BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 681/2018

IN THE MATTER OF

IN THE MATTER OF NEWS ITEM PUBLISHED IN 'THE TIMES OF INDIA' AUTHORED BY SHRI. VISHWA MOHAN TITLED "NCAP WITH MULTIPLE TIMELINES TO CLEAR AIR IN 102 CITIES TO BE RELEASED AROUND AUGUST 15"

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V. K. Shukla 14/11/19

(V.K. SHUKLA)
SCIENTIST 'E'
CENTRAL POLLUTION CONTROL BOARD
PARIVESH BHAWAN, EAST ARJUN NAGAR
DELHI- 110032

PLACE: - DELHI
DATED: 14.11.2019

COMPLIANCE REPORT BEFORE THE NATIONAL GREEN TRIBUNAL PRINCIPAL BENCH, NEW DELHI

O.A. NO 681 OF 2018

Compliance Report before The National Green Tribunal
Principal Bench, New Delhi

Original Application No 681 of 2018

IN THE MATTER OF

News Item Published In 'The Times of India' Authored by Shri. Vishwa Mohan Titled

"NCAP with Multiple Timelines to Clear Air in 102 Cities to be released around August 15"

The Hon'ble NGT, New Delhi in OA No. 681 of 2018 issued an order dated October 08, 2018, wherein, all the States and Union Territories with non-attainment cities must prepare appropriate action plans within two months aimed at bringing the standards of air quality within the prescribed norms within six months from date of finalization of the action plans and approved by state level six member Air Quality Monitoring Committee (AQMC) and final approval by Chairman, CPCB on the recommendations of three member Committee comprising of Dr. Prashant Gargava, Member Secretary, CPCB, Prof. Mukesh Khare, Professor, IIT Delhi, and Prof. Mukesh Sharma, Professor, IIT Kanpur.

In compliance of Hon'ble NGT order dated October 08, 2018, Central Pollution Control Board filed a compliance report on February 15, 2019.

Further, Hon'ble NGT, New Delhi in OA No. 681 of 2018 issued an order dated March 15, 2019, wherein Hon'ble NGT directed, if action plans are not executed within the specified timeline mentioned above, the defaulting States will be required to pay Environmental Compensation and may also be required to furnish performance guarantee for execution of plans in extended timeline as per recommendations received from CPCB. The CPCB may make its recommendation in the matter before the next date. Also, CPCB was directed that, if on parameters applied, there are other cities, not included in list of 102, such cities may be also included.

In compliance of Hon'ble NGT order dated March 15, 2019, Central Pollution Control Board filed a compliance report on July 15, 2019.

Further, The Hon'ble NGT, New Delhi in OA No. 681 of 2018 issued an order dated August 06, 2019. Directions of the Hon'ble NGT and its **Compliance Status** is given below:

(i) ***CPCB, SPCBs and PCCs need to ensure assessment and installation of the requisite number of real time Online Continuous AAQMS within six months from today and indicate progress in this regard before the next date.***

Criteria finalized by CPCB in consultation with SPCBs, for installation of Manual Monitoring Stations (NAMP) and Continuous Ambient Air Quality Monitoring Stations (CAAQMS) is enclosed at **ANNEXURE I.** For strengthening the existing network the key criteria for designing ambient air quality monitoring network included population, capturing air pollution from different activity profile (e.g. transport, commercial, industry, etc.), monitoring of all the 12 notified parameters, optimum blend of continuous and manual systems, and selection of appropriate parameters at a monitoring location.

With regard to number of stations, population based framework was finalized with minimum four stations for 1,00,000 – 5,00,000 of population, six stations for 5,00,000 – 10,00,000, eight stations for 10,00,000 – 50,00,000, and 16 stations for cities with population ≥50,00,000 of population.

Based on criteria, state wise NAMP & CAAQM required to be installed is placed at **ANNEXURE II.**

As on **November 13, 2019,** total 202 CAAQMS are installed in 114 cities covering 20 States, and 152 CAAQMS are in process of installation.

(ii) ***The Expert Team of CPCB to design a model/SOP for source apportionment and carrying capacity assessment within two months which may be replicated for all the NACs. In the light of such study, further action may need to be considered by MoEF&CC within three months thereafter in terms of regulating the number of vehicles, action in terms of shift to e-vehicles and CNG vehicles, intensifying public transport system, mechanical cleaning of roads, enhancement of public parking facilities etc., improvement in fuel quality and traffic management, regulation of construction activities, strict adherence to siting guidelines with regard to stone crushers, mining, brick kilns, thermal power plants, coal handling, air polluting industries, hot mix plants, etc. Besides, activities like crop burning and burning of trash wood/leaves/debris for heating in winters to be strictly regulated and violations penalized as has been done by notifications for ESZ, CRZ, Ganga Flood plains etc.***

While current knowledge and available scientific evidence on the urban sources provide a basis to initiate action in different sectors, city-specific source apportionment studies are needed to refine air quality management plans for the city. National Clean air Programme (NCAP) also aims to carry out Source Apportionment studies for all 102 non-attainment cities.

Central Pollution Control Board has already evolved a methodology for conducting SA studies, which is available at (https://cpcb.nic.in/displaypdf.php?id=c291cmNlYXBwb3J0aW9ubWVudHN0dWRpZXMucGRm) and the same may be followed. However, considering overall objectives of source contribution assessment, action planning and also available technical expertise and resources, revision in existing methodology is suggested, particularly with regard to detailed emission inventory; air quality monitoring - methodology, days, locations & seasons; and utillzation of updated data sets for emission Factors (EF) and Source Profiles (SP).

The draft framework was shared with air experts and based on the inputs received from experts (IITs, NEERI, TERI etc.), framework for Source Apportionment study was finalized and circulated to all SPCBs/PCCs on October 10, 2019 through E-Samiksha (**ANNEXURE III).**

The framework for Carrying Capacity Assessment was filed in the matter of Hon'ble NGT O. A. No. 606/2018 on September 09, 2019, enclosed at **ANNEXURE IV.**

(iii) ***SPCBs/PCCs need to develop interactive public grievance redressal portals on the pattern of CPCB portal "Sameer" within two months if not already done.***

A video conference was organized by CPCB on October 18, 2019, for all SPCBs/PCCs to sensitize and guide on development of public grievance redressal portal like "Sameer app". Minutes of meeting enclosed at **ANNEXURE V.** As per the updates available with CPCB 38 cities have developed public grievance redressal portal till date (status at **ANNEXURE VI**).

(iv) ***Actions Plans need to be prepared by States for the additional 20 NACs on the pattern of 102 NACs within three months and after its approval by CPCB within two months, States must initiate time bound action on remediation within next three months.***

Letters were send to respective SPCBs on September 03, 2019, to prepare city specific action plans for 20 newly added non-attainment cities (**ANNEXURE VII**), further reminder dated October 14, 2019 were send to respective SPCBs. Out of 20 newly added cities till date 03 (Thane, Kalinga Nagar and Dehradun) action plans have been received to CPCB.

(v) ***CPCB may finalize the pending action plans within two months. Environmental compensation may be deposited by the defaulting States in terms of our order dated 15.03.2019 with the CPCB.***

Nine meetings of three member committee, constituted by Hon'ble NGT, were held, wherein all 102 city action plans were approved by the committee. Directions for implementations of city plans under section 31 A of Air (Prevention & Control of Pollution) Act, 1981 issued to all AQMCs. The detailed status of the city action plans is annexed (**ANNEXURE VIII).**

(vi) ***Timeline prescribed for reviewing action plans with regard to its report dated 15.07.2019 by the CPCB for further micro planning may be reduced from six months, preferably to four months. CPCB may give appropriate directions to the SPCBs/PCCs accordingly.***

CPCB directed all concerned states and UTs for implementation of city action plans and to submit progress of plans on quarterly basis. Till date Quarterly Progress Report received from 38 cities. Status of Quarterly Progress Report is enclosed at **ANNEXURE IX.**

(vii) ***CPCB must forthwith come out with a compensation regime within two months for air as well as noise pollution to the extent such norms have not yet been laid down.***

CPCB has worked out an Environmental Compensation (EC) regime for no action as well as for delay in implementation of action points. Date of directions issued for implementation of action plan by CPCB is taken as the zero date of implementation of

action plan and progress of implementation of these plans is to be submitted by respective State Governments quarterly (30th April, 31st August and 31st December) starting from zero date, accordingly progress will be reviewed thrice in a year.

EC slabs are suggested base on population of Non-attainment cities. NA cities are divided into five categories with (1,00,000 – 5,00,000, 5,00,000 – 10,00,000, 10,00,000 – 50,00,000, and ≥50,00,000 of population). Based on population graded EC is proposed to be levied against actions depending on time taken for completion.

The graded compensation is also recommended depending upon the period of delay of completion of actions. In case of genuine reason for delay, a mechanism for review of extended time period to be done by respective AQMC with approval of Chief Secretary. In such cases, it is proposed that along with the EC, Performance Guarantee (PG) also need to be submitted to CPCB.

The criteria for imposing environmental compensation and Performance guarantee against defaulting states is placed at for consideration of Hon'ble NGT at **ANNEXURE X.**

(viii) ***The CPCB may also evaluate existing air quality monitoring mechanism of all States and UTs and furnish a report to this Tribunal before the next date in terms of capacity of its scientific and technical personnel both in terms of number of personnel and skill/competence and outreach programmes on public awareness and suggestions for improvement.***

In order to evaluate technical and scientific personnel in ambient air quality monitoring under Manual Monitoring Stations (NAMP) and Real Time Monitoring Stations (CAAQMS) discussions were held with SPCBs/PCCs through Video Conferencing dated October 22, 2019. A format for collection of relevant information was uploaded **(ANNEXURE XI)** on e-samiksha on October 25, 2019, and same has been emailed to all SPCBs on October 28, 2019. Response received from 36 states/UTs till date. Status of the same is placed at **Annexure – XII.**

In order to analyse the information received and evaluate capacity of SPCBs/PCCs scientific and technical personnel both in terms of number of personnel and skill/competence, time till December 05, 2019, is requested.

(ix) ***The CPCB and States may have robust Emergency Response System and preparedness by way of mock drills and measures to be taken in the scenario when air pollution levels become severe plus and severe.***

National Air Quality Index developed and disseminated for effective communication of air quality status to public.

Air Quality Early Warning System for Delhi implemented in October, 2018 in association with MoES live air quality, active fire counts, AOD (MODIS), 3-day forecast, etc.

46 teams of CPCB officials from October 2019, were deployed for monitoring and providing ground feedback about activities causing air pollutions. Teams provide on-the-spot reports along with GPS coordinates through SAMEER App to enforcing agencies to facilitate actions on ground.

Public Complaints regarding air pollution issues in Delhi NCR are taken through 'Sameer App', 'Emails' (Aircomplaints.cpcb@gov.in) and 'Social Media Networks' (Facebook and Twitter) and are being forwarded to enforcement agencies for redressal. A dedicated media corner has also been created in CPCB website for public outreach. These platforms are closely monitored and complaints received are continuously resolved. Media briefings organized to sensitize public about air quality. SPCBs/ PCCs are also in process to develop interactive public grievance redressal portals. Monitoring to check violations is done by CPCB regularly.

Continuous interactions with government bodies, public agencies, urban local bodies and Task Force on Graded Action Plan Delhi NCR (GRAP) for assessment of mitigation measures and to combat air pollution. Proactive measures like Banning of coal-based industries in NCR, Closure of all construction, hot mix plants, and stone crushers activities etc. are taken to control air pollution. (Minutes of latest Task force meeting enclosed at **ANNEXURE XIII**)

(x) ***The SPCBs and PCCs to submit details of 'consent' funds to CPCB and this Tribunal within two months alongwith Action Plans on the basis of template provided by CPCB. CPCB may scrutinize and approve such action plans within***

two months in accordance to our order dated 22.01.2019 in O.A. No.101/2019. Finally, the State PCBs and PCCs may execute their Action Plans within next one year thereafter.

The Template of action plan is the part of the Hon'ble NGT order, O.A. No. 101/2019 dated January 22, 2019 (**ANNEXURE XIV**). Details of action plan for utilization of consent fund received from one state (Chhattisgarh) to CPCB is enclosed at **ANNEXURE XV**.

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Annexure I

Air Quality Monitoring network design criteria

Population (Census 2011)	Minimum No. of manual station under NAMP	Minimum no of proposed CAAQMS	Total
1,00,000- < 5,00,000	1-Background 2-Residential/ Commercial	1-Residential	4
5,00,000- <10,00,000	1-Background 2-Residential/ Commercial	1-Residential 1-Traffic dominant area 1- Commercial	6
10,00,000- <50,00,000	1-Background 2-Residential/ Commercial	2-Residential 1-Traffic dominant area 1- Commercial 1-Industrial area	8
≥50,00,000	1-Background in upwind direction 1-Background in down wind direction 2-Residential/ Commercial	4-Residential 3-Traffic dominant area 3- Commercial 2-Industrial area	16

Annexure II

Status of Proposal Received from SPCB's/PCC's under O.A. 681 of 2018

S. No.	Name of the State/PCCs	Status of Proposal received	No. of Cities	CAAQMS		Manual Stations		Remark
				Existing Stations	Required Stations	Existing Stations	Required Stations	
1	Andhra Pradesh	Received	40	4	60	70	50	
2	Arunachal Pradesh	Received	0	0	0	0	0	Not required station as population less <1 lakhs in each city/town
3	Assam	Received	33	1	4	23	27	
4	Bihar	Received	23	3	24	7	62	
5	Chhattisgarh	Received	5	8	0	13	6	
6	Chandigarh	Received	1	0	5	5	3	
7	Dadra & Nagar Haveli Daman & Diu	Received	2	0	2	6	2	
8	Goa	Received	0	0	0	18	0	Not required station as population less <1 lakhs in each city/town
9	Gujarat	Received	38	5	60	33	93	
10	Haryana	Received	23	23	74	5	42	
11	Himachal Pradesh	Received	14	0	4	25	5	
12	Jammu & Kashmir (Jammu)	Received	22	2	24	34	44	
13	Jharkhand	Received	11	3	12	11	32	
14	Karnataka	Received	40	31	42	36	84	
15	Kerala	Received	7	5	8	21	10	
16	Lakshadweep		0	0	0	0	0	Not required station as population less <1 lakhs in each city/town
17	Maharashtra	Received	42	23	101	54	127	
18	Mizoram	Received	0	1	0	4	0	Not required station as population less <1 lakhs in each city/town
19	Manipur	Received	0	0	0	0	0	Not required station as population less <1 lakhs in each city/town
20	Madhya Pradesh	Received	34	8	45	36	64	
21	Meghalaya	Received	8	0	1	1	15	

22	Nagaland	Received	10	0	0	4	20	
23	Odisha	Received	9	0	15	20	11	
24	Puducherry	Received	2	0	4	6	0	
25	Punjab	Received	25	5	32	17	60	
26	Rajasthan	Received	35	10	30	39	15	
27	Sikkim		0	0	0	0	0	
28	Tamil Nadu	Received	31	5	53	24	73	
29	Tripura	Received	1	1	1	2	1	
30	Telangana	Received	14	5	22	14	32	
31	Uttrakhand	Received	6	0	8	7	11	
32	Uttar Pradesh	Received	76	20	89	66	181	
33	West Bengal	Received	60	13	80	57	180	
34	Andaman & Nicobar		0	0	0	0	0	Not required station as population less <1 lakhs in each city/town
		Total	**612**	**176**	**800**	**658**	**1250**	

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Model framework for conducting source apportionment studies

Ambient air quality monitoring carried out at various cities/towns in the country, provide air quality information that form the basis for identifying areas with high air pollution levels and subsequently, for planning the strategies for control and abatement of air pollution. Data generated over the years reveal that Particulate Matter (PM) exceed permissible levels at many locations, particularly in urban areas. Air pollution problem becomes complex due to multiplicity and complexity of air polluting source mix (e.g. industries, automobiles, generator sets, domestic fuel burning, road side dusts, construction activities, etc.). A cost-effective approach for improving air quality in polluted areas involves (i) identification of emission sources; (ii) assessment of extent of contribution of these sources to ambient air; (iii) prioritization of sources that need to be addressed; (iv) evaluation of various options for controlling the sources with regard to feasibility and economic viability; and (v) formulation and implementation of appropriate action plans. Source apportionment (SA) study, which is primarily based on measurements and tracking down the sources through dispersion and chemical mass balance models can help in identifying the sources and extent of their contribution to ambient air pollution.

As per the directions of Hon'ble NGT dated October 08, 2018 in the matter of O.A No 681 of 2018, all non-attainment cities are in process of firming up city-specific action plans targeting air polluting sources with defined timelines and responsible agencies to implement these plans. While current knowledge and available scientific evidence on the urban sources provide a basis to initiate action in different sectors, city-specific source apportionment studies are needed to refine air quality management plans for the city. National Clean air Programme (NCAP) also aims to carry out Source Apportionment studies for all 102 non-attainment cities.

Suggested framework to carry Source Apportionment study is given below:

Methodology & Scope of Work

- Central Pollution Control Board has already evolved a methodology for conducting SA studies, which is available at (https://cpcb.nic.in/displaypdf.php?id=c291cmNlYXBwb3J0aW9ubWVudHN0dWRpZXMucGRm) and the same may be followed. However, considering overall objectives of source contribution assessment, action planning and also available technical expertise and resources, revision in existing methodology is suggested, particularly with regard to detailed emission inventory; air quality monitoring - methodology, days, locations & seasons; and utilization of updated data sets for emission Factors (EF) and Source Profiles (SP).

Emission Inventory

- Development of detailed land-use map on a GIS platform and an updated (2 km x 2 km resolution) gridded GIS-based emission inventory for air pollutants (PM10, PM2.5, SO2, CO, NOx, volatile organic compounds (VOCs) and poly-aromatic hydrocarbons (PAHs) or any other pollutants specific to the city should be prepared duly accounting seasonal variations.

- Appropriate, updated Emission Factors may be used for developing Emission Inventory. Specific efforts should be made to identify and quantify non-point fugitive sources including unauthorized activities in non-conforming areas.

- Emission inventory of industrial and other sources shall be prepared though primary surveys including data collected using Online Continuous Emission Monitoring Systems.

- Emission inventory should be periodically reviewed and validated using appropriate techniques such as, mass balance technique as far as possible.

Monitoring

- Monitoring of air pollutants, PM10, PM2.5, SO2, NO2, Benzene, Toluene, and Xylene. Analyse collected PM10 and PM2.5 mass for elemental composition, ions, elemental carbon, organic carbon, PAHs (Benzo[a]pyrene, Fluorene, Acenaphthene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)antracene, Indeno (1,2,3-c d) pyrene, and Benzo(ghi)perylene) and other source-specific molecular markers.

- Updated methodology with respect to selection of sampling equipment and measurement methods for the present study is enclosed as **Annexure I**.

- The ambient air quality monitoring should be carried out for pollutants specified in scope of work over a period covering **two critical seasons** (summer and winter) in a year, to get representative data on seasonal variations in meteorology as well as activities that have bearing on the air quality. The purpose of ambient air quality monitoring is not compliance verification.

- Air monitoring stations shall be installed at locations such as kerbside, residential, industrial and background. Minimum 05 locations for million plus cities and 04 locations for other cities. However, the number of monitoring stations can be increased depending upon the activity profile of a particular city.

- In order to capture the diurnal variations of sources as well as the typical meteorological changes, one should conduct monitoring using standard monitoring protocol spread over 60 - 100 sampling days (all sampling sites combined) of a season to cover the all days of week and get fair representation of the seasons. The number of days of sampling at each site for each season should be 15-20 days for million plus and 15 days for other cities. In case recepetor modelling is carried out using PMF than moitoring of minimum 30 days at each site may be ensured.

- Monitoring of meteorological parameters should be carried out simultaneously preferably at each station or minimum at one location. Additional meteorological data for the study period shall be procured from IMD or other agencies or validated meteorological models.

- Appropriate, updated Source Profiles may be used. For a suitable model performance internationally developed profiles can also be used. Development of city specific $PM_{2.5}$ source profiles for other sources and molecular markers should be taken wherever required.

- With regard to dispersion modeling and intervention analysis, a suitable dispersion model and refined city-level emission inventory shall be used. All efforts should be made to validate the dispersion models against measured data.

- On completion of data collection, validation and interpretation of the assimilated information, a detailed road map shall be drawn considering all possible measures for air quality improvement. These measures shall be classified into short and long-term with due priority to low cost measures that give maximum benefits. Emission from sources in neighboring districts may also be considered during formulation of action plan to lower pollution levels.

- In view of limited source profiles and technical expertise for carrying out receptor modelling, source apportionment studies may be carried out in phases starting with detailed emission inventory and dispersion modelling. Subsequently, receptor modelling may be carried out in order to validate the dispersion modelling results.

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Modifications to Conceptual Guidelines and Common Methodology for Air Quality Monitoring, Emission Inventory Source Apportionment Studies for Indian Cities

CHAPTER – II

Guidelines for Ambient Air Monitoring Site Selection and Selection of Sampler

5.0 Options for Selection of Sampling Equipment in present study

As the target is to characterize both PM_{10} and $PM_{2.5}$ at same location simultaneously, each size class shall be collected in both PTFE and Quartz filter matrix. The ideal selection would be a four channel samplers accommodating two PM_{10} channels and two $PM_{2.5}$ channels. 37 mm or 47 mm two PTFE (for PM_{10} and $PM_{2.5}$ channel) and two tissue quartz filters (for PM_{10} and $PM_{2.5}$ channel) shall be used. Flow rates for PTFE channel is preferably set to 16.7 lpm and quartz channel may be set at 10 – 16.7 lpm.

Alternatively, either four low volume Airmetrics make samplers (two with PM_{10} head and two with $PM_{2.5}$ head) holding PTFE and Quartz filters for different size classes may be used

As a third alternative four low volume FRM samplers (two with PM_{10} down tube and two with $PM_{2.5}$ impactor or cyclone) holding PTFE and Quartz filters for different size classes may be used. The flow rates would be 16.7 lpm in this case. Use of four FRM samplers would be a costly proposal.

CHAPTER – III

General Guidelines on Ambient Air Quality Monitoring & QA/QC Field Sampling

Table 3 (b): Guidelines on Analytical Support/ Procedure for Gaseous Pollutants

Pollutants	Methods
SO_2	Spectrophotometric measurement, Improved West & Gaeke Method
NO_2	Spectrophotometric measurement, Jacobs & Hochheiser Method
CO	Automatic Analyser, NDIR Method
O_3	Automatic Analyser, UV Photometric Method
Benzene	By Online BTEX Analyser or Active sampling in adsorption Tube, USEPA Method TO-1 or TO-2 GC-ATD Method
Alkanes	Selected alkanes, Alkenes, Aromatic / Cyclic Hydrocarbons more volatile than Ethane but less Volatile than C20 following USEPA Method TO – 17, GC - ATD – FID Methods are recommended

Table 3 (c): Guidelines for Ambient Air Quality Sampling/ Analysis Methodology for Target Pollutants

Particulars	Pollutants								
	PM10	PM 2.5	NOX	SO_2	CO	OC/ EC	Ions	VOC	O_3
Sampling Instrument	Multichannel Sampler Or Two PM_{10} FRM sampler stationed at same location Or two low flow (5 lpm) Air Matrics Samplers	Multichannel Sampler Or Two FRM (PM2.5) sampler Or two low flow (5 lpm) Air Matrics Samplers	Impingers attached to HVS or RDS Or Handy sampler at 1 lpm	Impingers attached to HVS or RDS Or Handy sampler at 1 lpm	Automatic analyser	PM10 Sampler Particulate collected on Quartz filter	PM10 Sampler Particulate collected on Quartz filter	Low volume sampling pump connected to Adsorption Tube / Tedlar bags Or Pressurised canister sampling	Automatic analyser
Sampling Principle	Filtration of aerodynamic sizes with a size cut by impaction	Filtration of aerodynamic sizes with a size cut by impaction followed by cyclone separation	Chemical absorption in suitable media	Chemical absorption in suitable media	Suction by Pump As per instrument specification	Filtration of aerodynamic sizes with a size cut by impaction	Filtration of aerodynamic sizes with a size cut by impaction	Active pressurised sampling / Adsorption	Suction by Pump Or Chemical Absorption
Flow rate	16.7 LPM Or 5 lpm (for low flow samplers) Or as per manufacturers manual	16.7 LPM Or 5 lpm (for low flow samplers) Or as per manufacturers manual	1.0 lpm	1.0 LPM	0.1 lpm	As per selected samplers	As per selected samplers	5 -200 ml per Minute	As per instrument specification
Sampling Period	24 hourly	24 hourly	24 Hourly (4 hourly composite)	24 Hourly (4 hourly composite)	1/8/24 hourly	24 hourly	24 hourly	Grab	8/24 hourly
Sampling frequency	20 Days in Month for three season	Once in week	20 Days in Month for three season	20 Days in Month for three season	Twice a week	20 Days in Month for three season	20 Days in Month for three season	Once in Month 8 hourly staggered sampling	Twice a week
Analytical instrument	Electronic Micro Balance	Electronic Micro Balance	Spectrophoto- meter	Spectrophoto- meter	Automatic CO analyser	OC/EC Analyser	Ion Chromatograph	GC-ATD-FID/MS Or GC-FID/MS	Automatic analyser
Analytical method	Gravimetric	Gravimetric	Colorimetric Improved West & Gaeke Method	Colorimetric Jacobs & Hochheiser Modified method	NDIR	TOR/TOT Method NIOSH 5040	Ion Chromatography	USEPA method TO-1/TO-2 /TO- 4 / TO-10 / TO-14	UV-Photometry Or Colorimetric
Minimum Reportable value	5 $\mu g/m^3$	5 $\mu g/m^3$	9 $\mu g/m^3$	4 $\mu g/m^3$		0.2 μg/ 0.5 cm^2 punch		0.1 ppb	2 ppb Or 10 $\mu g/m^3$

Notes: 1. Benzene and 1,3 Butadiene and alkanes in Volatile phase are included in VOCs

2. Methodology for molecular marker has been provided separately

BEFORE THE NATIONAL GREEN TRIBUNAL,

PRINCIPAL BENCH, NEW DELHI

O. A. 606/2018

IN THE MATTER OF

COMPLIANCE OF MUNICIPAL SOLID WASTE MANAGEMENT RULE, 2016

INDEX

DIVYA SINHA
SCIENTIST "E",
CENTRAL POLLUTION CONTROL BOARD
PARIVESH BHAWAN, EAST ARJUN NAGAR,
DELHI-110032

PLACE: DELHI
DATED: 09.09.2019

METHODOLOGY FOR ASSESSMENT OF ENVIRONMENT CARRYING CAPACITY

Carrying capacity is a concept which limits the potential ability of natural resources and species to withstand human intervention. It may be described as a test of the ability of land, water and air to keep itself usable and toxicity free despite pollution and effluent discharges and harmful developments over it.

Carrying capacity also refers to the number of individuals who can be supported in a given area within the limits of natural resources, and without degrading the social, cultural and economic environment for the present and future generations. The carrying capacity for any given area is not fixed. It can be extended to a certain level by improved technology, but mostly it is changed for the worse by pressures which accompany a population increase. As the environment is degraded, carrying capacity actually shrinks, leaving the environment with no ability to support even the number of people who could formerly have lived in the area on a sustainable basis.

Human activities may not be unsustainable in themselves but the thin line that separates them from being beneficial to mankind and becoming harmful is the environmental recognition of the concept of carrying capacity. If taken beyond carrying capacity, the activities may prove disastrous

$$Carrying\ Capcity\ = f\begin{pmatrix}\text{Environmental impacts and natural resources;}\\ \text{Infrastructure and urban services;}\\ \text{Public Perception;}\\ \text{Institution Setting;}\\ \text{Society Supporting Capacity}\end{pmatrix}$$

Methodology and Framework for Calculating Environmental Carrying Capacity:

Indicator Benchmark Comparison method:

For calculating the Carrying Capacity, Indicator Benchmark Comparison method will be used; this method is the conventional procedure of many UCC assessment models, e.g. (*Clarke, 1996; Graymore et al., 2010; Liu, 2012; Oh et al., 2005; Shi et al., 2013; Yu & Mao, 2002)*. In practice, carrying capacities values are compared with the threshold, acceptable, minimum, or recommended standards of UCC (*Joardar, 1998; Liu & Borthwick, 2011*). Initially, a set of indicators for measuring sustainability is identified. The sustainability standard for each indicator is established. Then, each determining factor is evaluated for carrying capacity assessment, by comparing human activity impacts to thresholds or targets (*Graymore et al., 2010*).

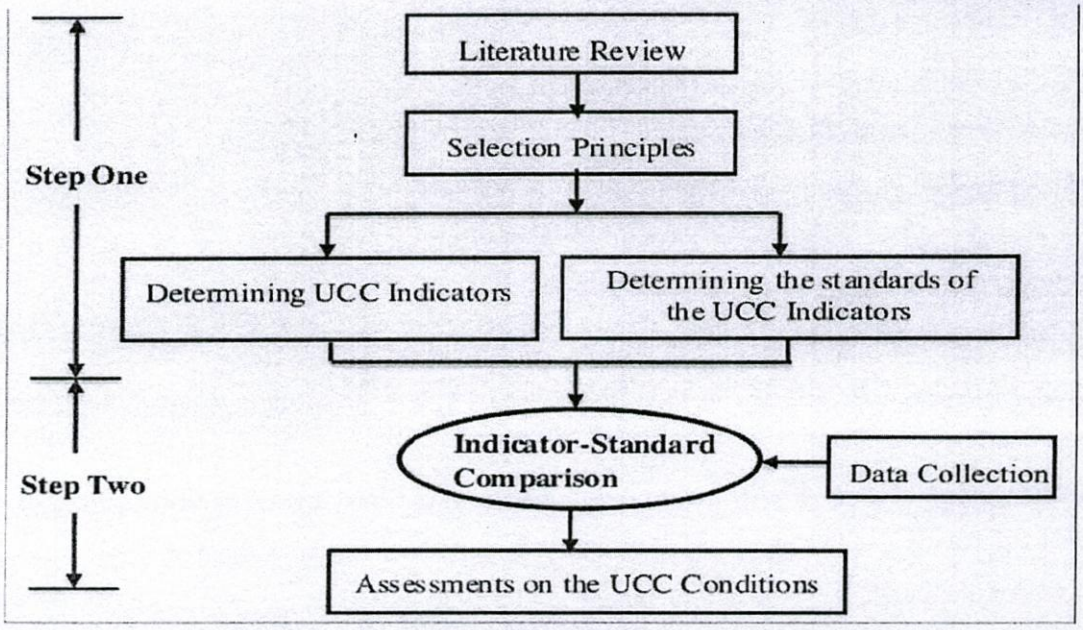

Figure1: Flow chart for Urban Carrying Capacity (*Source: Yigang wei et al ; 2015*)

Framework Description for Calculating Environmental Carrying Capacity

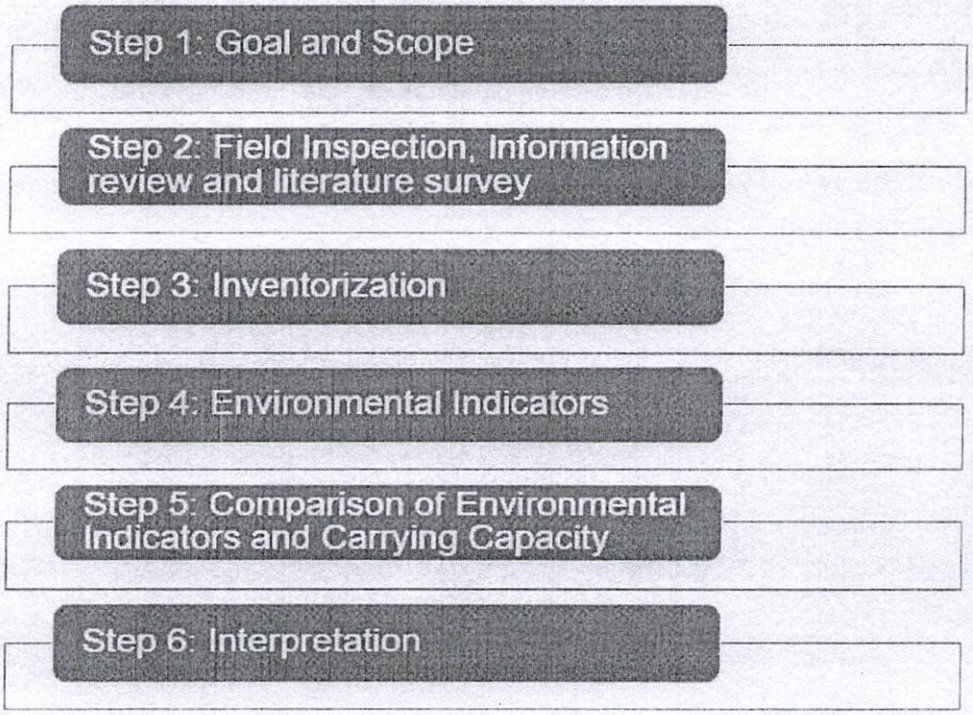

Figure 2. Schematic of Framework for Environment Sustainability Assessment

Step 1: Goal and Scope - Aim of the study and scope comprising of system boundary, functional unit, and environmental indicators shall be defined.

Step 2: Field Inspection, Information review - Information concerning the system, will be obtained through field inspection, survey, literature review etc.

Step 3: Inventory - Systematic accounting of major resource, material, activity and waste flows within the region's system boundary will be performed.

Step 4: Environmental Indicators - Specified indicators will be evaluated.

Step 5: Carrying Capacity - Carrying capacity of the region concerning different environmental aspects will be evaluated.

Step 6: Comparison of Environmental Indicators and Carrying Capacity - Environmental indicators providing status of current environmental condition will be compared with the carrying capacity of the region.

Step 7: Interpretation - Obtained results and information limitations will be discussed. Conclusion and recommendations will be drawn based on the results and information.

In the report, system boundary will represent area under study

Approach For Quantifying Carrying Capacity

Step 1: Goal and Scope

Macro-level assessment of major resource and waste flows within the system boundary. The region will be assessed for the direct resource use and waste flows. Environmental indicators will be identified in terms of specific resources and waste flows. Most common Environmental Indicators under study are land use, water use, solid waste, waste water and air emissions. Status of environmental indicators for current year and projection until year 2035 should be evaluated.

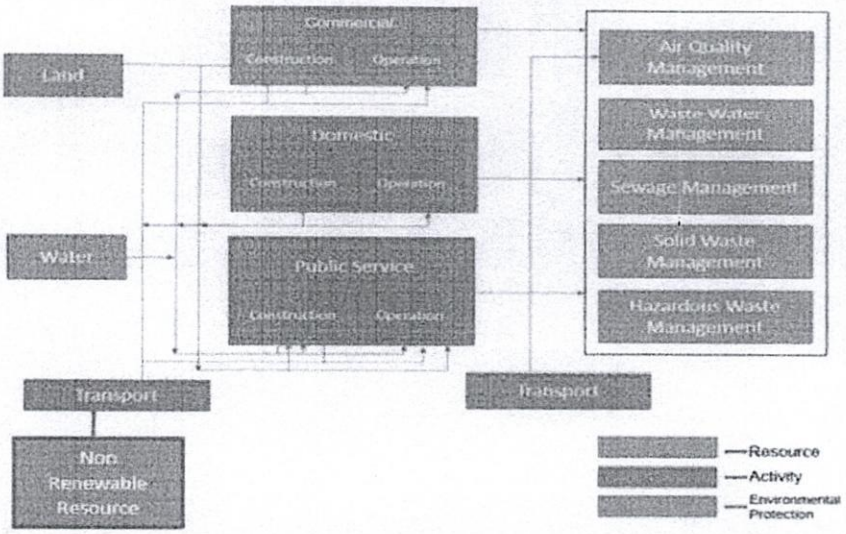

Figure 3.: System boundary for region under study

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Step 2: Field Inspection, Information review

Field Inspection to collect the relevant information about area under study. In this, field inspection includes survey of industries, commercial areas, residential areas, dumpsites, landfill sites, sewage treatment plants, water treatment plants, discussion with government officials, discussion with local residents, migrants and tourists etc. to get real scenario of the region

Step 3: Inventory

To illustrates the major resource flows from within and outside the boundary region to various activities, and waste flows from activity to various waste management systems. Inventory for the system is to be developed based on information provided in development plan, discussion with authorities, literature values and field inspection.

Population: Population of the region is to be evaluated by data extrapolation using the census data. Changes in population are influenced by three factors: birth rate, death rate and population Migration numbers (Qin et al. 2011). Birth rate and death rate can be deduced from historical information and empirical data. Population migration rate will be predicted based on the analysis of labor supply and demand balance, namely the difference between the local labor force and labor demand.

Tourist Inflow: Tourist Inflow is to be calculated by data extrapolation of peak tourist inflow in peak season.

Water Resource

a) Identify the source of water supply i.e. Ground water or surface water
b) Quantify the Total water supply to residents and industries and other commercial zone
c) Calculate the water balance of the region under study

Water supply for region is to be collected for calculating the total water available per capita to civil population, commercial activities and Industrial area.

Land Resource: Land use classifications mainly based on Non developable area (A_{ND}) and Area for infrastructure development (A_{IF})

- Non developable area (A_{ND}) consists of forests, agriculture, waste lands and nallahs
- Area for infrastructure development (A_{IF}) consists of area required for commercial, industrial, public, governmental and transportation activities and organized open spaces

For Domestic Establishments and Public services:

Water consumption: Calculate the amount of water consumption in the region. As per MOHUA, average requirement of water is 135L/day/person (MOUD, 2012) and 180L/day/person (MOUD, 1999) for tourists.

Solid waste generation: Calculate the amount of solid waste generation in the region. Municipal solid waste generated in the range 0.2 - 0.6kg/day/person, MOUD, 2016.

Waste water generation: Calculate the amount of waste water generation in the region Approx. 80% of total water use is assumed for waste water generation rate.

Traffic volume: Survey is to be carried out during weekends and weekdays to:

a) Assess the mode wise traffic composition at hotspot area of the region.
b) Estimate the number of vehicles manually and with videography if feasible.
c) Origin and Destination Survey is to be carried out in the area to estimate the extent of traffic demand from zone to other.
d) Fuel Station Survey is to be carried in the study area road network to identify the type of fuel, fuel saving, quantity and frequency of fuel filling and their mileage, type of engine, age profile and the composition of fuel types (petrol, diesel, (CNG) in total fleets.
e) Meteorological survey
   Calculate the number of vehicle inflow and number of local vehicles.
f) Calculate the average vehicle trip lengths for different vehicle categories (truck, car, and two-wheeler) by mapping the distance for general probable stops covered by the vehicles.
g) Types of vehicles
h) Type of fuel consumption,
i) Travel time data

Air Emission: Inventorization of air emission sources like biomass burning, open waste burning, stubble burning and construction activities

For Commercial Establishments: In this part all the commercial establishment will come like factories, hotels, restaurants and Dhabas etc.

Industries: Inventorization of legal and illegal industries and type of industries

Transport: Calculate the number of commercial vehicles, type of vehicles, fuel used and average trip length

Water consumption: Find out the source of water consumption, Calculate the water consumption per establishment.

Waste Water Generation: Calculate the waste water generation, evaluate the capacity for treatment of waste water

Solid waste generation: Calculate the amount of solid waste generation from the commercial establishments.

Air emission sources:

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a) Inventorzation of coal based tandoors are being used in the hotels, restaurants and dhabas and other areas specific area.

b) Inventorization of type of fuel being used in the industries in the boilers and for heating purpose.

c) Inventorization of Municipal Waste Incinerators, Biomedical Incinerators and Hazardous waste incinerators and evaluate their efficiency.

d) Inventorization of Construction activities in the region.

e) Inventorization of Road dust and unpaved road.

Step 4: *Environmental Indicators:*

1. Population (residents)+ Migration rate
2. Tourist Inflow
3. Traffic volume
4. Urban land
5. Water available: Ground water + Surface water
6. Water use : For domestic purpose , industrial use , agricultural use & others
7. Solid waste
8. Sewage
9. Air Emission: Industrial Emissions, DG set emission, emission from coal based tandoors, construction activities, open burning, transport (commercial & local) Biomass burning, road dust, crematoria's, residential and incinerators.

Step 5: Assessment of Carrying Capacity:

Carrying capacity of the region will be evaluated for urban land, water resource, atmospheric assimilation and waste carrying capacity of the region.

Urban Land Carrying Capacity

ULCC may be evaluated based on methodology presented in Urban Carrying Capacity Report by IIT Guwahati (IIT Guwahati, 2012).

$$A_R = [A_U - (A_{ND} + A_{IF})] * FAR/S$$

where, A_R = area for residential requirements

A_U = total urban area

A_{ND} = non developable area

A_{IF} = area for infrastructure development

FAR = Floor Area Ratio

S = Floor area requirement per head

Non developable area (A_{ND}) consists of forests, agriculture, waste lands and nallahs. Area for infrastructure development (A_{IF}) consists of area required for commercial, industrial, public, governmental and transportation activities and organized open spaces.

As per IIT Guwahati 2012 report,

FAR need to be determined by considering various aspects like, provision of intended free space, safe bearing capacity of soil, economy of people for affording earthquake resilient structures, drainage and transportation requirement and so on. While the proposed "SAFE" method itself will determine an acceptable FAR, one need to provide an initial value of FAR. This value can be given from guidelines provided by different organization including ULB. In absence of any such guidelines, **a value of 1.5** can be used for initial trial value. This value is suggested based on the general trend observed so far in Indian condition.

Floor area requirement per head: Based on analysis of socio- economic status of the present population and considering future possible matrix of different classes, an average logical area requirement is to be calculated

Water Resource Carrying Capacity

Amount of available water resources (AWR), and the amount of surface water withdrawal (SWW). These can be estimated by the following equations:

$$AWR = AGWR + ASWR + OAWR$$

- AGWR is the available ground water resource,
- ASWR is the available surface water resource,
- OAWR is other available water resources, mainly wastewater reuse and collection of rainwater.

$$SWW = TWS - GWS - OSWS$$

- TWS is total water supply,
- GWS is ground water supply,
- OSWS is other sources of water.

Water demand:

Gross water amount consumed by all types of water users. The gross amount of water demand includes the conveyance loss of water, domestic water demand, industrial water demand, agricultural water demand, and "other" water demand (Water Resources Bulletin of Tieling 2011).

- ***Domestic water*** demand includes urban domestic water demand, made up of the residential use of water and the public use of water (including the water use by tertiary industry and the construction industry),
- ***Industrial water demand*** consists of the demand for fresh water, excluding water recycling within enterprises.
- ***Agricultural water demand*** is made up of irrigation water demand water recharge.
- ***Other water demand*** consists mainly of the demand for sanitation water in the urban area and the water restoration requirements of rivers, lakes and wetlands.

Water resource carrying capacity (WRCC) depends on the water availability and water demand, and is given as,

$$WRCC = WA/WD$$

Where, WA = water availability

WD = water demand

Widodo et al., 2015 stated that for WRCC < 1 capacity is overshoot, WRCC 1 - 3 capacity is conditionally safe and WRCC > 3 capacity is safe.

Water Environmental Carrying Capacity (WECC):

Surface Water Carrying Capacity:

Rivers:

The water environmental capacity is the maximum pollutant loading that the water body can hold under a certain water environment quality target. The dominant water pollutant is BOD. The length and width of the computed river is relatively large, so we can ignore the horizontal changes of pollutant concentration, and only take into account changes of pollutant concentration along the river, so we select one-dimensional water quality model to calculate the Surface water environmental capacity. The water environment capacity can be calculated with following equation as per Qingchun Yang et al; 2019

Assuming stream and waste water discharge are at steady state and instantaneous full mixing of all flows.

$$W_R = \left[C_s - C_o \; exp\left(\frac{-KL}{u}\right) X \; Q\right]$$

- W_R represents the river's pollutant carrying capacity, g/s;
- Cs represents the water quality target concentration at the downstream cross-section of the river, mg/L;

- C_o represents the actual water quality concentration at the upstream cross-section of the river, mg/L;
- K represents the pollutant degradation coefficient, d^{-1} ;
- L represents the length of river, m; u represents the average flow velocity at the river's cross section, m/s;
- Q represents the designed flow at the river's cross section, m3 /s

Note: As per Yingrong Wen et al; 2017, the reported range for laboratory-measured k values is from 0.3 to 0.5 day^{-1} at a temperature of 20 °C, which is considered representative of field conditions

Lakes

Pollutant carrying capacity of the lake:

Considering, Lake is of small size with equilibrium of multi-year average in flowing water and outflowing water, it is desirable to adopt the uniform mixture model to calculate the pollutant carrying capacity.

Based on the material balance equation, the pollutant carrying capacity

$$W_L = (C_s - C_o)V + KC_sV + C_sq_{out}$$

In this equation,

- W_L represents the pollutant carrying capacity of the lake, t/a;
- Cs represents the water quality target concentration, mg/L;
- C_0 represents the actual water quality concentration, mg/L;
- V represents the average storage capacity of the lake in dry seasons, m^3 ;
- q_{out} represents multi-year outflowing water of the lake in dry seasons, m^3 /a;
- K represents the pollutant degradation coefficient, d^{-1} mainly BOD parameters under consideration

Ground Water

For estimating the level of groundwater pollution with low-hazard pollutants the following formula can be used as per Anna Belousova, 2006

$$\frac{C_1}{MPC_1} + \frac{C_2}{MPC_2} \pm - - - - - - - - \mp \frac{C_n}{MPC_n} = 1$$

Where C_1, C_n are concentration of separate pollutants, and MPC_1, MPC_n represent maximum permissible concentration.

If the sum of the concentration ratios is more than 1, then the groundwater is polluted. For all cases, pH must not be outside the limit 6.5–8.5.

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Atmospheric Assimilation Capacity:

Various approaches are described in the literature for estimating the atmospheric assimilative capacity of a region. (Goyal et al. (2006) propose two approaches, one based on a ventilation coefficient, the other through pollution potential. SEPA (2003) recommend an A-P value method and multi-source simulation model to estimate atmospheric assimilative capacity in China.

Here we are discussing the atmospheric assimilative capacity using simple Box Model:

A simple box model based on mass balance and assuming that all pollutants in the box are uniformly mixed (Figure 2) is used for preliminary estimates for step (ii) in Fig 1(a). It is a simple model and has several limitations; however, for the purpose of demonstrating the framework and preliminary analysis, the model may provide broad estimates of carrying capacity. Mathematically, the model can be described as below:

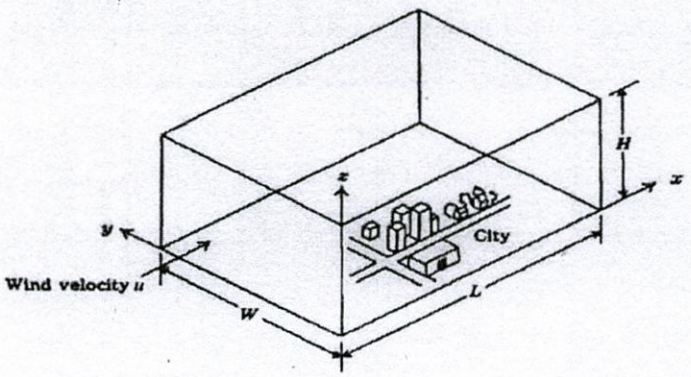

Figure 4: Schematic of box model (De Nevers, 1995)

Mathematically,

$$V\frac{dc}{dt} = qC_{in} - qC_{out} + S - K_{dd}\,CLW - K_{cr}\,C_{out}V \qquad (1)$$

where, q = volumetric flow rate (m^3/sec)

C_{in} = influent concentration of a pollutant (g/m^3)

C_{out} = effluent concentration of a pollutant (g/m^3)

K_{dd} = dry deposition velocity (m /sec)

K_{cr} = First order chemical reaction constant (1/sec)

S = source emission rate(g/sec)

K_{dd}.C.L.W = the amount of pollutants removed by dry deposition (g/sec)

K_{cr}.C.V = the amount of pollutants converted by chemical reaction (g/sec)

u = wind speed (m/sec)

In equation, V=L×W×H volume of City m^3 (L: length (m), W; Width (m), H; height (m))

The model is further simplified with the following assumptions:

- Steady state condition (i.e. concentration is time invariant); $dc/dt = 0$
- Pollutant does not gave any deposition in the box; $k_{dd} = 0$
- Pollutant does not undergo any chemical transformation: $K_{cr} = 0$

One can estimate the carrying capacity, Q_{cc} as per the following equation:

$$Q_{cc} = (C\text{-}Co) \times u.W.H \qquad (2)$$

In this calculation,

Area (A) of system boundary, Width (W) of the System boundary, mixing height (H) (average for winter and summer) within the system boundary, Wind Speed (s) within the system boundary is required.

Background concentration (C_0) into the system boundary is also required.

Alternatively, the multi-source simulation model may be used to estimate atmospheric assimilative capacity based on air quality modeling which takes into consideration region-specific meteorological conditions, terrain characteristics, and emission loads from different sources. Following Goyal and Chalapati Rao (2007), the discharged emission load at which the maximum allowable concentration is reached under predefined critical conditions is taken to be the assimilative capacity of the region. Prediction of ground-level concentrations of pollutants is carried out using the US EPA approved ISCST-3 simulation model (EPA, 1995a, 1995b). It should be noted that the atmospheric assimilative capacity has a range of values, depending on the variation of emission characteristics with given meteorological and topographical conditions.

Solid Waste Carrying Capacity:

Considering per capita solid waste generation in case of local population of the study area and that of tourist population, calculate the waste generated in the the study area tons per day (TPD) during the base year. Out of the total waste generated, calculate the waste collected and transported to a dumping/ landfill site.Solid waste carrying capacity has been analyzed here from the standpoint of waste generation and management potential and public perception. Solid waste environment carrying capacity (SWECC) was first assessed using the following simple expression-

$$SWECC = \frac{SWM_{EF}\ (tons) + RC\ (tons)}{SWG\ (tons)} \qquad \ldots\ldots\ldots\ldots (1)$$

where;

SWECC = Solid Waste Environment Carrying Capacity.

SWM_{EF} = Solid Waste Managed Environment-Friendly. Includes all SWM options (Recycling + Re-using + Reprocessing + Sanitary Land-filling + incineration in compliance with emission norms, etc.). Collection of waste is the foremost requirement before wastes are sent for land-filling, recycling, incineration, etc.

RC = Remaining Capacity. Capacity left/available for managing more SW.

SWG = Solid Waste Generated in tons.

The foremost task is collection of the generated solid waste after which, the local authority can manage the waste by sending for recycling, land-filling, incineration, etc.

Threshold for assessment;

SWECC = 1 : Carrying Capacity on edge/break-point. CC may overshoot very soon.

SWECC > 1+ : Carrying Capacity exists. More the value, more the CC.

SWECC < 1 : CC overshoot.

Carrying Capacity of Sewage management:

Calculate the total sewage generation in the region based on the present population scenario and for projected population for next 20 years and evaluate the efficiency of the Treatment plants installed for treating sewage.

S.NO	Activities		Source
1	Extent to which waste water management facilities are available to individual properties across the city, whether through centralized underground sewerage, decentralized systems or on-site systems such as septic tanks. This should be computed for the number of properties recorded in municipal records and not households, and should include all residential, commercial, industrial and institutional properties $\frac{\textit{Total number of properties with connection to waste water management systems}}{\text{Total number of properties in the city}} X100 =$	100% door to door collection (Service Level Benchmarks, MoUD)	MoUD Report on Methodology Collection and Computation of liveability Standards in Cities
2	The actual proportion of waste water generated in the city that is collected by the available sewerage Network $\frac{\textit{Total waste water collected per day}}{\text{Total waste water generated in the city per day}} X100 =$	100% (Service Level Benchmarks, MoUD)	MoUD Report on Methodology

			Collection and Computation of liveability Standards in Cities
3	The proportion of waste water received at the treatment plant that is recycled or reused for various purposes. Treated waste water can be used for horticultural purposes in parks and gardens, irrigation of farmlands on city periphery, and/or supplied to power plants and industries $\frac{Quantum\ of\ waste\ water\ recycled\ or\ reused\ per\ day}{\text{Total waste water received at treatment plants per day}} X100$ =	20% or more (Service Level Benchmarks, MoUD)	MoUD Report on Methodology Collection and Computation of liveability Standards in Cities

Overall conclusion:

Case 1:

$$\frac{Total\ Sewage\ Gneration}{Available\ treatment\ Facility\ working} = 1$$ ---------- System is conditionally safe

Subcase: Treated water must follow the prescribed standards

Case 2:

$$\frac{Total\ Sewage\ Generation}{Avaliable\ treatment\ Facility\ working\ efficiently\ with\ recycling\ of\ water\ in\ the\ system} < 1$$ ---------- System is safe

Case 3:

$$\frac{Toatl\ Sewage\ Generation}{Avaliable\ treatment\ Facility\ working\ efficiently} > 1$$ -------Carrying capacity is overshooted

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ANNEXURE - I

Item No. 01 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 606/2018

Compliance of Municipal Solid Waste Management Rules, 2016
(State of Karnataka)

Date of hearing: 24.04.2019

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

For Applicant(s):
For Respondent (s): Mr. T. M. Vijay Bhaskar, Chief Secretary, State of Karnataka
Ms. Sneha R. Iyer, Advocate
Dr. Mahendra Jain, Addl. Chief Secretary, Urban Development Department, Karnataka
Mr. Nilaya Mitash, Resident Commissioner, Karnataka Bhawan, New Delhi
Mr. Anjum Parvez, Principal Secretary, Urban Development Department, Bengaluru
Mr. Manoj Kumar, IFS, Member Secretary, Karnataka PCB
Mr. Somesh, Executive Engineer, Dept. of Municipal Admn, Bengaluru
Mr. Randeep, Special Commissioner, BBMP

ORDER

1. The issue for consideration is status of compliance of orders of this Tribunal on the subject of solid waste management and allied issues.

I. PROCEEDINGS IN ALMITRA PATEL:

2. The matter arose before this Tribunal on transfer of proceedings in *Writ Petition No. 888/1996, Almitra H. Patel Vs. Union of India & Ors.*, by the Hon'ble Supreme Court, vide order dated 02.09.2014.

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3. We may note that the issue has been subject matter of consideration before the Hon'ble Supreme Court in several proceedings, including in *Municipal Council, Ratlam vs. Vardhichand*[1] and *B.L. Wadhera v. Union of India and Ors.*[2] . It has been categorically laid down that clean environment is fundamental right of citizens under Article 21 and it is for the local bodies as well as the State to ensure that public health is preserved by taking all possible steps. For doing so, financial inability cannot be pleaded.

4. The Hon'ble Supreme Court had appointed Barman Committee which gave report on 06.01.1998 and it was duly accepted. The same led to draft for management of MSW Rules, 1999 which were replaced by 2000 Rules and are now succeeded by 2016 Rules. The Hon'ble Supreme Court gave directions for proper management of municipal solid waste, *inter-alia*, vide orders dated 24.08.2000, 04.10.2004, 15.05.2007 and 19.07.2010.

5. All the States were parties before the Hon'ble Supreme Court and draft action plans were prepared which were to be updated, as per revised Rules.

6. It has been observed by the Hon'ble Supreme Court in *Almitra H. Patel and Anr. v. Union of India and Ors.*[3] that the local authorities constituted for providing services to the citizens are lethargic and insufficient in their functioning which is impermissible. Non-accountability has led to lack of effort on the part of the employees. Domestic garbage and sewage along

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[1] (1980) 4 SCC 162
[2] (1996) 2 SCC 594
[3] (2000) 2 SCC 678

with poor drainage system in an unplanned manner contribute heavily to the problem of solid waste. The number of slums have multiplied significantly occupying large areas of public land. Promise of free land attracts more land grabbers. Instead of "slum clearance" there is "slum creation" in cities which is further aggravating the problem of domestic waste being strewn in the open. Accordingly, the Court directed that provisions pertaining to sanitation and public health under the DMC Act, 1957, the New Delhi Municipal Council Act, 1994 and Cantonments Act, 1994 be complied with, streets and public premises be cleaned daily, statutory authorities levy and recover charges from any person violating laws and ensure scientific disposal of waste, landfill sites be identified keeping in mind requirement of the city for next 20 years and environmental considerations, sites be identified for setting up of compost plants, steps be taken to prevent fresh encroachments and compliance report be submitted within eight weeks.

7. The Hon'ble Supreme Court again in *Almitra H. Patel and Anr. v. Union of India and Ors.*[4] while further reviewing the progress noted the following suggestions for consideration by the State Governments and Central Government and SPCBs/PCCs:-

> *"1. As a result of the Hon'ble Supreme Court's orders on 26.7.2004, in Maharashtra the number of authorizations granted for solid waste management (SWM) has increased from 32% to 98%, in Gujarat from 58% to 92% and in M.P. from NIL to 34%. No affidavits at all have been received from the 24 other States/UTs for which CPCB reported NIL or less than 3% authorisations*

[4] (2004) 13 SCC 538

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in February 2004. All these States and their SPCBs can study and learn from Karnataka, Maharashtra and Gujarat's successes.

2. All States/UTs and their SPCBs/PCCs have totally ignored the improvement of existing open dumps, due by 31.12.2001, let alone identifying and monitoring the existing sites. Simple steps can be taken immediately at almost no cost by every single ULB to prevent monsoon water percolation through the heaps, which produces highly polluting black run-off(leachate). Waste heaps can be made convex to eliminate standing water, upslope diversion drains can prevent water inflow, downslope diversion drains can capture leachate for recirculation onto the heaps, and disused heaps can be given soil cover for vegetative healing.

3. Lack of funds is no excuse for inaction. Smaller towns in every State should go and learn from Suryapet in A.P. (population 103,000) and Namakkal in T.N. (population 53,000) which have both seen dustbin-free 'zero garbage towns' complying with the MSW Rules since 2003 with no financial input from the State or the Centre, just good management and a sense of commitment.

4. States seems to use the Rules as an excuse to milk funds from the Centre, by making that a precondition for action and inflating waste processing costs 2-3 fold. The Supreme Court Committee recommended 1/3 contribution each from the city, State and Centre. Before seeking 70-80% Centre's contribution, every State should first ensure that each city first spends its own share to immediately make its wastes non-polluting by simple sanitizing/stabilizing, which is always the first step in composting viz. inoculate the waste with cow dung solution or bio culture and placing it in windrows (long heaps) which are turned at least once or twice over a period of 45 to 60 days.

5. Unless each State creates a focused 'solid waste management cell' and rewards its cities for good performance, both of which Maharashtra has done, compliance with the MSW Rules seems to be an illusion.

6. The admitted position is that the MSW Rules have not been complied with even after four years. None of the functionaries have bothered or discharged their duties to ensure compliance. Even existing dumps have not been improved. Thus, deeper thought and urgent and immediate action is necessary to ensure compliance in future."

8. After transfer of proceedings to this Tribunal on 02.09.2014, the matter was taken up from time to time and several directions were issued. Finally vide order dated 22.12.2016, after noticing that the SWM Rules, 2016 had been notified on 08.04.2016 which laid down elaborate mechanism to deal with the solid waste management, the Tribunal directed as follows:

"1. Every State and Union Territory shall enforce and implement the Solid Waste Management Rules, 2016 in all respects and without any further delay.

2. The directions contained in this judgment shall apply to the entire country. All the State Governments and Union Territories shall be obliged to implement and enforce these directions without any alteration or reservation.

3. All the State Governments and Union Territories shall prepare an action plan in terms of the Rules of 2016 and the directions in this judgment, within four weeks from the date of pronouncement of the judgment. The action plan would relate to the management and disposal of waste in the entire State. The steps are required to be taken in a time bound manner. Establishment and operationalization of the plants for processing and disposal of the waste and selection and specifications of landfill sites which have to be constructed, be prepared and maintained strictly in accordance with the Rules of 2016.

4. The period of six months specified under Rule 6(b), 18, 23 of the Rules of 2016 has already lapsed. All the stakeholders including the Central Government and respective State Governments/UTs have failed to take action in terms thereof within the stipulated

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period. By way of last opportunity, we direct that the period of six months shall be reckoned w.e.f. 1st January, 2017. There shall be no extension given to any stakeholders for compliance with these provisions any further.

The period of one year specified under Rule 11(f) 12(a), 15(e), 22(1) and 22(2) has lapsed. The concerned stakeholders have obviously not taken effective steps in discharging their statutory obligations under these provisions. Therefore, we direct that the said period of one year shall commence with effect from 1st July, 2017. For this also, no extension shall be provided.

Any State or Union Territory which now fails to comply with the statutory obligations as afore indicated shall be liable to be proceeded against in accordance with Section 15 of the Environment (Protection) Act, 1986. Besides that, it would also be liable to pay environmental compensation, as may be imposed by this Tribunal. In addition to this, the senior most officer in-charge in the State Government/Urban Local Body shall be liable to be personally proceeded against for violation of the Rules and orders passed by this Tribunal.

5. *The Central Government, State Government, Local Authorities and citizens shall perform their respective obligations/duties as contemplated under the Rules of 2016, now, without any further delay or demur.*

6. *All the State Governments, its departments and local authorities shall operate in complete co-ordination and cooperation with each other and ensure that the solid waste generated in the State is managed, processed and disposed of strictly in accordance with the Rules of 2016.*

7. *Wherever a Waste to Energy plant is established for processing of the waste, it shall be ensured that there is mandatory and proper segregation prior to incineration relatable to the quantum of the waste.*

8. *It shall be mandatory to provide for a buffer zone around plants and landfill sites whether they are geographically integrated or are located separately. The buffer zone necessarily need not be of 500 meters wherever there is a land constraint. The purpose of the buffer zone should be to segregate the plant by means of a green belt from surrounding*

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areas so as to prevent and control pollution, besides, the site of the project should be horticulturally beautified. This should be decided by the authorities concerned and the Rules are silent with regard to extent of buffer zone. However, the Urban Development Manual provides for the same. Hence, we hold that this provision is not mandatory, but is directory.

We make it clear that buffer zone and green belt are essential and their extent would have to be decided on a case to case basis.

9. *We direct that the Committees constituted under Rule-5 would meet at least once in three months and not once in a year as stipulated under the Rules of 2016. The minutes of the meeting shall be placed in the public domain. Directions, on the basis of the minutes, shall be issued immediately after the meeting, to the concerned States, local bodies, departments and Project Proponents.*

10. *The State Government and the local authorities shall issue directives to all concerned, making it mandatory for the power generation and cement plants within its jurisdiction to buy and use RDF as fuel in their respective plants, wherever such plant is located within a 100 km radius of the facility.*

In other words, it will be obligatory on the part of the State, local authorities to create a market for consumption of RDF. It is also for the reason that, even in Waste to Energy plants, Waste–RDF–Energy is a preferred choice.

11. *In Waste to Energy plant by direct incineration, absolute segregation shall be mandatory and be part of the terms and conditions of the contract.*

12. *The tipping fee, wherever payable to the concessionaire/operator of the facility, will not only be relatable to the quantum of waste supplied to the concessionaire/operator but also to the efficient and regular functioning of the plant. Wherever, tipping fee is related to load of the waste, proper computerised weighing machines should be connected to the online system of the concerned departments and local authorities mandatorily.*

13. *Wherever, the waste is to be collected by the concessionaire/operator of the facility, there it shall*

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be obligatory for him to segregate inert and C&D waste at source/collection point and then transport it in accordance with the Rules of 2016 to the identified sites.

14. *The landfill sites shall be subjected to bio-stabilisation within six months from the date of pronouncement of the order. The windrows should be turned at regular intervals. At the landfill sites, every effort should be made to prevent leachate and generation of Methane. The stabilized waste should be subjected to composting, which should then be utilized as compost, ready for use as organic manure.*

15. *Landfills should preferably be used only for depositing of inert waste and rejects. However, if the authorities are compelled to use the landfill for good and valid reasons, then the waste (other than inert) to be deposited at such landfill sites be segregated and handled in terms of Direction 13.*

16. *The deposited non-biodegradable and inert waste or such waste now brought to land fill sites should be definitely and scientifically segregated and to be used forfilling up of appropriate areas and forconstruction of roads and embankments in all road projects all over the country. To this effect, there should be a specific stipulation in the contract awarding work to concessionaire/operator of the facility.*

17. *The State Government, Local Authorities, Pollution Control Boards of the respective States, Pollution Control Committees of the UTs and the concerned departments would ensure that they open or cause to be opened in discharge of Extended Producer Responsibility, appropriate number of centers in every colony of every district in the State which would collect or require residents of the locality to deposit the domestic hazardous waste like fluorescent tubes, bulbs, batteries, electronic items, syringe, expired medicines and such other allied items. Hazardous waste, so collected by the centers should be either sent for recycling, wherever possible and the remnant thereof should be transported to the hazardous waste disposal facility.*

18. *We direct MoEF&CC, and the State Governments to consider and pass appropriate directions in relation to ban on short life PVC and chlorinated plastics as expeditiously as possible and, in any case, not later*

than six months from the date of pronouncement of this judgment.

19. *The directions and orders passed in this judgment shall not affect any existing contracts, however, we still direct that the parties to the contract relating to management or disposal of waste should, by mutual consent, bring their performance, rights and liabilities in consonance with this judgment of the Tribunal and the Rules of 2016. However, to all the concessionaire/operators of facility even under process, this judgment and the Rules of 2016 shall completely and comprehensively apply.*

20. *We specifically direct that there shall be complete prohibition on open burning of waste on lands, including at landfill sites. For each such incident or default, violators including the project proponent, concessionaire, ULB, any person or body responsible for such burning, shall be liable to pay environmental compensation of Rs. 5,000/- (Rs. Five Thousand only) in case of simple burning, while Rs. 25,000/- (Rs. Twenty Five Thousand only) in case of bulk waste burning. Environmental compensation shall be recovered as arrears of land revenue by the competent authority in accordance with law.*

21. *All the local authorities, concessionaire, operator of the facility shall be obliged to display on their respective websites the data in relation to the functioning of the plant and its adherence to the prescribed parameters. This data shall be placed in the public domain and any person would be entitled to approach the authority, if the plant is not operating as per specified parameters.*

22. *We direct the CPCB and the respective State Boards to conduct survey and research by monitoring the incidents of such waste burning. and to submit a report to the Tribunal as to what pollutants are emitted by such illegal and unauthorized burning of waste.*

23. *That the directions contained in the judgment of the Tribunal in the case of 'Kudrat Sandhu Vs. Govt. of NCT & Ors.', O.A. No. 281 of 2016, shall mutatis mutandis apply to this judgment and consequently to all the stakeholders all over the country.*

24. *That any States/UTs, local authorities, concessionaires, facility operators, any stakeholders,*

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generators of waste and any person who violates or fails to comply with the Rules of 2016 in the entire country and the directions contained in this judgment shall be liable for penal action in accordance with Section-15 of the Environment (Protection) Act, 1986 and shall also be liable to pay environmental compensation in terms of Sections 15 & 17 of the National Green Tribunal Act, 2010 to the extent determined by the Tribunal.

25. *That the State Governments/UTs, public authorities, concessionaire/operators shall take all steps to create public awareness about the facilities available, processing of the waste, obligations of the public at large, public authorities, concessionaire and facility operators under the Rules and this judgment. They shall hold program for public awareness for that purpose at regular intervals. This program should be conducted in the local languages of the concerned States/UTs/Districts.*

26. *We expect all the concerned authorities to take note of the fact that the Rules of 2016 recognize only a landfill site and not dumping site and to take appropriate actions in that behalf.*

27. *We further direct that the directions contained in this judgment and the obligations contained under the Rules of 2016 should be circulated and published in the local languages.*

28. *Every Advisory Committee in the State shall also act as a Monitoring Committee for proper implementation of these directions and the Rules of 2016.*

29. *Copy of this judgment be circulated to all the Chief Secretaries/Advisers of States/UTs by the Registry of the Tribunal. The said authorities are hereby directed to take immediate steps to comply with all the directions contained in this judgment and submit a report of compliance to the Tribunal within one month from the date they receive copy of this judgment."*

II. PREVIOUS PROCEEDINGS IN PRESENT MATTER:

9. The Tribunal in a review meeting on the administrative side with the CPCB and municipal solid waste management experts, on 23.07.2018

considered the matter in the light of annual report prepared by the CPCB in April 2018 under Rule 24 of the MSW Rules and noticed serious deficiencies. Accordingly, it was decided to take up the issue of execution of judgment dated 22.12.2016 in *Mrs. Almitra H. Patel & Anr. Vs. Union of India & Ors. (supra),* by way of interaction with all the States/UTs through video conferencing. For this purpose, meetings were held on 02.08.2018, 07.08.2018, 08.08.2018, 13.08.2018 and 20.08.2018.

10. At the conclusion of the interaction, the Tribunal declared that the mandatory provision of the Rules and directions should be implemented in a time bound manner. Following specific steps were required to be taken:

    i. Action plans were to be submitted by all the States to CPCB latest by 31.10.2018 and executed in the outer deadline of 31.12.2019 which should be overseen by the Principal Secretaries of Urban and Rural Development Departments of the States.

    ii. The States should have Monitoring Committees headed by the Secretary, Urban Development Department with the Secretary of Environment Department as Members and CPCB and State Pollution Control Boards (SPCBs) assisting the Committees.

    iii. They should have interaction with the local bodies once in two weeks.

    iv. Local bodies are to furnish their reports to State Committees twice a month.

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v. The State Committees may take a call on technical and policy issues.

vi. Local bodies may have suitable nodal officers. Bigger local bodies may have their own Committees headed by Senior Officers.

vii. Public involvement may be encouraged and status of the steps taken be put in public domain.

viii. The State Level Committees are to give their reports to the Regional Monitoring Committees on monthly basis.[5]

ix. Instead of every local body separately floating tenders, the standardized technical specifications be involved and adopted.[6]

x. Best practices may be adopted, including setting up of Control Rooms where citizens can upload photos of garbage which may be looked into by the specified representatives of local bodies, at local level as well as State level.

xi. It was directed that mechanism be evolved for citizens to receive and give information.

xii. CCTV cameras be installed at dumping sites.

xiii. GPS be installed in garbage collection vans. This may be monitored appropriately.[7]

11. Performance audit was to be conducted for 500 ULBs with population of 1 lakh and above initially, as suggested by the MoHUA as follows:

	Key Parameters/ Indicators	**Description of Parameters/Indicators for physical evaluation**
1	**Door to Door Collection**	Door to door collection of segregated solid waste from all households including slums and

[5]Para 21
[6] Para 22
[7] Para 23

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		informal settlements, commercial, institutional and other non-residential premises.
		Transportation in covered vehicles to processing or disposal facilities
2	**Source Segregation**	Segregation of waste by households into Biodegradable, non-biodegradable, domestic hazardous.
3	**Litter Bins & Waste Storage Bins**	• Installation of Twin-bin/ segregated litter bins in commercial & public areas at every 50-100 meters. • Installation of Waste storage bins in strategic locations across the city, as per requirement (Unless Binless) • Elimination of Garbage Vulnerable Points.
4	**Transfer Stations**	Installation of Transfer Stations instead of secondary storage bins in cities with population above 5 lakhs.
5	**Separate transportation**	• Compartmentalization of vehicles for the collection of different fractions of waste. • Use of GPS in collection and transportation vehicles to be made mandatory at least in cities with population above 5 lakh along with the publication of route map.
6	**Public Sweeping**	• All public and commercial areas to have twice daily sweeping, including night sweeping and residential areas to have daily sweeping.
7	**Waste Processing** • **Wet Waste** • **Dry Waste** • **MRF Facility**	• Separate space for segregation, storage, decentralised processing of solid waste to be demarcated • Establishing systems for home/decentralised and centralised composting • Setting up of MRF Facilities.
8	**Scientific Landfill**	• Setting up common or regional sanitary landfills by all local bodies for the disposal of permitted waste under the rules • Systems for the treatment of legacy waste to be established.
9	**C&D Waste**	Ensure separate storage, collection and transportation of construction and demolition wastes.
10	**Plastic Waste**	Implementation of ban on plastics below <50 microns thickness and single use plastics.
11	**Bulk Waste Generators (BWGs)**	Bulk waste generators to set up decentralized waste processing facilities as per SWM Rules, 2016.

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12	**RDF**	Mandatory arrangements have to be made by cement plants to collect and use RDF, from the RDF plants, located within 200 kms.
13	**Preventing solid waste from entering into water bodies**	Installation of suitable mechanisms such as screen mesh, grill, nets, etc. in water bodies such as nallahs, drains, to arrest solid waste from entering into water bodies.
14	**User Fees**	Waste Generators paying user fee for solid waste management, as specified in the bye-laws of the local bodies.
15	**Penalty provision**	Prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules and delegate powers to officers or local bodies to levy spot fines as per the byelaws framed.
16	**Notification of Bye Laws**	Frame bye-laws incorporating the provisions of MSW Rules, 2016 and ensuring timely implementation.
17	**Citizen Grievance Redressal**	Resolution of complaints on Swachhata App within SLA.
18	**Monitoring mechanism**	States/ULBs to update month wise targets/action plans on the online MIS.

12. The Regional Committees were to be headed either by former High Court Judges or by Senior Retired Officers and Apex Committees by a former Supreme Court Judge.[8] Common problems faced and suggestions were to be noted in tabular chart.[9]The Committees were to function for a period of one year subject to further orders.[10]

13. The matter was again taken up on 16.01.2019 in light of reports received from some of the Committees, especially from the State of Uttar Pradesh.

14. It was noticed that timeline of two years had expired which was the period prescribed for steps 1 to 7 under Rule 22 and three years is to

[8] Paras 18 and 20
[9] Para 14
[10] Para 18

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expire on 08.04.2019 which covers steps upto serial number 10. Since violation of Rules are statutory offences under the Environment (Protection) Act, 1986 and results in deterioration of environment, affecting the life of the citizens, it was noted that the authorities may be made accountable for their lapses and required to furnish performance guarantee for compliance or pay damages as had been directed in some of the cases.[11]

15. The Tribunal noted that solid waste management is of paramount importance for protection of environment, as the statistics paint a dismal picture of the environment in the country. The Tribunal had also referred to proceedings before it, relating to 351 polluted river stretches 102 non-attainment cities in terms of ambient air quality and 100 industrial clusters which are critically polluted as per data available with CPCB. The Tribunal had taken cognizance of such serious environmental issues and required the respective States to prepare time bound action plans and execute the same so as to restore water and air quality, as per prescribed norms.[12]

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[11]Para 20. Cases referred to in the said para are as follows:

- (a). All India Lokadhikar Sangathan vs. Govt of NCT Delhi & Anr, E.A No. 11/2017, Date of Order 16.10.2018;
  (b). Sobha Singh vs. State of Punjab & Ors. O.A. No. 916/2018, Date of Order 14.11.2018;
  (c). Threat to life arising out of coal mining in south Garo Hills district v. State of Meghalaya & Ors. O.A No. 110 (THC)/2012, Date of Order 04.01.2019;
  (d). Ms. Ankita Sinha vs. State of Maharashtra & Ors. O.A. No. 510/2018, Date of Order 30.10.2018,
  (e). Sudarsan Das vs. State of West Bengal & Ors. O.A. No. 173/2018, Date of Order 04.09.2018;
  (f). Court on its Own Motion vs. State of Karnataka, O.A. No. 125/2017, Date of Order 06.12.2018.

[12] Para 21. Cases referred to in the said para are as follows:

- O.A. No. 110 (THC)/2012-Threat to life arising out of coal mining in south Garo Hills district v. State of Meghalaya & Ors.
- O.A. No. 673/2018, News item published in 'The Hindu' authored by Shri Jacob Koshy Titled "More river stretches are now critically polluted: CPCB" dated 20.09.2018: wherein

16. The Tribunal also noted that there was a need to conduct performance audit of statutory regulators so that they are manned by competent as well as credible persons and there is a regime of their accountability, as observed by Hon'ble Supreme Court. Failure to do so would be disastrous for the health of the citizens and defeat the very purpose of regulatory regime manned to protect the environment. Accordingly, it was held that the issues being interconnected, an integral approach was required in the matter for sustainable development. Coordination was required with different authorities of the State, which was not possible without involvement of the Chief Secretaries.[13]

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the Tribunal issued directions to prepare and implement Action Plans to rejuvenate and restore the 351 polluted river stretches.

- Original Application No. 681/2018, News Item Published in "The Times of India' Authored by Shri Vishwa Mohan Titled "NCAP with Multiple timelines to Clear Air in 102 Cities to be released around August 15" dated 08.10.2018: wherein the Tribunal directed Action Plans to be prepared for the 102 non-attained cities to bring the standards of air quality within the prescribed norms.
- Original Application No. 1038/2018, News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels" dated 13.12.2018: wherein the Tribunal directed preparation of time bound Action Plans to ensure that all industrial clusters comply with the parameters laid down in Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- Original Application No. 606/2018, Compliance of Municipal Solid Waste Management Rules, 2016 dated 31.08.2018: wherein the Tribunal constituted Apex and Regional Monitoring Committees for effective implementation of MSW Rules, 2016.

[13]Paras 21 to 25. Cases referred to in the said paras are as follows:

- Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors, O.A. No.95/2018.
- https://niti.gov.in/writereaddata/files/new_initiatives/presentation-on-CWMI.pdf- India ranks 120th in 122 countries in Water Quality Index as per Niti Ayog Report, https://www.thehindu.com/sci-tech/energy-andenvironment/india-ranked-no-1-in-pollution-related-deaths-report/article19887858.ece- Most pollution-linked deaths occur in India, https://www.hindustantimes.com/india-news/delhi-world-s-most-polluted-city-mumbaiworse-than-beijing-who/story-m4JFTO63r7x4Ti8ZbHF7mM.html- Delhi's most polluted city, Mumbai worse than Beijing as per WHO; http://www.un.org/waterforlifedecade/pdf/global_drinking_water_quality_index.pdf- WHO Water Quality Index .
- News Item published in 'The Times of India' Authored by Shri. Vishwa Mohan Titled "NCAP with Multiple Timelines to Clear Air in 102 Cities to be released around August 15" O.A. No. 681/2018- http://www.greentribunal.gov.in/DisplayFile.aspx
- https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.
- Sudarsan Das vs. State of West Bengal & Ors. O.A. No. 173/2018 Order dated 04.09.2018
- Shailesh Singh vs. Hotel Holiday Regency, Moradabad & Ors. O.A. No. 176/2015, order dated 3.1.2019

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17. The Tribunal also considered its experience of administrative interaction held on the subject on 04.12.2018 with the Committees appointed and found that the mechanism had not become as effective as expected.[14]

18. The Tribunal accordingly modified the mechanism of Committees. For the States, Member Secretaries of the SPCBs were made the Convener of the Committees. Secretaries of Urban Development, Local Bodies, Local Self-Government, Environment, Rural Development Health and representatives of CPCB, wherever CPCB office is existing were to be Members. The Committees were to work for six months or as may be considered necessary.[15]

19. The Committees constituted under the Rules were to work in tandem with the Committees constituted by the Tribunal. The CPCB was to prepare Standard Operating Procedure (SOP) for implementation of Clause J for dealing with the legacy waste. The Collectors were to have monthly meetings, as per Rule 12 and submit reports to State Urban Development Departments, with a copy to State Level

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- Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors O.A. No.95/2018, order dated 11.01.2019.

[14] Para 26.

[15] Para 28. Cases referred to in the said para are as follows:

- See order dated 198.9.2018 of this Tribunal in O.A No. 606/2018 to the effect that the non-official Chairperson will be pa9id consolidated amount equal to basic pay of the post held by the incumbent. A former Judge of Hon'ble Supreme Court will be entitled to Rs. 2.50 Lakhs per month. A former Judge of the High Court will be paid Rs. 2.25 Lakhs per month. On same pattern, remuneration may be fixed for any other retired Member.
- E.A. No.32/2016 order dated 15.11.2018- Clarifying that while the State may provide the logistics and other facilities, the financial aspects may be taken care of by the State Pollution Control Boards/Committees. The financial aspects will include the remuneration or other incidental expenses which may be increased with a view to effectively execute the directions of this Tribunal. Such expenses may include secretarial assistance, travel as well as cost incurred for any technical assistance.
- Apart from remuneration, all actual expenses incurred in taking assistance for secretarial working will be reimbursed by concerned PCB as already directed vide order dated 17.12.2018 E.A. No.32/2016, Amresh Singh v. Union of India & Ors.

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Committees.16CPCB has since prepared such SOP and circulated to the State Pollution Control Boards in February 2019. We are given to understand that such procedure has been successfully implemented at places such as Goa, Indore and Kumbhkonam.

20. Every State was to constitute a Special Task Force (STF) in each District with four members – one each nominated by the District Magistrate, Superintendent of Police, Regional Officer of the SPCBs and the District Legal Services Authority (DLSA) for awareness by involving educational, religious and social organizations, including local Eco-clubs. This was also to apply with regard to awareness in respect of other connected issues i.e. polluted rivers, air pollution, etc. In this regard, reference was made to directions of the Hon'ble Supreme Court requiring such awareness programmes to be undertaken.[17]

21. The Tribunal also referred to its order dated 19.12.2018, in Original Application No. 673/2018, for laying down scale of compensation to be recovered from each State/UT in failing to carry out directions of this Tribunal on the issue of preparing action plans for river stretches. Similar pattern was proposed in case of failing to carry out directions in the present case.[18]

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[16] Para 32.

[17] Paras 35 and 36. Cases referred to in the said paras are as follows:
- O.A. No. 138/2016 order dated 27.08.2018
- O.A.No. 673/2018, order dated 20.09.2018
- Suo Moto Application No. 290/2017, order dated 24.10.2018
- O.A. No. 200/2014 order dated 29.11.2018
- (2004)1 SCC 571
- (2005)5 SCC 733

[18] Para 38. Cases referred to in the said para are as follows:
- Threat to life arising out of coal mining in south Garo Hills district v. State of Meghalaya & Ors O.A. No. 110(THC)/2012.

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22. The Chief Secretaries/Advisor of all the States and UTs were required to appear in person and be ready on the following specific points:

> *"a. Status of compliance of SWM Rule, 2016, Plastic Waste Management Rules, 2016 and Bio-Medical Waste Management Rules, 2016 in their respective areas.*
>
> *b. Status of functioning of Committees constituted by this order.*
>
> *c. Status of the Action Plan in compliance vide order dated 20.09.2018 in the News Item published in "The Hindu" authored by Shri Jacob Koshy Titled "More river stretches are now critically polluted: CPCB (Original Application No. 673/2018).*
>
> *d. Status of functioning of Committees constituted in News Item Published in "The Times of India' Authored by Shri Vishwa Mohan Titled "NCAP with Multiple timelines to Clear Air in 102 Cities to be released around August 15" dated 08.10.2018.*
>
> *e. Status of Action Plan with regard to identification of polluted industrial clusters in O.A. No. 1038/2018, News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels" dated 13.12.2018.*
>
> *f. Status of the work in compliance of the directions passed in O.A. No. 173 of 2018, Sudarsan Das v. State of West Bengal &Ors. Order dated 04.09.2018.*
>
> *g. Total amount collected from erring industries on the basis of 'Polluter Pays' principle, 'Precautionary principle' and details of utilization of funds collected.*
>
> *h. Status of the identification and development of Model Cities and Towns in the State in the first phase which*

- News Item published in "The Hindu" authored by Shri Jacob Koshy Titled "More river stretches are now critically polluted: CPCB (O.A. No. 673/2018) vide order dated 19.12.2018- wherein this Tribunal held that compensation for damage to the environment will be payable by each of the States/ UTs at the rate of Rs. One Crore per month for each of the Priority- I and Priority- II stretches, Rs. 50 lacs per month for stretches in Priority-III and Rs. 25 lacs per month each for Priority- IV and Priority- V stretches.

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can be replicated later for other cities and towns of the State."

23. It was also directed that they may not nominate other officer for appearance before this Tribunal. However, they may seek change of date, with advance intimation.[19]

24. Further direction was for the State to display on their respective websites the progress made on the above issues.[20]Under Rule 14, the CPCB was directed to coordinate with the Committees.[21]

25. Accordingly, Chief Secretaries/Advisor of Himachal Pradesh, Haryana, Punjab, Uttarakhand, Delhi, Bihar, Odisha, Chandigarh, West Bengal, Maharashtra, Gujarat, Goa, Daman & Diu and Dadra and Nagar Haveli, Madhya Pradesh, Rajasthan, Meghalaya and Tamil Nadu have already appeared before this Tribunal on 05.03.2019, 06.03.2019, 07.03.2019, 11.03.2019, 15.03.2019, 26.03.2019, 26.03.2019, 02.04.2019, 08.04.2019, 09.04.2019, 10.04.2019, 11.04.2019, 15.04.2019, 16.04.2019, 22.04.2019 and 23.04.2019 respectively and their reports were duly considered. Directions have been given for further course of action and they have been directed to appear in person again with status of compliance and progress after six months. This has become necessary to ensure that environment protection and restoration is given highest priority in view of serious challenge posed by deteriorated environment and large scale violations which are not satisfactorily dealt with by the administrative machinery of the

[19] Paras 40 and 41
[20] Para 42
[21] Para 45

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Government. The Tribunal hopes and expects that continued involvement of Chief Secretaries/Advisor will result in improvement of the situation and lead to better protection of quality of air, water and environment and help public health. We may note that after order dated 16.01.2019 some of the issues referred to in Para 22 hereinabove have been dealt with by further orders of this Tribunal.[22]

26. Vide order dated 05.03.2019, dealing with State of Himachal Pradesh, it has been directed that the Apex Committee is to conclude its proceedings by 30.04.2019 and furnish its final report. Thereafter, monitoring at apex level can be done by MoEF&CC and CPCB in terms of Rules 5 and 14 of the SWM Rules respectively and direction of this Tribunal vide order dated 22.12.2016 [Para 43(9)]. However, the State Level Committees as directed by the Tribunal headed by retired Judges and the Chief Secretaries will continue including the State and District Level Committees. After expiry of the term of the Committees after 16.07.2019, the Chief Secretary may take a decision whether such Committees are required to continue further.

III. <u>PRESENT PROCEEDINGS:</u>

27. In pursuance of above, Mr. T. M. Vijay Bhaskar, Chief Secretary, State of Karnataka is present in person.

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[22](a). Order dated 08.04.2019 in O.A. No. 673/2018, News item published in 'The Hindu' authored by Shri Jacob Koshy Titled "More river stretches are now critically polluted: CPCB".

(b). Order dated 15.03.2019 in O.A. No. 681/2018, News Item Published in "The Times of India' Authored by Shri Vishwa Mohan Titled "NCAP with Multiple timelines to Clear Air in 102 Cities to be released around August 15".

(c). Order dated 05.04.2019 in Sudarsan Das vs. State of West Bengal &Ors., O.A. No. 173/2018.

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28. An affidavit has been filed on 23.04.2019on behalf of State of Karnataka indicating status of compliance of order dated 16.01.2019. The compliance report indicates some of the steps taken for solid waste management. Status of compliance of Plastic Waste Management Rules, 2016, Bio-medical Waste Management Rules, 2016, polluted river stretches and air polluted cities have also been mentioned.

29. Some of the progress made of the State of Karnataka as stated in the compliance affidavit are as follows:

i. 5605 wards out of total 6609 wards have achieved 100% Door to Door collection and the efficiency is about 85%

ii. "Uttara Kannada" district in Karnataka has been made as a model district by achieving more than 95% source segregation and 91% of waste processing.

iii. As a part of Green initiative, Karnataka State adopted the use of electrically operated vehicles in few Urban Local Bodies for door to door collection. Six Biomethanisation plants are established which generate about 201 KW of power every day.

iv. Installation of lane composters for managing wet waste at street level itself. This has positively impacted in the amount of wet waste going out of the ward.

v. Biomedical Waste Management and Monitoring Software has been developed and linked to the Department Website as a common portal for each Healthcare Facility, the state to login

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and enter data on day to day generation of Biomedical Waste as per categories in Schedule-I.

vi. 7000 Health Records have been printed and distributed to Health Staffs to undergo Health Check-up as per BMW Rules 2016 and to keep records of the same.

vii. Bus panel advertisement have been placed on 2,228 buses to encourage segregation at source, creating general awareness about waste processing and disposable decentralized way and creating awareness on personal hygiene and city sanitation.

viii. All districts have constituted Special Task Force (STF) for creating awareness.

30. From perusal of the compliance affidavit and after hearing submissions of the State, we find that steps required to be taken under Rule 22 of the Solid Waste Management Rules, 2016 have not yet been fully completed. It is not clear whether the local bodies have submitted their annual reports to the State Pollution Control Board (SPCB) under Rule 24 and whether SPCB has submitted consolidated annual report to the Central Pollution Control Board (CPCB) under the said Rules. We have also found the steps taken for plastic waste management and bio-medical waste management to be inadequate.

31. From the compliance affidavit furnished by the Chief Secretary, huge gap is noticed in the steps taken and the steps required to be taken in terms of the Rules and for ensuring sustainable development. Unless

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such steps are taken, the unsatisfactory state of environment in the country in general and in the State in particular may not improve.

32. We take note of some of the articles published in the media. Information in the said articles needs to be cross checked and remedial measures taken, if necessary. It is reported as follows:

(a). In southern India, Karnataka has the worst quality of air that kills 95 persons out of every 100,000 population, as per India's first comprehensive state-wide estimates of deaths, disease burden, and life expectancy reduction associated with air pollution.[23] One of the findings was continued high use of solid fuel by states like Karnataka and Kerala that are considered economically well-off with a high-proportion of literates. In Karnataka 42.8% people continue using solid fuel.[24]

(b). As per reports, more than half of the country's critically-polluted water bodies, in terms of chemical pollution, are found in Karnataka, with its capital itself accounting for 17 lakes and tanks with the highest chemical pollution. From Bellandur to Hebbal, 17 lakes and tanks in the city have been categorized as critically-polluted with Chemical Oxygen Demand (COD) levels, which indicate chemical pollution, topping 250 microgrammes per litre. As per research study, Arkavathy and Vrishabhavathy carry the sewage and industrial effluents from industries in and around Bengaluru. [25]

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[23]https://www.deccanherald.com/national/among-south-india-karnataka-706737.html
[24]*ibid*
[25]https://www.thehindu.com/news/cities/bangalore/bengaluru-tops-in-water-bodies-with-chemical-pollution/article23324428.ece

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(c). Cauvery, the 765 kilometre long river which flows through the states of Karnataka and Tamil Nadu has been victim of disposal of untreated effluents, resulting in the river water becoming polluted at various sections of the river. Even the colour of Cauvery's water has changed in some places due to disposal of toxic effluents.[26]

(d). As reported, the collapse of Mularpatna Bridge, the first ever bridge in the coastal region in Karnataka, on June 26, 2018, brought the stronghold of Sand Mafia in the region into the limelight.[27]As per newspaper reports, the locals have been informing the officials about the illegal extraction of sand at the base of the bridge, weakening and damaging the pillars supporting the bridge. But concrete action has not been taken. The officials at Department of Mines and Geology have registered 16 cases daily related to Sand Mafia in Karnataka from 2015-2017. As many as 12,318 cases were booked during this period, all of them mentioning illegal sand mining, transportation, storage, and use of filter sand. The numbers here explain the scale of operation the Mafias are running in the state.[28] Almost all the major rivers in the state, such as Cauvery, Hemavathi, Tungabhadra, Krishna, Ghataprabha, Bhima, Vedavati and Netravati, are bearing the brunt of illegal sand mining. Numerous streams and tanks are also exploited indiscriminately.[29]

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[26]https://swachhindia.ndtv.com/karnataka-and-tamil-nadus-lifeline-cauvery-is-battling-with-pollution-10661/

[27]https://www.newsclick.in/sand-mafia-network-politicians-construction-companies-and-criminals

[28]*Ibid.*

[29]https://www.deccanherald.com/exclusives/illegal-sand-mining-wrecking.html

33. Some of the issues relating to the protection of environment in the State of Karnataka have been considered by this Tribunal in its orders.[30]

34. On behalf of CPCB, some data has been furnished in respect of State of Karnataka and the same is summarized as under:-

1	**Solid Waste Management**	Number of towns to be covered: 277 Local Bodies : 277 Waste Generation : 11085 TPD Collected : 9866 TPD Treated : 3494 TPD Landfilling : 7591 TPD No. of Dump sites : not indicated
2	**Plastic Waste Management**	Waste Generation : 419600 No. of registered manufacturing units : 301 No. of unregistered manufacturing units: Not provided
3	**Biomedical Waste**	No of Hospitals : 32364 Authorizations granted : 23864

[30](a). Order dated 13.08.2018 in Venkatesh & Ors. Vs Union of India &Ors., O.A. No. 179/2017 - Dumping of solid waste in illegal manner

(b). Order dated 24.08.2018 in Goa Foundation Vs. Union of India, O.A. No. 597/2018 - Declaration of deemed forest and protection of eco sensitive area in the Western Ghats in relation to State of Karnataka.

(c). Order dated 04.09.2018 in Sri K. S. Ravi Vs. State of Karnataka &Ors., O.A. No. 01/2018 - Construction of the project on the bank of Kaikondrahalli Lake in Bengaluru which is a buffer/no development/no construction Zone.

(e). Order dated 10.09.2018 in Anand Vinay Vs. State of Karnataka, O.A. No. 613/2018 - Lake adjacent to NICE Express Way in between Tumkur road NH 4 and Magadi road polluted by sewage and industrial untreated water and by bad smell

(f). Order dated 24.09.2018 in Akash Vashishtha Vs. Union of India &Ors., O.A. No. 676/2018 - Prohibition for immersion of non eco-friendly idols in water bodies.

(g). Order dated 25.09.2018 in National Green Tribunal Bar Association Vs. Dr. Sarvabhoum Bagali (State of Karnataka), O.A. No. 366/ 2015 - Illegal sand mining on the border of States of Maharashtra and Karnataka on the river beds of Bhima river.

(h). Order dated 26.09.2018 in Shri Vinay Shivanand Nayak Vs. State of Karnataka &Ors., O.A. No. 176/2018 - BS-II & BS-III Compliant for public transport vehicles; purchase of 1000 BS-IV Compliant vehicles

(i). Order dated 06.12.2018 in Court on its own Motion vs. State of Karnataka, O.A. No. 125/2017 - Contamination of water bodies at Bengaluru – Bellandur lake, Agara lake and Varthur lake on account of discharge of untreated sewage and other effluents.

(j). Order dated 19.12.2018 in Anand Vinay vs. State of Karnataka, O.A. No. 613/2018 - Pollution of lake between Tumkur Road (NH-4) and Magadi Main Road on account of municipal sewage and untreated industrial effluents.

		Waste Generation : 67339kg/d Treatment : 67339kg/d Common Bio-medical waste Treatment Facilities : 26 in operation, 04 under installation No. of Captive Facilities : 3327
4	**Polluted River Stretches**	P(III)- 4 P(IV)- 7 P(V)- 6 Total = 17
5	**Air Quality Management**	Bangalore, Devanagere, Gulburga, Hubli-Dharwad
6	**Industrial Clusters**	Bhadravati, Mangalore, Bidar, Peenya, Raichur, KIADB(Jigini)
7	**ETP, CETP, STPs**	**ETPs** No. of industries which require ETP : 3265 No. of industries having functional ETP: 3062 No. of industries complying : 2994 No. of industries non-complying : 68 **STPs** No. of STPs : 2586 No. of STPs complying : 2527 No. of STPs non-complying: 59 No. of under construction/proposed STPs : 85 **CETPs** No. of CETPs :8 No. of CETPs complying : 7 No. of CETPs non-complying:1 No under construction/proposed CETPs in the State: 4

35. These facts have been brought to the notice of the Chief Secretary so that necessary action is considered and taken.

36. Needless to say that improvement in environment is not only inalienable duty of the State, but is also necessary for sustainable development which is essential for the health and well-being of citizens as well as for intergenerational equity. These principles require that all human activities should be conducted in such a way that the rights of future generations to access clean air and potable water are not taken

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away. At the cost of repetition, it may be mentioned that water is being polluted because of discharge of untreated sewage and effluents. Air pollution is result of failure to manage solid waste and to prevent other causes leading to air pollution. There are also other issues like deterioration in groundwater level, damage to forests and wild life, unscientific and uncontrolled sand mining etc. Unsatisfactory implementation of law is clear from the fact that inspite of severe damage, there is no report of any convictions being recorded against the polluters, nor adequate compensation has been recovered for damage caused to the environment. Steps for community involvement are not adequate. There is reluctance even to declare some major cities as fully compliant with the environment norms. The authorities have not been able to evolve simplified and standard procedure for preparing project reports and giving of contracts. There is no satisfactory plan for reuse of the treated water or use of treated sewage or waste and for segregation and collection of solid waste, for managing the legacy waste or other wastes, etc.

37. Since we have found huge gap in steps taken and steps required to be taken to remedy the unsatisfactory state of environment, we had an interaction with the Chief Secretary about the way forward. The gap in the mandate of law on the one hand and actual compliance with law on the other has manifested itself in the form of polluted water, air and land. Its actual measurement in terms of monetary value or the loss on account of adverse impact on public health and environment or otherwise in terms of number of deaths or diseases does not appear to

have been duly and exhaustively undertaken by the official machinery so far for the country or for any particular area. The private reports mention number of deaths and diseases. Death by pollution may be comparable to an offence of homicide and any disease on that account may be likewise comparable to attempt to murder or grievous hurt. Polluter is, thus, liable to be dealt with in the same manner as a person committing any other heinous crime as per law of the land. Mere fact that such polluter creates wealth or employment does not make the offence less serious. The statutory framework prohibits polluting activity and provides for penal consequences. Further, the 'Polluter Pays' principle requires compensation to be recovered to meet the cost of remedying the adverse impact of pollution. Governance of such laws can be held to be satisfactory if the magnitude of punishment of law violators corresponds to the extent of violation of law and the compensation recovered is adequate to meet the cost of damage. There is enough evidence of pollution but no data is shown of corresponding convictions or recovery of adequate compensation for restoration of environment. This calls for authentic study of the extent of damage to the environment and to the public health so that policy makers and law enforcers can bridge the gap.

38. In case extent of convictions for the environment related offences do not correspond to the extent of crime, paradigm shift in policies and strategies for implementation of law may need to be considered. Similarly, the mechanism for recovery of compensation may need to be revised on that pattern. Such review of policy cannot be left to the local

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bodies or the Pollution Control Boards but has to be at highest level in the State and further review at the national level. As noted in some of the studies, the ranking of the country in compliance of environmental norms needs to be brought to respectable higher position which may be possible only if there is change in policies and strategies for implementation of necessary norms at every level in right direction. The scale of compensation needs to be suitably revised so that the same is deterrent and adequate to meet the cost of reversing the pollution.

39. Authentic data is required to be compiled which is necessary for proper policy making. The Rules provide for such data to be collected at the state level as well as at the national level. If such data is not furnished timely from ground level with all the requisite details, the policy making remains deficient. Since none of the States is fully compliant with the mandate of statutory waste management rules under various headings, as already noted, remedial measures are necessary. We consider it necessary to observe that at least some major cities/towns/villages be first developed as model and thereafter successful experiment replicated in remaining cities/towns/villages.

40. Though environment is priceless and no amount of compensation may be sufficient for real restoration of environment to its pristine glory, the 'Polluter Pays' principle requires cost of restoration to be recovered which should be deterrent and also include Net Present Value (NPV) for environmental services forgone forever. Though such compensation is to be primarily recovered from polluters, where authorities fail to implement law and recover compensation on account of collusion or

inaction, such authorities can also be made accountable and required to pay compensation. Strong central mechanism of auditing the compliance of environmental laws by the States and the Union Territories (UTs) is necessary. We are also of the view that to encourage enforcement of environmental laws, cognizance of performance or otherwise need to be taken by authorities allocating funds. Incentives can be given to encourage compliance and those deficient in compliance may be required to comply as a condition for getting grants or part of such grants. Such a policy may be a step in the right direction for achieving sustainable development goals. We take note of discussion on the subject in the minutes of National Development Council held on 01.10.1990.[31] Therein a formula called "Gadgil – Mukerjee" formula is referred to envisaging grants to meet environmental problems. We may add that while such grants may be necessary, there may be a condition requiring measurable and demonstrable improvement in time bound manner as a condition for the grant.

41. One major hurdle in compliance of the Rules is lack of institutional training mechanism. Scheme of Rules and strategies for implementation, including technology to be used, best practices to be employed need to be identified. Resource persons, target group of persons to be trained, location at which training is to be undertaken need to be worked out.

[31] http://planningcommission.gov.in/aboutus/committee/wrkgrp12/wg_state_finan0106.pdf

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42. It is also necessary to have an Environment Plan for the country as well as for the States which may identify and publish gaps in compliance of environmental law and indicate action plan to remedy the same. Compliance of environmental norms also requires carrying capacity study not only of eco-sensitive areas but also areas where violation of environmental laws has clearly surfaced out based on scientific data published by CPCB such as non-attainment cities in terms of air quality, critically polluted industrial clusters on account of air/water pollution, polluted river stretches etc. Drastic remedial measures may be necessary to deal with the same which should not merely be responsive but proactive by way of planning population density, vehicle numbers, nature and quality of vehicles, nature and quality of activity to be allowed. Absence of such measures may render it difficult to meaningfully implement the accepted norms of 'Sustainable Development' or 'Intergenerational Equity'. Such planning is part of 'Precautionary' principle. 'Polluter Pays' principle can be meaningfully implemented only when assessment of damage is realistic and compensation recovered matches the extent of damage. As per census of India 2011, there are 475 places with 981 overgrowths (OGs) have been identified as Urban Agglomeration (UA). The number of total towns in India is 7,935 (Statutory Towns 4,041 + Census Towns 3,894). There are total 6,166 Urban Agglomeration/towns which constitutes the urban frame of the country. During FY 2017-2018, out of 35 SPCBs/PCCs only 16 SPCBs/ PCCs reported the status of Solid Waste Management Rules, 2016.[32]In view of these statistics, emergent

[32] Annual report of CPCB for the year 2017-18 accessible at: http://cpcb.nic.in/uploads/hwmd/

and stringent measures are required for compliance of environmental norms.

43. We discussed with the Chief Secretary the above unsatisfactory situation of environment and about need for having an effective Monitoring Cell directly attached to the office of the Chief Secretary with experts in environment and related issues to assist the Chief Secretary.

44. The presence of Chief Secretary before this Tribunal was directed with an expectation that there will be realization of seriousness at the highest level which may percolate in the administration for effective action and delivery.

45. By now we have had interaction with the Chief Secretaries of 14 States and 4 Union Territories mentioned in paragraph 25 above with reference to issues summed up in paragraph 22 above as well as other important issues relating to environment in the said States and Union Territories. We have also reviewed the enforcement mechanism. We have found that not even in one State or Union Territory environment norms as laid down in statutory rules have been fully complied. As already noted in order of this Tribunal dated 16.01.2019, statutory timelines prescribed under the SWM Rules have expired. We have noticed huge gap with respect to all the States and Union Territories on the subject of compliance of waste management rules which has a huge potential for continued damage to the public health. As already noted, sewage management is quite inadequate, discharge of untreated

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MSW_AnnualReport_2017-18.pdf

industrial effluents poses serious threat to the water quality, legacy waste remains to be tackled, integrated waste processing plants remain to be set up. 102 major cities are non-attainment cities in terms of air pollution. 100 industrial clusters are critically polluted. Still, hardly there are significant convictions or recovery of environment compensation which may correspond to the cost of restitution of environment. The States have not been able to adequately meet the challenge of finalizing efficient technology to be employed, arrange financial resources, human resources, community involvement, finalise standard operating procedures (SOP) to be followed. While the Chief Secretaries who have so far appeared after interaction with their concerned Departments have assured future action, the data available on record calls for not only urgent measures but also higher level monitoring mechanism. Concept of cooperative federalism is an accepted principle of governance in Indian Constitutional law. GST regime is one such instance. The concept has been *inter-alia* referred to in recent decisions of the Hon'ble Supreme Court in *Jindal Stainless Ltd. v. State of Haryana*[33] and *Swaraj Abhiyan v. Union of India*[34]. This Tribunal without formally referring to the same principle, applied this principle in directing constitution of a Central Monitoring Committee (CMC) to undertake a national initiative by way of preparation and enforcement of a national plan to make polluted river stretches pollution free. CMC envisages representatives from Niti Aayog, Ministry of Water Resources, Urban Development Department,

[33] 2017 (12) SCC 1
[34] 2018 (12) SCC 170

MoEF&CC, NMCG and CPCB. The CMC is to coordinate with River Rejuvenation Committees (RRCs) of States and oversee execution of action plans with reference to timeliness, budgetary mechanism and other factors. The Chief Secretaries of the States are nodal agencies at State level. Its first meeting is proposed by 30.06.2019. If it is not found viable to hold meeting by 30.06.2019, the same may be held by 31.07.2019. This direction was found necessary after steps to make 351 polluted river stretches pollution free were held to be inadequate Right to Life requires availability of clean drinking water and clean environment for all. This is also necessary to enforce principles of environmental jurisprudence incorporated under Section 20 of the National Green Tribunal Act, 2010 in light of Stockholm Declaration (1972) i.e. 'Precautionary' principle, 'Sustainable Development' principle and 'Polluter Pays' principle. The Tribunal, found that inspite of repeated directions of the Hon'ble Supreme Court as well as this Tribunal, action by the States to tackle pollution of the rivers was inadequate which required a CMC. The Tribunal also noted that well known cause of pollution of rivers was dumping of sewage, industrial waste, garbage, plastic waste, e-waste, bio-medical waste, municipal solid waste, diversion of river waters, encroachments of catchment areas and floodplains, over drawal of groundwater, degradation on account of illegal sand mining. Satisfactory situation had not been achieved on the subject of installation and operation of ETPs, CETPs and STPs as noted by the Hon'ble Supreme Court in *Paryavaran Suraksha Samiti v. Union of India & Ors.*[35]. The State PCBs needed

[35] (2017) 5 SCC 326

revamping, not fully equipped to handle the situation as noted by this Tribunal in a detailed order dated 19.02.2019, passed in the case of *Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors*, O.A. No.95/2018. Earlier, the Tribunal took up the matter of 351 river stretches vide order dated 11.01.2019 in Original Application No. 673/2018 and required all the States and Union Territories concerned to constitute RRCs and furnish action plans with a view to bring the water quality within norms for bathing within six months from date of finalization of action plan. Though action plans were submitted by substantial number of States the same were not adequate as found vide order dated 08.04.2019. It was thus felt that leaving the matter to the States may not achieve the target of making river stretches pollution free. Accordingly, CMC was directed to be constituted.

46. After thorough consideration of the matter in light of the compliance reports/action plans submitted by 14 States and 4 Union Territories on issues highlighted in paragraph 22 of the order in pursuance of order dated 16.01.2019 in Original Application No. 606/2018 and finding huge gap in the action taken and proposed on the one hand and action required on the other, we find that constitution of Central Monitoring Committee representing concerned Departments of the Central Government with the involvement of all the Chief Secretaries of the States in the spirit of cooperative federalism, will not serve the purpose unless issue of waste disposal and other such issues which are integral to pollution of 351 river stretches are also brought within the purview of CMC. Consistent with this thought, the issues of 102 major non-attainment cities and 100 critically polluted industrial clusters are also

integral part of the issue of waste management. Sand mining in rivers is also likewise integral to rejuvenation of polluted river stretches. So is the position of ground water incidental to the flow of rivers and re-use of treated waste water. While individual Committees have been constituted for execution of orders of this Tribunal including Committees with respect to rivers Ganga, Yamuna, Ghaggar, Satluj, Beas, Hindon, Ami, Kasaradi etc., a robust umbrella monitoring system is required to be worked out consistent with the order dated 08.04.2019 (*supra*). Such system will be consistent with the other projects of Central Government such as '*Swachh Bharat Mission*' and '*Namami Gange*'. Accordingly, we direct that the CMC constituted in terms of paragraph 43 of order dated 08.04.2019 (*supra*) to also take cognizance of connected issues of waste management for remedying pollution of water, air and soil as mentioned paragraph 22 or other issues which may be incidental. For this purpose, the Committee is at liberty to coopt representatives from any other concerned Ministry such as Ministry of Industry and Ministry of Finance.

47. We may also mention that the Chief Secretaries of the States have to continue to monitor the issues. On the pattern of directions already issued to the 14 States and 4 Union Territories mentioned above, the directions to the State of Karnataka will be as follows:-

i. Steps for compliance of Rule 22 and 24 of SWM Rules be now taken within six weeks to the extent not yet taken. Similar steps be taken with regard to Bio-Medical Waste Management Rules and Plastic Waste Management Rules.

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ii. Atleast three major cities and three major towns in the State and atleast three Panchayats in every District may be notified on the website within two weeks from today as model cities/towns/villages which will be made fully compliant within the next six months. Remaining cities, towns and villages Panchayats of the State may be made fully compliant in respect of environmental norms within one year.

iii. A quarterly report be furnished by the Chief Secretary, every three months. First such report shall be furnished by July 25, 2019.

iv. The Chief Secretary may personally monitor the progress, atleast once in a month, with all the District Magistrates.

v. The District Magistrates may monitor the status of compliance of environmental norms, atleast once in two weeks.

vi. The District Magistrates or other Officers may be imparted requisite training.

vii. Estimate of value of environmental degradation and cost of restoration be prepared and compensation be planned and recovered from polluters for environmental restoration and restitution on that basis.

viii. Performance audit of functioning of all regulatory bodies may be got conducted and remedial measures be taken, within six months.

ix. Introduction of a policy of giving ranking, based on performance on the subject of environment and giving of rewards or other incentives on that basis to individual areas,

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localities, institutions or individuals may be considered. This may also include encouraging students or other citizens significantly contributing to the cause of environment. The best practices may be evolved, if necessary, in the light of experiences on the subject. This may help in educating and involving public at large which may help in enhancing of environmental laws.

x. The Chief Secretary may remain present in person before the Tribunal with the status of compliance in respect of various issues mentioned in para 22 as well as any other issues discussed in the above order on 01.11.2019.It is made clear that Chief Secretary may not delegate the above function and the further requirement of appearance before this Tribunal to anyone else. However, it will be open to him to change the date, by advance intimation by e-mail at ngt.filing@gmail.com to adjust their convenience.

48. We direct the CPCB to explore undertaking carrying capacity study of all eco sensitive areas and such areas where scientific evidence has established violation of environmental norms in the form of non-attainment cities, polluted river stretches and critically polluted industrial clusters and suggest remedial measures. In doing so, CPCB may also have regard of directions of this Tribunal, *inter-alia*, in *Anil Tharthare Vs. The Secretary, Envt. Dept. Govt. of Maharashtra &*

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Ors.,[36]*Ajay Khera Vs. Container Corporation of India Limited & Ors.*[37] and *Westend Green Farms Society Vs. Union of India & Ors.*[38] CPCB is at liberty to work out an appropriate mechanism for such study and utilize funds collected by way of environment compensation for restoration of environment. If required, help of State Boards or any other institution may be taken. A preliminary report in this regard may be furnished to this Tribunal on or before 31.07.2019 by e-mail at ngt.filing@gmail.com.

49. The issue of recovery of damages from the States for their failure to comply with the environmental norms, including the statutory rules and orders of this Tribunal, will be considered will be considered later. The Tribunal may also consider the requirement of performance guarantee of a particular amount in case progress achieved is not found to be satisfactory.

50. There is need to develop an institutional training mechanism involving technical, social and environmental issues for training of officers concerned with enforcement of environment norms at ground level. Training may be ongoing process at national level, State level and other appropriate levels as may be found necessary. Accordingly, CPCB has

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36 Para 33 of the order wherein the Tribunal directed constitution of a five Members Expert Committee to carry out carrying capacity study of the area for relevant environment parameters and impact of such expansion on already congested and stressed areas.

37 Para 18 of the order wherein the Tribunal directed assessment of carrying capacity for the NCT of Delhi as well as other major cities particularly 102 non-attainment cities within reasonable time, preferably in one year. The assessment would specifically study capacity in terms of number of vehicles, extent of population, extent of nature of different activities – institutional, industrial and commercial etc.

38 para 28 of the order wherein the Tribunal directed carrying capacity assessment to regulate activities violating environmental laws.

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been directed to prepare such program[39]indicating persons required to be imparted training, subjects of training, resource persons, location of training, duration of training programmes etc. CPCB will be free to coordinate with available training institutions for use of infrastructure such as judicial academies, police academies, administrative academies, forest academies etc. as may be found viable. CPCB will be free to utilize funds collected by way of environmental compensation for this purpose also in same manner as for carrying capacity study and also take help from State Boards or any institution. A report in this regard may be now furnished within three months instead of one month as earlier stipulated in order dated 22.04.2019.

51. Apart from carrying out studies by the State, CPCB has been directed to explore preparation of Annual Environment Plan for the country giving status of compliance of environmental norms and gaps, if any. In the process, undertaking of assessment of damage to the environment in monetary terms may be considered so that by applying 'Polluter Pays' principle the cost of damage is recovered from identified polluters. This concept is necessary for effective enforcement of environmental rule of law. CPCB may be at liberty to involve such other agencies as it may consider necessary.[40] A preliminary report on this exercise may be furnished to this Tribunal on or before 31.07.2019. The CPCB will

[39] vide order dated 22.04.2019,in O.A. No. 606/2018, Compliance of Municipal Solid Waste Management Rules, 2018 (State of Meghalaya).
[40] Vide order dated 23.04.2019 in O.A. No. 606/2018, Compliance of Municipal Solid Waste Management Rules, 2018 (State of Tamil Nadu).

be at liberty to utilize funds collected by way of environmental compensation for restoration of environment.

52. CPCB may also coordinate the IEC programmes in terms of order dated 16.01.2019 by coordinating with National Level Legal Services Authority directly and with State Legal Services Authorities and District Legal Services Authorities through State PCBs and furnish a report by 31.07.2019.

53. The Registry may furnish set of all the action plans/compliance reports received in pursuance order dated 16.01.2019 for consideration of the matter at the time of appearance of the Chief Secretaries to the CPCB by e-mail and similar affidavits in future for the remaining States where Chief Secretaries have yet to appear may also be furnished to CPCB so that gap analysis can be brought to the notice of the CMC for appropriate consideration. Such gap analysis report be prepared by 15.07.2019 and furnished to members of CMC and Chief Secretaries and also placed on website of CPCB.

A copy of this order be sent to MoEF&CC, CPCB, Finance Commission and Niti Aayog and Chief Secretaries of States and Union Territories mentioned in paragraph 25 by e-mail.

Put up the report which may be received on 29.08.2019.

Adarsh Kumar Goel, CP

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

April 24, 2019
Original Application No. 606/2018

57/77

Annexure V

CENTRAL POLLUTION CONTROL BOARD

IT DIVISION

F. No. C-12013/24/2017-18/Tech/

Date: 10-10-2019

Sub: Video Conference with SPCBs/PCCs regarding Public Complaint Redressal as per NGT direction on 18-09-2019 at 3:00 pm in CPCB Conference Hall at 2nd floor.

Agenda: Air Pollution Related Public Complaints Management system at SPCBs/PCCs.

1. Meeting attended by Sh. B.V. Babu, AD-IT Div., V.K. Shukla AD-AQM, Sh. Aditya Sharma Sc. 'D', IT Div., & Sh. Rambabu Sc. 'D' WM-I.
2. MS briefed all **SPCBs/PCCs to** develop Mobile APP facility, for public to lodge Air Pollution Related Complaints & for responsible Public Authorities to update redressal through mobile APP in transparent manner. It was emphasised that the APP should have facilities to:
   - Lodge complaints
   - Immediate update about ATR
   - Transparent working by regular automatic updation of public
   - Complainant to inform, in between redressal, about actual work done in field & power to keep the complaint open till his satisfaction
   - Upload photo connected with automatic Geo location
   - Visualize complaints Responsible Public Authorities & transfer to concern officers with no time gap
   - Update ATR through APP only, etc.

CPCB proposed to help SPCBs/PCCs to develop their Mobile APP & if required SPCBs/PCCs can obtain source code of SAMEER APP from CPCB.

Meeting ending with thanks to chair.

16/10/19

(Aditya Sharma)

Sc. 'D'-IT Division

Annexure VI

Status of Public complaint redressal mechanisms in Non-attainment cities

State	S.No.	City	Status
Andhra Pradesh	1.	Guntur	No information available
	2.	Kurnool	
	3.	Nellore	
	4.	Vijayawada	
	5.	Vishakhapatnam	
Assam	6.	Guwahati	As informed in plan, Sameer App developed by CPCB shall be procured. Currently PCBAs web portal is working for public complaints.
	7.	Nagaon	
	8.	Nalbari	
	9.	Sibsagar	
	10.	Silchar	
Chandigarh	11.	Chandigarh	No information available
Chhattisgarh	12.	Bhilai	No information available
	13.	Korba	
	14.	Raipur	
Delhi	15.	Delhi	Developed
Gujarat	16.	Surat	No information available
	17.	Ahmedabad	
Himachal Pradesh	18.	Baddi	Developed
	19.	Damtal	
	20.	Kala Amb	
	21.	Nalagarh	
	22.	Paonta Sahib	
	23.	Parwanoo	
	24.	Sunder Nagar	
Jammu & Kashmir	25.	Jammu	No information available
	26.	Srinagar	
Jharkhand	27.	Dhanbad	As informed in plan helpline already working
Karnataka	28.	Bangalore	Developed
	29.	Devanagere	
	30.	Gulburga	
	31.	Hubli-Dharwad	
Madhya Pradesh	32.	Bhopal	Developed
	33.	Dewas	
	34.	Indore	
	35.	Sagar	
	36.	Ujjain	

	37.	Gwalior	
Maharashtra	38.	Akola	No information available
	39.	Amravati	
	40.	Aurangabad	
	41.	Badlapur	As informed in plan portal already working
	42.	Chandrapur	No information available
	43.	Jalgaon	
	44.	Jalna	
	45.	Kolhapur	
	46.	Latur	
	47.	Mumbai	As informed in plan portal already working
	48.	Nagpur	No information available
	49.	Nashik	
	50.	Navi Mumbai	As informed in plan portal already working
	51.	Pune	No information available
	52.	Sangli	
	53.	Solapur	
	54.	Ulhasnagar	
Meghalaya	55.	Byrnihat	No information available
Nagaland	56.	Dimapur	As informed in plan helpline already working
	57.	Kohima	
Orissa	58.	Angul	As informed in plan portal already working
	59.	Balasore	
	60.	Bhubaneswar	
	61.	Cuttack	
	62.	Rourkela	
	63.	Talcher	
Punjab	64.	Dera Bassi	No information available
	65.	Gobindgarh	
	66.	Jalandhar	
	67.	Khanna	
	68.	Ludhiana	
	69.	Naya Nangal	
	70.	Pathankot/Dera Baba	
	71.	Patiala	
	72.	Amritsar	

Rajasthan	73.	Alwar	No information available
	74.	Jaipur	
	75.	Jodhpur	
	76.	Kota	
	77.	Udaipur	
Tamilnadu	78.	Thoothukudi	Developed
Telangana	79.	Hyderabad	As informed in plan portal already working
	80.	Patancheru	
	81.	Nalgonda	No information available
Uttar Pradesh	82.	Agra	No information available
	83.	Allahabad	
	84.	Anpara	
	85.	Bareily	
	86.	Firozabad	
	87.	Gajraula	
	88.	Ghaziabad	
	89.	Jhansi	
	90.	Kanpur	
	91.	Khurja	
	92.	Lucknow	
	93.	Moradabad	
	94.	Noida	
	95.	Raebareli	
	96.	Varanasi	
Uttarakhand	97.	Kashipur	No information available
	98.	Rishikesh	
West Bengal	99.	Kolkata	No information available
Bihar	100.	Patna	No information available
	101.	Gaya	
	102.	Muzaffarpur	

- Complaint redressal portal Developed by: 38 cities
- Information not available for Complaint redressal portal by: 64 cities

SPEED POST

Annexure VII

AQM/AP/2019-20

September 03, 2019

Additional Chief Secretary, Environment
Govt. of Gujarat
Forests & Environment Department
Block-14, 8th floor, Sachivalaya
Gandhinagar, Gujarat- 382010

Sub: Action plan of non-attainment cities.

Sir,

This has reference to Hon'ble NGT order 08-10-2018, regarding preparation of city action plans and implementation by respective States.

Subsequently, based on data for the period 2014-2018, list of non-attainment cities has been updated by CPCB and 20 more cities added to the list. Hon'ble NGT vide its order dated 06-08-2019 has directed concern States to prepare city action plans for these newly added 20 non-attainment cities.

It is requested that necessary action may be taken to ensure that plan for the Vadodara city of your State, duly approved by Air Quality Monitoring Committee (AQMC) are submitted to CPCB within three months from the date of Hon'ble NGT order (i.e. by 06-11-2019).

Yours faithfully,

(Prashant Gargava)
Member Secretary

SPEED POST

AQM/AP/2019-20

September 03, 2019

Principal Secretary, Environment
Govt. of Maharashtra
Environment Department
Maharashtra Mantralaya
Mumbai – 400032

Sub: Action plan of non-attainment cities.

Sir,

This has reference to Hon'ble NGT order 08-10-2018, regarding preparation of city action plans and implementation by respective States.

Subsequently, based on data for the period 2014-2018, list of non-attainment cities has been updated by CPCB and 20 more cities added to the list. Hon'ble NGT vide its order dated 06-08-2019 has directed concern States to prepare city action plans for these newly added 20 non-attainment cities.

It is requested that necessary action may be taken to ensure that plan for the Thane city of your State, duly approved by Air Quality Monitoring Committee (AQMC) are submitted to CPCB within three months from the date of Hon'ble NGT order (i.e. by 06-11-2019).

Yours faithfully,

(Prashant Gargava)
Member Secretary

परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032
दूरभाष/Tel : 43102030, 22305792 वेबसाईट/Website : www.cpcb.nic.in

SPEED POST

AQM/AP/2019-20

September 03, 2019

Additional Chief Secretary, Environment
Govt. of Odisha
Aranya Bhawan, Chandrasekharpur
Bhubaneswar, Odisha - 751023

Sub: Action plan of non-attainment cities.

Sir,

This has reference to Hon'ble NGT order 08-10-2018, regarding preparation of city action plans and implementation by respective States.

Subsequently, based on data for the period 2014-2018, list of non-attainment cities has been updated by CPCB and 20 more cities added to the list. Hon'ble NGT vide its order dated 06-08-2019 has directed concern States to prepare city action plans for these newly added 20 non-attainment cities.

It is requested that necessary action may be taken to ensure that plan for the Kalinga Nagar city of your State, duly approved by Air Quality Monitoring Committee (AQMC) are submitted to CPCB within three months from the date of Hon'ble NGT order (i.e. by 06-11-2019).

Yours faithfully,

(Prashant Gargava)
Member Secretary

SPEED POST

AQM/AP/2019-20

September 03, 2019

Principal Secretary, Environment
Govt. of Tamilnadu
Environment and Forests Department
Secretariat, Chennai
Tamil Nadu – 600009

Sub: Action plan of non-attainment cities.

Sir,

This has reference to Hon'ble NGT order 08-10-2018, regarding preparation of city action plans and implementation by respective States.

Subsequently, based on data for the period 2014-2018, list of non-attainment cities has been updated by CPCB and 20 more cities added to the list. Hon'ble NGT vide its order dated 06-08-2019 has directed concern States to prepare city action plans for these newly added 20 non-attainment cities.

It is requested that necessary action may be taken to ensure that plan for the Trichy city of your State, duly approved by Air Quality Monitoring Committee (AQMC) are submitted to CPCB within three months from the date of Hon'ble NGT order (i.e. by 06-11-2019).

Yours faithfully,

(Prashant Gargava)
Member Secretary

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032
दूरभाष/Tel : 43102030, 22305792, वेबसाईट/Website : www.cpcb.nic.in

SPEED POST

AQM/AP/2019-20

September 03, 2019

Special Chief Secretary, Environment
Govt. of Telangana
Telangana Forest Department
Aranya Bhavan, Saifabad
Hyderabad – 500004

Sub: Action plan of non-attainment cities.

Sir,

This has reference to Hon'ble NGT order 08-10-2018, regarding preparation of city action plans and implementation by respective States.

Subsequently, based on data for the period 2014-2018, list of non-attainment cities has been updated by CPCB and 20 more cities added to the list. Hon'ble NGT vide its order dated 06-08-2019 has directed concern States to prepare city action plans for these newly added 20 non-attainment cities.

It is requested that necessary action may be taken to ensure that plan for the Sangareddy city of your State, duly approved by Air Quality Monitoring Committee (AQMC) are submitted to CPCB within three months from the date of Hon'ble NGT order (i.e. by 06-11-2019).

Yours faithfully,

(Prashant Gargava)
Member Secretary

'पर्यावरण भवन', पूर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032
दूरभाष/Tel : 43102030, 22305792 वेबसाईट/Website : www.cpcb.nic.in

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SPEED POST

AQM/AP/2019-20

September 03, 2019

Principal Secretary, Environment
Department of Forest and Environment
Government of Uttarakhand, Subhash Road
Dehradun, Uttarakhand – 248006

Sub: Action plan of non-attainment cities.

Sir,

This has reference to Hon'ble NGT order 08-10-2018, regarding preparation of city action plans and implementation by respective States.

Subsequently, based on data for the period 2014-2018, list of non-attainment cities has been updated by CPCB and 20 more cities added to the list. Hon'ble NGT vide its order dated 06-08-2019 has directed concern States to prepare city action plans for these newly added 20 non-attainment cities.

It is requested that necessary action may be taken to ensure that plan for the Dehradun city of your State, duly approved by Air Quality Monitoring Committee (AQMC) are submitted to CPCB within three months from the date of Hon'ble NGT order (i.e. by 06-11-2019).

Yours faithfully,

(Prashant Gargava)
Member Secretary

SPEED POST

AQM/AP/2019-20

September 03, 2019

Additional Chief Secretary, Environment
Govt. of West Bengal
Pranisampad Bhavan, 5th Floor
LB -2, Sector -III, Salt Lake
Bidhannagar, Kolkata – 700 106

Sub: Action plan of non-attainment cities.

Sir,

This has reference to Hon'ble NGT order 08-10-2018, regarding preparation of city action plans and implementation by respective States.

Subsequently, based on data for the period 2014-2018, list of non-attainment cities has been updated by CPCB and 20 more cities added to the list. Hon'ble NGT vide its order dated 06-08-2019 has directed concern States to prepare city action plans for these newly added 20 non-attainment cities.

It is requested that necessary action may be taken to ensure that plans for the Asansol, Barrackpore, Durgapur, Haldia, Howrah and Raniganj cities of your State, duly approved by Air Quality Monitoring Committee (AQMC) are submitted to CPCB within three months from the date of Hon'ble NGT order (i.e. by 06-11-2019).

Yours faithfully,

(Prashant Gargava)
Member Secretary

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032
दूरभाष/Tel : 43102030, 22305792, वेबसाईट/Website : www.cpcb.nic.in

SPEED POST

AQM/AP/2019-20

September 03, 2019

Principal Secretary, Environment
Govt. of Andhra Pradesh
4th Block, Ground Floor
A.P Secretariat Office
Velagapudi, Andhra Pradesh – 522503

Sub: Action plan of non-attainment cities.

Sir,

This has reference to Hon'ble NGT order 08-10-2018, regarding preparation of city action plans and implementation by respective States.

Subsequently, based on data for the period 2014-2018, list of non-attainment cities has been updated by CPCB and 20 more cities added to the list. Hon'ble NGT vide its order dated 06-08-2019 has directed concern States to prepare city action plans for these newly added 20 non-attainment cities.

It is requested that necessary action may be taken to ensure that plans for the Anantapur, Chitoor, Eluru, Kadapa, Ongole, Rajahmundry, Srikakulam and Vizianagaram cities of your State, duly approved by Air Quality Monitoring Committee (AQMC) are submitted to CPCB within three months from the date of Hon'ble NGT order (i.e. by 06-11-2019).

Yours faithfully,

(Prashant Gargava)
Member Secretary

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032
दूरभाष/Tel : 43102030, 22305792 वेबसाईट/Website : www.cpcb.nic.in

Annexure VIII

Status of action plans of Non-attainment cities in India

State	S.No	City	AQMC	Action Plan Received/ not received	Action Plan Received date	Revised Action Plan Received date	Evaluation by three member committee	Direction issued	Status of Plan
Andhra Pradesh	1.	Guntur	Constituted	Received	24-01-2019	-	29-03-2019	15-04-2019	Approved for Implementation
	2.	Kurnool	Constituted	Received	24-01-2019	-	29-03-2019	15-04-2019	
	3.	Nellore	Constituted	Received	24-01-2019	-	29-03-2019	15-04-2019	
	4.	Vijayawada	Constituted	Received	24-01-2019	-	29-03-2019	15-04-2019	
	5.	Vishakhapatnam	Constituted	Received	24-01-2019	-	29-03-2019	15-04-2019	
Assam	6.	Guwahati	Constituted	Received	29-04-2019	29-07-2019 30-09-2019	10-05-2019 13-08-2019 01-10-2019	16-05-2019 09-10-2019	Approved for Implementation
	7.	Nagaon	Constituted	Received	29-04-2019	29-07-2019 30-09-2019	10-05-2019 13-08-2019 01-10-2019	16-05-2019 09-10-2019	
	8.	Nalbari	Constituted	Received	29-04-2019	29-07-2019 30-09-2019	10-05-2019 13-08-2019 01-10-2019	16-05-2019 09-10-2019	
	9.	Sibsagar	Constituted	Received	29-04-2019	29-07-2019 30-09-2019	10-05-2019 13-08-2019 01-10-2019	16-05-2019 09-10-2019	
	10.	Silchar	Constituted	Received	29-04-2019	29-07-2019 30-09-2019	10-05-2019 13-08-2019 01-10-2019	16-05-2019 09-10-2019	
Chandigarh	11.	Chandigarh	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	Approved for Implementation
Chhattisgarh	12.	Bhilai	Constituted	Received	06-12-2018	15-03-2019	24/25-01-2019 23-04-2019	12-02-2019 07-05-2019	Approved for Implementation
	13.	Korba	Constituted	Received	06-12-2018	15-03-2019	24/25-01-2019	12-02-2019	

							23-04-2019	07-05-2019	
	14.	Raipur	Constituted	Received	06-12-2018	-	24/25-01-2019	12-02-2019	
Delhi	15.	Delhi	Constituted	Received	18-12-2018	-	24/25-01-2019	12-02-2019	Approved for Implementation
Gujarat	16.	Surat	Constituted	Received	08-02-2019	-	29-03-2019	15-04-2019	Approved for Implementation
	17.	Ahmedabad	Constituted	Received	08-02-2019	-	29-03-2019	15-04-2019	
Himachal Pradesh	18.	Baddi	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	Approved for Implementation
	19.	Damtal	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	
	20.	Kala Amb	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	
	21.	Nalagarh	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	
	22.	Paonta Sahib	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	
	23.	Parwanoo	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	
	24.	Sunder Nagar	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	
Jammu & Kashmir	25.	Jammu	Constituted	Received	31-12-2018	28-03-2019	24/25-01-2019 23-04-2019	12-02-2019 07-05-2019	Approved for Implementation
	26.	Srinagar	Constituted	Received	31-12-2018	28-03-2019	24/25-01-2019 23-04-2019	12-02-2019 07-05-2019	
Jharkhand	27.	Dhanbad	Constituted	Received	26-04-2019	27-06-2019 27-09-2019	10-05-2019 01-10-2019	16-05-2019 09-10-2019	Approved for Implementation
Karnataka	28.	Bangalore	Constituted	Received	22-12-2018	29-04-2019 15-07-2019	24/25-01-2019 01-06-2019 13-08-2019 01-10-2019	12-02-2019 25-06-2019 09-10-2019	Approved for Implementation
	29.	Devanagere	Constituted	Received	22-12-2018	29-04-2019	24/25-01-2019 01-06-2019	12-02-2019 25-06-2019	Approved for Implementation
	30.	Gulburga	Constituted	Received	22-12-2018	29-04-2019	24/25-01-2019 01-06-2019	12-02-2019 25-06-2019	
	31.	Hubli-Dharwad	Constituted	Received	22-12-2018	29-04-2019	24/25-01-2019 01-06-2019	12-02-2019 25-06-2019	
Madhya Pradesh	32.	Bhopal	Constituted	Received	24-12-2018	-	24/25-01-2019	12-02-2019	Approved for Implementation
	33.	Dewas	Constituted	Received	24-12-2018	-	24/25-01-2019	12-02-2019	
	34.	Indore	Constituted	Received	24-12-2018	-	24/25-01-2019	12-02-2019	

	35.	Sagar	Constituted	Received	24-12-2018	-	24/25-01-2019	12-02-2019	
	36.	Ujjain	Constituted	Received	24-12-2018	-	24/25-01-2019	12-02-2019	
	37.	Gwalior	Constituted	Received	24-12-2018	-	24/25-01-2019	12-02-2019	
Maharashtra	38.	Akola	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	Approved for Implementation
	39.	Amravati	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	
	40.	Aurangabad	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	
	41.	Badlapur	Constituted	Received	28-02-2019	24-04-2019	12-04-2019 01-06-2019	16-04-2019 25-06-2019	
	42.	Chandrapur	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	
	43.	Jalgaon	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	
	44.	Jalna	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	
	45.	Kolhapur	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	
	46.	Latur	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	
	47.	Mumbai	Constituted	Received	28-02-2019	24-04-2019 09-07-2019 27-09-2019	12-04-2019 01-06-2019 01-10-2019	16-04-2019 25-06-2019 09-10-2019	Approved for Implementation
	48.	Nagpur	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	Approved for Implementation
	49.	Nashik	Constituted	Received	28-02-2019	24-04-2019 09-07-2019	12-04-2019 01-06-2019 01-10-2019	16-04-2019 25-06-2019 09-10-2019	Approved for Implementation
	50.	Navi Mumbai	Constituted	Received	28-02-2019	24-04-2019	12-04-2019 01-06-2019	16-04-2019 25-06-2019	Approved for Implementation
	51.	Pune	Constituted	Received	28-02-2019	24-04-2019	12-04-2019 01-06-2019	16-04-2019 25-06-2019	
	52.	Sangli	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	
	53.	Solapur	Constituted	Received	28-02-2019	24-04-2019 09-07-2019	12-04-2019 01-06-2019 01-10-2019	16-04-2019 25-06-2019 09-10-2019	Approved for Implementation

	54.	Ulhasnagar	Constituted	Received	28-02-2019	-	12-04-2019	16-04-2019	Approved for Implementation
Meghalaya	55.	Byrnihat	Constituted	Received	07-02-2019	-	29-03-2019	15-04-2019	Approved for Implementation
Nagaland	56.	Dimapur	Constituted	Received	20-03-2019	29-04-2019	29-03-2019 01-06-2019	15-04-2019/ 17-06-2019	Approved for Implementation
	57.	Kohima	Constituted	Received	20-03-2019	29-04-2019	29-03-2019 01-06-2019	15-04-2019/ 17-06-2019	
Orissa	58.	Angul	Constituted	Received	29-12-2018	-	24/25-01-2019	12-02-2019	Approved for Implementation
	59.	Balasore	Constituted	Received	29-12-2018	-	24/25-01-2019	12-02-2019	
	60.	Bhubaneswar	Constituted	Received	29-12-2018	-	24/25-01-2019	12-02-2019	
	61.	Cuttack	Constituted	Received	29-12-2018	-	24/25-01-2019	12-02-2019	
	62.	Rourkela	Constituted	Received	29-12-2018	-	24/25-01-2019	12-02-2019	
	63.	Talcher	Constituted	Received	29-12-2018	-	24/25-01-2019	12-02-2019	
Punjab	64.	Dera Bassi	Constituted	Received	25-03-2019	-	12-04-2019	16-04-2019	Approved for Implementation
	65.	Gobindgarh	Constituted	Received	25-03-2019	-	12-04-2019	16-04-2019	
	66.	Jalandhar	Constituted	Received	25-03-2019	-	12-04-2019	16-04-2019	
	67.	Khanna	Constituted	Received	25-03-2019	-	12-04-2019	16-04-2019	
	68.	Ludhiana	Constituted	Received	25-03-2019	-	12-04-2019	16-04-2019	
	69.	Naya Nangal	Constituted	Received	25-03-2019	-	12-04-2019	16-04-2019	
	70.	Dera Baba	Constituted	Received	25-03-2019	--	12-04-2019	16-04-2019	
	71.	Patiala	Constituted	Received	25-03-2019	-	12-04-2019	16-04-2019	
	72.	Amritsar	Constituted	Received	25-03-2019	-	12-04-2019	16-04-2019	
Rajasthan	73.	Alwar	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	Approved for Implementation
	74.	Jaipur	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	
	75.	Jodhpur	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	
	76.	Kota	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	

	77.	Udaipur	Constituted	Received	31-12-2018	-	24/25-01-2019	12-02-2019	
Tamilnadu	78.	Thoothukudi	Constituted	Received	14-12-2018	29-04-2019	24/25-01-2019 10-05-2019	12-02-2019 16-05-2019	Approved for Implementation
Telangana	79.	Hyderabad	Constituted	Received	17-12-2018	11-03-2019	24/25-01-2019 29-03-2019	12-02-2019 15-04-2019	Approved for Implementation
	80.	Nalgonda	Constituted	Received	11-03-2018	-	29-03-2019	15-04-2019	
	81.	Patancheruvu	Constituted	Received	17-12-2018	11-03-2019	24/25-01-2019 29-03-2019	12-02-2019 15-04-2019	
Uttar Pradesh	82.	Agra	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	Approved for Implementation
	83.	Allahabad	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	84.	Anpara	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	85.	Bareily	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	86.	Firozabad	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	87.	Gajraula	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	88.	Ghaziabad	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	89.	Jhansi	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	90.	Kanpur	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	91.	Khurja	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	92.	Lucknow	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	93.	Moradabad	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	94.	Noida	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	95.	Raebareli	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
	96.	Varanasi	Constituted	Received	31-01-2019	-	11-03-2019	14-03-2019	
Uttarakhand	97.	Kashipur	Constituted	Received	26-04-2019	-	10-05-2019	16-05-2019	Approved for Implementation
	98.	Rishikesh	Constituted	Received	26-04-2019	-	10-05-2019	16-05-2019	

West Bengal	99.	Kolkata	Constituted	Received	04-01-2019	-	24/25-01-2019	12-02-2019	Approved for Implementation
Bihar	100.	Patna	Constituted	Received	01-01-2019	-	24/25-01-2019	12-02-2019	Approved for Implementation
	101.	Gaya	Constituted	Received	01-01-2019	-	24/25-01-2019	12-02-2019	
	102.	Muzaffarpur	Constituted	Received	01-01-2019	-	24/25-01-2019	12-02-2019	

Annexure-IX

Status of Quarterly Progress Report Received to CPCB

State	S.No.	City	Approval Direction	Date of Quarterly report	Report Status
Chhattisgarh	1.	Bhilai	07-05-2019	07-08-2019	Submitted on dated 03-08-2019
	2.	Korba			
	3.	Raipur	12-02-2019	12-05-2019	Submitted on dated 23-08-2019
Tamilnadu	4.	Thoothukudi	16-05-2019	16-08-2019	Submitted on dated 11-08-2019
Delhi	5.	Delhi	12-02-2019	12-05-2019	Submitted on dated 08-07-2019
Madhya Pradesh	6.	Bhopal	12-02-2019	12-05-2019	Submitted on dated 02-08-2019
	7.	Dewas			
	8.	Indore			
	9.	Sagar			
	10.	Ujjain			
	11.	Gwalior			
Rajasthan	12.	Alwar	12-02-2019	12-05-2019	Submitted on dated 30-07-2019
	13.	Jaipur			
	14.	Jodhpur			
	15.	Kota			
	16.	Udaipur			
West Bengal	17.	Kolkata	12-02-2019	12-05-2019	Submitted on dated 31-07-2019
Punjab	18.	Dera Bassi	16-04-2019	16-07-2019	Submitted on dated 05-09-2019
	19.	Gobindgarh			
	20.	Jalandhar			
	21.	Khanna			
	22.	Ludhiana			
	23.	Naya Nangal			
	24.	Pathankot/Dera Baba			
	25.	Patiala			
	26.	Amritsar			
Odisha	27.	Angul	12-02-2019	12-05-2019	Submitted on dated 29-08-2019
	28.	Balasore			
	29.	Bhubaneswar			
	30.	Cuttack			
	31.	Rourkela			
	32.	Talcher			
Meghalaya	33.	Byrnihat	15-04-2019	15-07-2019	Submitted on dated 14-08-2019
Nagaland	34.	Dimapur	17-06-2019	17-09-2019	Submitted on dated 17-09-2019
	35.	Kohima			
Telangana	36.	Hyderabad	15-04-2019	15-07-2019	Submitted on dated 13-09-2019
	37.	Patancheruvu			
	38.	Nalgonda			

Annexure X

Proposed Criteria for Imposing Environmental Compensation against Defaulting States

The Hon'ble NGT vide its order dated 15.03.2019 in the matter of OA No. 681/2018 states "If action plans are not executed within the specified timeline mentioned above (six months from the date of finalization of action plan), the defaulting States will be required to pay Environmental Compensation (EC) and may also be required to furnish performance guarantee for execution of plans in extended timeline as per recommendations received from CPCB".

Based on the report filed by CPCB on July 15, 2019, Hon'ble NGT vide its order dated August 06, 2019 directed CPCB to come out with a compensation regime within two months for air pollution to the extent such norms have not been laid down.

Following were considered for proposed actions against defaulting States:

- With multiple sources adding to air pollution, action on enforcement as well as setting up infrastructure are required with collaborative, multi-scale and cross-sectoral coordination among the relevant central ministries, state governments and local bodies for proper implementation of these actions in short, mid & long term approach.

- The National Clean Air Programme (NCAP) has been launched by MoEF&CC as a nationwide strategy to reduce air pollution levels across the country targeting 102 non-attainment cities. Taking into account the available international experiences and national studies, tentative national level target of 20%–30% reduction of PM2.5 and PM10 concentrations by 2024 is proposed under the NCAP keeping 2017 as the base year.

- In view of the above, it is opined that, while all efforts must be made by the State governments to execute the plan, ongoing activities, wherein particular agency is responsible to carry the assigned action must continue without any gaps. Actions must be executed as per the time lines specified in the approved city plans.

- Date of directions issued for implementation of action plan by CPCB may be taken as the zero date of implementation of action plan.

- City action plans comprise short, medium and long-term actions. As per the Directions issued by CPCB, progress of implementation of these plans is to be submitted by respective State Governments quarterly, starting from zero date. Format for progress of implementation of action plan is enclosed as Annexure A.

- States may submit an implementation plan indicating date of completion of actions, milestones, funds allocated and funds utilized for every action.

- CPCB shall review progress of implementation of action plan and if action points listed under implementation plan are found incomplete as per the stipulated date of completion, penalty actions may be initiated.

Criteria for Initiating Environmental Compensation

- Non-attainment cities may be divided into five categories based on population and graded EC may be levied against actions depending on time taken for completion.
- Progress may be reviewed thrice in a year as on 30th April, 31st August and 31st December and compensation may be levied as per following criteria:

Category Code	Category (as per Census 2011)	Time Period for Completion of Action	Environmental Compensation (₹) *per city per month (in lakhs)		
			All actions remain incomplete	Less than 50% of the actions completed	More than 50% of the actions completed
C1	Population more than 50,00,000	Immediate action – 6 months	35	30	25
		6 months – 1 year	40	35	30
		1 - 3 year	45	40	35
		3- 5 years	50	45	40
		Above 05 years	55	50	45
C2	Population between 10,00,000 - <50,00,000	Immediate action – 6 months	30	25	20
		6 months – 1 year	35	30	25
		1 - 3 year	40	35	30
		3- 5 years	45	40	35
		Above 05 years	50	45	40
C3	Population between 5,00,000 - <10,00,000	Immediate action – 6 months	25	20	15
		6 months – 1 year	30	25	20
		1 - 3 year	35	30	25
		3- 5 years	40	35	30
		Above 05 years	45	40	35
C4	Population between 1,00,000 - <5,00,000	Immediate action – 6 months	20	15	10
		6 months – 1 year	25	20	15
		1 - 3 year	30	25	20
		3- 5 years	35	30	25
		Above 05 years	40	35	30
C5	Others	Immediate action – 6 months	15	10	5
		6 months – 1 year	20	15	10
		1 - 3 year	25	20	15
		3- 5 years	30	25	20
		Above 05 years	35	30	25

- In case, any of the listed actions under above mentioned categories remain incomplete during review, EC shall be levied every month per city until compliance of all identified actions. Even one out of listed identified action points not completed, EC will apply.

- In case quarterly progress report is not received, the EC for immediate – 06 months actions shall apply.

- CPCB may provide form and online portal to AQMC, to submit progress report. Sample calculations for calculating EC is enclosed as Annexure B.

- In case any action gets delayed for some valid reasons and additional time is required (except for short term actions) the same need to be reviewed by respective AQMC. AQMC may finalize the revised timelines for respective action with approval of Chief Secretary of State. Such extension may be done at least a month before expiry of timeline. Along with the EC, Performance Guarantee (PG) equivalent to the 25% cost of remaining work of the action point to be submitted to CPCB.

- Performance bank guarantee shall be forfeited, if State is unable to complete the action point by extended date and accordingly EC will be levied after consecutive review. PG may be remitted back within 03 months from the date of completion after due verification, if complied with revised target dates.

- It is proposed that States may impose penalties as per NGT order dated December 18, 2017, December 11, 2015, April 28, 2015 and April 10, 2015 in in O.A. 21/2014 and Section 15 and 16 of NGT Act, 2010 related to activities given below:

    - Violation in relation to construction activity at site – **Rs. 50, 000/-**
    - Keeping dust, sand, cement, brick and other construction materials on public place and road, is not permitted - **Rs. 50,000/- per incident**
    - Violation during carriage & transportation of construction material, debris through trucks or other vehicles – **Rs. 5,000/-**
    - Dumping of construction and other waste material in public places and on river bed – **Rs. 5,000/- per event**
    - Open burning of any kind of garbage, leaves, waste plastic, rubber, self-moulding compound and such other materials – **Rs. 5,000/- per event**, to be paid instantaneously.

- Challan amount collected by State Boards may be reported against action points in progress report.

- EC funds recovered by CPCB shall be utilised as per the existing norms for environmental restitution.

***

Annexure - A

Format for progress of implementation of action plan

State:

City:

Year:

Date of direction for ground implementation of action plan (Zero Date):

SNo.	Action Point	Unit of Measurement of Progress	Implementation status		Action Completion Date as per city plan	Deviation from targeted timelines, if any	Expected date of completion	Total Cost	Remarks
			% Completed	Details					
Implementation period : Immediate action – 6 months									
Implementation period : 01 to 03 years									
Implementation period : 03 to 05 years									
Implementation period Above 05 years									

Environmental Compensation (EC) Example Sheet					
City Name	...				
Zero date of implementation	**Eg. 25/6/2019**				
EC Category Code	**C1**				
Implementation period	**Time target for Implementation**	**Percentage of Activities Completed ***	**Maximum Exceedance of any action from target date (months)**	**EC Slab (in lakhs)**	**EC as on 31.12.2019 (in lakhs)**
Immediate action – 6 months	25-12-2019	65	1	25	25
6 months – 1 year	25-06-2020	NA			
1 - 3 year	25-06-2022	NA			
3- 5 years	25-06-2024	NA			
Above 05 years	25-06-2025	NA			
Total EC (in lakhs)					**25**

NA -Not Applicable

Implementation period	**Time target for Implementation**	**Percentage of Action Completed ***	**Maximum Exceedance of any action from target date (months)**	**EC Slab**	**EC as on 30-04-2020 (in lakhs)**
Immediate action – 6 months	25-12-2019	75	4	25	100
6 months – 1 year	25-06-2020	NA	-		0
1 - 3 year	25-06-2022	NA			0
3- 5 years	25-06-2024	NA			0
Above 05 years	25-06-2025	NA			0
Total EC (in lakhs)					**100**

Implementation period	**Time target for Implementation**	**Percentage of Action Completed ***	**Maximum Exceedance of any action from target date (months)**	**EC Slab**	**EC as on 31-08-2020 (in lakhs)**
Immediate action – 6 months	25-12-2019	90	8	25	200
6 months – 1 year	25-06-2020	30	2	35	70
1 - 3 year	25-06-2022	NA			0
3- 5 years	25-06-2024	NA			0
Above 05 years	25-06-2025	NA			0
Total EC (in lakhs)					**270**

Implementation period	Time target for Implementation	Percentage of Action Completed *	Maximum Exceedance of any action from target date (months)	EC Slab	EC as on 31-12-2020 (in lakhs)
Immediate action – 6 months	25-12-2019	100	0	50	
6 months – 1 year	25-06-2020	45	6	35	210
1 - 3 year	25-06-2022	NA			0
3- 5 years	25-06-2024	NA			0
Above 05 years	25-06-2025	NA			0
Total EC(in lakhs)					**210**

Implementation period	Time target for Implementation	Percentage of Action Completed *	Maximum Exceedance of any action from target date (months)	EC Slab	EC as on 30-04-2021 (in lakhs)
Immediate action – 6 months	25-12-2019	100	0	50	
6 months – 1 year	25-06-2020	70	10	30	300
1 - 3 year	25-06-2022	NA			0
3- 5 years	25-06-2024	NA			0
Above 05 years	25-06-2025	NA			0
Total EC (in lakhs)					**300**

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

Annexure XI

F. No. A-18013/4/2011-MON

25.10.2019

To,
The Member Secretary
(As per list enclosed)

Sub: Evaluation of capacity of scientific and technical personnel in ambient air quality monitoring under NAMP & CAAQMS-reg.

Sir,

This has reference to the meeting with SPCBs & PCCs through video conference held on 14.02.2019 & 22.10.2019 and order of Hon'ble National Green Tribunal dated 06.08.2019 in O.A. No. 681 of 2018, wherein it was directed that:

"The CPCB may also evaluate existing air quality monitoring mechanism of all States and UTs and furnish a report to this Tribunal before the next date in terms of capacity of its scientific and technical personnel both in terms of number of personnel and skill/competence and outreach programmes on public awareness and suggestions for improvement."

Accordingly, a proforma is enclosed for providing information on air quality monitoring infrastructure including manpower. The duly filled proforma with complete details may be provided to CPCB by 30.10.2019. The soft copy of the same may be e-mailed at ncap.cpcb@gov.in.

This may please be treated as urgent.

Yours faithfully,

(V. K. Shukla)
Addl. Director & Head
AQM Division

CC: Regional Directorates : For information & follow-up please
Bengaluru, Bhopal, Kolkata,
Lucknow, Shillong, Vadodara
Chandigarh, Pune, Chennai

List of State Pollution Control Board (SPCB) & Pollution Control Committee (PCC) - for proposal of PM2.5 monitoring in all the existing manual monitoring stations under NAMP)

Sl. No.	State / Union Territory
1.	Andaman & Nicobar Islands*
2.	Andhra Pradesh
3.	Arunachal Pradesh
4.	Assam
5.	Bihar
6.	Chandigarh*
7.	Chhattisgarh
8.	Dadra & Nagar Haveli*
9.	Daman Diu*
10.	Delhi*
11.	Goa
12.	Gujarat
13.	Haryana
14.	Himachal Pradesh
15.	Jammu & Kashmir*
16.	Jharkhand
17.	Karnataka
18.	Kerala
19.	Ladakh*
20.	Lakshadweep*
21.	Madhya Pradesh
22.	Maharashtra
23.	Manipur
24.	Meghalaya
25.	Mizoram
26.	Nagaland
27.	Odisha
28.	Pondicherry*
29.	Punjab
30.	Rajasthan
31.	Sikkim
32.	Tamilnadu
33.	Telangana
34.	Tripura
35.	Uttar Pradesh
36.	Uttarakhand
37.	West Bengal

NB. *Union Territories

AMBIENT AIR QUALITY MONITORING STATION & MANPOWER EVALUATION
STATE SUMMARY
(Manual-NAMP & Real time-CAAQMS)

State							
Total districts in the State							
STATION DETAILS IN THE STATE:							
Total AAQMS in the state	Manual AAQMS						Total
	Under NAMP			Under State Board (SAMP)			
	a. Urban : b. Rural :			a. Urban : b. Rural :			[Annex list of stations]
	Real time AAQMS						Total
	Funded by Central Scheme			Under State Fund			
							[Annex list of stations]
MANPOWER DETAILS IN THE STATE:							
Total no. of officials in the state involved in	Manual AAQMS						Total
	Under NAMP			Under State Board (SAMP)			
	Supervision	Analysis	Sampling	Supervision	Analysis	Sampling	
	Real time AAQMS						Total
	Funded by Central Scheme			Under State Fund			
	Supervision	Data processing	Operation & maintenance of the station	Supervision	Data processing	Operation & maintenance of the station	
GENERAL DETAILS IN THE STATE:							
Expansion plan for monitoring network	a. Manual - Urban - Rural b. Real time						
Data dissemination & Public Awareness	a. Ambient air quality data displayed on the website? (Weblink) b. Air Quality Index displayed? (Display board & Weblink) c. Any online public complaint management system / grievance registration and redressal system? d. Technical reports displayed on the website? (Weblink)						
Any other information / suggestion for improvement of monitoring network							

AMBIENT AIR QUALITY MONITORING STATION & MANPOWER EVALUATION (Manual)
DISTRICT SUMMARY

STATION DETAILS IN THE DISTRICT:			
1.	District		
2.	Cities / town covered		
3.	No. of Air Quality Monitoring stations (Manual)	- Under NAMP - Under SAMP - Others (Satellite, low cost monitors etc.)	
4.	Monitoring conducted by	- SPCB / PCC - Outsourced (Name of agency)	
5.	Parameters monitored		
6.	Laboratory	a. Yes / No (If Yes, No. of labs.) b. Is it recognized by MoEF&CC under E(P)Act 1986 c. Does it have valid NABL accreditation for NAAQS parameters	
7.	Expansion plan for monitoring network	c. Manual - Urban - Rural	

MANPOWER DETAILS IN THE DISTRICT:

Minimum no. of manpower for 3 stations in a city: Scientific Assistant (1 Nos.) & Field Assistant (3 Nos.)

Minimum Qualification for:

- ***Supervisor / Incharge / Laboratory Incharge / equivalent (Involved in Supervision)- Master's Degree in Science or equivalent or Bachelors Degree in Engineering / Technology;***
- ***Scientific Assistant (Involved in Analysis) - Bachelor's Degree in Science or equivalent;***
- ***Field Assistant/equivalent (Involved in Sampling) - Intermediate (Science)***

Sl. No.	Name of City	Officials involved in Supervision		Officials involved in Analysis		Officials involved in Sampling	
		Total number of officials	Number of officials fulfilling criteria	Total number of officials	Number of officials fulfilling criteria	Total number of officials	Number of officials fulfilling criteria
i.							
ii.							
iii.							
1.	Training provided to staff	a. Yes / No b. Training components / criteria c. Frequency of training					

AMBIENT AIR QUALITY MONITORING STATION & MANPOWER EVALUATION (Real Time)
DISTRICT SUMMARY

STATION DETAILS IN THE DISTRICT:			
1.	District		
2.	Cities / town covered		
3.	No. of Air Quality Monitoring stations (Real time)	- Funded by Central Scheme - Under State Fund - Others	
4.	No. of AAQMS connected to CPCB server	- Funded by Central Scheme - Under State Fund - Others	
5.	Monitoring conducted by	- SPCB / PCC - Outsourced (Name of agency)	
6.	Parameters monitored		
7.	Expansion plan for monitoring network		

MANPOWER DETAILS IN THE DISTRICT:

Minimum no. of manpower for 3 stations in a city: Technical Supervisor (1 Nos.) & Technician – O&M (2 Nos.)

Minimum Qualification for:

- ***Supervisor / Incharge / equivalent (Involved in Supervision)- Master's Degree in Science or equivalent or Bachelors Degree in Engineering / Technology;***
- ***Technical Supervisor (Involved in Data processing) - Bachelor's Degree in Engineering / Science;***
- ***Technician (Involved in Operation & maintenance of station) – Intermediate (Science) / Engineering Diploma***

Sl. No.	Name of City	Officials involved in Supervision		Officials involved in Data processing		Officials involved in Operation & maintenance of station	
		Total number of officials	Number of officials fulfilling criteria	Total number of officials	No. of officials fulfilling criteria	Total number of officials	Number of officials fulfilling criteria
i.							
ii.							
iii.							
1.	Training provided to staff	a. Yes / No b. Training components / criteria c. Frequency of training					

NB.AAQMS-Ambient Air Quality Monitoring Stations; NAMP-National Ambient Air Quality Monitoring Programme; SAMP-State Ambient Air Quality Monitoring Station; CAAQMS-Continuous Ambient Air Quality Monitoring Station)

ANNEXURE - XII

AMBIENT AIR QUALITY MONITORING STATION & MANPOWER EVALUATION
STATE SUMMARY
(Manual-NAMP & Real time-CAAQMS)

S. No.	State / Union Territory	Total No. of Manual Monitoring Stations	Total No. of Continuous Monitoring Stations	MANUAL MANPOWER			CAAQMS MANPOWER		
				Officials involved in Supervision	Officials involved in Analysis	Officials involved in Sampling	Officials involved in Supervision	Officials involved in Data processing	Officials involved in Operation & maintenance of station
1	Andhra Pradesh	74	6	11	11	70	4	7	5
2	Arunachal Pradesh	2	-	2	2	9	-	-	-
3	Assam	23	1	18	21	27	3	3	Outsource
4	Bihar	9	3	1	2	4	1	2	Outsource
5	Chandigarh	5	2	1	3	12	1		
6	Chattisgarh	18	8	4	4	14	-	-	-
7	Dadara & Nagar Haveli & Daman Diu	6	-	Outsource			-	-	-
9	Delhi	7	38	1	2	9	-	-	-
10	Goa	18	1**	1	1	5	E-tendering		
11	Gujarat	62	5	18	15	72	5	6	Outsource
12	Haryana	24	23	9	10	23	23	23	23
13	Himachal Pradesh	25	2*	8	15	28	Installation under process		
14	Jammu & Kashmir	14	7*	6	4	6	Installation under process		
15	Jharkhand	14	4	7	3	25	1	1	Outsource
16	Karnataka	35	31	-	-	-	-	-	-
17	Kerala	34	5	16	48	34	10	-	-
18	Lakshadweep	2	-	1	2	-	-	-	-
19	Madhya Pradesh	92	10	44	50	60	12	11	22
20	Maharashtra	73	23	45	22	66	20	4	23
21	Manipur	1	2*	1	3	3	Under process for recruitment		
22	Meghalaya	10	2*	1	7	10	Installation and Commissioning is under process		
23	Mizoram	11	-	-	4	11	-	-	-
24	Nagaland	9	1	1	2	9	Outsource		

25	Odisha	39	3	12	21	47	Outsource		
26	Puducherry	6	1*	2	1	6	Installation under process		
27	Punjab	47	6	14	13	80	2	Outsource	
28	Rajasthan	39	8	8	8	39	10	10	10
29	Sikkim	9	-	9	9	27	-	-	-
30	Tamilnadu	25	1	10	13	36	1	1	3
31	Telangana	39	14	8	36	58	1	2	Outsource
32	Tripura	2	-	1	2	2	-	-	-
33	Uttar Pradesh	72	21	24	36	76	3	4	21
34	Uttarakhand	8	-	4	5	15	-	-	-
35	West Bengal	76	14	7	Outsource		5	2	Outsource
36	NEERI	18	-	6	12	36	-	-	-
Total		**948**	**242**	**301**	**387**	**919**	**102**	**76**	**107**

Note: '*'Stations under installation, '**'under e-tendering

Minutes of Fifty Fourth Meeting of Task Force on Graded Response Action Plan held on November 04, 2019 at CPCB, Delhi

Fifty fourth meeting of the Task Force was convened at 14:00 hours on November 4, 2019 at CPCB. Meeting was chaired by the Member Secretary, CPCB. List of participants is annexed (Annexure I).

Member Secretary apprised about the current air quality situation and requested Dr. V.K. Soni, IMD for further inputs. Dr. V.K. Soni informed that Severe+ situation should get over by today evening i.e. November 4, 2019 and further improvement is expected in view of higher winds (20-25 Km/hr). IMD also informed that on November 6, 2019 due to Westerly Disturbance, there might be light rain resulting in high moisture and low wind speed. The wind direction on November 5, 2019 is likely to be North Westerly which will change to South Westerly on November 6, 2019. Due to this, particulate matter concentration will again increase but is not likely to reach Severe+ condition. Strong winds are also predicted on November 8, 9, and 10, 2019.

In the view of current situation, it was agreed by the Task Force to review the status again on November 5, 2019.

Subsequently, Ms. Sunita Narain telephoned MS, CPCB informing that Hon'ble Supreme Court has banned all Construction activities till further order and that the Task Force and EPCA should take a view regarding ban of industrial activities. Therefore, a meeting was again convened at 17:30 hours on November 4, 2019. Dr. V. K. Soni, India Meteorological Department, Dr. Anil Kumar Singh, Uttar Pradesh Pollution Control Board, Sh. Praveen Kumar, Uttar Pradesh Pollution Control Board, Sh. Vivek Goel, Rajasthan State Pollution Control Board, Sh. Sohan Lal, Rajasthan State Pollution Control Board, Sh. Utsav Sharma, Uttar Pradesh Pollution Control Board and Sh. Vijay Chaudhary, Haryana State Pollution Control Board joined through tele/video- conferencing.

In view of prediction of IMD regarding light rain on November 6, 2019, likely increase in the moisture content and rise in particulate matter concentration, the Task Force recommends continuity of ban of industrial activities i.e. coal based industries (exemption to power plants) in NCR namely Faridabad, Gurugram, Ghaziabad, Noida, Greater Noida, Sonepat, and Bahadurgarh and non-PNG industries till November 8, 2019. Hot mix plants, and stone crushers may also remain closed till November 8, 2019.

Annexure - I

List of Participants:

1. Sh. Prashant Gargava, Member Secretary, Central Pollution Control Board
2. Sh. N.K. Gupta, Additional Director, Central Pollution Control Board
3. Sh. Sharandeep Singh, Scientist 'D', Central Pollution Control Board
4. Dr. M.P. George, Scientist, Delhi Pollution Control Committee (video conferencing)
5. Dr. V. K. Soni, Scientist 'E', India Meteorological Department (video conferencing)
6. Dr. Anil Kumar Singh, RO Noida, Uttar Pradesh Pollution Control Board
7. Sh. Praveen Kumar, EE, Uttar Pradesh Pollution Control Board
8. Sh. Vivek Goel. RO, Rajasthan State Pollution Control Board, RO, Bhiwadi
9. Sh. Sohan Lal, JSO, Rajasthan State Pollution Control Board, Bhiwadi
10. Sh. Utsav Sharma, RO Ghaziabad, Uttar Pradesh Pollution Control Board
11. Sh. Vijay Chaudhary, Haryana State Pollution Control Board (video conferencing)

Minutes of Fifty Third Meeting of Task Force on Graded Response Action Plan held on November 02, 2019 at CPCB, Delhi

Meeting of the Task Force was convened on November 2, 2019 at CPCB to review the current status of Severe+ category of air quality in Delhi-NCR. Meeting was chaired by the Member Secretary, CPCB. Lst of participants is annexedμ.

It was observed that PM 2.5 levels which were 430 μg/m3 during the last evening have come down to 287 μg/m3 in the morning today. As such a declining trend in the particulate matter concentration is observed; causing AQI to improve and fall back in the Severe category from Severe+.

It was informed by IMD that due to westerly disturbances with slightly higher wind speeds in the range of 10-12 km/hour and scattered rains with thunderstorms in some parts of Haryana and Punjab, the air quality has improved from Severe+ to Severe category. During next 2 days, the wind speed will further increase and by 4th November further improvement to the lower end of the very poor category of air quality is expected

In view of the above, Task Force recommended continuation of the measures already in-force and no additional measures are recommended.

Meeting ended with thanks to the chair.

Annexure

List of Participants:

1. Dr. Prashant Gargava, Member Secretary, Central Pollution Control Board
2. Sh. Nalin Kumar Gupta , Additional Director, Central Pollution Control Board
3. Sh. Sharandeep Singh, Scientist 'D', Central Pollution Control Board
4. Dr. M.P. George, Scientist, Delhi Pollution Control Committee (video conferencing)
5. Dr. V. K. Soni, Scientist 'E', India Meteorological Department (video conferencing)
6. Sh. Kuldeep Singh, Haryana State Pollution Control Board (video conferencing)
7. Sh. Vivek Goel, RO, Rajasthan State Pollution Control Board, Bhiwadi
8. Sh. Sohan Lal, Junior scientific officer, Rajasthan State Pollution Control Board, (Bhiwadi)
9. Sh. A.K. Kaushik, ASO, UPPCB (Ghaziabad)
10. Sh. Dinesh Kumar, AEE, HSPCB
11. Sh. Praveen Kumar, EE, UPPCB
12. Dr.(Smt). Sapna Srivastava, ASO, UPPCB (Ghaziabad)

Minutes of Fifty Second meeting of Task Force on Graded Response Action Plan held on November 01, 2019 at CPCB, Delhi

Air pollution levels have reached to severe+ conditions. Therefore, an urgent meeting of Task Force was convened on November 1, 2019 at CPCB. Meeting was chaired by Member Secretary, CPCB. The list of participants is annexed (Annexure - I).

IMD was requested for inputs on meteorology and likely situation for the next few days. It was informed that there were no winds and stubble burning contribution has gone up to 45% resulting in the current high particulate matter concentration. The situation is likely to improve tomorrow. Thereafter, with higher winds on November 3, 2019, AQI may come down to Very Poor category.

In view of the above, Task Force recommends continuity of the actions, which are in force, with greater intensity. In addition, following are recommended:

1. Banning of coal-based industries (exemption to power plants) in NCR namely Faridabad, Gurugram, Ghaziabad, Noida, Greater Noida, Sonepat, and Bahadurgarh and non-PNG industries in Delhi to be extended till November 5, 2019.
2. Construction activities, hot mix plants, and stone crushers instead of 6:00 pm to 10:00 am shall now remain closed all the time till November 5, 2019. Agencies responsible must ensure that dust control measures at construction sites are taken.
3. Brick Kilns may also remain closed till November 5, 2019.
4. People are advised to minimize their exposure and limit outdoor activities during the period. Schools are also advised to avoid outdoor activities of the children.

Meeting ended with thanks to the chair.

Annexure - I

List of Participants:

1. Sh. Prashant Gargava, Member Secretary, Central Pollution Control Board
2. Sh. N.K. Gupta, Additional Director, Central Pollution Control Board
3. Sh. Sharandeep Singh, Scientist 'D', Central Pollution Control Board
4. Dr. M.P. George, Scientist, Delhi Pollution Control Committee (video conferencing)
5. Dr. V. K. Soni, Scientist 'E', India Meteorological Department (video conferencing)
6. Sh. Vijay Chaudhary, HSPCB (video conferencing)
7. Dr. Anil Kumar Singh, RO Noida, Uttar Pradesh Pollution Control Board
8. Smt. Sapna Srivastava, ASO, UPPCB (Ghaziabad)

Minutes of Fifty First meeting of Task Force on Graded Response Action Plan held on October 30, 2019 at CPCB, Delhi

Fifty First meeting of Task Force on Graded Response Action Plan (GRAP), was convened on October 30, 2019. The meeting was chaired by Dr. Prashant Gargava, Member Secretary, CPCB. List of participants is annexed.

Member Secretary informed the members that air quality is in severe category since 5 pm onwards October 29, 2019, which is likely to continue until tomorrow. High number of incidences of stubble burning have been reported from States of Punjab and Haryana with contribution of approximately 25% to $PM_{2.5}$ concentration on October 29, 2019. Dr. V. K. Soni, IMD informed that due to cyclone in the Arabian sea, there were clouds over Delhi. North Westerly winds bringing in smoke from biomass burning coupled with low surface winds result in rise in pollution levels. Winds will be slightly higher today and tomorrow and it is expected that from November 1, 2019, air pollution levels may come down to very poor category.

In view of the above, following recommendations are made:

1. Coal-based industries (exemption to power plants) in NCR (Faridabad, Gurugram, Ghaziabad, Noida, Greater Noida, Sonepat and Bahadurgarh) and industries not using PNG in Delhi to continue to remain closed till November 2, 2019.
2. Construction activities like earthwork, which have potential to generate dust, hot mix plants, stone crushers not to operate between 6 pm to 10 am till November 2, 2019 in Delhi and satellite towns namely Gurugram, Faridabad, Noida, Greater Noida, Ghaziabad, Sonepat and Bahadurgarh.
3. All implementing agencies to remain vigilant, intensify actions for controlling burning of waste, dust from C&D activities, road dust, and strictly enforce the law. Road dust must be controlled with multiple applications of water sprinkling or along with dust suppressants.
4. The states of Punjab and Haryana must take immediate stringent actions to curb stubble burning. Biomass burning in Delhi and other NCR towns must also be strictly checked.

Meeting ended with thanks to the chair.

List of Participants:

1. Sh. Prashant Gargava, Member Secretary, Central Pollution Control Board
2. Sh. Arun Mishra, Member Secretary, Delhi Pollution Control Committee
3. Sh V. K. Shukla, Additional Director, Central Pollution Control Board
4. Sh. N.K. Gupta, Additional Director, Central Pollution Control Board
5. Sh. Sharandeep Singh, Scientist 'D', Central Pollution Control Board
6. Dr. Anil Kumar Singh, RO Noida, Uttar Pradesh Pollution Control Board
7. Sh. Utsav Sharma, RO Ghaziabad, Uttar Pradesh Pollution Control Board
8. Sh. R.K. Ojha, Env. Engineer, Greater Noida Industrial Development Authority
9. Sh. Harish Chandra Joshi, ASO (Greater Noida), Uttar Pradesh Pollution Control Board
10. Dr. M.P. George, Scientist, Delhi Pollution Control Committee
11. Sh. Sohan Lal, Junior scientific officer, Rajasthan State Pollution Control Board, RO, Bhiwadi
12. Sh. Vijay Chaudhary, HSPCB
13. Dr. V. K. Soni, Scientist 'E', India Meteorological Department (video conferencing)

Minutes of Fiftieth meeting of Task Force on Graded Response Action Plan held on October 24, 2019 at CPCB, Delhi

Fiftieth meeting of Task Force on Graded Response Action Plan (GRAP), was convened on October 24, 2019. The meeting was chaired by Dr. Prashant Gargava, Member Secretary, CPCB. List of participants is annexed.

Task force meeting was specific called for to review likely air quality situation during next few days due to festival, meteorology, stubble burning, etc. as experienced in the past years. Dr. V. K. Soni, IMD informed that wind speed and directions will be fluctuating with calm winds in the morning and slightly higher in the afternoon. Mostly easterly winds are expected to turn North Westerly from 27th October, 2019. On 28th October, fog is also expected.

Member Secretary, CPCB emphasized that next few days will be challenging and in addition to intense actions by implementing agencies, additional preventive measures may be required to check the deteriorating air quality. Following recommendations are made:

1. All implementing agencies in Delhi-NCR to be on high alert and strictly enforce law for controlling polluting activities including actions for checking stubble burning in the States of Punjab & Haryana
2. Traffic police in Delhi and adjacent NCR towns to deploy additional manpower to ensure smooth traffic in all areas especially the identified high traffic corridors in Delhi. Visibly polluting vehicles to be impounded.
3. Hon'ble Supreme Court directions regarding fire crackers to be strictly enforced by concerned agencies.
4. Hot mix plants, stone crushers and construction activities such as earthwork, which have potential to generate dust to be banned between 6:00 PM to 6:00 AM during 26th to 30th October, 2019 in Delhi and satellite towns namely Gurugram, Faridabad, Noida, Greater Noida, Ghaziabad, Sonepat and Bahadurgarh.
5. Coal based industries (exemption to power-plants) during 26th to 30th October, 2019 to be closed in Faridabad, Gurugram, Ghaziabad, Noida, Greater Noida, Sonepat and Bahadurgarh. In Delhi industries, which have not yet shifted to PNG to remain closed during 26th to 30th October, 2019.
6. Zero tolerance to operation of illegal industries and also use of unauthorized fuel which may be ensured by district administrations of Delhi-NCR.

Meeting ended with thanks to the chair.

List of Participants:

1. Sh. Prashant Gargava, Member Secretary, Central Pollution Control Board
2. Sh V. K. Shukla, Additional Director, Central Pollution Control Board
3. Sh. N.K. Gupta, Additional Director, Central Pollution Control Board
4. Sh. Sharandeep Singh, Scientist 'D', Central Pollution Control Board
5. Dr. Anil Kumar Singh, RO Noida, Uttar Pradesh Pollution Control Board
6. Sh. Utsav Sharma, RO Ghaziabad, Uttar Pradesh Pollution Control Board
7. Sh. R.K. Ojha, Env. Engineer, Greater Noida Industrial Development Authority
8. Sh. R.K. Sharma, PE, Noida Authority
9. Sh. Joshi, ASO (Greater Noida), Uttar Pradesh Pollution Control Board
10. Dr. M.P. George, Scientist, Delhi Pollution Control Committee
11. Sh. Sohan Lal, Junior scientific officer, Rajasthan State Pollution Control Board, RO, Bhiwadi
12. Dr. V. K. Soni, Scientist 'E', India Meteorological Department (video conferencing)
13. Dr. T. K. Joshi, Advisor, Ministry of Environment, Forest and Climate Change
14. Sh. Vijay Chaudhary, HSPCB (video conferencing)

Annexure XIV

Item No. 12 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 101/2019

Central Pollution Control Board Applicant(s)

Versus

Assam State Pollution Control Board & Ors. Respondent(s)

Date of hearing: 22.01.2019

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

For Applicant(s): Mr. Rajkumar, Advocate

For Respondent (s):

ORDER

This application seeks approval of the proposal for utilization of 25 per cent of environmental compensation fund by the Central Pollution Control Board. According to the Central Pollution Control Board, a separate dedicated account has been maintained to receive the amount of environmental compensation.

The Central Pollution Control Board has amount of Rs.48,83,67,345 as on 31.12.2018 which is proposed to be spent as follows:-

"(i) *Development of infrastructure for Air and Water quality surveillance and monitoring for different areas/locations in Delhi NCR and other needed places.*

(ii) *Remediation of contaminated sites-and for that to develop infrastructure, procurement of equipments, etc. including hiring of Experts/Consultants for specific requirement for remediation of sites, etc..*

(iii) *Specific investigations and studies with regard to environment and ecology.*

(iv) *Carrying capacity assessment for ecologically and environmentally sensitive & critical areas, including hiring of Experts/Consultants for specific purpose and period.*

(v) *R & D activities with regard to new technologies, clean technologies, etc.*

(vi) *Capacity building of scientific and engineering personnel of Central Pollution Control Board and PCBs/PCCs to rejuvenate and protect the environment.*

(vii) *Augmenting and strengthening of laboratory network in-terms of manpower and logistics.*

(viii) *Payment of honorarium in compliance of Judicial Orders of the Courts and Tribunal.*

(ix) *Specialized studies on accidental spill areas, health impact assessment, recalcitrant pollutants, etc.*

(x) *IEC activities.*

(xi) *Any other scientific and technical matter which may arise as a contingent matter."*

We do not see any difficulty or objection to the proposal of the Central Pollution Control Board.

Accordingly, Central Pollution Control Board is at liberty to proceed with its proposal in accordance with law.

The application is disposed of.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

January 22, 2019
Original Application No. 101/2019
JG

49/AQM

Annexure XV

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD

Paryavas Bhawan, Sector – 19,
Nava Raipur Atal Nagar, District - Raipur (C.G.)
Email - hocecb@gmail.com

No. 6046 /CECB/2019 Nava Raipur Atal Nagar, Date 5/10/2019

परिवेश भवन, पूर्व अर्जुन नगर दिल्ली
132583
14 OCT 2019
Central Pollution Control Board
132583/ms 15/10

To,

Member Secretary
Central Pollution Control Board
Parivesh Bhawan,
CBD-cum-Office Complex,
East Arjun Nagar,
Delhi - 110 03

Sub: Action Plan for Consent Fund Expenditure as directed by Hon'ble NGT in the matter of OA No. 681/2018 Order dated 06/08/2019.

Ref: Hon'ble NGT order dated 06/08/2019 in OA No. 681/2018.

--::00::--

Sir,

In compliance to above mentioned order, please find enclosed herewith Action Plan for Consent Fund Expenditure of Chhattisgarh Environment Conservation Board (CECB) for further necessary action.

Encl:- As Above.

Member Secretary
Chhattisgarh Environment Conservation Board,
Nava Raipur Atal Nagar (C.G.)

for AQM 15/10/19

SBR

Pls update

28/10 JRF/SM

Action Plan for Consent Fund Expenditure as directed by Hon'ble NGT in the matter of OA No. 681/2018 Order dated 06/08/2019

After formation of Chhattisgarh State, Chhattisgarh Environment Conservation Board (CECB) was constituted in July 2001. CECB has Rs. 151.69 Crores in bank deposits as on date. This income is mainly from the Consent / Renewal fees, Water Cess contribution received from Central Government etc. CECB is meeting its various expenditure from own fund and State Government is not providing any grant for the same.

Action plan along with expenditure proposed for strengthening of CECB are as follows-

S. No.	Action Plan	Approx. Amount (Rs. in Crores)	Timeline for implementation	Remarks
01	Construction of Central Laboratory Building	10.00	02 Years	Work will be done by Nava Raipur Atal Nagar Vikas Pradhikaran (NRANVP).
02	Purchase of instruments / equipments Central Laboratory	10.00	06 Months after completion of Central Laboratory Building	-
03	Construction of new office building of Regional Office, Raipur and Up-gradation of buildings of remaining 06 Regional Offices.	6.50	02 Years	-
04	Purchase of laboratory instruments / equipments for Regional Offices.	6.00	01 Year	Tender documents being finalized.

05	Purchase of residential houses for employees of the CECB.	10.00	01 Year	-
06	Installation of dashboard for Real Time Online Emission / Effluent Monitoring System.	12.00	1.5 Year	Work in progress.
07	Purchase of monitoring vans and vehicles for surprise inspection for Regional Offices.	2.00	01 Year	-
08	Purchase of CAAQMS and CWQMS proposed in various action plans.	7.00	Within timeline mentioned in various action plan.	-
09	Preparation of State of Environment Report	3.00	1.5 Year	-
10	Training of Employees of the CECB.	1.00	-	-
Total		**67.5**		

ANNEXURE -XVI

Item No. 04 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 681/2018

News item published in "The Times of India" Authored by Shri Vishwa Mohan

Titled

"NCAP with multiple timelines to clean air in 102 cities to be released around August 15"

(Report filed in O.A. No. 681/2018)

Date of hearing: 06.08.2019

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

For Applicant(s): None

For Respondent (s): Mr. Rajkumar, Advocate for CPCB
Ms. Nandini Sen, Advocate for State of West Bengal
Mr. Shuvodeep Roy, Mr. Sataroop Das, Advocates for State of Tripura
Ms. K. Enatoli Sema, Advocate for State of Nagaland & PCB
Mr. Dhananjay Baija, Advocate for Telangana State
G. Indira, Advocate for Andaman & Nicobar Admn.
Mr. Jogy Scaria, Advocate for KSPCB
Mr. Shuvodeep Roy, Mr. Vinayak Gupta, Advocates for State of Assam
Mr. T.V.S. Raghavendra Sreyas, Advocate for APPCB
Mr. Rahul Khurana, Advocate for HSPCB

ORDER

1. The question for consideration is the remedial measures to be adopted to enforce the Ambient Air Quality Standards with reference to the provisions of the Air (Prevention and Control of Pollution) Act, 1981 (the Air Act) and the Environment (Protection) Act, 1986 (the

EPA Act) in cities classified as 'Non-Attainment Cities' (NACs)[1] based on monitoring of the ambient air quality. Further question is compliance of Noise Pollution (Regulation and Control) Rules, 2000 (Noise Rules) framed under the provisions of the EPA Act.

I. Non-attainment Cities not meeting the standards of Air Quality

2. Vide order dated 08.10.2018, this Tribunal noticed the newspaper report[2] to the effect that 102 cities were identified as NACs for not meeting the prescribed standards of air quality. The Air Act stipulates stopping of any activity violating norms of air quality and taking steps for prosecution or other regulatory measures[3] which have been read to include recovery of compensation on 'Polluter Pays' principle[4]. National Ambient Air Quality Standards are laid down under Section 16(2)(h) of the Air Act.[5] The Central Pollution Control Board (CPCB) compiled its report with reference to the said standards and published a list of 102 NACs[6]. The GoI prepared National Clean Air Programme (NCAP) proposing to reduce the pollution in next 10 years - 35% in next 3 years, 50% in next 5 years and 70-80% in next 10 years. It may be noted that as a result of such exercise, earlier in the year 2017 number of NACs was 95[7].

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[1] NAC has been defined as those "Cities which are exceeding annual average concentrations of any of the notified parameters with respect to National Ambient Air Quality Standards for consecutively five years".

[2] Dated 03.08.2019 in the Times of India under the heading "NCAP with multiple timelines to clean air in 102 cities to be released around August 15".

[3] Section 22 read with Section 31A of the Air Act and

[4] Aryavart Foundation Vs. M/s Vapi Green Enviro Limited & Ors.O.A No. 95/2018, Indian Council for Enviro Legal Action & Ors. v. Union of India & Ors. (1996) 3 SCC 212 Para 16, Vellore Citizens Welfare Forum v. Union of India & Ors. (1996)5SCC647 Para 12 to 18 - holding that 'Polluter Pay' principle is accepted principle and part of environmental law of the country, even without specific statute.

[5] Notification dated 12.11.2009 issued by the CPCB

[6] https://cpcb.nic.in/uploads/Non-Attainment_Cities.pdf

[7] http://cpcbenvis.nic.in/airpollution/finding.htm. Based on ambient air quality data obtained (2008-2010) under National Air Quality Monitoring Programme (NAMP)

3. The Tribunal noted the concern arising from such large scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon'ble Supreme Court for control of vehicular pollution[8], industrial and construction sector pollution[9], power sector pollution[10] and agricultural sector pollution[11] and orders of this Tribunal dealing with the said issues[12]. The Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and DPCC on 05.04.2017[13] and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017[14] stipulating specific steps for different levels of air quality such as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of

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[8] M.C. Mehta v. Union of India (1985)2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 3 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[9] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 235, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (1998) 6 SCC 60, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 4 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[10] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

[11] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[12] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

[13] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

[14] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

generator sets, open burning, open eateries, road dust, construction dust, etc.[15]

4. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.

5. The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanised cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc.

6. The MoEF&CC has by various notifications put restriction on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities are carried out in unregulated areas. This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles.

7. The Tribunal after consideration of the issue on 08.10.2018, directed as follows:

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[15] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece,https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022..

i. *All the States and Union Territories with non-attainment cities must prepare appropriate action plans within two months aimed at bringing the standards of air quality within the prescribed norms within six months from date of finalization of the action plans.*

ii. *The Action Plans may be prepared by six-member committee comprising of Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member Secretary, State Pollution Control Board or Committee of the concerned State. The Committee may be called Air Quality Monitoring Committee (AQMC). The AQMC will function under the overall supervision and coordination of Principal Secretary, Environment of the concerned State/Union Territory. This may be further supervised by the Chief Secretaries concerned or their counterparts in Union Territories by ensuring intra-sectoral co-ordination.*

iii. *The Action Plans may take into account the GRAP, the CAP and the action plan prepared by CPCB as well as all other relevant factors. The Action Plans may be forwarded to the CPCB by 31.12.2018. The same may be placed before the Committee as directed in direction no. vi. The Action Plan will include components like identification of source and its apportionment considering sectors like vehicular pollution, industrial pollution, dust pollution, construction activities, garbage burning, agricultural pollution including pollution caused by burning of crop residue, residential and indoor pollution etc. The action plan shall also consider measures for strengthening of Ambient Air Quality (AAQ) monitoring and steps for public awareness including issuing of advisory to public for prevention and control of air pollution and involvement of schools, colleges and other academic institutions and awareness programmes.*

iv. *The Action Plan will indicate steps to be taken to check different sources of pollution having speedy, definite and specific timelines for execution.*

v. *The Action Plan should be consistent with the carrying capacity assessment of the non-attainment cities in terms of vehicular pollution, industrial emissions and population density, extent of construction and construction activities etc. The carrying capacity assessment shall also lay emphasis on agricultural and indoor pollution in rural areas. Depending upon assessed carrying capacity and source apportionment, the authorities may consider the need for regulating number of vehicles and their parking and plying, population density, extent of construction and construction activities etc. Guidelines may accordingly be framed to regulate vehicles and industries in non-attainment cities in terms of carrying capacity assessment and source apportionment.*

vi. *The Committee comprising of (a) Shri. Prashant Gargava, Member Secretary, CPCB, (b) Dr. Mukesh Khare, Professor, IIT Delhi, and (c) Dr. Mukesh Sharma, Professor, IIT Kanpur shall examine the Action Plans and on the recommendations of the said Committee, the Chairman, CPCB shall approve the same by 31.01.2019.*

vii. *The Chief Secretaries of the State and Administrators/ Advisors to Administrators of the Union Territories will be*

personally accountable for failure to formulate Action Plans, as directed.

viii. *The CPCB, SPCBs and State Pollution Control Committees shall develop a public grievance redressal portal for redressal of public complaints on air pollution along with a supervisory mechanism for its disposal in a time bound manner. Any visible air pollution can be reported at such portal by email/SMS.*

ix. *The CPCB and all the State Pollution Control Boards and Pollution Control Committees shall collectively workout and design a robust nationwide ambient air quality monitoring programme in a revised format by strengthening the existing monitoring network with respect to coverage of more cities/towns. The scope of monitoring should be expanded to include all twelve (12) notified parameters as per Notification No B-29016/20/90/PCI-L dated 18th November, 2009 of CPCB. The continuous Ambient Air Quality Monitoring Stations (AAQMS) should be preferred in comparison to manual monitoring stations. The CPCB and States shall file a composite action plan with timelines for its execution which shall not be more than three months. It is expected that all such AAQMS shall be connected to central server of CPCB for reporting analysis of results in a form of Air Quality Bulletin for general public at regular intervals atleast on weekly basis and ambient air quality on continuous basis on e-portal. MoEF&CC will provide requisite funds for the purpose. MoEF&CC in consultation with Ministry of Housing and Urban Affairs, MoRTH, Ministry of Petroleum and Natural Gas, Ministry of Agriculture, Cooperation and Farmers Welfare or any other Ministry to lay down such guidelines as may be considered necessary for improvement of air quality in the country."*

8. Thereafter, compliance of the above directions was reviewed on 15.03.2019 in the light of report submitted by the CPCB on 15.02.2019. The Tribunal observed:

"5. In pursuance to the above, the CPCB has filed compliance report vide e-mail dated 15.02.2019. An updated status report has been furnished during the hearing by the learned counsel for the CPCB which is as follows:-

"Action Plan received: 83 cities
Action plan not received: 19 cities
Action Plan approved by CCB: 46
Action Plan not approved by CCB: 11
Action Plan under Review: 26+3 (three revised plan of Telangana received)
Monitoring Network worked out in consultation with SPCBs".

6. *The question is the action to be taken for non-compliance by the States in not preparing action plans or incomplete plans and further directions for execution of plans.*

7. *Non-compliance of order of this Tribunal is a criminal offence under Section 26 of the National Green Tribunal Act, 2010 and in case of Government, Head of the Department is deemed to be guilty for such an offence. Punishment provided is sentence upto three years or fine upto Rs. 10 crores or both with additional fine for the every day's failure. Under Section 25 of the NGT Act, 2010, order of the Tribunal is decree of Civil Court to be executed as per Civil Procedure Code. Section 51 Civil Procedure Code provides civil imprisonment as a mode for enforcing the decree. Alternatively, such further order can be passed as may be necessary to secure compliance.*

8. *Vide order dated 16.01.2019 in O.A. No. 606/2018, the Tribunal directed Chief Secretaries of all the States to appear in person and furnish compliance of various orders of this Tribunal, including the above order dated 08.10.2018 with regard to non-attainment cities. The Chief Secretaries of five States have already appeared and most of the States have are still non-compliant. They have been directed to take necessary steps with improved institutional mechanism and approach.*

9. *In view of non-compliance of orders of this Tribunal, on an important issue adversely affecting public health and lives of citizens, inspite of serious consequences statutorily provided by the Parliament, we direct Chief Secretaries of the States in respect of which action plans have not been filed i.e. Assam, Jharkhand, Maharashtra, Punjab, Uttarakhand and Nagaland to forthwith furnish such action plans. If such action plans are not furnished till 30.04.2019, the States will be liable to pay environment compensation of Rs. 1 crore each. The States, where action plans are found to be deficient and deficiencies are not removed till 30.04.2019, will be liable to pay Rs. 25 lacs each. The timeline for execution of the action plans is six months from the date of finalization of action plan. Budgetary provision must be made for execution of such plans.*

10. *If action plans are not executed within the specified timeline mentioned above, the defaulting States will be required to pay Environmental Compensation and may also be required to furnish performance guarantee for execution of plans in extended timeline as per recommendations received from CPCB. The CPCB may make its recommendation in the matter before the next date.*

11. *The CPCB is directed to update the number of cities. If on parameters applied, there are other cities, not included in list of 102, such cities may be also included.*

12. *We also direct CPCB to prepare noise pollution map and identify hotspots and categorize the cities with specified hotspots and propose a remedial action plan. Such report may be furnished within three months by e-mail at ngt.filing@gmail.com. We are informed that in 7 cities noise*

monitoring mechanism has already been established by the CPCB which is functioning on continuous basis and is connected to the server of CPCB. The CPCB may consider setting up such mechanism in all the cities which are found to be having noise level above approved the threshold."

9. Apart from the above orders, it may be noted that vide order dated 16.01.2019 in O.A No. 606/2018[16] the Tribunal directed the Chief Secretaries of all the States/UTs to appear in person with their reports on significant environmental issues affecting the health of people, including the issue of NACs[17] dealt with in the present proceedings. On 23.04.2019, in O.A NO. 606/2018[18], the Tribunal directed CPCB to explore preparation of Annual Environment Plan for the country giving status of compliance of environmental norms and gaps, if any. In the process, to undertake assessment of damage to the environment in monetary terms so that by applying the 'Polluter Pays' principle, the cost of damage is recovered from identified polluters. Further orders passed by the Tribunal which have direct bearing on air quality include action for management of bio-medical waste[19], plastic waste management[20], prohibiting polluting activity in polluted industrial areas[21] and remediation of legacy waste dump-sites in the country[22].

10. We proceed to consider the status of compliance of our directions with regard to NACs. In the light of the report submitted by the CPCB on 15.07.2019. For convenience, we propose to consider the matter with reference to following questions:

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[16] Compliance of Municipal Solid Waste Management Rules, 2016
[17] Para 40 of Order dated 16.01.2019
[18] Compliance of Municipal Solid Waste Management Rules, 2016 (State of Tamil Nadu)
[19] O.A No. 710/2017
[20] Execution Application No. 13/2019
[21] O.A No. 1038/2018
[22] O.A No. 519/2019 and O.A No. 386/2019

a. Whether a robust nationwide real time online continuous ambient air quality monitoring programme has been designed as admittedly there are shortcomings in the current air quality monitoring regime in view of area coverage and quality of data?

b. Whether more cities have been identified as NACs and strategy to deal with the same has been prepared?

c. Whether the States with NACs have prepared time bound and budgeted Action Plans for bringing the air quality of NACs in their States within the prescribed norms?

d. Whether the components of such Action Plans are in conformity with the directions in order dated 08.10.2018[23]?

e. Whether environmental compensation regime has been designed on 'Polluter Pays' principle?

f. Whether CPCB, SPCBs and PCCs have developed a public grievance redressal portal?

g. Further directions to deal with the situation.

a. <u>Nationwide Ambient Air Quality Monitoring Programme</u>

11. According to the learned counsel for the CPCB, on instructions from the officers present, about 1,500 more real time Online Continuous Ambient Air Quality Monitoring Stations (OCAAQMS) are required to be installed to compile air quality data in the country. At present number of such stations is inadequate and consequently the correct

[23] (I)Identification of source of pollution; (II) Determining source apportionment including sectors like vehicular pollution, industrial pollution, dust pollution, construction activities, garbage burning, agricultural pollution including pollution caused by burning of crop residue, residential and indoor pollution etc; (III) measures for strengthening of Ambient Air Quality (AAQ) monitoring and (IV) Steps for public awareness including issuing of advisory to public for prevention and control of air pollution and involvement of schools, colleges and other academic institutions and awareness programmes.

picture/status with regard to number of NACs is not been reported and that the number could be more than what has been reported. Strict compliance be reported in terms of our orders dated 08.10.2018 and 15.03.2019. The report of the CPCB on the subject states minimum number of required stations both manual and CAAQMS in terms of number of people as per 2011 census:

Population (Census 2011)	***Minimum No. of manual station under NAMP***	***Minimum no of proposed CAAQMS***	***Total***
1,00,000- < 5,00,000	*1-Background 2-Residential/ Commercial*	*1-Residential*	*4*
5,00,000- <10,00,000	*1-Background 2-Residential/ Commercial*	*1-Residential 1-Traffic dominant area 1- Commercial*	*6*
10,00,000- <50,00,000	*1-Background 2-Residential/ Commercial*	*2-Residential 1-Traffic dominant area 1- Commercial 1-Industrial area*	*8*
>50,00,000	*1-Background in upwind direction 1-Background in down wind direction 2-Residential/ Commercial*	*4-Residential 3-Traffic dominant area 3- Commercial 2-Industrial area*	*16*

12. It will thus be appropriate that the optimal figure is duly worked out by the CPCB and whatever number of manual and real time online continuous AAQMS are found necessary to be installed, may be installed within six months and linked to the central server of CPCB. The action with regard to this is necessary from CPCB, SPCBs and PCCs. For this purpose, environmental compensation fund available with CPCB, SPCBs and PCCs may be utilized. It has been stated by the learned Counsel of CPCB that thousands of crores of funds are lying with SPCBs and PCCs under the 'Consent' head in addition to Environmental Compensation and these funds needs to be utilized for

environmental restitution. Accordingly, each State PCB and PCC may give details of such funds to this Tribunal and the CPCB within two months. The State PCBs and PCCs must also submit action plan for utilization of these funds to CPCB within next two months. The CPCB within two months thereafter scrutinize and approve the same in terms of our orders dated 08.10.2018 and 15.03.2019.

b. Interactive Public Grievance Redressal Portal

13. The CPCB has developed such a portal "Sameer". On the same pattern, all the States/UTs need to develop their respective interactive portals within two months from today, if not already done clearly defining the accountable personnel for grievance redressal and time span for grievance redressal.

c. Directions for Additional NACs identified

14. As per report of the CPCB, 20 more cities have been identified as NACs as follows:

Sl. No.	State	Sl. No.	City
1.	Andhra Pradesh	1.	Anantapur
		2.	Chitoor
		3.	Eluru
		4.	Kadapa
		5.	Ongole
		6.	Rajahmundry
		7.	Srikakulam
		8.	Vizianagaram
2.	Gujarat	9.	Vadodara
3.	Maharashtra	10.	Thane
4.	Odisha	11.	Kalinga Nagar
5.	Tamilnadu	12.	Trichy
6.	Telangana	13.	Sangareddy
7.	Uttarakhand	14.	Dehradun
8.	West Bengal	15.	Asansol
		16.	Barrackpore
		17.	Durgapur
		18.	Haldia
		19.	Howrah
		20.	Raniganj

We feel that this number may increase further given the fact that there is a huge gap in terms of air quality monitoring regime in our country. Meanwhile, the action plans may need to be prepared by the respective States for the said 20 NACs also, by the concerned states within next three months and after its approval by CPCB within two months the States referred to above must initiate time bound action on remediation within next three months.

d. Action Plans for NACs

15. The report shows that action plans for 92 cities have been approved by the CPCB. Out of the 102 action plans that were submitted by 30.04.2019 the CPCB has not approved 10 NACs' action plans namely Guwahati, Nagaon, Nalbari, Sibsagar, Silchar (Assam), Dhanbad (Jharkhand), Bangalore (Karnataka), Mumbai, Nasik and Solapur (Maharashtra). CPCB has issued directions to the concerned States for implementation/revision of the said plans. The same ought to be finalized within two months. The States which have failed to comply in terms of our order dated 15.03.2019 are liable to pay CPCB, the environmental compensation as per the extent of default.

e. Components of Action Plans in conformity with order of this Tribunal

16. The action plans provide for short term, medium term and long-term strategies as well as source apportionment, carrying capacity studies, public awareness, complaint redressal mechanism and budgetary support. The implementation strategies mentioned in the report include source apportionment and carrying capacity assessment with a view to fix liability to enforce the regulatory regime. Since source

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apportionment and carrying capacity assessment has not been done, a model/SOP for source apportionment and carrying capacity needs to be worked out within two months by the CPCB and replicated for all such cities. We may note that some models on carrying capacity have been noted in our order dated 29.07.2019 in *O.A. No. 635/2017, Ramesh Chand vs. State of Himachal Pradesh & Ors.*, Order dated 05.10.2018 in *O.A. No. 218/2017, Society for Preservation of Kasauli and its Environs (SPOKE) Vs. M/s Kasauli Glaxie Resorts and in Yogindra Mohan Sengupta Vs. UOI, MoEF&CC & Ors., Original Application No. 121/2014* in context of Shimla Planning Area. *By* these orders, in the areas of Shimla, Kasauli, Manali and Mcleodganj, construction and certain other activities have been prohibited and regulated. In addition to these, a report of CPCB dated 22.04.2019 filed in O.A No. 568/2016[24] on carrying capacity assessment may also need to be looked into. However, the said report is only with reference to PM_{10} and $PM_{2.5}$, whereas other pollutants affecting the ambient air quality may also need to be factored in. Further, CPCB report on CEPI Scores for 100 Industrial Areas/Clusters monitored during 2018 is the manifestation of deteriorating environment in term of Water EPI, Air EPI and Land EPI[25]. Accordingly, CEPI score has been evaluated. The CEPI score is itself a sort of manifestation of carrying capacity of 100 Industrial Aras/Clusters which warrants immediate action in terms of remediation and regulation to ameliorate the condition. The action plans must be read to include all components in terms of order of this Tribunal dated 08.10.2018.

[24] Ajay Khera Vs. M/S Container Corporations of India Limited & Ors. Report by the CPCB is in relation to Carrying Capacity for Air Quality for Delhi- NCR

[25] The same is subject matter of order of this Tribunal dated 10.07.2019 in O.A. No. 1038/2018

17. The timeline prescribed by CPCB in its report dated 15.07.2019 for reviewing action plans for further micro planning needs to be reduced from six months, preferably to four months in view of severity of problem and adverse impact of air pollutants on public health.

f. <u>Compensation Regime</u>

18. The compensation regime based on 'Polluter Pays' principle is necessary in view of inadequate action under criminal law. There are no figures available about the number of persons convicted and sentenced under the Air Act even though there are various estimates about number of deaths and diseases caused by air pollution.[26] The Tribunal is not in a position to verify the said figures, nor expresses any opinion about the correctness thereof. It is made clear that this order is not being based on the said figures but on the data compiled by the CPCB. The fact that number of NACs is rising steeply even though the monitoring regime does not cover all the regions in the country, is evidence of exponential rise in pollution. In also reflects inadequate monitoring and enforcement mechanism. The trend needs to be reversed by paradigm shift in monitoring and enforcement mechanism. The rule of law requires that a person committing an offence or violation is made accountable to law by punishment and by being required to pay monetary compensation on 'Polluter Pays' principle. CPCB must forthwith come out with a compensation regime

[26] **Report by the Indian Council of Medical Research** has stated- In 2017, air pollution accounted for 12.4 lakh deaths in India, which included 6.7 lakh deaths due to outdoor particulate matter air pollution and 4.8 lakh deaths due to household air pollution. https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30261-4/fulltextv **As per the Lancet Journal**- In 2017, 1.24 million deaths occurred in India, which were 12·5% of the total deaths, all attributable to air pollution, including 0.67 million from ambient particulate matter pollution and 0.48 million from household air pollution. Of these deaths attributable to air pollution, 51.4% were in people younger than 70 years. India contributed 18.1% of the global population but had 26.2% of the global air pollution DALYs in 2017. https://www.business-standard.com/article/current-affairs/air-pollution-kills-1-2-mn-indians-in-a-year-third-biggest-cause-of-death-119040300300_1.html **The study titled "State of Global Air 2019" reported** that Air pollution kills 1.2 mn Indians in a year, third biggest cause of death.

as long time has already gone by. The Air Act has been in operation for the last 38 years. With the expertise and data already available, the compensation regime can be finalized preferably within one month. While 'Sustainable Development' and 'Precautionary' principle may *inter-alia* require planning for reducing pollution, violation of norms cannot continue without remedial action. Law has to be enforced without waiting for any further time by suitable regulatory action by way of prosecution and by recovery of compensation. Since it appears that prosecutions are not even remotely proportionate to the extent of violation and may have their own limitations and constraints for the authorities, there is no justification for not taking prompt action by way of compensation recovery to enforce rule of law.

g. <u>Further observations</u>

19. As per the CPCB report dated 15.07.2019, there is a proposal for national level target of 20-30% reduction of $PM_{2.5}$ and PM_{10} concentration by 2024 under the National Clean Air Programme (NCAP) keeping 2017 as the base year. The timelines to reduce the air pollution by 20%-30% by 2024 needs to be reduced and the target of reduction needs to be increased, having regard to adverse effect on public health and in view of constitutional mandate of fundamental right to breathe clean air. Violation of such fundamental right cannot be allowed to be continued for such a longer time. The NCAP needs to be modified accordingly and a modified plan notified and implemented by the State instrumentalities in letter and spirit.

20. We note that the air pollution caused by DG Sets needs to be part of the action plans which may, if necessary, require retrofitting of

emission-control devices on generators already in use. CPCB may consider this aspect. The NCAP itself provides following action points:

> *"1. Introduction of gaseous fuels and enforcement of new and stringent SO_2- NO_x /$PM_{2.5}$ standards for industries using solid fuels.*
> *2. Stricter enforcement of standards in large industries through continuous monitoring.*
> *3. Full enforcement of zig-zag brick technology in brick kilns.*
> *4. Elimination of DG set usage by provision of 24x7 electricity.*
> *5. Control by innovative end of pipe control technologies.*
> *6. Evolve standards and norms for in-use DG sets below 800 KW category.*
> *7. For DG Sets already operational, ensure usage of either of the two options: (a) use of retrofitted emission control equipment having a minimum specified PM capturing efficiency of at least 70%, type approved by one of the 5 CPCB recognized labs; or (b) shifting to gas-based generators by employing new gas-based generators or retrofitting the existing DG sets for partial gas usage*
> *8. Utilize the Gujarat case study for a compelling case for other states to adopt third-party audits for polluting industries for enhancing implementation(States)."*

Thus, DG Sets should also be covered by the action plans for all the States/UTs.

21. The action plans also need to incorporate provisions for action against black carbon generators.

22. One of the causes of air pollution is growth of unplanned industrial activities in residential areas. At some places, such activities though prohibited, have been regularized without regard to environmental norms. The same can no longer be allowed to continue and provision has to be made for closing/shifting as per law laid down in *M.C. Mehta vs. Union of India, (2004) 6SCC 588.* The master plans need to be reviewed and wherever such activities are against existing or new norms, the same need to be closed/shifted.

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II. Compliance of Noise Pollution Rules

23. The Tribunal considered the issue of noise pollution vide order dated 15.03.3019 in the present matter as this subject is also covered by the provisions of the Air Act. It was held that following steps are necessary to deal with the violations:

> *"13. ... ...*
>
> *i. Training of regulatory machinery and identifying and notifying accountable officers and preparing action plan and monitoring mechanism.*
>
> *ii. Awareness, particularly among students through Education Department and involvement of Resident Welfare Associations (RWAs), social and religious institutions and volunteers.*
>
> *iii. Prosecution of violators, seizer of equipment and recovery of compensation from violators.*
>
> *iv. Requiring installation of noise,*
>
> *v. measurement meters by those using equipment capable of producing noise higher than the prescribed limit."*

24. Accordingly, the directions were issued to the State Pollution Control Boards (SPCBs) and the Police Department of all the States/UTs to obtain noise monitoring devices, to train the staff regarding use of such devices and to develop a robust protocol for taking action including fixing of noise meters with data loggers on the equipments used for creating noise. Additionally, CPCB was directed to lay down scale of compensation for violation of noise pollution norms and also the conditions to be imposed while releasing any offending equipment which is seized in the course of implementing the noise regulations.

25. Accordingly, the CPCB has in its report dated 15.07.2019, furnished its report on this subject also. It is stated that the manufacturers find

the installation of the limiter meters on noise generating equipments to be economically less viable. This cannot be a ground for not requiring such limiters to enforce the norms of noise pollution on the pattern followed in the States of West Bengal and Tripura. This Tribunal has already issued a direction in the context of Delhi to that effect that noise limiters in sound systems be installed and/or retrofitted, vide order dated 01.08.2019 in *O.A. No. 519/2016, Hardeep Singh & Ors. vs SDMC & Ors.* The said directions will apply to all the States/UTs. Appropriate notifications may be issued by the CPCB/SPCBs/PCCs within three months about the limiters being installed. The compensation regime for noise pollution needs to be worked out within one month by CPCB.

Directions:

26. In view of above discussion, we issue following directions:

I. CPCB, SPCBs and PCCs need to ensure assessment and installation of the requisite number of real time Online Continuous AAQMS within six months from today and indicate progress in this regard before the next date.

II. The Expert Team of CPCB to design a model/SOP for source apportionment and carrying capacity assessment within two months which may be replicated for all the NACs. In the light of such study, further action may need to be considered by MoEF&CC within three months thereafter in terms of regulating the number of vehicles, action in terms of shift to e-vehicles and CNG vehicles, intensifying public transport system, mechanical cleaning of roads, enhancement of public

parking facilities etc., improvement in fuel quality and traffic management, regulation of construction activities, strict adherence to siting guidelines with regard to stone crushers, mining, brick kilns, thermal power plants, coal handling, air polluting industries, hot mix plants, etc. Besides, activities like crop burning and burning of trash wood/leaves/debris for heating in winters to be strictly regulated and violations penalized as has been done by notifications for ESZ, CRZ, Ganga Flood plains etc.

III. Concerned Town & Country Planning departments (with whatever be the name in the State) of all the States/UTs may ensure review of maser plans specially for the NACs to be consistent with carrying capacity and source apportionment study reports within six months of such reports being available and furnish compliance reports to this Tribunal and CPCB.

IV. Concerned States may evolve enforcement mechanism for closing/shifting of industrial units other than household industries from residential/non conforming areas in the light of law laid down in *M.C. Mehta vs Union of India, (2004) 6SCC 588.*

V. SPCBs/PCCs need to develop interactive public grievance redressal portals on the pattern of CPCB portal "*Sameer*" within two months if not already done.

VI. Actions Plans need to be prepared by States for the additional 20 NACs on the pattern of 102 NACs within three months and after its approval by CPCB within two months, States must initiate time bound action on remediation within next three months.

VII. CPCB may finalize the pending action plans within two months. Environmental compensation may be deposited by the defaulting States in terms of our order dated 15.03.2019 with the CPCB.

VIII. Timeline prescribed for reviewing action plans with regard to its report dated 15.07.2019 by the CPCB for further micro planning may be reduced from six months, preferably to four months. CPCB may give appropriate directions to the SPCBs/PCCs accordingly.

IX. CPCB must forthwith come out with a compensation regime within two months for air as well as noise pollution to the extent such norms have not yet been laid down.

X. Having regard to adverse impact on public health and constitutional mandate that right to clean air is a fundamental right, the MoEF&CC may modify the NCAP by reducing the timelines and increasing the target for reduction of air pollution.

XI. Noise Limiters need to be installed on potential noise polluting devices, including retrofitting the existing devices. Appropriate directions be issued by the States/UTs within three months in the same manner as directed by this Tribunal for Delhi vide order dated 01.08.2019 in *O.A. No. 519/2016, Hardeep Singh & Ors. vs SDMC & Ors.*

XII. The CPCB may also evaluate existing air quality monitoring mechanism of all States and UTs and furnish a report to this Tribunal before the next date in terms of capacity of its scientific and technical personnel both in terms of number of

personnel and skill/competence and outreach programmes on public awareness and suggestions for improvement.

XIII. The CPCB and States may have robust Emergency Response System and preparedness by way of mock drills and measures to be taken in the scenario when air pollution levels become severe plus and severe.

XIV. The SPCBs and PCCs to submit details of 'consent' funds to CPCB and this Tribunal within two months alongwith Action Plans on the basis of template provided by CPCB. CPCB may scrutinize and approve such action plans within two months in accordance to our order dated 22.01.2019 in *O.A. No. 101/2019*. Finally, the State PCBs and PCCs may execute their Action Plans within next one year thereafter.

XV. The Environmental Compensation levied by State Transport Departments may be divided in the ratio of 50:25:25 amongst the States, the SPCBs/PCCs and the CPCB.

Let further compliance reports be filed before the next date.

List for further consideration on 15.11.2019.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

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August 06, 2019
Original Application No. 681/2018
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