Dura Enterprise, Killing, Ri Bhoi District (Near Office).
3. Susi Manners Crusher, Baridua, Ri Bhoi District (Near Crusher unit).
4. Megha Mansions Pvt. Ltd., Baridua, Ri Bhoi District (Near Office).
5. Dhar Stone Crusher, Killing, Ri Bhoi District (Near Office).
6. Uranus Stone Products, Killing, Ri Bhoi District (Near Office).
7. Dayanidhi Ventures Pvt. Ltd., Killing, Ri Bhoi District (Near Weighbridge).

The status of the Ambient Air quality monitored in the above mentioned units is presented below:-

Findings and Observations:

It was observed that during the monitoring period, all the units were not in operation. Other activities that was observed was that there was loading of the stone chips in trucks from the depot within the premises.

The PM10 and PM2.5 concentrations in all the 7(seven) units exceeded the prescribed limits (24 hours avg.) of National Ambient Air Quality Standards (NAAQS) (Table 5.1.2).

High concentrations of Particulate Matter (PM10) and Particulate Matter (PM2.5) observed may be attributed to the buildup of pollutants owing to dust generated due to movement of vehicles within the premises of the unit, emission from vehicles, natural dust, and loading activities. The 24 hours average concentrations of Sulphur dioxide (SO_2) and Nitrogen dioxide (NO_2) in all the stations meets the prescribed standards.

Table 5.1.2: Ambient Air Quality Monitoring data of stone crusher units in Killing-Baridua area.

Sl. No.	Name Of Industry/Location	Sampling / Monitoring Location	Date of Monitoring	Parameters (24 hours avg.)			
				PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)
1.	Summerset Enterprise, Killing, Ri Bhoi District.	Near Weighbridge	02.02.21	135.1	98.5	4.7	16.5
2.	Dura Enterprise, Killing, Ri Bhoi District.	Near Office	02.02.21	144.3	102.2	5.1	17.9
3.	Susi Manners Crusher, Baridua, Ri Bhoi District.	Near Crusher Unit	03.02.21	133.7	88.1	5.5	24.6
4.	Megha Mansions Pvt. Ltd., Baridua, Ri Bhoi District.	Near Office	03.02.21	110.7	100.5	4.6	15.4
5.	Dhar Stone Crusher, Killing, Ri Bhoi District.	Near Office	04.02.21	138.2	104.0	4.3	18.8

Sl. No.	Name Of Industry/Location	Sampling / Monitoring Location	Date of Monitoring	Parameters (24 hours avg.)			
				PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)
6.	Uranus Stone Products, Killing, Ri Bhoi District.	Near Office	04.02.21	158.3	109.3	5.2	19.2
7.	Dayanidhi Ventures Pvt. Ltd., Killing, Ri Bhoi District.	Near Weighbridge	04.02.21	145.8	111.5	5.1	22.3
Permissible Limits (24 hours avg.) : SO2 : 80 µg/m3 ; NO2: 80 µg/m3 ; PM10: 100 µg/m3 ; PM2.5: 60 µg/m3 National Ambient Air Quality Standards (NAAQS) as per EPA Notification GSR 826(E), dated 16th Nov. 2009.							

5.1.3 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 status of Vehicular Emission Assessment during the period from 01.04.2020 to 31.03.2021 is presented in Table 5.1.3 below:-

Table 5.1.3: Assessment of Vehicular Pollution

Period	Type of Vehicle		Total No. of Vehicles Tested	Vehicles Complying To Emission Standards		Vehicles Non-Complying To Emission Standards	
				Nos.	%	Nos.	%
1.04.2019 to 31.03.2020	A. Petrol Driven	2 (two) wheelers	3432	3432	100	Nil	-
		3 (three) wheelers	-	-	-	-	-
		Light Motor Vehicle	10467	10467	100	Nil	-
	B. Diesel Driven	Light Motor Vehicle	1260	1259	99.5	1	0.5
		Medium/Heavy Vehicles	12	12	100	Nil	-

CHAPTER 6
WATER QUALITY MONITORING

6.1.0 MONITORING OF WATER QUALITY

The monitoring of the water quality is one of the function 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 2020-2021 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, Fecal 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 6.1.0.

Table 6.1.0: 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	Demthring, Umkaliar, Shillong Mawlai Slaughter House, Mawpdang, Mawlai.	Monthly
	Umkhen River	Wahkdait, Ksehpongdeng, Diengpasoh.	Monthly
	Umshyrpi River	Risa Colony, Law College, Dhankheti, Umshyrpi Bridge.	Monthly
	Umiam Mawphlang River	Nongkrem, Umtyngngar, Mawphlang, Shella.	Monthly
	Umngot River	Smit, Dawki.	Monthly
	Ward's Lake	Shillong	Monthly
	Sderkariah River	Sohra (Cherrapunjee)	Monthly
	Laitryngew Stream	Laitryngew	Monthly
	Wah KhlekKhlek River	Saitsohpen	Monthly
	Wahrew River	Majai	Monthly
West Khasi Hills	Nonbah River	Nongstoin, Market Phodsohsat.	Monthly
	Kynshi River	Sohiong, Nongkhnum.	Monthly
	Wahblei River	Riangdo, Shdaddkhar.	Monthly
	Rwiang River	Rwiang	Monthly
South West Khasi Hills	Rilang River	Mawkyrwat	Monthly
	UmngiRiver	Jakrem,Umpung	Monthly
	Kynshi River	Ranikor	Monthly

SURFACE WATER			
District	**Name of Water Bodies**	**Locations of Sampling Station**	**Monitoring Frequency**
Ri – Bhoi	Umiam Lake	Outfall of Umiam River into lake, Middle Point, Near United Christian College, Exit Point.	Monthly
	Umtrew River	Umran, Byrnihat.	Monthly
East Jaintia Hills	Lukha River	Lunar at Myndihati (Tributary of Lunar) Sunapur, Khaddum.	Monthly
	Thadlaskein Lake	Mukhla	Monthly
	Kyrhukhla River	Khliehriat	Monthly
	Kalipai River	Rymbai	Monthly
	Kme Um River	Rymbai	Monthly
	Waikhyrwi River	Mookhlot	Monthly
	Kwai River	Sutnga, Mawpun.	Monthly
West Jaintia Hills	Myntdu River	Leshka, Jowai, MihMyntdu.	Monthly
	Lamu River	Leshka	Monthly
	Lynriang River	Leshka	Monthly
	Myntang River	Nartiang, Mynso	Monthly
	Umiurem River	Iale	Monthly
	Kupli River	Iooksi, Khandong.	Monthly
	Thlumuwi River	Thlumuwi	Monthly
East Garo Hills	Damring River (Krishnei)	Resubelpara	Monthly
	Manda (Dudhnai) River	Jampa, Wagaisi.	Monthly
	Tasek Lake	Songsak (Naphak)	Monthly
	Simsang River	Williamnagar	Monthly
South Garo Hills	Bugi River	Mibanpara Dalu	Monthly
	Simsang River	Baghmara Nangalbibra	Monthly
	Nongal River	Nongal	Monthly
West Garo Hills	Ganol River	Tura Garobada	Monthly
	Damring River	Boldamgre	Monthly

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 Dkhar Spring	Sohra	
West Khasi Hills	Mawthadrishan Well	Markasa	Half Yearly
South West Khasi Hills	Jakrem Hot Spring	Jakrem	Half Yearly
Ri-Bhoi	Narbong Well	Byrnihat	Half Yearly
West Jaintia Hills	Umsahep Spring	Shangpung	Half Yearly
East Jaintia Hills	Borewell at Good Shephard Parish	Ladrymbai	Half Yearly
	Borewell at KhliehwahShasem - A	Khliehriat	
	Borewell at KhliehwahShasem - B		

1. 6.1.1: Water Quality of the Sampling Stations in the Districts of Meghalaya

a) WATER QUALITY OF RIVERS IN EAST KHASI HILLS

21 (Twenty One) 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 2.0mg/l recorded at Umshyrpi River (Law College) and Umkhrah River (Slaughter house) 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 Ward's lake, 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 and 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

7 (Seven) sampling stations including Ground Water were located in West Khasi Hills and 4 (Four) Sampling including Ground Water were Located in South West 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 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 Nanbah River was observed to be above 3mg/l at the beginning of the year and came down at an average of 2.4 mg/l from the month of April onwards and the total Coliform count was above 500mpn/100ml in Nanbah River at Nongstoin. Located in the centre of the District headquarter of West Khasi Hills, this river is also subjected to pollution arising out of direct disposal of solid and liquid waste fromresidential & commercial areas,automobile workshops and servicing centresetc. 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 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 and at Umtrew River, Byrnihat the Bio-chemical Oxygen Demand was found to be above 3.0 mg/l at the start of the year and came down to an average of 2.5 mg/l from the month of April onwards. The total Coliform count in these water bodies 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 20 (Twenty) sampling stations were located in Jaintia Hills, of which 9 (Nine) were located at East Jaintia Hills and 11 (Eleven) 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) Lukha at Sunapur (v) Kalipai River at Rymbai (vi) Kme Um at Rymbai (vii) Waikhyrwi at Mookhlot (viii) Kwai River at Sutnga (ix) Lynriang River at Leshka (x) Umiurem at Iale (xi) Kupli River at Iooksi and Khangdong (xii) Thlumuwi River at Thlumuwiwas observed to be very low, with the minimum value of 2.3 recorded at Lunar River at Myndihati during the dry months of January. Low pH indicates that water was acidic in nature which was mainly due to acid effluent from coal mines located on the catchment and 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 above 3mg/l in Kyrhukhla at Khliehriat, Lunar at Myndihati and Myntdu River at Jowai at the start of the year and it came down to an average of 2.4mg/l at Kyrhukhla River, 2.3mg/l at Lunar River and 2.4 mg/l at Myntdu River from the month of March onward. The total Coliform count was observed to be above 500mpn/100 ml in Myntdu River at Jowai mainly 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 4.5. 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.

Water Sampling During 2020

Water Sampling During 2020



Table 6.1.1: 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)	South West Khasi Hills
(B) Organised outdoor bathing including drinking water source with conventional treatment followed by disinfection	1	Umkren River	Wahkdait-Kseh Pongdeng- Diengpasoh	East Khasi Hills
	2	Umshyrpi River	Risa Colony (Upstream)	East Khasi Hills
	3	Umiam Mawphlang River	Nongkrem – Shella	East Khasi Hills
	4	Umngot River	Smit- Dawki	East Khasi Hills
	5	Wah Khlek Khlek	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 – Sdad Dkhar	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

USE CLASS	SL. NO.	NAME OF RIVER/ LAKE	STRETCHES	DISTRICT
(B) Organised outdoor bathing including drinking water source with conventional treatment followed by disinfection	17	Damsing River (Krishei)	Resubelpara (Upstream)	North Garo Hills
	18	Manda (Dudnai) River	Wagasi – Jampa	East Garo Hills
	19	Simsang River	William Nagar - Bagmara	East Garo Hills – South Garo Hills
	20	Ganol River	Tura – Garobada	West Garo Hills
	21	Danrung 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	Nongstoin Marhet (downstream)	West Khasi 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)	East Khasi Hills

Table 6.1.2: 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	Iole	West Jaintia Hills
11.	Kupli River	Iodesi-Khangdong	West Jaintia Hills
12.	Thlumuwi River	Thlumuwi	West Jaintia Hills
13.	Lynriang River	Leshka	West Jaintia Hills
14.	Nongal River	Nongal	West Jaintia Hills

6.1.2 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 6.1.2: Ground Water Quality in Meghalaya during 2020

District	Name of Rivers	Locations	Year	pH	Conductivity	Turbidity	Flouride	Iron	Total Coliform
East Khasi Hills	Dreamland Spring	Police Bazar, Shillong	2020	5.95	180.0	1.5	0.06	0.11	37
	Mawpdang Spring	Mawlai		6.25	122.0	1.7	0.06	0.15	180
	Nongmynsong, Dongkamon DTW	Nongmynsong		6.5	105.0	1.8	0.05	0.14	20
	Laban Last Stop DTW	Laban		5.1	101.0	1.3	0.05	0.11	27
	Forest Colony DTW	Polo		6.2	119.0	1.7	0.06	0.15	180
	Wah-U-Dkhar	Sohra		5.5	120	1.9	0.06	0.15	<1.8
Ri - Bhoi	Narbong Well	Byrnihat		6.1	163.0	2.0	0.06	0.13	<1.8
Jaintia Hills	Umsahep Hot Spring	Shangpung		5.6	159.0	1.6	0.06	0.14	<1.8
West Khasi Hills	Mawthadrishan Well	Markasa		6.6	53.0	2.1	0.05	0.14	<1.8
South West Khasi Hills	Jakrem, Hot Spring	Jakrem		9.2	323.0	2.3	24.0	0.14	<1.8
East Jaintia Hills	Borewell at Good Shephard Parish in Lad Rymbai	Khliehriat		7.3	151.0	1.0	0.06	0.13	<1.8
	Borewell at Khliehwah Shasem-A in Khliehriat	Khliehriat		5.3	121.0	2.0	0.05	0.28	<1.8
	Borewell at Khliehwah Shasem-A in Khliehriat	Khliehriat		5.1	103.0	2.0	0.05	0.3	<1.8

6.1.3 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 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.

Table 1: Water Quality Data of River Wah Umkhrah during Pre-immerssion, Immersion & Post-immersion day, Kali Puja Festival 2020

Sl. No.	Parameters	Site I(100m Upstream of Immersion Ghat)			Site II(Site of Immersion Ghat)			Site III(100 m downstream of Immersion Ghat)		
	Date of Sampling	23.10.20	26.10.20	29.10.20	23.10.200	26.10.20	29.10.20	23.10.20	26.10.20	29.10.20
	Time	12:00	15:45	13:15	12.20	16:00	13:30	12:40	16:20	13:50
	Weather	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
	Colour	Light Brown	Brown	Brown	Light Brown	Brown	Brown	Light Brown	Brown	Brown
1.	*Temperature (°C)*	20.0	18.0	20.0	20.0	18.0	20.0	20.0	18.0	20.0
2.	*pH*	7.1	7.1	7.1	7.1	7.0	7.1	7.0	7.1	7.0
3.	*Conductivity µS/cm*	170.0	218.0	238.0	176.0	232.0	240.0	172.0	230.0	237.0
4.	*Turbidity (NTU)*	12.5	18.5	10.5	15.5	22.8	13.5	13.8	15.5	11.4
5.	*Total Suspended Solids mg/L*	21.0	26.0	15.0	36.0	38.0	20.0	18.0	34.0	16.0
6.	*Total Dissolved Solids mg/L*	117.0	150.0	164.0	121.0	160.0	166.0	119.0	159.0	163.0
7.	*Dissolved Oxygen mg/L*	5.0	4.3	4.8	4.4	4.8	4.6	4.4	5.2	4.9
8.	*BOD mg/L*	9.0	10.5	12.0	10.2	12.0	13.0	10.2	11.5	12.0
9.	*COD mg/L*	20.0	30.0	35.0	25.0	35.0	40.0	30.0	32.0	35.0
10.	*Hardness mg/L*	40.0	54.0	60.0	44.0	58.0	60.0	42.0	58.0	54.0
11.	*Calcium mg/L*	30.0	38.0	40.0	30.0	40.0	42.0	30.0	42.0	40.0
12.	*Magnesium mg/L*	10.0	16.0	20.0	14.0	18.0	18.0	12.0	16.0	14.0
13.	*Chromium mg/L*	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
14.	*Copper mg/L*	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
15.	*Lead mg/L*	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
16.	*Zinc mg/L*	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Table 2: Water Quality Data of River Myntdu during Pre-immerssion, Immersion & Post-immersion day, Kali Puja Festival 2020

Sl. No.	Parameters	Site I(100m Upstream of Immersion Ghat)			Site II(Site of Immersion Ghat)			Site III(100 m downstream of Immersion Ghat)		
	Date of Sampling	23.10.20	26.10.20	29.10.20	23.10.200	26.10.20	29.10.20	23.10.20	26.10.20	29.10.20
	Time	12:00	15:45	13:15	12.20	16:00	13:30	12:40	16:20	13:50
	Weather	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
	Colour	Light Brown	Brown	Brown	Light Brown	Brown	Brown	Light Brown	Brown	Brown
1.	*Temperature (°C)*	19.0	17.0	18.0	19.0	17.0	18.0	19.0	17.0	18.0
2.	*pH*	6.9	6.9	7.0	6.8	6.6	7.0	6.8	6.6	7.1
3.	*Conductivity µS/cm*	47.0	49.0	45.0	43.0	52.0	46.0	41.0	54.0	44.0
4.	*Turbidity (NTU)*	3.5	5.8	4.3	3.4	6.9	4.1	3.7	5.5	4.3
5.	*Total Suspended Solids mg/L*	8.0	13.0	10.0	9.0	16.0	9.0	11.0	16.0	10.0
6.	*Total Dissolved Solids mg/L*	32.0	34.0	31.0	30.0	36.0	33.0	28.0	37.0	34.0
7.	*Dissolved Oxygen mg/L*	7.1	7.3	7.0	7.4	7.4	7.2	8.2	7.6	7.1
8.	*BOD mg/L*	2.5	2.6	2.6	2.6	2.7	2.6	2.7	2.7	2.5
9.	*COD mg/L*	5.0	7.0	7.0	8.0	9.0	7.0	10.0	10.5	10.0
10.	*Hardness mg/L*	16.0	18.0	16.0	14.0	18.0	16.0	14.0	18.0	16.0
11.	*Calcium mg/L*	10.0	10.0	12.0	10.0	12.0	10.0	10.0	10.0	12.0
12.	*Magnesium mg/L*	6.0	8.0	4.0	4.0	6.0	6.0	4.0	8.0	4.0
13.	*Chromium mg/L*	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
14.	*Copper mg/L*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
15.	*Lead mg/L*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
16.	*Zinc mg/L*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 3: Water Quality Data of River Babupara-Rongkhon during Pre-immerssion, Immersion & Post-immersion day, Kali Puja Festival 2020

Sl. No.	Parameters	Site I (100m Upstream of Immersion Ghat)			Site II (Site of Immersion Ghat)			Site III (100 m downstream of Immersion Ghat)		
	Date of Sampling	23.10.2020	26.10.2020	29.10.2020	23.10.2020	26.10.2020	29.10.2020	23.10.2020	26.10.2020	29.10.2020
	Time	09:00	14:30	11:00	09:15	14:45	11:15	09:20	15:00	11:30
	Weather	Cloudy	Clear	Clear	Cloudy	Clear	Clear	Cloudy	Clear	Clear
	Colour	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
1.	Temperature (°C)	24.6	26.2	26.1	25.9	26.2	26.2	26.2	25.9	26.1
2.	pH	7.4	7.6	7.4	7.5	7.4	7.5	7.5	7.6	7.4
3.	Conductivity µS/cm	95.0	101.0	99.0	101.0	105.0	102.0	102.0	108.0	106.0
4.	Turbidity (NTU)	8.5	7.8	6.5	7.8	13.5	6.8	6.9	10.5	6.2
5.	Total Suspended Solids mg/L	15.0	18.0	10.0	18.0	20.0	14.0	20.0	18.0	14.0

Sl. No.	Parameters	Site I (100m Upstream of Immersion Ghat)			Site II (Site of Immersion Ghat)			Site III (100 m downstream of Immersion Ghat)		
	Date of Sampling	23.10.2020	26.10.2020	29.10.2020	23.10.2020	26.10.2020	29.10.2020	23.10.2020	26.10.2020	29.10.2020
	Time	09:00	14:30	11:00	09:15	14:45	11:15	09:20	15:00	11:30
	Weather	Cloudy	Clear	Clear	Cloudy	Clear	Clear	Cloudy	Clear	Clear
	Colour	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
6.	Total Dissolved Solids mg/L	65.0	69.0	68.0	70.0	72.0	70.0	70.0	74.0	73.0
7.	Dissolved Oxygen mg/L	8.1	8.3	6.9	7.5	7.1	7.5	7.4	7.8	8.5
8.	BOD mg/L	1.5	1.5	1.7	1.7	1.9	1.8	1.6	1.6	1.7
9.	COD mg/L	5.0	5.0	6.0	6.0	7.0	8.0	5.0	6.0	9.0
10.	Hardness mg/L	32.0	34.0	30.0	38.0	40.0	38.0	36.0	28.0	36.0
11.	Calcium mg/L	22.0	22.0	20.0	26.0	30.0	28.0	26.0	26.0	28.0
12.	Magnesium mg/L	10.0	12.0	10.0	12.0	10.0	10.0	10.0	12.0	8.0
13.	Chromium mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
14.	Copper mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
15.	Lead mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
16.	Zinc mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

A Glimpse of images during Puja Festival 2020 at Shillong, Tura & Jowai

Crowds Throng the Immersion Site at Polo, Shillong on Immersion Day, 26th October 2020

Sampling of Water from the Myntdu River at SyntuKsiar, Jowai on 26th October 2020

A Glimpse of images during Puja Festival 2020 at Shillong, Tura & Jowai

Crowds Throng the Immersion Site Along the Babupara-Rongkhon River at Babupara, Tura, on Immersion Day, 26th October 2020

Sampling of Water from The Babupara-Rongkhon River During Pre-Immersion Day, 23rd October, 2020

6.1.4 Water Quality Monitoring under Board's Programme

The Board also carried out the monitoring of the water quality of other water bodies in the State which were used for different purposes and subjected to different types of pollution. Based on the monitoring the following reports were published by the Board.

(1) A Report on the Water Quality Status of Lukha River and its feeding stream, East Jaintia Hills 2020 – The Board regularly monitored the water quality of Lunar at Mindahati and Lukha River at Khaddum and Sonapur under NWMP sponsored by CPCB and Ummutha River under Board's programme. A comparison of the water quality data during the 1st week of February 2020 and that during the 4th week April 2020 has been incorporated in this report.

6.1.5 Monitoring of water bodies on account of NGT order

A total of 128 samples were collected and analyzed from the water bodies located in coal mining areas

6.1.6 Analysis of water bodies received from Government Departments, Private Agencies and Public

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 449 samples were analyzed during the year.

CHAPTER 7
NOISE LEVEL MONITORING

7. 1 Noise Level Monitoring During Christmas & New Year Festival 2020

The festivals of Christmas and New Year are celebrated with pomp and gaiety not only in India but throughout the world. New Year is commonly celebrated with the bursting of firecrackers and sparklers and at times, though on a much lesser scale, the occasion of Christmas is also welcomed in the same fervor as well. As this kind of activity contributes to air as well as noise pollution, it is imperative that the Board therefore monitor air and noise level quality during the period.

With this objective, the Meghalaya State Pollution Control Board, Shillong, conducted Ambient Noise Level and Air Quality monitoring during Christmas and New Year festival on the 24th and 25th December, 2020, and the 31st December, 2020, to 1st January, 2021, respectively. This is also in pursuance to the interim directions of the Hon'ble Supreme Court.

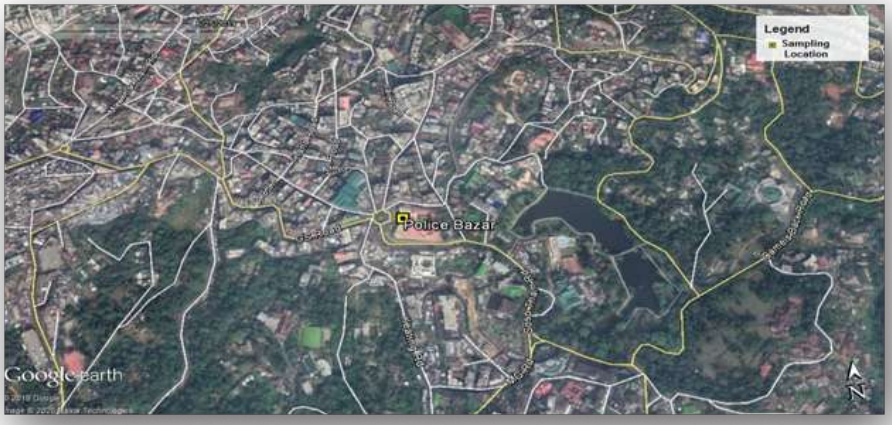
Shillong, the selected city for conducting the ambient noise level and air quality survey during the two festive periods is Meghalaya's largest and most populous city as well as its capital and therefore has the largest number of people celebrating both festivals.

The location selected is:

Police Bazar (Meghalaya Legislative Assembly Office's Premises), a commercial area.

The monitoring team was equipped with Envirotech SLM 109 sound level meter. 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 for continuous 6 hours duration i.e. from 20:00 hours (8:00 P.M.) to 02:00 hours (2:00 A.M.) where Lmin, Lmax and Leq readings were recorded for every hourly interval.

The Ambient Air Quality was monitored using Respirable Dust Sampler (Envirotech APM 411) and PM 2.5 Sampler (Envirotech 550 MFC). The monitoring for SO_2, NO_2 , PM10 and PM2.5 was carried out for a sampling period of 24 hours (8 hrs. intervals for Particulate Matter & 4 hour's interval for gaseous pollutants) from 06:00 hours (6:00 A.M.) to 06:00 hours (6:00 A.M.). The results were expressed in $\mu g/m^3$



Map showing the monitoring location in Shillong city

The festivals of Christmas and New Year are celebrated with pomp and gaiety not only in India but throughout the world. New Year is commonly celebrated with the bursting of firecrackers and sparklers and at times, though on a much lesser scale, the occasion of Christmas is also welcomed in the same fervor as well. As this kind of activity contributes to air as well as noise pollution, it is imperative that the Board therefore monitor air and noise level quality during the period.

OBSERVATIONS / INTERPRETATIONS

TABLE 1

Location: Police Bazar	Christmas festival period (24.12.2020 to 25.12.2020)			New Year festival period (31.12.2020 to 01.01.2021)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
20:00 to 21:00 Hr.	44.7	76.5	59.0	48.7	82.7	54.2
21:00 to 22:00 Hr.	47.3	72.7	56.4	45.1	77.5	55.7
22:00 to 23:00 Hr.	50.1	82.7	54.6	43.9	73.9	53.4
23:00 to 24:00 Hr.	52.2	73.3	54.4	49.3	81.6	50.5
24:00 to 01:00 Hr.	46.4	58.9	61.7	50.5	90.5	51.2
01:00 to 02:00 Hr.	42.2	71.4	62.4	50.7	80.7	52.4

It is observed from Table 1 above that the noise level on 24th - 25th December, 2020, is within the day time standard limit of 65.0 dB (A) Leq (for a commercial area) from the time duration of 20:00 Hrs. (8:00 pm) to 22:00 Hrs. (10:00 pm). During night time, the noise level from 22:00 Hrs. (10:00 pm) to 24:00 Hrs. (12:00 midnight) is within the standard of 55.0 dB (A) Leq (for night time) while the level from 24:00 Hrs. (12:00 midnight) to 02:00 Hrs. (2:00 am), however, exceeds the same standard. The higher level of noise monitored is mainly due to traffic noise and various celebration activities going on at Police Bazar junction and not due to noise from firecrackers.

From the 31st of December, 2020, to the 1st of January, 2021, it is observed that the noise level during day and night time at all time intervals from 20:00 Hrs. (8:00 pm) to 02:00 Hrs. (02:00 am) is found to be well within the mentioned standard limits for day as well as night time.

From the findings of the study above, it is observed that the ambient noise levels are slightly on the higher side during Christmas while it is markedly low during New Year celebration. However, the level is significantly much lower to that during the Christmas and New Year festival 2019.

7.2 Ambient Noise Level at Immersion Ghats/Sites During the Puja Festival 2020

Ambient noise level monitoring was conducted at the respective immersion ghats/sites at Shillong, Tura and Jowai in order to assess the level of noise during during the festival. The monitoring was conducted on the 26th October 2020, i.e., the day of immersion. The monitoring team was equipped with Envirotech SLM 109 Sound Level Meters and the noise level was 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 Leq, denoting the A weighted energy mean of the noise level averaged over the measurement period and compared with the national ambient noise level standard(s). The noise level was recorded for a total of 1 hour duration wherein Leq readings were monitored for every half-hour interval. The levels recorded during the occasion at the respective immersion sites in Shillong, Tura and Jowai is given in tables below:

Table 1-A

LocationA	River Umkhrah Immersion Site, Polo, Shillong	
Time duration	**Leq dB(A)**	**Ambient Noise Level Standard (Day time) [Residential Area] Leq dB(A)**
11:30 Hrs. to 12:00 Hrs.	68.4	55.0
12:00 Hrs. to 12:30 Hrs.	59.8	

The above table (Table 1-A) reveals that the ambient noise level at the immersion ghat along the River Umkhrah at Polo, Shillong, monitored on the 26th of October, 2020, is on the higher side. The levels recorded at every half-hourly interval from the time duration of 11:30 Hrs. (11:30 am) to 12:00 Hrs. (12:00 noon) and 12:00 Hrs. (12:00 noon) to 12:30 Hrs. (12:30 pm) shows that the level exceeds the daytime Ambient Noise Standard of 55.0 dB(A) Leq (for a Residential area).

The noise, as observed on the above day and duration of monitoring, is due to various activities at the immersion ghat/site viz. shouts of celebration, beating of drums, singing and playing of musical instruments etc. during the immersion process. However, the monitored data reveals that the level is markedly lower than that during Kali Puja 2019.

Table 1-B

LocationA	River Umkhrah Immersion Site, Polo, Shillong	
Time duration	**Leq dB(A)**	**Ambient Noise Level Standard (Day time) [Residential Area] Leq dB(A)**
12:20 Hrs. to 12:50 Hrs.	68.7	55.0
12:50 Hrs. to 13:20 Hrs.	66.9	

The above table (Table 1-B) reveals that the ambient noise level at the immersion ghat along the River Babupara-Rongkhon at Babupara, Tura, monitored on the 26th of October, 2020, is high. The levels recorded at every half-hourly interval from the time duration of 12:20 Hrs. (12:20 pm) to 12:50 Hrs. (12:50 pm) and 12:50 Hrs. (12:50 pm) to 13:20 Hrs. (1:20 pm) shows that the level obtained exceeds the daytime Ambient Noise Standard of 55.0 dB(A) Leq (for a Residential area). The noise, as observed on the above day and duration of monitoring, is due to festive activities during the immersion process. However, here again, the monitored data reveals that the level is much lower than that during Kali Puja 2019.

Table 1-C

LocationA	River Umkhrah Immersion Site, Polo, Shillong	
Time duration	**Leq dB(A)**	**Ambient Noise Level Standard (Day time) [Residential Area] Leq dB(A)**
12:20 Hrs. to 12:50 Hrs.	68.7	55.0
12:50 Hrs. to 13:20 Hrs.	66.9	

The table above (Table 1-C) displaying the ambient noise level at the immersion ghat along the river Myntdu at LynterArchaka, SyntuKsiar, Jowai, monitored on the 26th of October, 2020, reveals that the level is well within the daytime Ambient Noise Standard of 55.0 dB(A) Leq (for a Residential area) during both half-hourly monitored time intervals from 14:00 Hrs. (2:00 pm) to 14:30 Hrs. (2:30 pm) and 14:30 Hrs. (2:30 pm) to 15:00 Hrs. (3:00 pm). Once again, the monitored data reveals that the level is significantly much lower than that during Kali Puja 2019.

CHAPTER 8
ENVIRONMENTAL AWARENESS

8.1.0 Diwali Festival 2020

"Deepawali" or "Diwali", the festival of lights, is, within the nation of India, an occasion of grand celebration. During 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 people celebrating this festival. It is said to be a celebration of the triumph of good over evil and is marked by the bursting of crackers, burning of sparklers, beating of drums and playing of musical instruments etc.

However, accompanying the lights and colors is the noise and smoke that is emitted by the burning and bursting of crackers and sparklers etc. thus raising the overall ambient noise level and air pollutants in the surroundings and causing noise and air 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 arising as a result of the celebration.

With this objective, the Meghalaya State Pollution Control Board, Shillong, conducted the Ambient Noise Level and Air Quality monitoring before, on Deepawali day and after, from the 7th to the 21st of November, 2020, in pursuance to the interim directions of the Honourable Supreme Court and the Central Pollution Control Board.

AREA MONITORED

Shillong, the selected city for conducting the ambient noise level and air quality survey during the festival period is Meghalaya's largest as well as its capital city and has a sizeable population celebrating the well known festival.

Three locations selected within the city are:

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

Besides, the above three locations, the monitoring was also conducted at Byrnihat, Ri Bhoi District, as it is categorized in the non-attainment cities/towns.

AMBIENT AIR QUALITY DATA DURING DIWALI FESTIVAL 2020
Table- 8.1.1
Location: Lumpyngngad, Shillong
(Meghalaya State Pollution Control Board's Office Premises)

Sl. No.	Period	Date of Monitoring	Parameters			
			PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)
1.	Pre-Diwali	7.11.20	28.2	18.3	2.0	6.0
2.		8.11.20	35.3	18.7	2.1	5.7
3.		9.11.20	19.5	17.9	2.8	6.8
4.		10.11.20	30.3	14.9	2.1	6.1
5.		11.11.20	28.4	15.9	2.4	6.9
6.		12.11.20	23.5	18.7	2.7	7.0
7.		13.11.20	22.5	17.6	2.0	6.2

Sl. No.	Period	Date of Monitoring	Parameters			
			PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)
8.	Diwali Day	14.11.20	24.8	18.5	3.7	7.5
9.	Post-Diwali	15.11.20	20.9	10.4	2.8	6.8
10.		16.11.20	26.0	14.5	3.0	6.1
11.		17.11.20	25.9	14.4	2.7	6.2
12.		18.11.20	27.3	16.9	2.9	6.6
13.		19.11.20	28.3	13.4	2.9	6.5
14.		20.11.20	30.8	17.0	2.8	6.6
15.		21.11.20	30.1	17.9	3.0	6.8

Table-8.1.2
Location: Police Bazar, Shillong
(Meghalaya Legislative Assembly Office's Premises)

Sl. No.	Period	Date of Monitoring	Parameters			
			PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)
1.	Pre-Diwali	7.11.20	27.1	23.7	1.9	13.2
2.		8.11.20	29.2	16.7	1.4	9.3
3.		9.11.20	36.2	20.9	1.9	15.9
4.		10.11.20	37.5	21.8	2.7	15.9
5.		11.11.20	39.8	22.1	2.2	15.0
6.		12.11.20	39.5	29.1	1.5	14.2
7.		13.11.20	36.9	33.9	1.5	12.5
8.	Diwali Day	14.11.20	58.6	35.7	4.0	15.6
9.	Post-Diwali	15.11.20	44.1	36.0	2.0	10.4
10.		16.11.20	44.9	24.4	2.0	12.7
11.		17.11.20	35.2	20.3	1.9	11.8
12.		18.11.20	53.2	31.8	1.7	13.3
13.		19.11.20	50.2	31.3	2.1	12.6
14.		20.11.20	57.6	33.3	1.4	13.5
15.		21.11.20	53.6	32.1	2.2	12.2

Table-8.1.3
Location: Lawmali, Shillong
(Ganesh Das Hospital Premises)

Sl. No.	Period	Date of Monitoring	Parameters			
			PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)
1.	Pre-Diwali	7.11.20	33.7	17.1	4.1	12.9
2.		8.11.20	31.1	14.9	4.7	15.6

Sl. No.	Period	Date of Monitoring	Parameters			
			PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)
3.	Pre-Diwali	9.11.20	35.2	17.6	4.7	10.9
4.		10.11.20	29.4	13.6	4.5	13.8
5.		11.11.20	31.7	12.7	3.4	12.9
6.		12.11.20	35.5	8.7	4.9	10.5
7.		13.11.20	37.2	11.0	4.1	12.5
8.	Diwali Day	14.11.20	56.9	19.1	3.2	21.2
9.	Post-Diwali	15.11.20	45.8	18.6	7.9	15.0
10.		16.11.20	33.2	11.8	4.9	15.6
11.		17.11.20	34.7	15.1	5.9	14.9
12.		18.11.20	30.3	10.8	4.6	13.7
13.		19.11.20	29.8	12.6	4.7	14.3
14.		20.11.20	26.3	12.5	4.6	14.8
15.		21.11.20	26.0	15.1	4.7	12.4

Table-8.1.4
Location: EPIP, Byrnihat,
Ri-Bhoi District

Sl. No.	Period	Date of Monitoring	Parameters			
			PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)
1.	Pre-Diwali	7.11.20	164.5	74.5	11.2	16.3
2.		8.11.20	156.1	75.2	12.8	14.8
3.		9.11.20	146.8	66.0	13.7	16.5
4.		10.11.20	148.8	75.3	12.2	16.2
5.		11.11.20	159.1	87.1	11.3	15.6
6.		12.11.20	155.5	66.9	13.4	16.0
7.		13.11.20	147.4	56.2	12.4	15.8
8.	Diwali Day	14.11.20	171.1	90.8	14.6	16.4
9.	Post-Diwali	15.11.20	143.4	67.5	12.1	14.6
10.		16.11.20	149.7	62.4	13.0	15.6
11.		17.11.20	163.9	65.7	12.5	15.2
12.		18.11.20	153.5	60.3	12.8	14.6
13.		19.11.20	177.2	73.8	13.3	15.3
14.		20.11.20	175.4	76.7	11.9	14.9
15.		21.11.20	180.8	80.7	12.0	15.4

Description of air quality monitoring site

Three locations selected within the city are:

(i) **Location A – Lumpyngngad:** Lumpyngngad is a residential area located in the outskirts of the city. Being 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 Deepawali 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 tourists from outside the state and country frequent here for their business and shopping activities. The main noise sources here are vehicular traffic and noise caused by pedestrians, shoppers and other business activities. The shop owners and residents of this area celebrate the Deepawali 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 Deepawali. Therefore it is a suitable location for the undergoing noise study.

(iv) **Location D- EPIP Byrnihat:** This station is located in the premises of the NAMP Station Byrnihat, which is categorized as an industrial area.

Status of Ambient Air Quality

Ambient Air Quality data during diwali festival is presented at Table 8.1.1 to 8.1.4.

The findings of the monitoring results indicate that:

(i) The concentrations of SO_2, NO_2 , PM10 and PM2.5 at Lumpyngngad (the Meghalaya State Pollution Control Board's Premises, **Table-8.1.1**) was found to be within the prescribed limits of National Ambient Air Quality Standards, on Deepawali day (i.e the 14th November, 2020) as well as after the festival date throughout the monitored duration from 7th November to 21st November, 2020.

(ii) The concentrations of SO_2, NO_2, PM10 and PM2.5 at Police Bazar (Meghalaya Legislative Assembly Premises, **Table-8.1.2**) was found to be within the prescribed limits of National Ambient Air Quality Standards, on Deepawali day (i.e the 14th November, 2020) as well as after the festival date throughout the monitored duration from 7th November to 21st November, 2020.

(iii) The concentrations of SO_2, NO_2, PM10 and PM2.5 at Lawmali (Ganesh Das Hospital Premises **Table-8.1.3**) was found to be within the prescribed limits of National Ambient Air Quality Standards before, on Deepawali day (i.e the 14th November, 2020) as well as after the festival date throughout the monitored duration from 7th November to 21st November, 2020.

(iv) The concentrations of SO_2, NO_2, PM10 and PM2.5 at EPIP,Byrnihat (NAMP Station Byrnihat **Table-8.1.4**) was found to be above the prescribed limits of National Ambient Air Quality Standards before, on Deepawali day (i.e the 14th November, 2020) as well as after the festival date throughout the monitored duration from 7th November to 21st November, 2020.

Conclusion

The data collected reveals that the concentration of monitored parameters like SO_2, NO_2, PM_{10} and $PM_{2.5}$ observed to be within the prescribed limits of National Ambient Air Quality Standards before, on Deepawali day (i.e the 14th November, 2020) as well as after the festival date throughout the monitored duration from 7th November to 21st November, 2020 in all the monitored locations except EPIP at Byrnihat, where the concentrations was found to be above the prescribed limits of National Ambient Air Quality Standards before, on Deepawali day (i.e the 14th November, 2020) as well as after the festival date throughout the monitored duration from 7th November to 21st November, 2020. The high concentrations of Particulate Matter (PM10 & PM2.5) levels is mainly due to the buildup of pollutants owing to emissions from industries located in the industrial area , natural dust, movement of vehicles, construction activities.

8.2.1: Ambient Noise Level Monitoring during Diwali – 2020

Description of air quality monitoring site

Location A – Lumpyngngad: Lumpyngngad is a residential area located in the outskirts of the city. Being 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 Deepawali 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.

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 tourists from outside the state and country frequent here for their business and shopping activities. The main noise sources here are vehicular traffic and noise caused by pedestrians, shoppers and other business activities. The shop owners and residents of this area celebrate the Deepawali festival with much pomp and enthusiasm and therefore the location is suitable for the undergoing noise study.

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 Deepawali. Therefore it is a suitable location for the undergoing noise study.

Location D – EPIP, Byrnihat: EPIP, Byrnihat is mainly an industrial area where the majority of the industries in the state are located. It is situated along the boundary of the states 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.

DATA /OBSERVATIONS
NOISE LEVEL DURING DEEPAWALI FESTIVAL, 2020:

Table – 8.2.1

LUMPYNGNGAD						
Location: A	Pre-Diwali Day (9.11.2020)			Diwali Day (14.11.2020)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr.	50.1	60.3	54.5	51.9	77.0	67.7
19:00 to 20:00 Hr.	48.1	56.3	50.9	53.3	72.5	66.7
20:00 to 21:00 Hr.	46.2	63.7	51.8	53.8	70.4	64.7
21:00 to 22:00 Hr.	41.3	57.2	45.2	50.5	74.8	59.8
22:00 to 23:00 Hr.	41.7	54.1	43.2	42.5	74.6	44.6
23:00 to 24:00 Hr.	40.6	53.4	42.9	42.9	58.3	43.7

Table – 8.2.2

POLICE BAZAR						
Location: B	Pre-Diwali Day (9.11.2020)			Diwali Day (14.11.2020)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr.	48.8	68.7	52.4	53.0	83.5	59.0
19:00 to 20:00 Hr.	48.6	71.1	52.9	55.4	83.3	63.1
20:00 to 21:00 Hr.	50.8	71.6	53.9	56.5	79.8	66.0
21:00 to 22:00 Hr.	44.8	69.3	48.7	58.2	84.5	67.1
22:00 to 23:00 Hr.	43.1	67.7	46.1	55.6	74.9	62.4
23:00 to 24:00 Hr.	40.8	62.4	43.9	53.2	71.8	60.2

Table – 8.2.3

POLICE BAZAR						
Location: C	Pre-Diwali Day (9.11.2020)			Diwali Day (14.11.2020)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr.	39.5	80.7	49.8	40.4	82.2	59.0
19:00 to 20:00 Hr.	37.6	84.6	47.2	44.7	83.4	60.1
20:00 to 21:00 Hr.	39.2	90.1	50.1	45.3	87.5	62.3
21:00 to 22:00 Hr.	45.3	87.6	42.8	42.6	85.2	56.9
22:00 to 23:00 Hr.	36.1	86.2	44.3	42.3	69.1	50.7
23:00 to 24:00 Hr.	35.4	82.4	43.3	40.2	70.2	45.2

Table – 8.2.4

EPIP ,BYRNIHAT						
Location: D	Pre-Diwali Day (9.11.2020)			Diwali Day (14.11.2020)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr.	49.0	58.8	52.9	45.5	76.6	55.5
19:00 to 20:00 Hr.	45.3	60.6	51.9	45.5	77.7	56.2
20:00 to 21:00 Hr.	39.3	72.8	50.0	39.6	65.1	51.6
21:00 to 22:00 Hr.	45.5	59.1	46.8	43.1	65.1	50.6
22:00 to 23:00 Hr.	43.1	51.2	46.0	45.4	62.9	53.4
23:00 to 24:00 Hr.	42.6	57.0	45.8	43.6	62.7	51.5

Description of air quality monitoring site

1. Location A - Lumpyngngad (Meghalaya State Pollution Control Board's office premises)

It is observed from the Table-8.2.1 (Location A-Lumpyngngad) that, on the 9th of November, 2020 (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 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 the 14th of November, 2020 (i.e. Diwali day), however, it is observed that there is an overall increase in the ambient noise level at the location where the average equivalent noise level (Leq) is found to be well above 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, however, the levels measured are within the standard of 45.0 dB(A) Leq during both monitored hourly intervals from 22:00 Hrs. (10:00 pm) to 23:00 Hrs. (11:00 pm) and 23:00 Hrs. (11:00 pm) to 24:00 Hrs. (12:00 midnight).

In comparison to the level obtained during Diwali 2019, this year's level is significantly much lower.

2. Location B - Police Bazar (Office of the Meghalaya Legislative Assembly's premises)

It is observed from Table-8.2.2 (Location B - Police Bazar) that the noise level on the 9th of November, 2020 (i.e. pre-Diwali day), is within the standard limit of 65.0 dB (A) Leq for day time from 18:00 Hrs. (6:00 pm) to 22:00 Hrs.(10:00 pm) and also within the (night time) ambient noise level standard of 55.0 dB(A) Leq from 22:00 Hrs. (10:00 pm) to 24:00 Hrs.(12:00 midnight).

On the 14th of November, 2020 (i.e. Diwali day), it is observed that there is an overall increase in the noise level during all monitored time intervals falling in the day and night slot. Here we see that the noise level exceeds the mentioned day time noise standard limit during the timing from 20:00 Hrs.(08:00 pm) to 21:00 Hrs.(09:00 pm) and 21:00 Hrs.(09:00 pm) to 22:00 Hrs.(10:00 pm), while the night time noise level standard of 55.0 dB (A) Leq is exceeded during the time intervals from 22:00 Hrs.(10:00 pm) to 23:00 Hrs.(11:00 pm) and 23:00 Hrs.(11:00 pm) to 24:00 Hrs.(12:00 midnight).

However, here again, overall, the noise level is comparatively much lower than that during Diwali 2019.

3. Location C - Lawmali (Ganesh Das Hospital's premises)

It is observed from Table-8.2.3 (Location C – Lawmali) that, on the 9th of November, 2020 (i.e. pre-Diwali day), the noise level during day and night time, i.e. 18:00 Hrs. (6:00 pm) to 24:00 Hrs. (12:00 midnight), exceeds the day and night time standards (for Silence Zones) of 50.0 dB (A) Leq and 40.0 dB(A) Leq respectively. The observed higher level of sound obtained during the monitored duration may be attributed to various activities in the hospital campus as well as vehicular traffic.

On the 14th of November, 2020 (i.e. Diwali day), however, it is observed that the overall average equivalent noise level (Leq) is comparatively much higher than that on pre-Diwali day. For all timings from 18:00 Hrs. (6:00 pm) to 24:00 Hrs. (12:00 midnight), the monitored sound level is above the mentioned standard limits during day as well as night time. The higher noise level monitored is attributed to bursting of crackers in the surrounding areas of the neighbourhood.

In comparison to the noise level during Diwali 2019, the level obtained this year is markedly lower.

4. Location D - EPIP, Byrnihat

It is observed from Table-8.2.4 (Location - Byrnihat) that, on the 9th of November, 2020 (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 the 14th of November, 2020 (i.e. Diwali day), it is observed that there is no significant change in the ambient noise level at the location where the average equivalent noise level (Leq) is found to be well below the mentioned ambient noise standards for Industrial area.

Conclusion

The findings of the monitored study reveal that the ambient noise level is higher during Deepawali day (i.e. 14th November, 2020) as compared to that on a normal/pre-Diwali day (i.e.9th November, 2020). The bursting of firecrackers and burning of sparklers on Diwali day contributes to the overall noise at the monitored locations resulting in an increase in the ambient noise level at the place. However, from the data obtained, it may also be inferred that the restriction on sale and use of high sounding fire crackers as well as the restriction on timings and duration for sale and bursting of crackers etc. have gone a long way in contributing to the lowering of the sound emitted, resulting in a markedly significant decrease in the ambient noise level at the sampled locations as compared to that during Diwali 2019.

CHAPTER 9

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 sacle 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.

Pollution Control and Waste Management:

9.1: 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.

9.2: 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.

9.3: Consent Management:

Under the large-scale industrial sector cement plants falls under the 17 categories of highly polluting industries. The others were medium and small-scale industries such as power plants, 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 2020-2021 the number of industries/firms/units which the Board granted for Consent to Establish and 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 the Annexure-3 and Annexure-4 respectively.

9.4: 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 54 stations in the State under the National Water Monitoring Programme (NWMP). The monitoring network covers 20 Rivers, 4 Lakes, 7 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.	UmtrewByrnihat Rivers	: Ri-Bhoi District
4.	Myntdu (Jowai)	: West Jaintia Hills District
5.	Nanbah (Nongstoin)	: West Khasi Hills District

Water Quality Assessment:

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.

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.

9.4: Water 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 10 (Ten) Ambient air quality-monitoring stations under National Air Monitoring Programme (NAMP) were placed to assess the changes in air quality.

Three criteria pollutants viz. PM10 (Particulate Matter having an aerodynamic diameter less than or equal to 10 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 2020 indicates that PM10 levels exceeded the NAAQS (annual average) at 2 sampling stations viz (i) Export Promotion Industrial Park (EPIP), Byrnihat, (Stn-III- Industrial area) and (ii) Umiam Industrial Estate, Ri-Bhoi District(Industrial area).

High concentrations of Particulate Matter (PM10) 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 shouldbe maintained within the National Ambient Air Quality Standards.

3. The Board officials inspect the industries regularly to observe the measures taken for compliance of pollution control 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 10
ENVIRONMENTAL TRAINING

10.1 Officers of the Board have undergone training on various environmental issues conducted by CPCB and other Institution and Organizations. The Environmental Training attended by the officials of the Board during the year 2020-2021 is shown in the following Table-10.1

Table-10.1: Environmental Training attended by the Board's Officials

Sl. No.	Date	Name of Officer/ Staff	Subject	Training Organizers
1.	26th August 2020	1. Shri M.S. Tiewsoh, AEE	Quick Hygiene Survey of Rivers	Hyderabad
2.	8th-12th February 2021	1. Shri J. Kharshiing, SSA 2. Dr.(Miss) D. Tariang, SA	Environmental Data Interpretation, Compilation, Analysis, Presentation and Reporting Hands-on Training and Case Study	Indian Statistical Institute, Delhi
3.	10th-12th February 2021	1. Shri S. Nongrum, JSA 2. Smti H. Kharkongor, JSA	Occupational Health and Safety Management System 45001:2018	CPCB sponsored Online Training organised by KMR-National Institute of Occupational Health, Ahmedabad
4.	15th-17th February 2021	1. Shri A. Lyngdoh, JSA 2. Shri W. Papang, J.R.F.	Sophisticated Instruments for Analysis of Toxic Heavy Metals in Environmental Samples and GC/GC-Ms Operation	CPCB sponsored online training organised by CSIR – National Geo-Physical Research Institute, Hyderabad
5.	17th-19th February 2021	1. Shri S. Swer, Scientist 'C' 2. Shri M.N. Warbah, SSA	Control of Air Pollution, Source Appointment Studies and Preparation of Emission Inventory	CPCB sponsored Online Training organised by Centre for Environmental Studies, India Habitat Centre, New Delhi
6.	17th-19th February 2021	1. Shri J. Kharshiing, SSA 2. Shri A. Lyngdoh, JSA	Epidemiological Study of Human Community towards impact of Toxic Chemicals like Arsenic, Polycyclic Aromatic Hydrocarbon (PAH)	CPCB sponsored Online Training organised by TERI School of Advance Studies, New Delhi
7.	17th-19th February 2021	1. Shri S. Wanswett, JSA 2. Shri S. Nongkynrih, SC	Environmental Monitoring-Sample Collection of Effluent, AAQM, Stack and Testing of various Environmental Parameters like Air, Water and Noise in the Laboratory	CPCB sponsored online E-learing, National Productivity Council under DPIIT, Ministry of Commerce and Industry, Govt. of India.
8.	24th–25th March 2021	1. Shri S. Swer, Scientist 'C' 2. Shri M.N. Warbah, SSA	Urban Air Quality Management	CPCB sponsored Online Training organised by Centre for Environmental Studies, India Habitat Centre, New Delhi

CHAPTER 11
OTHER ACTIVITIES OF THE BOARD

11.0 WASTE MANAGEMENT

11.0.1 Bio-Medical Waste Management Rules, 2016

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.

11.0.2 Status of Health Care Facilities

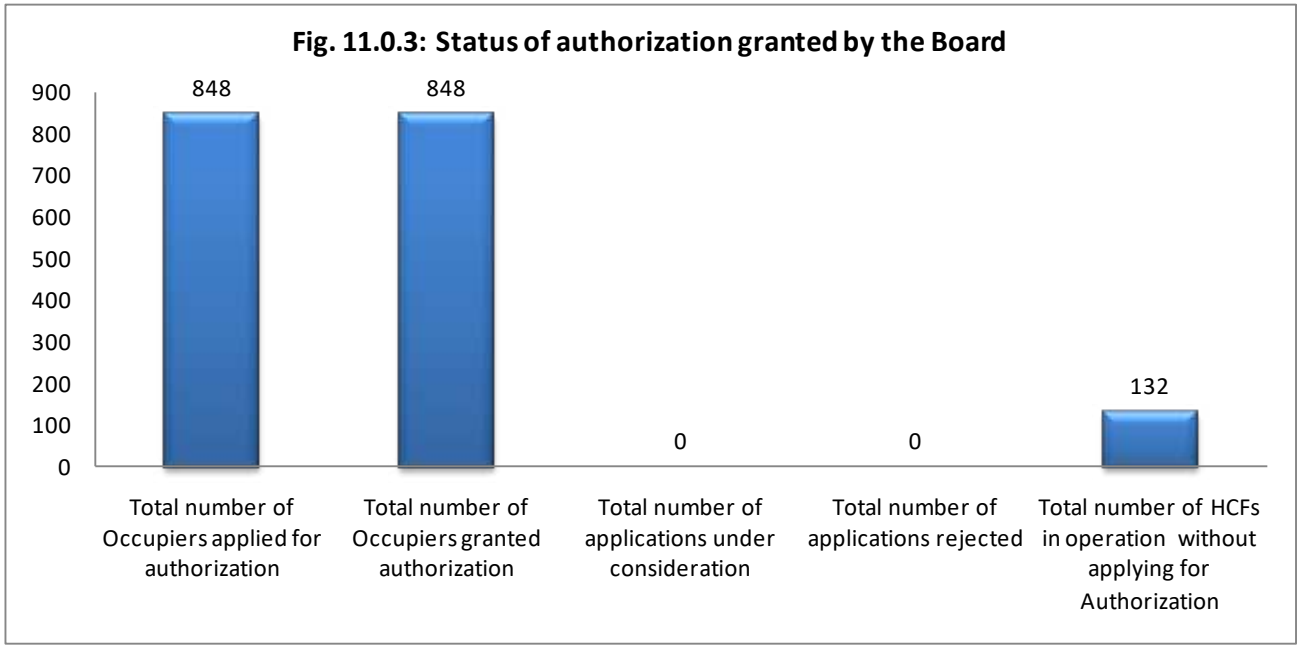
The category of Health Care Facilities (HCFs) in the State of Meghalaya is shown in the table – 11.0.2

Table – 11.0.2 Number of HCFs Category-wise in the State as on March 2021

Sl. No.	Name of Health Care Facilities	2020-2021
1	Bedded Hospitals and Nursing Homes (Bedded)	187
2	Dispensaries, Sub Centers, Urban Primary Health Centre	501
3	Veterinary Institutions	118
4	Animal Houses	Nil
5	Pathological Laboratories/ Daignostic Centres/ Clinical Establishment/ Eye Care Centres	170
6	Blood Banks	2
7	Research Institutions	1
8	AYUSH	1
	TOTAL	**980**

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

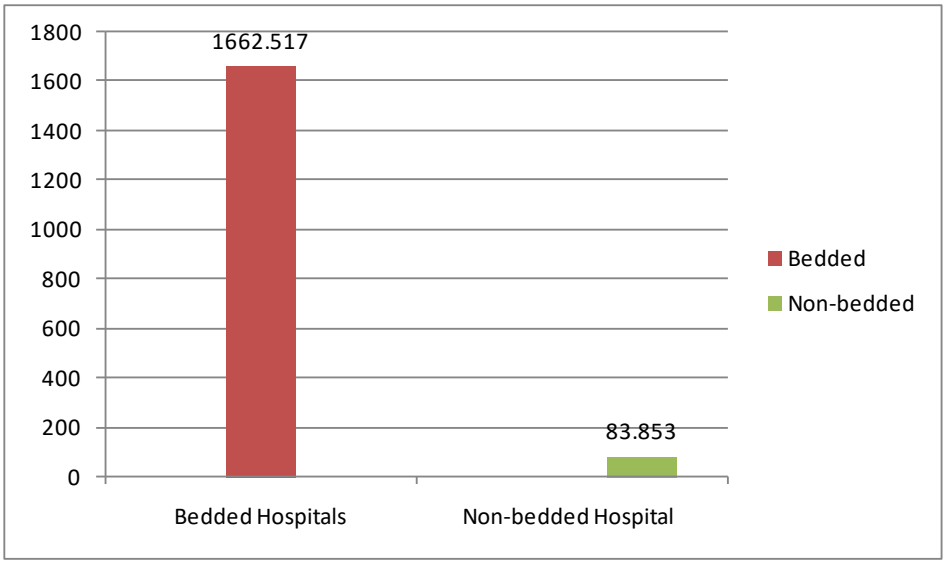
Status of authorization granted by the Board to the Health Care Facilities under Bio-Medical Waste Management Rules, 2016 is shown in the figure below:



11.1.3 Status of Bio-medical Waste Generation

The total quantity of Bio-medical Waste Generation in the State during the year was 1746.37 kg/day. Out of which, 1662.517 kg/day was generated by bedded HCFs and 83.853 kg/day from non-bedded HCFs (Fig. 11.1.3).

Fig. 11.1.3 Bio-medical Waste from Bedded and Non-bedded HCF



Total 1746.37 Kg/day

The district-wise distribution of Bio-medical Waste Generation is as shown in Table 11.1.3.

Table 11.1.3 District Wise Bio-medical Waste Generation (for the year 2020-2021)

Sl. No.	Name of the District	Number of Health Care Facility submitting Annual Report	Bio-medical Waste Generation (in Kg/day)	Treatment and Disposal of Bio-Medical Waste
1.	East Khasi Hills	72	1495.155	In East Khasi Hills District, 37 numbers of Health Care Facility are disposing the Biomedical waste through CBWTF. The remaining 35 numbers of Health Care Facility are disposing the Biomedical waste as indicated in the row below.
2.	West Khasi Hills	11	87.0747	In Rural area where there is no common bio-medical waste treatment facility, the HCFs in the Rural areas have their own treatment facilities like Deep Burial Pits and Sharp Pits constructed in accordance to Biomedical Waste Management Rules, 2016. For the Red category biomedical waste in some hospitals and clinics are being collected by the private agency authorized by the Board to be sent to the authorized recyclers for recycling.
3.	South West Khasi Hills	1	0.12	
4.	West Jaintia Hills	15	54.6616	
5.	East Jaintia Hills	12	3.151	
6.	West Garo Hills	6	30.43	
7.	South Garo Hills	8	19.968	
8.	East Garo Hills	4	6.036	
9.	North Garo Hills	17	9.681	
10.	Ri Bhoi	15	29.8364	
11.	South West Garo Hills	16	10.256	
TOTAL BIOMEDICAL WASTE – **1746.37 Kg/Day**				

11.1.4. Bio-medical Waste Treatment and Disposal

The number of Health Facilities having captive treatment and disposal facilities were 140 and the total bio-medical waste treated and disposed by captive treatment facilities in kg/day were 533.864 kg/day. 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 capacity and located at Mawlai Mawiong, Shillong. The facility is being operated by the Shillong Municipal Board and has been providing service to 12 hospitals, 1 Veterinary Hospital, 1 Medical Research Institution, 4 Diagnostic Centres and 4 Dispensaries. The average quantity of bio-medical waste disposed in the facility is about 1212.51 kg/day.

11.2.0 Management of Covid-19 Bio-Medical Waste

The Central Pollution Control Board (CPCB) has developed a software application named COVID-19 Bio-Medical Waste Tracking App (COVID-19 BWM) for the purpose of tracking the generation, collection and disposal of COVID-19 Bio-medical waste in the country. The implementation of the COVID-19 App was made mandatory for all Health Care Facilities (HCF) i.e., Hospital, Quarantine Centres, Isolation Wards, Testing Laboratories, Covid-19 Collection Centre, Home Quarantine Centres etc. generating COVID-19 waste including Local Bodies involved in the collection, handling and treatment of COVID-19 Waste.

The Meghalaya State Pollution Control Board has enforced the implementation of the COVID-19 BWM App in the state with effect from 20th May, 2020. The Board has imparted individual training to all the Nodal Officers of the Health Care Institutions generating COVID-19 waste including Nodal Officers of Urban Local Bodies in respect of registration and utilising the COVID-19 BWM App. There are 39 (Thirty Nine) Health Care Facilities and 2 (Two) Local Body registered in the App in the State who are uploading the daily records of waste generation, handling and disposal from their respective facilities.

The status of Health Care Facilities and Local Bodies registered in the COVID-19 BWM App including the generation, collection and disposal of COVID-19 waste in the respective facilities during 2020-2021 are as provided in the table:

A. Waste generated from Health Care Facilities:

Sl. No.	Type of Institutions	No of Institutions	Quantity of waste generation /collection/ Disposal (Kg)
1.	Hospitals	18	63039.7
2.	Quarantine Centres	1	13760.4448
3.	Isolation Wards	18	89435.726
4.	Testing Labs/ Sample Collection Centres	1	10123.43
Total quantity of waste generation			**176359.301**

B. Waste collected and disposed in Common Facility

Sl. No.	Type of Institutions	Quantity of waste collection/ Disposal (Kg)
1.	Shillong Municipal Board	82282.2
2.	Tura Municipal Board	4091.9054
Total quantity of waste collected and disposal		**86374.1054**

Besides, the Meghalaya State Pollution Control Board through the expertise of the International Institute of Waste Management, Bangalore developed the Audio- Visual Training materials on the subject relating to 'Combating Exigencies due to COVID Waste at Common Bio-medical Waste Management Facilities, COVID Hospitals and designated Quarantine Centres'. The resource material thus prepared were circulated to the Director of Health Services (MI), the District Medical & Health Officer of all the Districts, all the Government and private hospitals including Municipal Boards in the State for the purpose of imparting training to the respective officers, staff and employees dealing with COVID waste so as to enhance their capability in Handling, Treatment and Disposal of COVID waste in accordance to the Guidelines and provisions of the BMW Rules, 2016.

11.3.0 Solid Waste Management

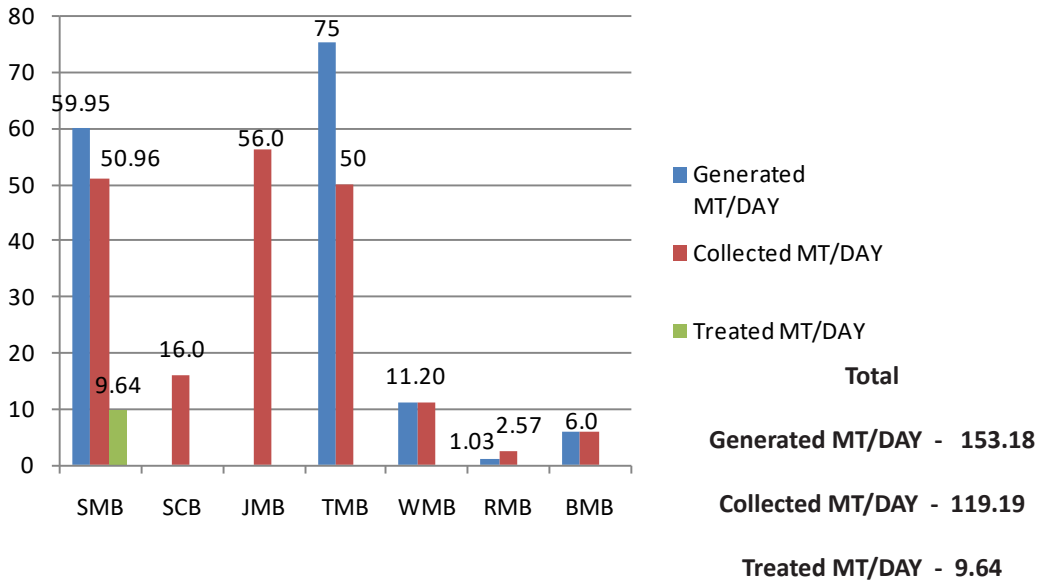
The Meghalaya State Pollution Control Board enforced the Solid Waste Management Rules, 2016 through local bodies and review implementation of these rules twice a year in coordination with the Directorate of Urban Affairs, Government of Meghalaya and the Deputy Commissioner of the respective District. 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 2020-2021 is as shown in the Figure and Chart 11.3.0

Fig. – 11.3.0

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 – 107.1 TPD Collected – 93.02 TPD Treated – 9.64 TPD Landfilled – 83.38 TPD	**Outside Municipal Area** Generated – No Records Collected – 87.68 TPD Treated – Nil Landfilled – 87.68 TPD

Chart 11.3.0 Status of Solid Waste Generation, Collection & Treatment made by local bodies
YEAR 2020-2021



(Municipal Authorities)

11.3.1 Status of Waste Collection, Segregation, Storage, Transportation, Processing and DisposalYear 2020-2021

Local Body / Activity	SMB	SCB	TMB	JMB	WMB	BMB	RMB
Collection							
• Quantity (MT/Day)	59.95 MT	16 MT	30 MT	56 MT	11.20 MT	6.0 MT	0.86 MT
• Door to Door (Y/N)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Garbage Bins (Y/N)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Segregation							
At Source (Y/N)	No	Yes	No	No	No	No	No
At Disposal Site (Y/N)	Yes	Yes	No	No	No	No	No
Secondary Storage							
No. of Masonry Bins	Nil	60	35	Nil	21	14	12
No. of Dustbin	Nil	88	62	Nil	15	200	8
No. of Containers	Nil	-	16	Nil	-	-	-
Transportation Equipment							
No. of Tractor	Nil	-	1	Nil	Nil	-	-
No. of Non-Tipping Truck	3	-	1	2	-	-	-
No. of Tipping Truck	18	2	18	4	2	1	1
No. of Dumper Placer	1	2	2	-	3	1	1
No. of Refuse Collection	1	1	1	-	-	-	-
No. of Robot Lifter	2	-	1	-	1	-	-
Others	15	-	-	-	1	-	-
Processing							
Composting/Recycling	9.64	-	-	-	-	-	-
Shreading	TPD	-	-	-	-	-	-
Compacting	-	-	-	-	-	-	-
Refuse derived Fuel	-	-	-	-	-	-	-
Disposal							
Sanitary Landfilling (Y/N)	Yes	Disposal at SMB facility	No	No	No	No	No
Dumping Yard	Yes		Yes	Yes	Yes	Yes	Yes

11.3.2 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 - Shillong Municipal Board, Tura Municipal Board, Resubelpara Municipal Board

Segregation- Shillong Municipal Board, Tura Municipal Board, Resubelpara Municipal Board.

Covered transportation- Shillong Municipal Board, Resubelpara Municipal Board, Tura Municipal Board

Solid Waste processing facilities setup:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization
1.	Shillong Municipal Board	Shillong Municipal Board	Nil	Nil

Processing facility operational:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization
1.	Shillong Municipal Board	Shillong Municipal Board	Nil	Nil

Processing facility under installation/planned:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization
1.	Tura Municipal Board	Nil	Nil	Nil

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

Sl. No.	Plant Location	Status of operation	Power generation (MW)	Remarks
1.	Nil	Nil	Nil	Nil

11.3.3 Monitoring at Waste processing/Landfills sites (2020-2021)

Sl. No.	Name of facilities	Ambient Air	Ground Water	Leachate Quality	Compost Quality	VOCs
1.	Dumping Site of Shillong Municipal Board	Yes	Yes	Yes	No	No
2.	Landfill Site of Jowai Municipal Board	Yes	No	No	No	No
3.	Landfill Site of Tura Municipal Board	Yes	No	No	No	No
4.	Landfill Site of Williamnagar Municipal Board	Yes	No	No	No	No

11.4.0 Plastic Waste Management Rules 2016

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. According to the information obtained from the Local Bodies, the generation of Plastic Wastes in the State during 2020-2021 is about 1283.34 MT.

11.4.0 Status of Plastic Waste Management Rules, 2016 in the State

Status of Plastic Waste Management	
Estimated Plastic Waste Generation Tons Per Annum (TPA)	Resubelpara Municipal Board - **0.516 TPD** Williamnagar Municipal Board - **3 TPA** Shillong Municipal Board- *Information not available* Shillong Cantonment Board- *Information not available* Tura Municipal Board- *Information not available* Jowai Municipal Board- *Information not available* Baghmara Municipal Board- **plastic waste is not segregated**
Registered Plastic Manufacturing or Recycling (including multilayer, compostable) units	1) M/S Megha Polycon (P) Ltd. - DPE/LLDPE Water Storage Tanks 2) M/S Meghalaya Polymers - Water Storage Tanks 3) M/S Kakarania Innovative Systems (P) Ltd. - Polythene tubes; Plastic bags (plain/printed); Plastic sheet films; Linear Wrappers; Laminated rolls/ pouches (plain/ printed) 4) M/S K R Polymers - PVC Pipes and Pipe Fittings, Plastic bags

Registered Plastic Manufacturing or Recycling (including multilayer, compostable) units	5) M/s S.R.M. Plasto (P) Ltd. - PVC pipes & fittings (Electrical hardware) 6) M/s Jai Plastech (P) Ltd. - Disposable cups, HISP 7) M/s Umadutt Industries Limited - HDPE bags 8) M/s Seven Sisters Plastic (P) Ltd. - HDPE and Woven plastic bags
Status of Marking Labeling on Carry Bags	M/s Karkarnia Industries manufactures carry bags that are labeled with the name of manufacturer and registration number
Collection, Segregation, Disposal (Co-processing road construction etc.)	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 2. Star Cement Meghalaya Limited, Lumshnong , East Jaintia Hills District 3. Meghalaya Cements Limited, Lumshnong, East Jaintia Hills District The plastic waste is segregated from the dry waste at the dumpsite and collected for compaction and bailing. A 1(one) km road was constructed in Nongkynjeng Village in West Khasi Hills, Meghalaya using plastic waste.
Partial or complete ban on usage of plastic carry bags (through Executive order)	Manufacture, import, stocking, distribution, sale and use of plastic carry bags/films of size less than 75 microns and non-woven plastic carry bags of size less than 60 GSM has been prohibited and public notice has been issued vide No. MSPCB/PWM-2/2019/2020-21/66 dated 18th February 2022. w.e.f. 1st July, 2022 – ban on single use plastic, including polystyrene and expanded polystyrene commodities w.e.f. 31st December, 2022 – ban on plastic carry bags/films of size less than 120 microns
Constitution of State level Advisory Body	State level Advisory Body constituted vide Notification No. UAU.70/2016/81 dated Shillong the 25th January 2018

11.5.0 The Batteries (Management and Handling) Rules, 2001.

The implementation of the Batteries (Management and Handling) Rules, 2001 was a continuous process.

Part-A: Quantity of used leads batteries channelized to registered recyclers for the year 2020-2021

A - Manufacturer

No. of Manufacturers	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)			
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

B - Assembler

No. of Assemblers	No. of Assemblers 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)			
1	1	Nil	Nil	Nil	Nil	Nil	Nil	Nil

C - Importer

Quantity of used Batteries sent to Authorised Recyclers	No. of Importer submitted returns	Quantity of Batteries Sold		Quantity of used Batteries sent to Authorised Recyclers	
		Nos	Weight (kg)	Nos	Weight (kg)
Nil	Nil	Nil	Nil	Nil	Nil

D - Bulk Consumers

No. of Bulk Consumers	No. of Bulk Consumers submitted returns	Quantity of Batteries Sold		Quantity of used Batteries sent to Authorised Recyclers	
		Nos	Weight (kg)	Nos	Weight (kg)
9	9	409	7362	62	1492.52

E- Auctioneers

No. of Auctioneers	No. of Auctioneers submitted returns	Quantity of Batteries Sold		Quantity of used Batteries sent to Authorised Recyclers	
		Nos	Weight (kg)	Nos	Weight (kg)
Nil	Nil	Nil	Nil	Nil	Nil

F- Recyclers

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

11.6.0 Hazardous Waste Management

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

Annual Inventory of Hazardous Waste Management (2020-2021)

Sl. No.	Name of the District	Number of Hazardous Waste Generating Industry	Authorized Quantity of Hazardous Waste (Metric Tonne)				Quantity of Hazardous Waste generated as per Annual Return within the State/UT (Metric Tonne)				Quantity of Hazardous Waste imported during the year (Metric Tonne)	Quantity of Hazardous Waste exported 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
1	Ri-Bhoi	7	24		430		12.65		414.473		Nil	Nil
2	East Khasi Hills	1			19.08				8.63			
3	East Jaintia Hills	11			64.133				51.306			

11.7.0 E-Waste (Management) Rules, 2016:

E-Waste (Management) Rules, 2016 which was notified vide Notification No.GSR 339(E) dated 23/03/2016 by the Ministry of Environment, Forest & Climate Change, Government of India and enacted and put into force from 1st October, 2016. The objective of this Rules was to improve the e-waste management system in the Country and to eliminate the constraints in implementation of the existing Rules and also to give thrust on waste minimization, recycling, for treatment and processing, scientific disposal etc.

The E-Waste Management Rules, 2016 was applied to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment including their components, consumables, parts and spares which made the product operational.

The Meghalaya State Pollution Control Board has published Public Notice for awareness of all manufacturers, Producers, Collection Centre, Dealers, Refurbishes, Consumers & Bulk Consumers, Dismantler, Recycler on the provisions of E-Wastes Management Rules, 2016 for necessary compliance.

There was no E-Waste Manufacturing unit, Recycling unit within the State of Meghalaya.

The authorised manufacturer, refurbisher, collection centre, dismantler and recycler for management of e-waste in the State are M/s Karo Sambhav Pvt. Ltd., M/s RLG Reverse Logistics India Pvt. Ltd. (PRO), M/s M/s Fabshop Technology Pvt. Ltd.

Quantity Of E-Waste Collected For The Year 2020-2021 In The State Of Meghalaya

Sl. No.	Collection Period	Item	Electrical and Electronic Equipment Code	Quantity (Kg)
1.	Financial Year 2020-2021	Centralized Data Processing Mainframe Mini Computer	ITEW1	30
2.		Personal Computers (CPU with Input Output Devices)	ITEW2	1215
3.		Laptop Battery	ITEW3	50
4.		Printer including Cartridges	ITEW6	1926
5.		Cellular Telephones	ITEW15	66
6.		Television sets (including sets based on (Liquid Crystal Display and Light Emitting Diode Technology)	CEEW1	2565
7.		Air-conditioners excluding centralised air conditioning plants	CEEW4	165
8.		Fluorescent and other Mercury containing Lamps	CEEW5	100.90
9.		Monitor	ITEW2	57.19
10.		SMPS	ITEW2	
11.		12 Volt, 7ah UPS Battery	ITEW2	
12.		TVS Thermal Printer	ITEW6	
13.		Mouse	ITEW2	
14.		Power Adaptor	ITEW2	
15.		CPU Fan	ITEW2	
16.		HDD	ITEW2	
17.		Fuser Pressure Roller	ITEW6	
18.		Motherboard	ITEW2	
19.		Inkjet Black Cartridge	ITEW6	
20.		Keyboard	ITEW2	
21.		Power Cable	ITEW2	
22.		CPU Cabinet	ITEW2	

Sl. No.	Collection Period	Item	Electrical and Electronic Equipment Code	Quantity (Kg)
23.	Financial Year 2020-2021	LX 310 Power Card	ITEW2	57.19
24.		USB Cable	ITEW2	
25.		Lan Card	ITEW2	
26.		Laptop Battery	ITEW3	
27.		UPS	ITEW2	
28.		Switch	ITEW2	
Total E-waste collected for the Financial Year 2020-2021 is 6175.09 Kg				

11.8.0 Construction and Demolition Waste Management Rules, 2016:

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.

CHAPTER 12
LEGAL MATTERS

Cases Pending in the Courts Involving the Meghalaya State Pollution Control Board as on 31.03.2021.

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 2020-2021:-

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	SLP NOs.16308/2007 Ankur Gutka ETC. ETC Petitioners Versus- Indian Asthama Care Society Respondents and Ors. etc.	Plastics Waste (Management and Handling) Rules, 2011 and the Municipal Solid Waste (Management and Handling) Rules, 2000	Pollution Control Boards became impleaded vide Order dated 03-04-2013- filing affidavit and complying to directions from time to time.
2.	Writ Petition (C) No. 657 of 1995- Research Foundation for Science Vs. Union of India & Ors.	Hazardous Waste.	Complying the directions of the Court and recommendations of the Supreme Court Monitoring Committee and submitting report through the Central Pollution Control Board.
3.	Writ Petition (C) No. 110/2006- Peoples Rights & Social Res. Centre & Ors. Vs. Union of India & Ors.	Air Pollution Control Devices in quartz industries	Answering through Central Pollution Control Board.
4.	Writ Petition (Civil) No.728/2015- Arjun Gopal Vs. Union of India	Air Pollution by bursting of Fire Crackers	Direct Respondents
5.	Supreme Court Order dated 01.11.2017 in S.M.W (Civil) No.1/2015 – In Re: Outrage as Parents end life after child's dengue death & Ors.	Solid Waste Management Rules, 2016	Answering through the State Government
6.	Supreme Court of India, Civil Appeal No 1657 of 2018, Bharat Jhunjhunwala versus Pushp Saini and others	Pertain to release and maintenance of minimum environmental flows (e-flow) in rivers downstream of all hydro – power projects situated in India.	Direct Respondent
7.	Civil Appeal no (s) 5826-5827 of 2019 Mathala Chandrapati Rao Vrs. Union of India & Ors.	Indigenous cows	Direct Respondent
8.	Writ Petition(s) Civil No. 13029/1985 M. C. Mehta Vrs. Union of India & Ors.	Ban on the use of domestic Pet-coke by industries	Direct Respondent & answering through the State Government

Sl. No.	Name of the Case	Subject Matter	Involvement
9.	CIVIL APPEAL Dairy No 15528/2020 (Arising out of impugned final judgment and order dated 17.01.2020 in O.A. No. 110/2012 passed by the Naitonal Green Tribunal) Star Cement Limited & Ors. Vs. the State of Meghalaya & Ors.	Coal Mining	Direct Respondent
10.	CIVIL APPEAL Dairy No 23948/2020 (Arising out of impugned final judgment and order dated 17.01.2020 in O.A. No. 110/2012 passed by the Naitonal Green Tribunal) Shyam Century Ferrous Limited Versus the State of Meghalaya	Coal Mining	Direct Respondent
11.	Contempt Petition (Civil) No. 655 of 2020 in Amitabh Srivastava Versus Rajendra Kumar Tiwari & Ors.	Recruitment rules for the State Pollution Control Board	Answering through the State Government

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 the cases involving the Meghalaya State Pollution Control Board in the Hon'ble High Court during 2020-2021

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	P.I.L No 2 of 2019 "Distribution of LPG Cylinders in the State of Meghalaya" Vrs. State of Meghalaya	LPG storage and bottling capacity at Umiam, Ri Bhoi District	MSPCB is direct Respondent
2.	P.I.L (Sou Moto) No. 10 of 2019, In Re: Cleanliness of Umiam Lake Vs. State of Meghlaya represented by its Chief Secretary	Cleanliness of Umiam Lake	MSPCB is direct Respondent

12.2.1: Case Disposed

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	P.I.L no. 14 of 2018 Shri. Riton Sun Vrs. State of Meghalaya & Ors.	Umran Diary situated in Umsning, Ri – Bhoi District, Meghalaya	MSPCB is direct Respondent
2.	P.I.L No 20 of 2019 Shri A.D. Lyngdoh Vs. State of Meghalaya & Ors.	Construction of salbs over Wah sohkhlur streams	MSPCB is direct Respondent
3.	WP (C) NO. 158 of 2020 M/s Raana construction and Engineers Pvt. Ltd. Vrs. State of Meghalaya	Counter Mix Plant	Answering through the State Government

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 tables display the cases and their nature of involvement in different Tribunals and benches:-

Cases in the Hon'ble National Green Tribunal

12.3.1: Principal Bench, New Delhi

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Original Application No.117 of 2014 Shantanu Sharma Vs. Union of India & Ors.	Fly Ash and its disposal	Direct Respondent and filing Affidavits.
2.	Original Application No.102 of 2014-Sandplast(India) Ltd. & Anrs Vrs. Ministry of Environment & Forest & Ors	Fly Ash	Direct Respondent and filing affidavit in answering the Tribunal
3.	Original Application No. 247 of 2017 (M.A. No. 469 of 2017) Central Pollution Control Board Vs. State of Andaman & Nicobar & Ors.	Plastic Waste Management Rules	Direct respondent- filed affidavit and files Action taken Report to CPCB.
4.	Original Application 200/2014 M.C. Mehta Vs. Union of India & Ors.	Prevention and control of pollution of River Ganga and its Tributaries.	Answering through the State Government.
5.	Original Application No. 606/2018 Solid Waste Management Rules, 2016	Solid waste management and allied issues	MSPCB answers through the State Government
6.	Original Application No. 681/2018 News Item published in "The Times of India" authored by Shri. Vishwamohan titled " NACP with multiple timelines to clean air in 102 cities to be released around August 15"	Remedial measures to be taken to bring the air quality of 102 cities identified as 'non-attainment cities'	State Committee formed as per directions. MSPCB is member.
7.	Original Application 400/2019 Social action for Forest & Environment (safe) Vrs. Union of India & Ors.	Pryrolysis Industries	MSPCB answers through CPCB
8.	Original Application No. 1038/2018, In view of the News item titled 'CPCB to rank Industrial Units on Pollution Levels' published in "The Asian Age"	CPCB to rank industrial units on pollution levels'	MSPCB answers through CPCB
9.	Original Application No. 95/2018 Aryavart Foundation Vs. Vapi Green Enviro Ltd & Ors	Pollution By Industries And Cetp	MSPCB answers through the State Government
10.	Original Application No. 360/2018 Shree Nath Sharma Vrs Union Of India & Ors.	District Environment Plan	MSPCB answers through CPCB

Sl. No.	Name of the Case	Subject Matter	Involvement
11.	Original Application No. 465/2019 Kulwinder Singh Sandhu & Ors. Versus Ram Murti & Ors.	Carcass Disposal	MSPCB answers through CPCB
12.	Original Application No.739/2018 Residents of Gram Panchayat Varahiya Versus State of M.P.	Mechanism for 'Assessment of Damage to Air Quality', 'Damage Assessment of Health Issues' and 'Agricultural Production Loss' w.r.t. Stone Crusher	MSPCB answers through CPCB
13.	Original Application No 304/20219 In M. Haridasan & Ors. Vrs. State of Kerala	Distance citeria for operation of stone quarries close to residences and public roads	MSPCB answers through CPCB
14.	Original Application No 351/2019 Raja Muzaffar Bhat Vs. State of Jammu and Kashmir & Ors.	Wetlands	MSPCB answers through the State Government
15.	Original Application No 25/2019 Abdul Farukh Vs. Government of NCT of Delhi	Illegal extraction of ground water	MSPCB answers through the State Government
16.	Original Application No 141/2014 in the matter of Saloni Singh Versus Union of India	Railway Stations	MSPCB answers through CPCB

12.3.2: Cases Disposed

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Original Application. No. 199/2014, Almitra H. Patel & Anr. Vs. Union of India & Ors.	Municipal Solid Waste Management	Complying to directions of the Tribunal and submitting reports through the CPCB.
2.	Original Application No. 110(THc)/ 2012, Threat to Life Arising Out of Coal Mining in South Garo Hills District .Vs. State of Meghalaya.	30 coal laborers trapped in a coal mine, 15 escaped and 15 reported to have died inside the coal mine.	Direct Respondent - filing affidavits and complying with directions of the tribunal. Dispose with the direction that ownership of the task of compliance of the Judgment of the Hon'ble Supreme Court with regard to preventing unscientific and unregulated mining, restoring the environment, rehabilitating the victims and handling of illegally mined coal should be taken over by the State Authorities, to be overseen by an Oversight Committee of 12 members, headed by Additional Secretary, MoEF&CC (dealing with the environment and abatement of pollution issues)
3.	Original Application No. 593 of 2017 in W.P. (Civil) No. 375 of 2012 Paryavaran Suraksha Samiti & Anr Vs. Union of India & Ors.	NGT, Delhi follows up the State Pollution Control Boards on Order/ Direction of the Supreme Court.	MSPCB files affidavits submitting reports of actions taken on Order/Directions of the Supreme Court to the Tribunal

Sl. No.	Name of the Case	Subject Matter	Involvement
4.	Original Application No 56/2013 and Original Application No 57/2013 Satish Kumar Vs UOI & Ors and Mahavir Singh Vs UOI & Ors.	Order DT. 20-07-2018 – appointing a person of legal background in SPCBs.	Answering through the State Government.
5.	Original Application No. 804/2017 Rajiv Narayan & Anr. Vs Union of India & Ors.	Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016. Setting up of TSDF and taking immediate action against erring units by the concerned authorities / regulatory bodies.	MSPCB answers through the CPCB
6.	Original Application NO. 673/2018 News item published in "the Hindu" Authored by shri jacob koshy titled " More River Stretches are now Critically Polluted : CPCB"	Pollution of river Stretches	State Committee formed as per directions. MSPCB is member.
7.	Original Application No. 48/2016 Vivek Tyagi Vs State of U.P. & Ors.	To prevent discharge of untreated sewage in water bodies, including ponds and Uppar Ganga Canal, endangering public health in Niwari town, 20 kms from Ghaziabad.	MSPCB answers through the State Government
8.	Original Application No. 46/2018 with Original Application 1083/2018, Nuggehalli Jayasimha with Residents of C2 Block Aya Nagar Vrs. Government of NCT of Delhi.	Dairies and Gaushalas in the State/ UT	MSPCB answers through CPCB
9.	Original Application No.710/2017, 711/2017, 712/2017, and 713/2017 Shailesh Singh Vs. Shella Hospital & Trauma Centre Shahjhanpur & Ors. Kailash Hospital and Heart Institute & Ors. Shri Ganga Charan Hospital (P) Ltd., Bareiley & Ors. Katiyar Nursing Home, Hardoi & Ors.	Biomedical Waste Management	Complying to directions of the Tribunal coming through the CPCB and the State Government (Forests & Environment Department

Sl. No.	Name of the Case	Subject Matter	Involvement
10.	Original Application No. 173/2018 & Original Application No. 186/2016 In the matter titled Sudarsan Das Vs State of West Bengal & Ors & Satendra Pandey Vs Ministry of Environment Forest & Climate Change & Anr respectively (NGT & Ors. Vrs. Virender Singh State of Gujarat & others)	Sand Mining	MSPCB answers through the State Government
11.	Original Application No. 325/2015 Lt. Col. Sarvadaman Singh Oberoi Vrs Union of India & Ors (River Restoration)	Restoration of all the water bodies	MSPCB answers through the State Government and CPCB and matter is also taken in light of O.A. No. 673/2018 in which a State Committee has been formed and MSPCB is also a member.
12.	Original Application No. 512/2018 Shailesh Singh Vrs. State of UP & Ors.	E-waste	MSPCB answers through the State Government
13.	Original Application No. 148/2016 Mahesh Chandra Saxena Vrs. South Delhi Municipal Corporation & Ors.	Utilization of treated waste water from the STPs	MSPCB answers through CPCB
14.	Original Application 581/2018 The Edayar Resident's Association, Edayar Vrs. the Governement of India & Ors.	Removing the pollution and rejuvenating the polluted Karamana River in Thiruvananthpuram District.	The matter is taken in light of O.A. No. 673/2018 which pertain to River Rejuvenation Committee (RCC)
15.	Original Application No. 519/2019 & Original Application No. 386/2019 News Item Published in "The Times Of India" Authored By Jasjeev Gandhiok & Paras Singh Titled "Below Mountains of Trash Lie Poison Lakes" With Centre for Wildlife and Environment Litigation Vrs. Union of India & Ors.	Legacy Waste	MSPCB answers through CPCB
16.	Original Application No. 496/2016 Tribunal on its own motion Applicant Versus Govt. of NCT of Delhi & Ors.	Rain Water Harvesting	MSPCB answers through CPCB
17.	Original Application No. 639/2018 Shailesh Singh Versus State of Haryana & Ors.	Inspections of 'highly polluting 17 category', 'red' and 'orange' and 'green' category industries	MSPCB answers through the State Government

Sl. No.	Name of the Case	Subject Matter	Involvement
18.	Original Application No. 851/2018 Amit Jain Versus Union of India	Pulp & Paper Unit importing waste paper	MSPCB answers through the State Government
19.	Original Application No. 568/2019 James Jose, Managing Director, CGR Hallmarkers Pvt. Ltd. Versus Govt. of India.	Gold Assaying and Hallmarking Centres	MSPCB answers through CPCB
20.	Original Application No. 400/2017 Westend Green Farms Society Versus Union of India & Ors.	Enforcement of Environment Norms at Individual Establishments and the Area/ Cluster of Restaurants/Hotels/ Motels/Banquets etc	MSPCB answers through CPCB
21.	Original Application No.621/2018 Mahendra Pandey Versus Union of India & Ors.	E-waste	MSPCB answers through CPCB
22.	Original Application No. 44/2016 Mushtakeem Versus MoEF & CC & Ors.	Confiscation and release of the vehicles or any other equipments used for illegal mining	MSPCB answers through CPCB
23.	Original Application No. 989/2018 Shivansh Pandey Versus State of Uttar Pradesh	Pollution at and around Railway Godown	MSPCB answers through CPCB
24.	Original Application No. 72/2020 In Re: Scientific Disposal of Bio-Medical Waste Arising out of Covid - 19 Treatement of BMW Rules, 2016	Bio Medical Waste	MSPCB answers through the State Government and CPCB
25.	Original Application No. 53/2020 Dr. Gaurav Aggarwal Applicant(s) Versus Central Pollution Control Board	Legacy Waste	MSPCB answers through CPCB
26.	Original Application No. 85/2020 in the Matter of Aryavart Foundation Through its President Applicants(S) Versus Yashyashvi Rasayan Pvt Ltd & Anr.	Hazardous Chemicals	MSPCB answers through CPCB
27.	Original Application No. 110/2020 News Item Published on 01.07.2020 In " The Hindu" Titled "Ramky Group Accused of Dumping Biomedical Waste In the open in Hosur"	Dumping biomedical waste	MSPCB answers through CPCB

Sl. No.	Name of the Case	Subject Matter	Involvement
28.	Original Application No 134/2020 News item published on 13.07.2020 in daily "India Today" titled " Massive fire engulf Vizag chemical plant, explosions heard, injuries reported"	Measures to prevent explosion in chemical factories/ industries	MSPCB answers through CPCB
29.	Original Application No 479/2016 Parvesh Versus Ministry Of Environment, Forests And Climate Change & Ors.	Stone Crushers	MSPCB answers through the State Government
30.	Original Application No 681/2017 Gauri Maulekhi Versus Union Of India & Ors.	Poultry farms	MSPCB answers through CPCB
31.	Original Application No 46/2020 in the matter of Shaliesh Singh Vs. Union of India & Ors.	Protocol for Enhanced Monitoring of Pesticides	MSPCB answers through the State Government
32.	Original Application No 249/2020 Santosh Gupta Versus Ministry of Environment, Forests & Climate Change with OA No 254/2020, OA. 255/2020 and O.A. 93/2020 (CZ)	Fire Crackers	MSPCB answers through the State Government and CPCB
33.	Original Application No 118/2020 in the matter of Nithin M Versus State of Karnataka	Noise Pollution	MSPCB answers through the State Government
34.	Original Application No 283/2020 R.S Virk Versus Central Pollution Control Board	Dust Pollution	MSPCB answers through the State Government and CPCB
35.	Original Application No 726/2018 Rupesh Peth Versus State of M.P. & Ors. with O.A. No. 456/2018 Nityanand Mishra Versus State of M.P. & Ors.	Illegal Sand Mining	MSPCB answers through the State Government
36.	Original Application No 873/2019 Tahir Versus State of Uttar Pradesh	Unscientific recycling of hazardous chemical	MSPCB answers through the State Government

Sl. No.	Name of the Case	Subject Matter	Involvement
37.	Original Application No 462/2018 with O.A. 76/2015(SZ) D.V.Girish Versus Union of India & Ors. and the Member Secretary, National Tiger Conservation Authority, MOEF & Ors.	Sustainable Development	MSPCB answers through the State Government
38.	Original Application No 102/2019 Ashish Kumar Dixit Versus State of Uttar Pradesh & Ors.	Utilization of Environmental Compensation fun	MSPCB answers through CPCB

12.4: NGT Eastern Zone, Kolkata

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Original Application No. 172/2016/EZ- Sajay Laloo Vs. State of Meghalaya & Ors.	Contamination of river Myntdu, Jowai	MSPCB is Direct Respondent implementing the directions of the tribunal and filing affidavits.
2.	Misc Application No, 121/2017/EZ in W.P (C) No.375/2017(SC)- Paryavaran Suraksha Samiti & Anr Vs. Union of India & Ors.	Making the primary Effluent Treatment Plant fully operational within 3(three) months from the date of Judgment i.e. 22.02.2017	MSPCB is Direct Respondent implementing the directions of the tribunal and filing affidavits.
3.	Original Application No. 93/2017/EZ- Greater Laban Community Development Society (glcds) Vs. State of Meghalaya & Ors.	Felling of trees and illegal construction of boundary wall Alleged encroachment of undeclared Critical Catchment Area in Lawsohtun Forest, Shillong by Secretary, Defence, Union of India	MSPCB is Direct Respondent implementing the directions of the tribunal and filing affidavits.
4.	Original Application No. 48/2019 (EZ) Jitul Deka Vrs Union of India	Illegal Mining of Gravel and Stone	Direct Respondent- MSPCB answers through the State Government and implementing the directions of the tribunal and filing affidavits.

12.4.1: Cases Disposed

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Original Application No. 158/2016/EZ - Subhas Datta Vs. State of West Bengal & Ors.	Noise Pollution	MSPCB answers through the State Government and implementing the directions of the tribunal
2.	Original Application No. 61/2020 Smti. Agnes Kharshing Versus State of Meghalaya	Illegal mining of coal	MSPCB answers through the State Government

12.5: NGT Western Zone, Pune

Cases Disposed

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Original Application No. 55/2019 (WZ) in the matter of Gajubha Jesar Jadeja Vs. Union of India & Ors.	Re rolling/ cold rolling units	MSPCB answers through the Ministry of Environment, Forest & Climate Change.

12.6: 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 Complaints before the District Courts:

Sl. No.	Name of the Case	Subject Matter	Involvement
1.	Complaint Registration No – 86-2017 Meghalaya State Pollution Control Board - Vrs - Swish Café	Violation of the terms and conditions of the Consent granted by the Board	Complainant
2.	Complaint Registration No -336/2019 Meghalaya State Pollution Control Board – Vrs. - Rani Motors Sevicing	Non compliance to direction by MSPCB on Installation of ETP.	Complainant
3.	Complaint Registration No -337/2019 Meghalaya State Pollution Control Board – Vrs. – Banalari World Cars Servicing Unit	Non compliance to direction by MSPCB on Installation of ETP.	Complainant
4.	Complaint Registration No -11 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Abhi Coke	Operating without Consent from the Board	Complainant
5.	Complaint Registration No - 2 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Carbon Energy Solutions	Operating without Consent from the Board	Complainant
6.	Complaint Registration No - 3 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Progressive Coke Industries	Operating without Consent from the Board	Complainant
7.	Complaint Registration No - 4 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Shallang Carbon Industries	Operating without Consent from the Board	Complainant
8.	Complaint Registration No - 5 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s B K Coke	Operating without Consent from the Board	Complainant
9.	Complaint Registration No - 6 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Crystal Coke	Operating without Consent from the Board	Complainant
10.	Complaint Registration No - 7 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Karmela Coke Industries	Operating without Consent from the Board	Complainant

Sl. No.	Name of the Case	Subject Matter	Involvement
11.	Complaint Registration No - 8 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Yash Coke	Operating without Consent from the Board	Complainant
12.	Complaint Registration No - 9 of 2021 Meghalaya State Pollution Control Board - Vrs M/s Sohbar Coke	Operating without Consent from the Board	Complainant
13.	Complaint Registration No - 10 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Crystal Enterprise	Operating without Consent from the Board	Complainant
14.	Complaint Registration No - 11 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Western Coke	Operating without Consent from the Board	Complainant
15.	Complaint Registration No - 12 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Meghalaya Coke Industries	Operating without Consent from the Board	Complainant
16.	Complaint Registration No - 13 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s H. V. Coke	Operating without Consent from the Board	Complainant
17.	Complaint Registration No - 14 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Electro Carbon	Operating without Consent from the Board	Complainant
18.	Complaint Registration No - 15 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Meghalaya India Coke Industries	Operating without Consent from the Board	Complainant
19.	Complaint Registration No - 16 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Unique Resources	Operating without Consent from the Board	Complainant
20.	Complaint Registration No - 17 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Megha Carbon	Operating without Consent from the Board	Complainant
21.	Complaint Registration No - 18 of 2021 Meghalaya State Pollution Control Board – Vrs. M/s Mongri Coke	Operating without Consent from the Board	Complainant

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, Sales of Form and Publications, Analysis Fees of Air and Water Samples, Vehicular Emmission Test, etc.

During the Financial Year 2020-2021, the Receipt and Expenditure of the Board is Rs.1585.32 Lakhs and Rs.1143.70 Lakhs respectively.

The financial summary of the Board during the year 2020-2021 is as shown in Table13.1

TABLE-13.1: FINANCIAL SUMMARY FOR THE YEAR 2020-2021

Sl. No.	Head of Accounts	Amount Rs. (in Lakhs)	
		Receipt	Expenditure
1.	***Board's Own Resources***	318.66	189.78
	i. Consent Fees, Sale of Forms, Authorization Fees, Vehicle Emisssion Test,Water and Air Sample Analysis etc.		
	ii. Bank Interest	47.32	
	Sub Total 1 (i & ii)	365.98	189.78
2.	i. Grant -in-Aid, State Govt. (Salary)	621.09	618.70
	ii. Grant -in-Aid, State Govt. (Non-Salary)	56.00	56.18
	Sub Total 2 (i & ii)	677.09	674.88
3.	State Govt. National Green Tribunal (NGT Committee Fund)	152.02	46.39
4.	Grant -in Aid ,State Govt. Development Scheme	0.00	48.49
5.	Grant ,Financial Assistance Ministry of Environment & Forests and Climate Change New Delhi	0.00	19.76
6.	Grant ,Financial Assistance from Central Pollution Control Board, New Delhi	390.23	164.40
	Total (1 to 6)	**1585.32**	**1143.70**

Total Receipt Rupees One Thousand Five Hundred Eighty Five Lakhs and Thirty Two Thousand only

Total Expenditure Rupees One Thousand One Hundred Forty Three Lakhs and Seventy Thousand only.

ANNEXURE-I

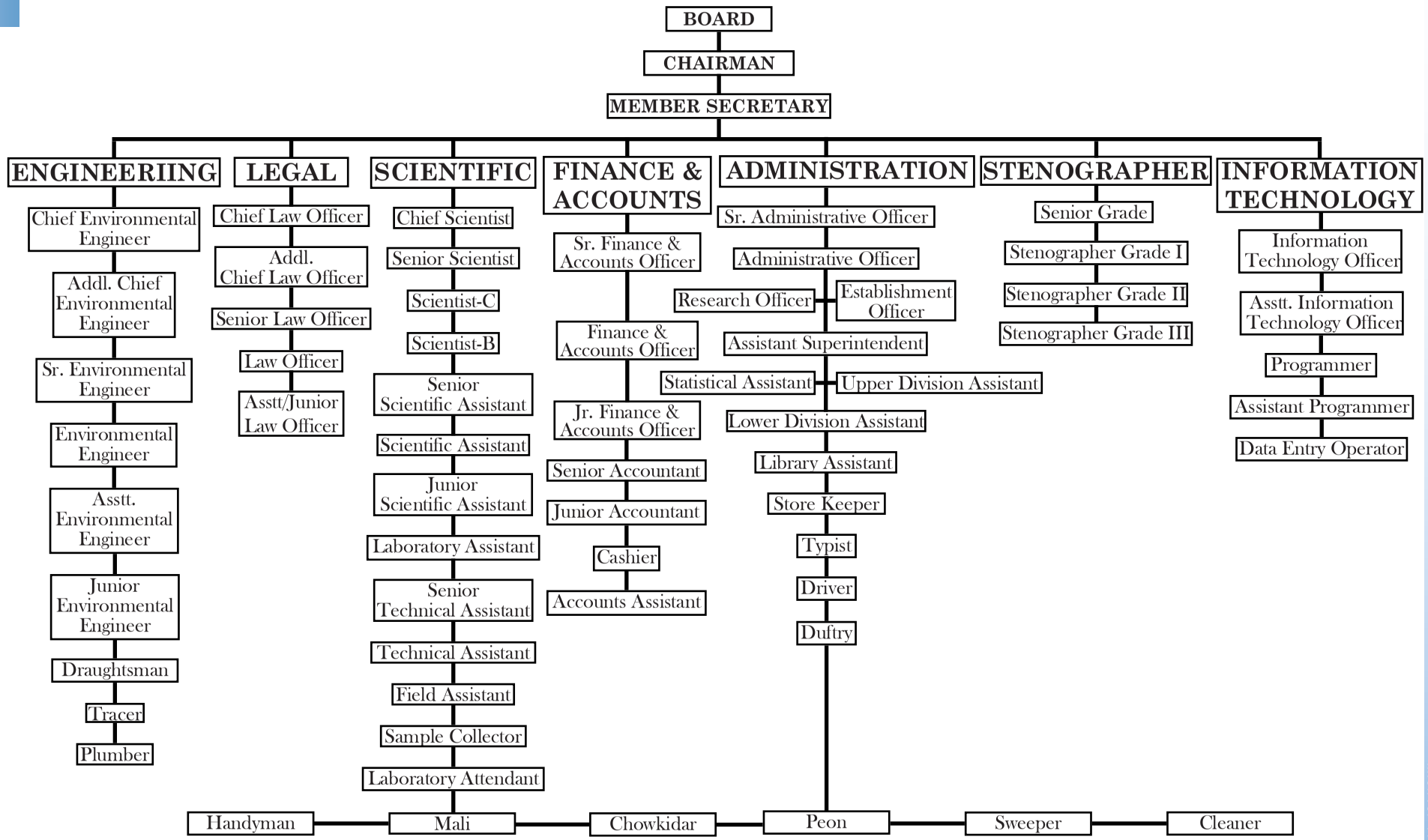
MEGHALAYA STATE POLLUTION CONTROL BOARD

STAFF POSITION AS ON 31-03-2021

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	1	1
	3.	Environmental Engineer	3	2	1
	4.	Assistant Environmental Engineer	7	6	1
	5.	Junior Environmental Engineer	1	0	1
	6.	Draftsman	1	1	0
	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.	Senior Scientist	2	1	1
	2.	Scientist-C	2	2	0
	3.	Scientist-B	3	1	2
	4.	Senior Scientific Assistant	3	2	1
	5.	Scientific Assistant	5	1	4
	6.	Junior Scientific Assistant	6	4	2
	7.	Senior Technical Assistant	1	1	0
	8.	Technical Assistant	2	0	2
	9.	Laboratory Assistant	8	0	8
	10.	Field Attendant/Assistant	2	0	2
	11.	Sample Collector	12	10	2
	12.	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	11	2
	8.	Typist Grade III	4	1	3
	9.	Library Assistant	1	0	1
	10.	Store Keeper	1	0	1
	11.	Senior Driver/Driver	10	10	0
	12.	Duftry	1	1	0
	13.	Handy Man	1	0	1
	14.	Peon	21	10	11
	15.	Mali	1	0	1
	16.	Chowkidar	4	3	1
	17.	Cleaner	2	1	1
	18.	Sweeper	2	1	1
STENOGRAPHER	1.	Stenographer Grade-II	1	1	0
INFORMATION TECHNOLOGY	1.	Assistant Programmer	1	0	1
	2.	Data Entry Operator	3	2	1
		TOTAL	**151**	**88**	**63**

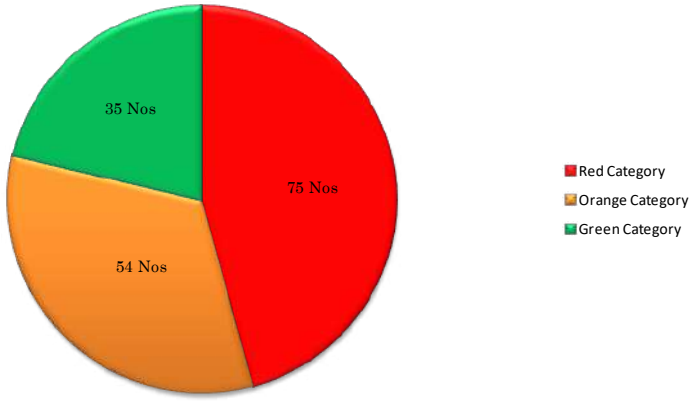
ANNEXURE-II

ORGANISATIONAL CHART



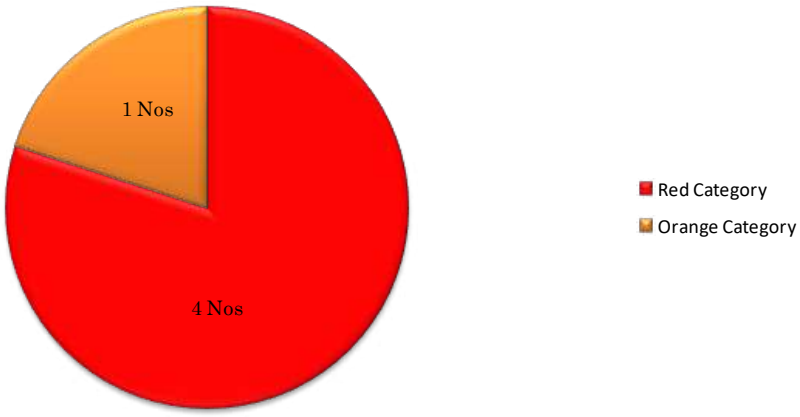
ANNEXURE-III

TOTAL NUMBERS OF
CONSENT TO ESTABLISH ISSUED DURING THE YEAR
2020-2021



ANNEXURE-IV

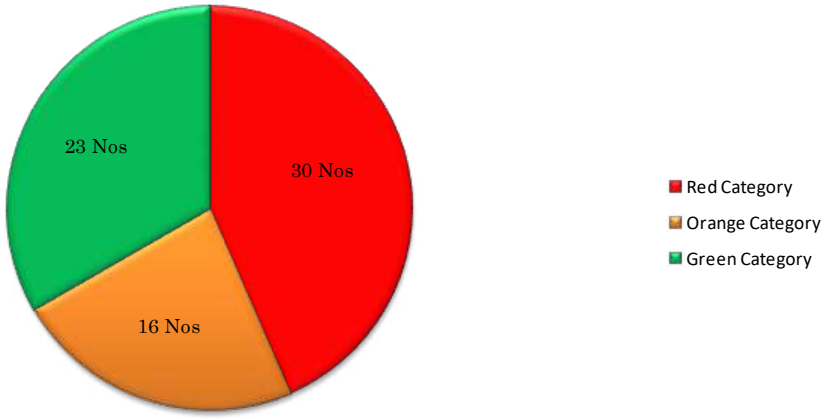
TOTAL NUMBERS OF
RENEWAL OF CONSENT TO ESTABLISH ISSUED DURING THE YEAR
2020-2021



- Industrial Sectors having Pollution Index score of 60 and above – RED category
- Industrial Sectors having Pollution Index score of 41 to 59 – ORANGE category
- Industrial Sectors having Pollution Index score of 21 to 40 – GREEN category

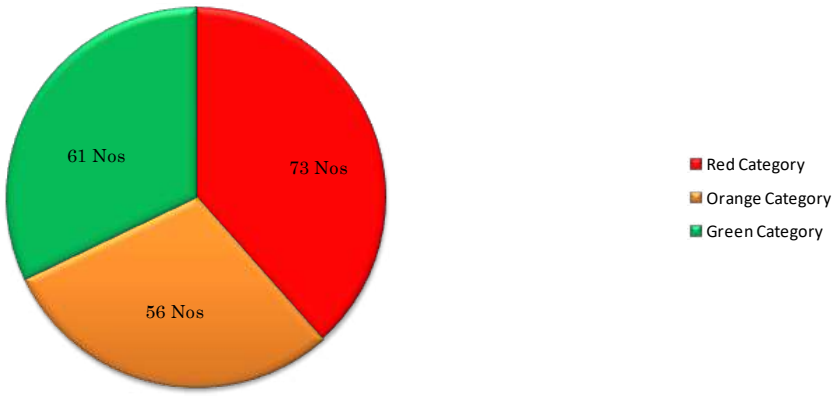
ANNEXURE-V

TOTAL NUMBERS OF CONSENT TO OPERATE ISSUED DURING THE YEAR 2020-2021



ANNEXURE-VI

TOTAL NUMBERS OF RENEWAL OF CONSENT TO OPERATE ISSUED DURING THE YEAR 2020-2021



- Industrial Sectors having Pollution Index score of 60 and above – RED category
- Industrial Sectors having Pollution Index score of 41 to 59 – ORANGE category
- Industrial Sectors having Pollution Index score of 21 to 40 – GREEN category

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