

**ACTION PLAN FOR CONTROL OF AIR
POLLUTION IN NON-ATTAINMENT CITY OF
DIMAPUR CITY AND CONGLOMERATES,
NAGALAND.**



By

**AIR QUALITY MONITORING COMMITTEE
NAGALAND**

CONTENTS

1. ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITY OF DIMAPUR (NAGALAND).
2. OBJECTIVES.
3. SOURCES OF AIR POLLUTION IN DIMAPUR CITY.
4. AIR QUALITY MONITORING NETWORK (NAMP).
5. MONITORING STATIONS UNDER NAMP PROGRAMME IN DIMAPUR, NAGALAND.
6. MONITORING MECHANISM FOR IMPLEMENTATION.
7. IMPLEMENTATION STATUS.
8. GRADED RESPONSE ACTION PLAN (GRAP) FOR DIMAPUR CITY.
9. ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITY OF DIMAPUR.

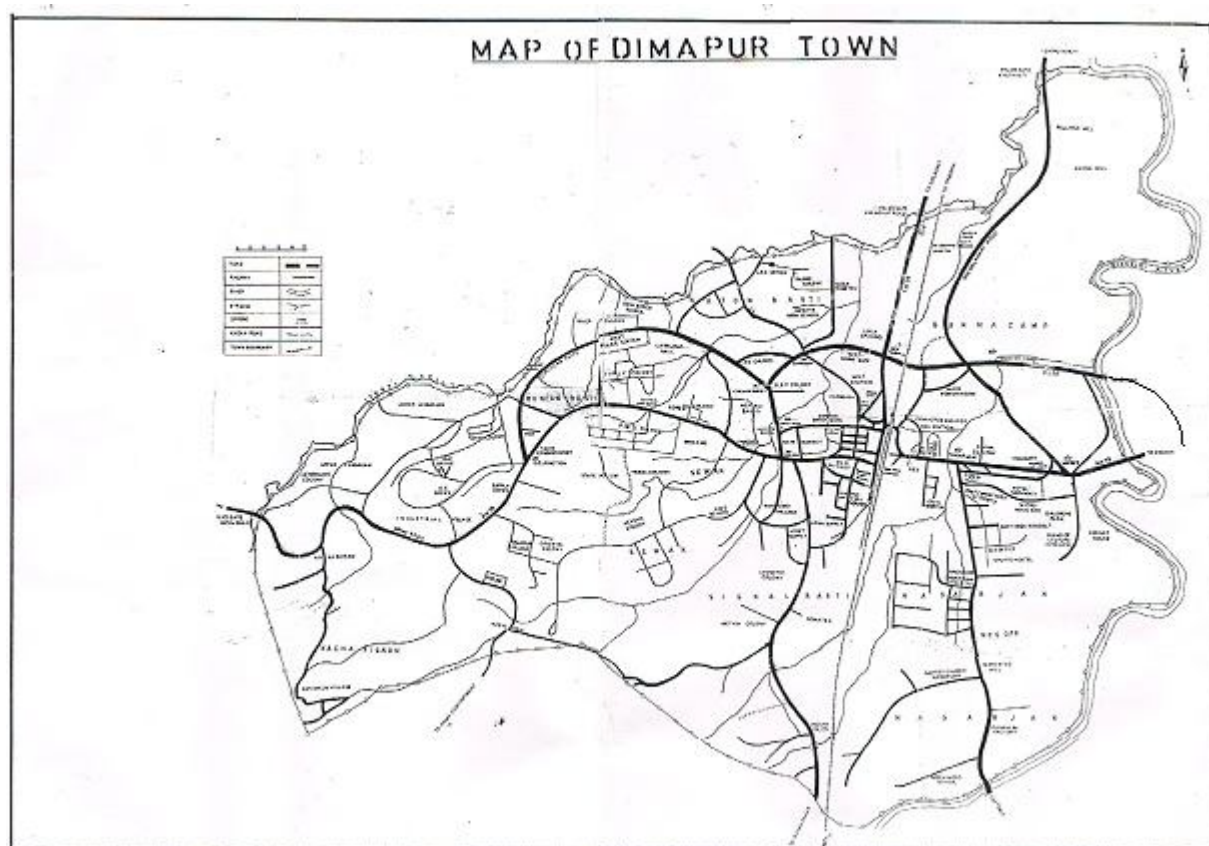
ANNEXURE

ANNEXURE 1: STATUS OF AMBIENT AIR QUALITY OF DIMAPUR CITY.

ANNEXURE 2: NOTIFICATION OF AIR QUALITY MONITORING COMMITTEE.

ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITY OF DIMAPUR (NAGALAND)

Dimapur is the commercial hub and largest city amongst all the other districts of Nagaland. It is located at 25°54'45"N and 93°44'30"E and is bounded by Kohima district on the south and east, Karbi Anglong district of Assam on the west, and stretch of Golaghat District of Assam in the north. The estimated population of Dimapur is 3,75,782 (as per 2011 census). As of 2011 census it is the most populous district of Nagaland. Dimapur is hot and humid in summers and moderately cold in winters. It is also the gateway to Nagaland and its only railhead. The city also has the only functional airport in the state.



Total number of petrol and diesel vehicles registered under Dimapur District comprises of 61,823 nos. Out of which non commercial vehicles registered are around 48,482, commercial passenger vehicles around 8,497 and commercial goods vehicles around 4,830. And the total no. of vehicles based on wheel based categorization are 2 wheelers comprises of 27,737, 3 wheelers of 8,061 and 4 & above wheelers comprises of 26,025. However, Dimapur city being the commercial hub vehicles are centric towards Dimapur city from all the other districts.

In Dimapur District, industries consented with the Nagaland Pollution Control Board accounts to total 617 unit which are categorized accordingly 12 units of Red Category, 303 Orange Category and 302 Green Category.

OBJECTIVES:

Dimapur city has been placed under non-attainment cities because it was found that for a period of 5 years (2011-2015) the air quality was consistently above the National Ambient Air Quality Standards for PM₁₀. Accordingly, this action plan is proposed to bring down the level of air pollutants within a given time frame by the responsible departments and implementing agencies and the co-operation of the public at large. The agencies responsibilities time frame and budgetary requirements are as given in the chart.

SOURCES OF AIR POLLUTION IN DIMAPUR CITY:

The major sources of air pollution in Dimapur city are:

- i. Dust raised from vehicular movement on the dusty roads.
- ii. Vehicular emissions.
- iii. Burning of wastes such as municipal waste bins, garden/leave waste, etc.
- iv. Emission from small scale industries such as stone crushers, sand mahals, tyre vulcanization unit, etc
- v. Construction activity.
- vi. Burning of fossil fuel for domestic purpose.

AIR QUALITY MONITORING NETWORK (NAMP):

The Nagaland Pollution Control Board has been regularly monitoring the air quality under National Air Monitoring Programme (NAMP) in Dimapur city using manually operated Respirable Dust Samplers. Under the National Air Monitoring Programme (NAMP) there are two monitoring stations in Dimapur i.e. in Bank colony (317) & Dhobinala (448). Under this programme three air pollutants are monitored and analyzed viz., Nitrogen dioxide (NO₂), Sulphur dioxide (SO₂) and Respirable Suspended Particulate Matter (RSPM). The monitoring of pollutants is carried out for 24 hours (4 hourly sampling for gaseous pollutants (NO₂ & SO₂) and 8 hourly sampling for particulate matter (RSPM) twice in a week.

The gaseous pollutants i.e. Nitrogen dioxide (NO₂) and Sulphur dioxide (SO₂) are within the national standards in both the monitoring stations.

MONITORING STATIONS UNDER NAMP PROGRAMME IN DIMAPUR, NAGALAND.

| Sl. no | Station name | Station code | Station type | District |
|--------|--------------|--------------|--------------|----------|
| 1 | Bank Colony | 317 | Residential | Dimapur |
| 2 | Dhobinala | 448 | Commercial | Dimapur |
| | | | | |

5 new additional NAMP stations for Dimapur city had been sanctioned and financial assistance have been received. The Board is in the process to operate and monitor the new additional stations.

MONITORING MECHANISM FOR IMPLEMENTATION:

The aforesaid action plan shall be implemented by Nagaland Pollution Control Board in co-ordination with various stakeholders/Department such as Department of Environment, Forest & Climate Change, Department of Industries & Commerce, Urban Development Department, Transport Department, Municipal Councils, Traffic Police, Town Planning, Border Roads, PWD and District Administration.

IMPLEMENTATION STATUS:

The Chief Secretary, Government of Nagaland convened meeting on 27th November, 2017 with the concerned departments and briefed the importance of Action Plan to improve the Air Quality in Dimapur and its conglomerates and how each departments should work to improve the air quality. A series of meeting with the various departments have been convened to mitigate the air quality and work on the various objectives entrusted in the action plan to each department.

GRADED RESPONSE ACTION PLAN (GRAP) FOR DIMAPUR CITY:

In pursuance to the Hon'ble Supreme Court order dated 2nd December, 2016 in the matter of M.C Metha Vs Union of India regarding air quality in Dimapur city a Graded Response Action Plan (GRAP) has been prepared where a new category of "Severe Plus or Emergency" has been added to the present categories of Moderate, Poor, very poor and severe.

Based on the present level of air pollution and trends observed in last few years, the GRAP points given below have been incorporated in the Action Plan, which include:-

1. Regular cleaning of road dust and sprinkling of water on unpaved roads.
2. Strict vigilance and no tolerance for visible emissions, impounding or imposing heavy fine on plying of visible polluting vehicles.

3. Strict enforcement of PUC emission norms.
4. Deployment of traffic police for smooth traffic flow at identified vulnerable traffic cross section areas.
5. Strict enforcement of Hon'ble Supreme Court directions dt. 23.10.2018 on use of fire crackers.
6. Intensify public transport system with cleaner fuel.
7. Strict enforcement of ban on open burning of garbage, etc, covered movement of vehicles carrying solid waste, construction materials, etc.
8. Shut down and shifting of small polluting industries.

ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITY OF DIMAPUR

1. Name of the city : **Dimapur**
2. Air Pollution concerns : Particulate matter (PM₁₀)
3. Air pollution levels: (provide range of 24-houly average concentration values; annual average for past eight years) : Annexed as Annexure-1
4. Months with high air pollution levels : January, February, March, November & December.

ACTION PLAN FOR NON-ATTAINMENT TOWNS/CITIES WITH RESPECT TO AIR QUALITY MANAGEMENT IN DIMAPUR CITY AND CONGLOMERATES, NAGALAND.

| | Action | Implementati on period (Short/Mid/ Long term) | Time target for Implementation | Responsible Agency(ies) | Budget (in `) | Remarks (any other) |
|---------------------|---|--|---------------------------------------|--|----------------------|--|
| Source group | 1. Restriction on plying and phasing out of 15 years old commercial diesel driven vehicles. | Mid | On-going | Transport Department. | - | Trucks have been debarred from entering the main city roads during the day. Restriction on phasing out 15 years commercial diesel vehicles is under consideration. |
| Vehicles | 2. Introduction of cleaner fuels (CNG/LPG) for vehicles. | Mid | On-going | Transport Department & Oil Company. | - | Check on quality fuel is being done. No immediate plan for CNG/LPG. |
| | 3. Regular checking of vehicular emission and issue of Pollution under Control Certificate (PUC). | Short | On-going | Transport Department & Traffic Police. | - | Pollution under Control Certificate (PUC) issued by Transport Department. |
| | 4. Good traffic management including re-direction of traffic movement to avoid. | Mid | On-going | Traffic Police. | - | The traffic personnel are being trained regularly for better management along with youths engaged by the DMC in managing parking of vehicles. |
| | 5. Ban on registration of Diesel driven auto-rickshaw/Tempo. | Long | 3 years | Transport Department. | - | The pros and cons shall be discussed at the Govt. level and appropriate action shall be implemented. |

| | Action | Implementati on period (Short/Mid/ Long term) | Time target for Implementation | Responsible Agency(ies) | Budget (in `) | Remarks (any other) |
|------------------|--|---|--------------------------------|--|---------------|---|
| | 6. Promotion of operationalization of E-rickshaw. | Mid | 1 year | Transport Department. | - | Introduction of E-rickshaws has been done recently by Goenka Electric Motor Vehicles. |
| | 7. Development of multi-layer parking. | Long | 3 year | DMC, UDD & District Adm. | 5 crore | - |
| | 8. Retrofitting of particulate filters in diesel driven vehicle. | Mid | 2 years | Transport Department. | - | Notice to be issued |
| | 9. Checking of fuel adulteration. | Short | On-going | District Adm, NPCB & Oil Company. | 10 lakhs | Quality checks are carried out. Besides this NPCB shall purchase necessary instruments for testing fuel adulteration and setting up of laboratory. |
| | 10. Monitoring on vehicle fitness. | Short | On-going | Transport Department & Traffic Police. | - | Pollution under Control Certificate (PUC) issued by Transport Department. No separate budget is allocated as the same is carried out as routine work when required. |
| | 11. Periodic calibration test of vehicular emission monitoring instrument. | Short | On-going | NPCB & Transport Department. | 10 lakhs | For purchase of monitoring instruments by the NPCB. |
| Road Dust | 1. Regular cleaning of road dust. | Short | 1 year | DMC | 20 lakhs | In addition to the routine work |

| | Action | Implementation period (Short/Mid/Long term) | Time target for Implementation | Responsible Agency(ies) | Budget (in `) | Remarks (any other) |
|--------------------------------|--|---|--|---|---|--|
| | 2. Water spraying on road through tankers. | Mid | 1 year | DMC & PWD (R&B) | 50 lakhs | For purchase of tankers by the DMC |
| | 3. Construction of pucca pavement along the roads. | Long | 1. Flexible pavement improvement works started in November 2018. To be complemented in two years. 2. Repair of road and drains at the Naga Shopping area, Dimapur (2 Years) | 1. PWD (R&B) 2. Development Authority of Nagaland (DAN). | 1. 70 crore (Additional requirement). 2. 6.37 crore. | Bituminous flexible pavement provided along the road shoulders and construction of road and drain. |
| | 4. Tree plantation along the roads. | Long | July, 2021 | Department of Environment and Forest | 225 lakhs | Planting of Fifty thousand seedlings (including casualty replacement) along with iron tree guard @ ` 450 per plant |
| | 5. Development of green belt in open areas, gardens, parks/ community places, schools & housing societies. | Long | July, 2021 | Department of Environment and Forest | 100 lakhs | Development 10 nos. green belt @ ` 10 lakhs per green belt |
| | 6. Introduction of water fountains at major traffic intersection/ Golambar/Circle. | Long | 2 year | DMC | 1 crore | - |
| Construction activities | 1. Covering of construction site. | Short | On-going | PWD (Housing) and DMC | - | It is in practice using bamboo lathe frames and green house cover |

| | Action | Implementati on period (Short/Mid/ Long term) | Time target for Implementation | Responsible Agency(ies) | Budget (in `) | Remarks (any other) |
|------------------------------------|--|---|--------------------------------|--|---------------|---|
| | 2. Transportation of construction material materials like sand, soil, stone chips etc in covered system. | Short | 6 months | Transport Dept, District Adm & Traffic Police. | | Notification to this effect will be issued. |
| | 3. Restriction on storage of construction materials along the road. | Short | 1 year | DMC | 5 lakhs | - |
| Biomass and garbage burning | 1. Restriction on open burning of municipal solid waste, Biomass, plastic horticulture waste etc. | Short | Implemented | DMC | - | - |
| | 2. Immediate lifting of solid wastes generated from desilting and cleaning of municipal drains for its disposal. | Short | 1 year | DMC | 20 lakhs | Clearing and lifting of wastes from clogged drains |
| | 3. Transportation of municipal solid wastes, construction materials and debris in covered system | Short | Implemented | DMC | - | - |
| | 4. Ensuring promotion & use of cleaner fuel for commercial purposes like local dhaba/eateries | Long | 1 year | District Adm & Oil Company. | - | Direction to this effect will be given. |
| Industries | 1. Ensuring installation and operation of air pollution control devices in industries | Short | Dec, 2019 | NPCB | 20 lakhs | For inventorization and monitoring of industries |
| | 2. Ensuring emission standards in industries. | Short | Dec, 2019 | NPCB | - | No separate budget is allocated as the same is carried out as routine work when required. |
| | 3. Adoption of cleaner technology in brick kilns | Mid | Dec, 2019 | NPCB | 2 lakhs | For capacity building of NPCB staffs |
| | 4. Shifting of polluting industries | Long | Dec, 2020 | NPCB & Industry Department | - | No separate budget is allocated as the same is carried out as routine work when required. |
| | 5. Ban on polluting industries. | Short | Dec, 2019 | NPCB & Industry Department | - | No separate budget |

| | Action | Implementati on period (Short/Mid/ Long term) | Time target for Implementation | Responsible Agency(ies) | Budget (in `) | Remarks (any other) |
|--|--|---|--------------------------------|-------------------------|---------------|---|
| | | | | | | is allocated as the same is carried out as routine work when required. |
| Strengthening of AAQ monitoring | 1. Installation of four CAAQMS at City Name A. Two CAAQMS stations under CSR funds of CPSU through Central Pollution Control Board at Dimapur NPCB Office and City Tower. B. Two CAAQM stations under State Govt. financial assistance | Mid | Dec, 2020 | NPCB | 2.4 crore | 1. One station to be set up at NPCB compound, Dimapur city, and 2. One station to be set up at Chumoukiedima town Dimapur. |
| | 3. Source apportionment study | Mid | Dec, 2020 | NPCB | 10 lakhs | The source of air pollution shall be studied and remedial measures will be implemented. |
| Public Awareness | 1. Issue of advisory to public for prevention and control of air pollution | Short | Dec, 2019 | NPCB & SDMA | 5 lakhs | To be done by NPCB for creating awareness. |
| | 2. Involvement of school and other academic institution in awareness program | Mid | Dec, 2019 | NPCB | 10 lakhs | To conduct workshops and pamphlets, signage, etc through which the students can spread awareness to the public. |
| Others | 1. Compliance of guidelines on D.G. sets and action against violation. | Short | Dec, 2019 | NPCB & DMC | 5 lakhs | Budget provisions for NPCB to carry out inventory and monitoring of DG sets. |

| | Action | Implementati on period (Short/Mid/ Long term) | Time target for Implementation | Responsible Agency(ies) | Budget (in) | Remarks (any other) |
|--|--|--|-----------------------------------|----------------------------|--------------------|--|
| | 2. Help line to oversee non compliances on aforesaid issues. | Short | Dec, 2019 | NPCB & DMC | - | NPCB had already created a helpline for public complaint in the NPCB website. www.npcb.nagaland.gov.in |
| | GRAND TOTAL AMOUNT | | | | 89.64 crore | |

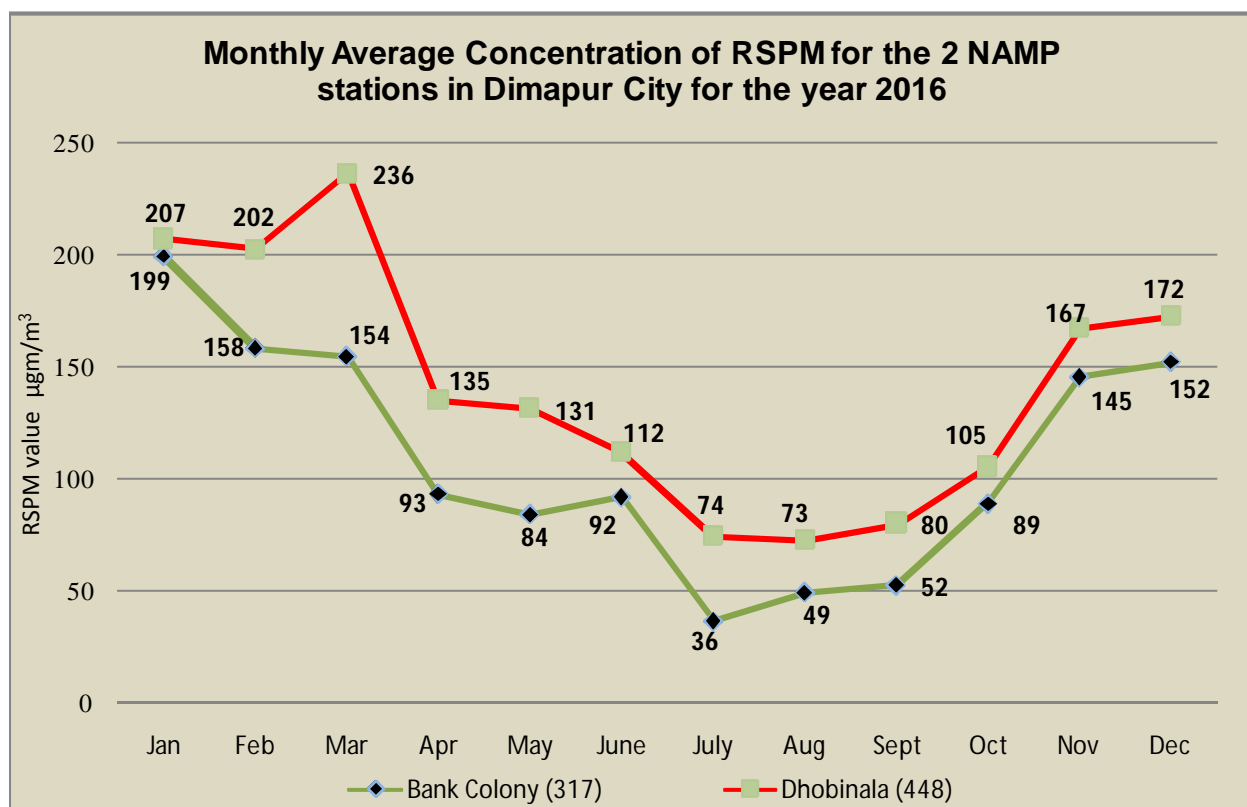
(Rupees Eighty Nine Crore Sixty Four Lakhs only)

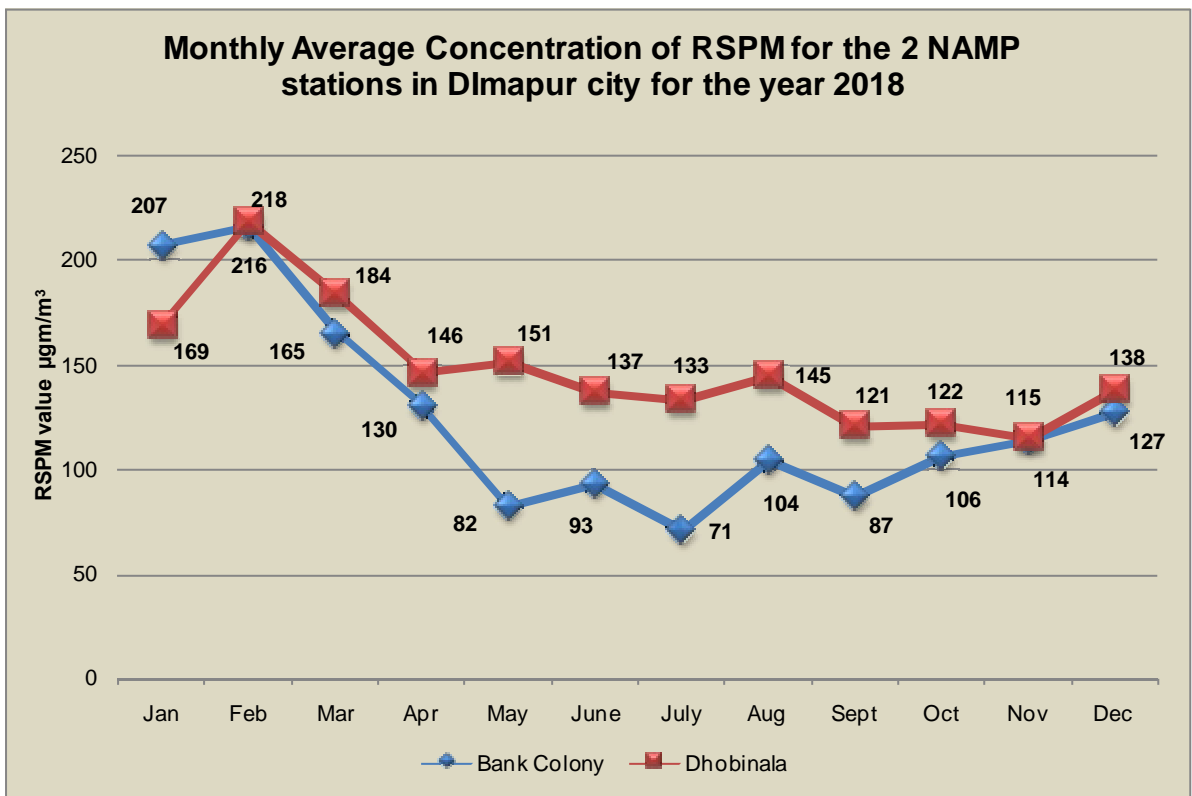
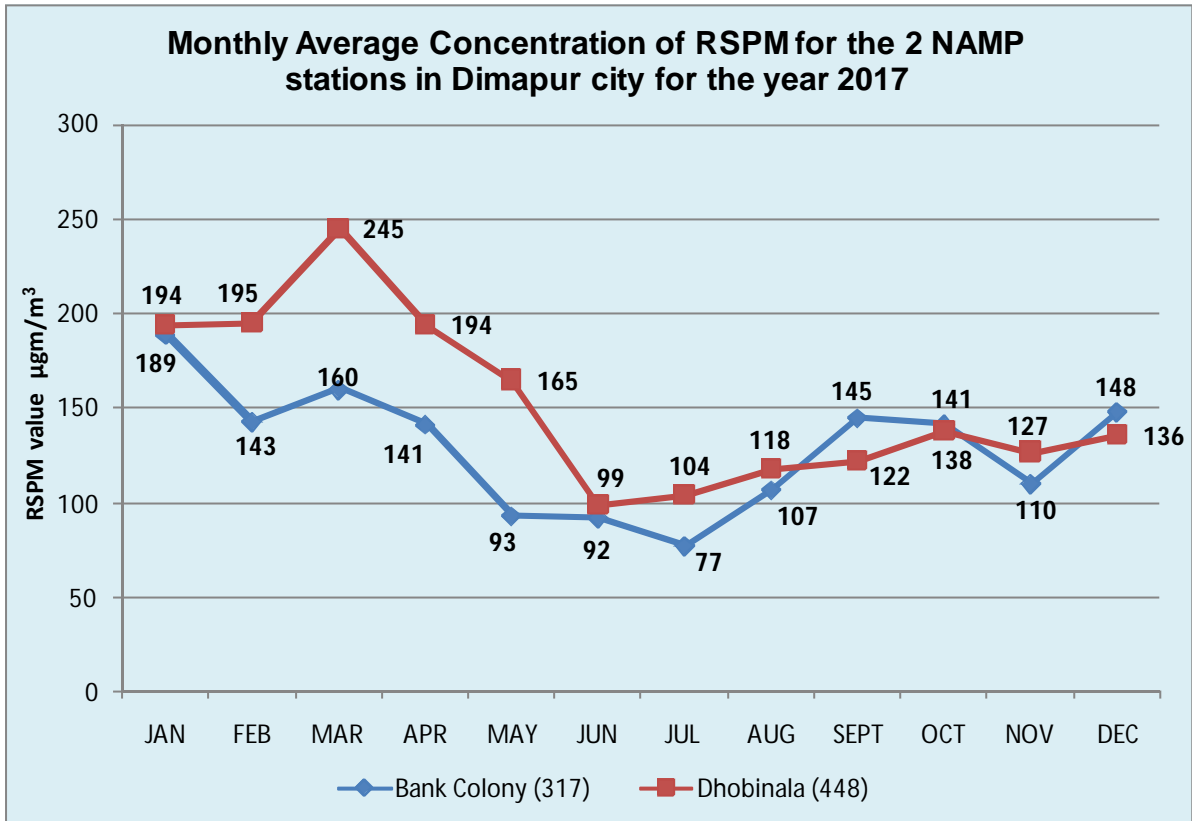

 Member Secretary
 Air Quality Monitoring Committee

STATUS OF AMBIENT AIR QUALITY OF DIMAPUR CITY:

Annual Average Concentration of Particulate Matter (RSPM) in Dimapur city for the past 8 years i.e. from 2011 to 2018:

| Years | NAMP stations | | Dimapur (Average) | Standards for Residential, Rural and other Areas |
|-------|---------------|-----------|-------------------|--|
| | Bank Colony | Dhobinala | | |
| 2011 | 80 | 98 | 89 | 60 $\mu\text{g}/\text{m}^3$ (Annual) |
| 2012 | 76 | 95 | 86 | |
| 2013 | 89 | 116 | 103 | |
| 2014 | 111 | 158 | 135 | |
| 2015 | 109 | 142 | 126 | |
| 2016 | 109 | 141 | 125 | |
| 2017 | 129 | 153 | 141 | |
| 2018 | 125 | 148 | 137 | |






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