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



Ву

AIR QUALITY MONITORING COMMITTEE
NAGALAND

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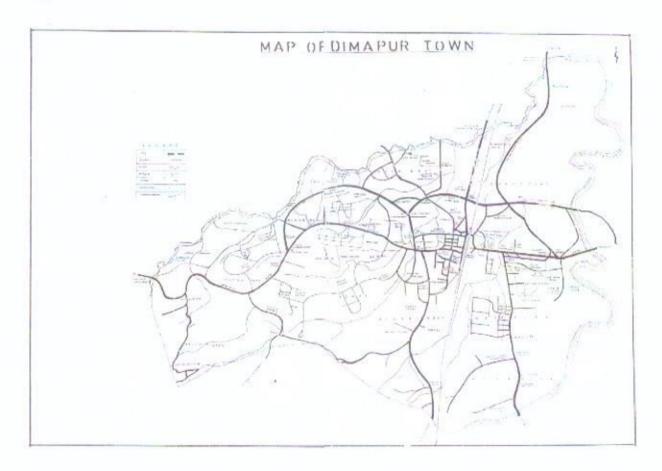


ANNEXURE 1: STATUS OF AMBIENT AIR QUALITY OF DIMAPUR CITY.

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 PM<sub>10</sub>. 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:

- 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 (NO<sub>2</sub>), Sulphur dioxide (SO<sub>2</sub>) and Respirable Suspended Particulate Matter (RSPM). The monitoring of pollutants is carried out for 24 hours (4 hourly sampling for gaseous pollutants (NO<sub>2</sub> & SO<sub>2</sub>) and 8 hourly sampling for particulate matter (RSPM) twice in a week.

The gaseous pollutants i.e. Nitrogen dioxide ( $NO_2$ ) and Sulphur dioxide ( $SO_2$ ) are within the national standards in both the monitoring stations.

#### MONITORING STATIONS UNDER NAMP PROGRAMME IN DIMAPUR, NAGALAND.

SI. no	Station name	Station	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 27<sup>th</sup> 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 2<sup>nd</sup> 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:-

- Regular cleaning of road dust and sprinkling of water on unpaved roads.
- 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.
- Deployment of traffic police for smooth traffic flow at identified vulnerable traffic cross section areas.
- Strict enforcement of Hon'ble Supreme Court directions dt. 23.10.2018 on use of fire crackers.
- Intensify public transport system with cleaner fuel.
- Strict enforcement of ban on open burning of garbage, etc, covered movement of vehicles carrying solid waste, construction materials, etc.
- Shut down and shifting of small polluting industries.

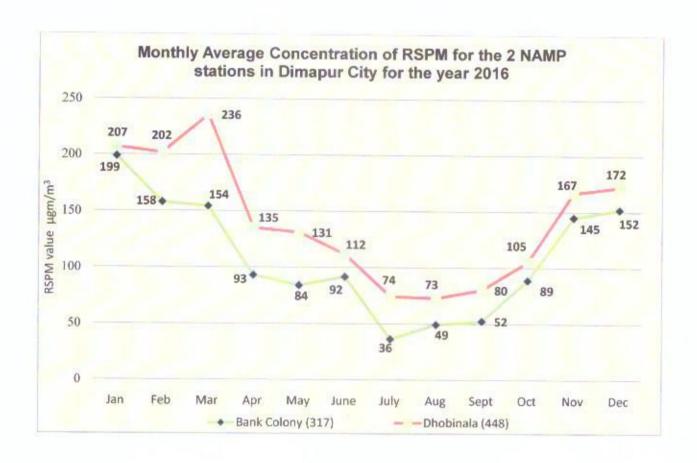
# ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITY OF DIMAPUR

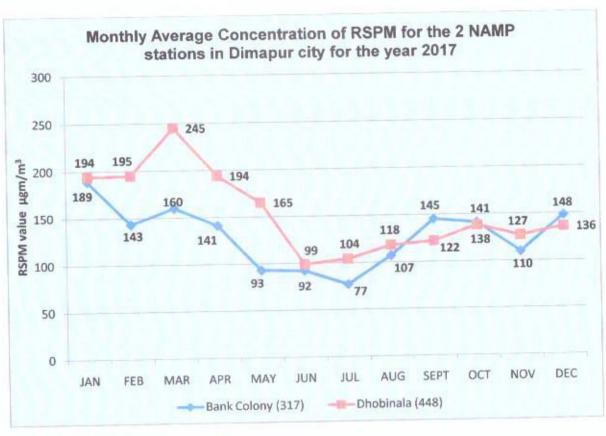
Dimapur Name of the city 1. · Particulate matter Air Pollution concerns 2. (PM<sub>10</sub>) Annexed as Annexure-Air pollution levels: (provide range of 24-houly 3. average concentration values; annual average for past eight years) : January, February, Months with high air pollution levels 4. March, November & December.

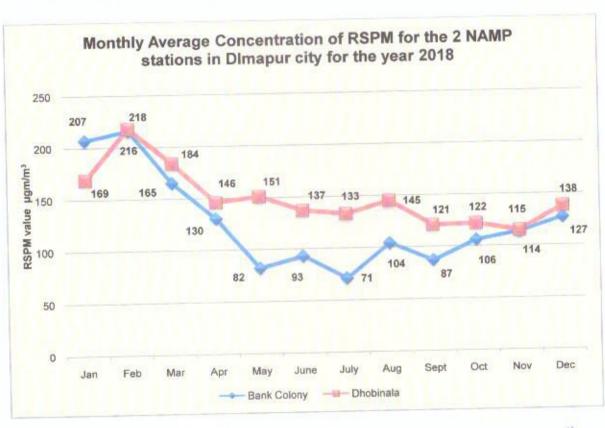
### STATUS OF AMBIENT AIR QUALITY OF DIMAPUR CITY:

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	Standards for Residential, Rural and other Areas	
	Bank Colony	Dhobinala	(Average)		
2011	80	98	89	and other production	
2012	76	95	86		
2013	89	116	103		
2014	111	158	135	60 μg/m <sup>3</sup>	
2015	109	142	126	(Annual)	
2016	109	141	125	(variadi)	
2017	129	153	141		
2018	125	148	137		







Member Secretary
Air Quality Monitoring Committee

A-2

#### DEPARTMENT OF ENVIRONMENT, FORESTS & CLÍMATE CHANGE NAGALAND: : KOHIMA

#### NOTIFICATION

Dated Kohima the 05st February, 2019.

FOR/NPCB-27/6/18: In partial modification to this office notification dated 28.01.2019 the Governor of Nagaland is pleased to constitute "Air Quality Monitoring Committee" (AQMC) which will approve the Action Plan to improve the air quality of Kohima and Dimapur City which are found to be above the permissible limit and placed under "non-attainment city" by the Government of India with the following members with immediate effect.

1.	APCCF	(Environment	8	Climate	Change)
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2. Commissioner, Transport Department.

3. Director, Urban Development, Department.

4. Director, Industries Department.

5. Director, Agriculture Department.

6. Chief Engineer (Road & Bridges)

7. Member Secretary, NPCB

Member

- Member

- Member

- Member

- Member

- Member

- Member Secretary

The Committee shall function under the overall supervision and coordination of the Principal Secretary, Environment, Forest & Climate Change Department and shall be further supervised by the Chief Secretary, Nagaland.

#### Sd/- LHOUBELATUO KIRE

Principal Secretary to the Government of Nagaland: Dated Kohima 05<sup>th</sup> February, 2019.

FOR/NPCB-27/6/18/30

Copy to:-

- Principal Secretary to the Governor, Nagaland, for information.
- 2. Principal Secretary to Chief Minister, Nagaland, for information.
- The PPS to the Hon'ble Minister, Environment, Forests & Climate Change, Nagaland, Kohima.
- 4. The OSD to the Chief Secretary, Nagaland, Kohima.
- All Members
- Smti. K Enatoli Sema, Advocate on Record & Standing Counsel for the State of Nagaland, Supreme Court of India, H/No-60, High Court Colony, HG-03, Sector 105, noida-201301. UP

7. Office Copy.

(MOALILA)

Under Secretary to the Government of Nagaland

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

Source group	LOMERATES, NAGALAND.  Action	Implementati on period (Short/Mid/ Long term)	Time target for Implementat ion	Responsible Agency(ies)	Budget (in ₹)	Remarks (any other)
	Restriction on plying and phasing out of 15 years old commercial diesel driven vehicles.	Mid	On-going	Transport Department	150	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.
	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.
Vehicles	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.  Better monitoring of compliance needs to be increased imposing penalties so that it may act as deterrent to the careless/ negligent automobile drivers/owners.
	Good traffic management including redirection of traffic movement to avoid.	Mid	On-going	Traffic Police.		Frequent and regular traffic congestion and jam density are two most important reasons for air pollution load in the city.  Traffic density and carrying capacity of the roads are required to be looked into with optimal transport network with effective movement of traffic and minimal traffic congestion with training of commercial vehicles/public transport drivers.

Source group	Action		Implementati on period (Short/Mid/ Long term)	Time target for Implementat ion	Responsible Agency(ies)	Budget (in ₹)	Remarks (any other)
			Long tom/				The traffic personnel are being trained regularly for better management along with youths engaged by the DMC in managing parking of vehicles.
	Ban on registration of Diesel di rickshaw/Tempo.	riven auto-	Long	3 years	Transport Department.	-	The pros and cons shall be discussed at the Govt, level and appropriate action shall be implemented.
	Promotion of operationalization rickshaw.	n of E-	Mid	1 year	Transport Department.	-	Introduction of E-rickshaws has been done recently by M/s Goenka Electric Motor Vehicles.
	7. Development of multi-layer pa	rking.	Long	3 year	DMC, UDD & District Adm.	5 crore	(±)
	Retrofitting of particulate filters driven vehicle.		Mid	2 years	Transport Department.	-	The AQMC is considering recommendation to the concerned department for compulsorily retrofitting or particulate filters in all diese vehicles within the next 2 years.  Notice to be issued.
	Checking of fuel adulteration.		Short	On-going	District Administration, 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 Contro Certificate (PUC) issued b Transport Department. N separate budget is allocate

Source group	Action	Implementati on period (Short/Mid/ Long term)	Time target for Implementat ion	Responsible Agency(ies)	Budget (in ₹)	Remarks (any other)
		Long termy				as the same is carried out as routine work when required.  Setting up of PUC mobile testing centers.
	Periodic calibration test of vehicular emission monitoring instrument.	Short	On-going	NPCB & Transport Department.	10 lakhs	For purchase of monitoring instruments by the NPCB.
	Install weigh bridges at the borders of cities/towns and state to prevent overloading of vehicles.	Mid	Dec, 2020	Department of Legal Metrology & Consumer Protection.	4.08 crore	Installation of weigh bridge should be implemented in the major entry points to avoid overloaded vehicles plying the roads, thereby damaging the roads.
	Regular cleaning of road dust.	Short	1 year	DMC	20 lakhs	Road dust is mainly due to bad road condition, traffic load insufficient water spraying, etc. In addition to the routine work DMC proposes to clean the dust accumulated along the stretches of the road.
Road Dust	Water spraying on road through tankers.	Mid	1 year	DMC & PWD (R&B)	50 lakhs	In the areas where there is road dust, water sprinkling is to be done regularly.  DMC proposed to purchase tankers for sprinkling of water.
Ro	Widening of roads and improvement of infrastructure for decongestion of road.	Short	~-	DMC and Traffic Police		The occupation of roads and footpaths by street vendors and building materials by the public hampers the traffic movement, all such hindrances to be removed by the DMC and traffic polici immediately.

Source group	Action	Implementati on period (Short/Mid/ Long term)	Time target for Implementat ion	Responsible Agency(ies)	Budget (in ₹)	Remarks (any other)
	Construction of pucca pavement along the roads.	Long	1. Flexible pavement improveme nt works started in November 2018. To be compleme nted in two years.  2. Repair of	PWD (R&B)  2. Development	1. 70 crores (Additio nal require ment).	Bituminous flexible pavement provided along the road shoulders and construction of road and drain.
			road and drains at the Naga Shopping area, Dimapur (2 Years)	Authority of Nagaland (DAN).	crores.	
	Tree plantation along the roads.	Long	July, 2021	Department of Environment, Forest & CC	225 lakhs	Planting of Fifty thousand seedlings (including casualty replacement) along with iron tree guard @ ₹450 per plant
	Development of green belt in open areas gardens, parks/ community places, schools & housing societies.	Long	July, 2021	Department of Environment, Forest & CC	1 crore	Development 10 nos. green belt @ ₹10 lakhs per green belt.  All the Govt. departments as and where space is available tree plantation activities have to be carried out.
	Introduction of water fountains at major traffic intersection/ Golambar/Circle.	Long	2 year	DMC	1 crore	DMC will be the responsible agency for getting the installation of fountains a major traffic points.

Source group		Action	Implementati on period (Short/Mid/ Long term)	Time target for Implementat ion	Responsible Agency(ies)	Budget (in ₹)	Remarks (any other)
Construction activities	1.	Covering of construction site.	Short	On-going	PWD (Housing) and DMC	82	It is in practice using bamboo lathe frames and green house cover.  DMC to issue directions to all the concerned construction agencies and individuals for covering of construction sites.
	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.
Constru	3.	Restriction on storage of construction materials along the road.	Short	1 year	DMC	5 lakhs	Creating awareness in all the wards under DMC. Notice will be issued for strict compliance. At present, the C&D waste are being used for filling up in low lying areas.
urning	1.	Restriction on open burning of municipal solid waste, Biomass, plastic horticulture waste etc.	Short	Implemented	DMC	-	DMC had already issued Notification for banning burning of garbage on 28th March, 2019 and 25th June, 2019. More awareness activity is required to be created.
ırbage b	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
and ga	3.	Transportation of municipal solid wastes, construction materials and debris in covered system	Short	Implemented	DMC	-	-
Biomass and garbage burning	4.	Ensuring promotion & use of cleaner fuel for commercial purposes like local dhaba/eateries	Long	1 year	District Adm & Oil Company.		Most of the eateries/Dhaba are using commercial LPGs. However, direction to this effect will be given for strict implementation of using only LPG as fuel.

Source group	Action	Implementati on period (Short/Mid/ Long term)	Time target for Implementat ion	Responsible Agency(ies)	Budget (in ₹)	Remarks (any other)
	<ol> <li>Reducing use of wood as domestic fuel and maximizing coverage of LPG for domestic and commercial cooking with target of 100% coverage,</li> </ol>	Long	-	<ul> <li>Dept of Environment, Forests &amp; CC.</li> <li>Dept. of New and Renewable Energy.</li> </ul>	-	Under the Pradhan Mantri Ujjwala Yojana (PMUJ) it will try to reach out to all the households who use firewood as domestic fuel. Renewable energy options like solar energy to be looked into.
	Ensuring installation and operation of air	Short	Dec, 2019	NPCB	20 lakhs	For inventorization and monitoring of industries
es	pollution control devices in industries     Ensuring emission standards in industries.	Short	Dec, 2019	NPCB	-	All industries causing Air, Water and Noise pollution shall be made compliant w.r.t. causing emission levels within the standards as are issued by NPCB.  No separate budget is allocated as the same is carried out as routine work when required.
Industries	Adoption of cleaner technology in brick kilns	Mid	Dec, 2019	NPCB & Industry Department	5 lakhs	For capacity building of NPCB & Industry Department officials.
	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.
	Ban on polluting industries.	Short	Dec, 2019	NPCB & Industry Department	-	No separate budget is allocated as the same is carried out as routine work when required.
	Installation of four CAAQMS at City     Name     A. Two CAAQMS stations under CSR funds of CPSU through Central	Mid	Dec, 2020	NPCB	2.4 crore	One station to be set up at NPCB compound, Dimapul city, and     One station to be set up at

Source group	Action	Implementati on period (Short/Mid/ Long term)	for Implementat ion	Responsible Agency(ies)	Budget (in ₹)	Remarks (any other)  Chumoukiedima town
	Pollution Control Board at Dimapur NPCB Office and Chumoukiedima town.  B. Two CAAQM stations under State					Dimapur.
	Govt. financial assistance					NPCB has been regularly monitoring the air quality of Dimapur city under NAMP at two stations (Bank colony (317) & Dhobinala (448). However, 5 new additional NAMP stations have been sanctioned and in operation.
onitoring	National Air Monitoring Programme (NAMP) stations at Dimapur.		Ongoing	NPCB	•	Thus, increasing the number of monitoring stations to (seven) for Dimapur district in strengthening the air quality monitoring network.
Strengthening of AAQ monitoring						NPCB had proposed to the CPCB vide letter not NPCB/NAMP-2/2117-18  Dated 26.06.2019 for ungradation of monitoring PM2 parameters at all the existing NAMP stations.
	Source apportionment study	Mid	Dec, 2020	NPCB	10 lakhs	So far no source apportionment study with respect to air pollution is the city has been conducted by the NPCB or any other agency.
						Therefore, the NPC contemplates to carry or emission inventory on the

Source group	Action	Implementati on period (Short/Mid/ Long term)	Time target for Implementat ion	Responsible Agency(ies)	Budget (in ₹)	Remarks (any other)  hasis of sources
						basis of sources apportionment study and thereby, remedial measures will be implemented.
ness	Issue of advisory to public for prevention and control of air pollution	Short	Dec, 2019	NPCB & SDMA	10 lakhs	Advisories have been issued from time to time to the public for prevention and control of pollution. Same needs to be continued in future as well through mass awareness programmes using print and electronic media.  NPCB proposes for financial assistance for creating awareness.
Public Awareness	Involvement of school and other academic institution in awareness program	Mid	Dec, 2019	NPCB	20 lakhs	NPCB conducts awareness programmes amongst the students through National Green Corps (NGC) registered Eco-clubs.  NPCB proposes for financial assistance to conductive conductiv
						workshops and pamphlets signage, etc through which the students can spread more awareness to the public.
Others	Compliance of guidelines on D.G. sets and action against violation.	Short	Dec, 2019	NPCB & DMC	5 lakhs	NPCB conducts the monitoring/inspection of DC set as and when required However, budget provision for NPCB to carry or inventory and monitoring to DG sets is required.

Source group	Action	Implementati on period (Short/Mid/ Long term)	Time target for Implementat ion	Responsible Agency(ies)	Budget (in ₹)	Remarks (any other)
	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 AMOUN	Г		93.95 crore	

(Rupees Ninety Three Crores Ninety Five Lakhs only)

Member Secretary
Air Quality Monitoring Committee