

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO.991
TO BE ANSWERED ON 10.02.2022

Steps for environment protection

991. SHRI BRIJLAL:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) concrete steps taken by Government to protect the environment during the last five years, the details thereof; and
- (b) the level of reduction in pollution recorded because of these steps and future plan of Government in this regard, the details thereof?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a) & (b) The Government has taken steps like notification of industry specific emission and effluent standards under the Environment (Protection) Rules, 1986, and their enforcement through consent mechanism, regular monitoring, issuance of directions for installation of online effluent and emission monitoring systems for continuous check on pollution levels; categorization of industries based on their pollution potential; issuance of various directions under Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981 and Environment (Protection) Act, 1986, etc. Details of measures taken are at **Annexure I**.

A Commission on Air Quality Management in NCR and Adjoining Areas (CAQM) has been constituted by enactment of an Act by Parliament for better co-ordination, research, identification and resolution of problems surrounding the air quality index and for matters connected therewith or incidental thereto.

In addition, the Ministry of Environment, Forest and Climate Change has launched National Clean Air Programme (NCAP) in January 2019 to tackle the problem of air pollution in a comprehensive manner with targets to achieve 20 to 30 per cent reduction in PM₁₀ and PM_{2.5} concentrations by 2024. A total of 132 non-attainment and million plus cities have been identified.

Air Quality Index (AQI) data of Delhi indicates an improvement in air quality from year 2019 to 2021, as number days in Good, Satisfactory, Moderate category have increased in the year 2021 as compared to 2019. Air Quality Index of major metropolitan cities for the last three years in India is given at **Annexure II**.

Analysis of ambient air quality data of Particulate Matter (Size less than 10 μ m) of 132 non-attainment / metropolitan cities indicated, 36 cities showed an increase of PM10 concentration in 2020-2021 as compared to 2019-2020 whereas 96 cities showed a decrease of PM10 concentration (i.e. Improvement in air quality). Details are given at **Annexure III**.

Reduction in pollution levels in Ganga river has been observed since 2014; Dissolved Oxygen (DO) (median) has been improved at 33 locations (53 locations compared), Biological Oxygen Demand (BOD) (median) has been improved at 45 locations (53 locations compared) and Fecal Coliform (FC) (median) has been improved at 21 locations (43 locations compared).

With regular monitoring of the industrial units, significant increase in compliance w.r.t prescribed discharge norms has been observed i.e. 39% in 2017 to 69% in 2018 to 82% in 2019 to 81% in 2020. Besides, reduction in effluent discharge has also been observed from 349.13 MLD in 2017 to 314.86 MLD in 2018 to 302 MLD in 2019 and 281.7 MLD in 2020. Further, reduction in biochemical oxygen demand (BOD) load has been observed from 26.06 TPD in 2017 to 18.75 TPD in 2018, 16.51 TPD in 2019 and 9.51 TPD in 2020.

Annexure - I referred in reply to part (a) & (b) of the Lok Sabha Unstarred Question No. 991 due for answer on 10.02.2022 regarding 'Steps for environment protection'

Measures taken by the Government for Air Quality Management

Vehicular emissions

- Leapfrogging from BS-IV to BS-VI norms for fuel and vehicles since April, 2020.
- Network of metro rails for public transport are enhanced and more cities are covered.
- Development of Expressway and Highways are also reducing the fuel consumption and pollution.
- Eastern Peripheral Expressway & Western Peripheral Expressway have been operationalised to divert non destined traffic from Delhi.
- Ban on 10-year-old diesel vehicles and 15-year-old petrol vehicles in Delhi NCR.
- Environment protection charges (EPC) have been imposed on diesel vehicles with engine capacity of 2000cc and above in Delhi NCR.
- Introduction of cleaner/alternate fuels like CNG, LPG, ethanol blending in petrol.
- Faster Adoption and Manufacturing of Electric Vehicles (FAME) -2 scheme has been rolled out.
- Permit requirement for electric vehicles has been exempted.
- Promotion of public transport and improvements in roads and building of more bridges to ease congestion on roads.

Industrial emissions

- Stringent emission norms for Coal based Thermal Power Plants (TPPs).
- Ban on use of pet coke and furnace oil in NCR with restricted use of pet coke in cement plants, lime kilns and calcium carbide manufacturing units.
- Shifting of industrial units to PNG.
- Installation of online continuous emission monitoring devices in highly polluting industries.
- Shifting of brick kilns to zig-zag technology for reduction of pollution

Air pollution due to dust and burning of waste

- Setting up infrastructure such as waste processing plants.
- Extended Producer Responsibility (EPR) for plastic and e-waste management.
- Ban on burning of biomass/garbage.

Crop residue/Parali management

- Under Central Sector Scheme on 'Promotion of Agricultural Mechanization for in-situ management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi', agricultural machines and equipment for in-situ crop residue management are promoted with 50% subsidy to the individual farmers and 80% subsidy for establishment of Custom Hiring Centres.
- Sustainable Alternative Towards Affordable Transportation (SATAT) has been launched as an initiative to set up Compressed Bio-Gas (CBG) production plants and make CBG available in the market for use in automotive fuels.

Monitoring of ambient air quality

- Expansion of air quality monitoring network of manual as well as continuous monitoring stations under programmes such as National Air Monitoring Programme (NAMP).
- Initiation of pilot projects to assess alternate ambient monitoring technologies such as low-cost sensors and satellite-based monitoring.
- Implementation of Air Quality Early Warning System for Delhi, Kanpur and Lucknow. The system provides alerts for taking timely actions.
- 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).

Monitoring implementation of NCAP

- Government has launched National Clean Air Programme (NCAP) as a national level strategy to reduce air pollution levels across the country. City Specific Clean Air Action Plans have been prepared and rolled out for implementation in 132 non-attainment and million plus cities.
- ₹ 406.7 crores have been sanctioned to non-attainment cities under NCAP for initiating actions such as expansion of monitoring network, construction and demolition waste management facilities, non-motorised transport infrastructure, green buffers, mechanical street sweepers, composting units etc.
- As per the Fifteenth Finance commission recommendations ₹4400 crores have been released in the Budget of FY 2020-21 to tackle the burgeoning problem of air pollution for 42 urban centres with a million-plus population. Further, an amount of ₹12,139 crores has been allocated for improvement of air quality for the award period FY 2021-26.
- City Specific Action Plans for improvement of air quality has been prepared and approved for implementation.
- Implementation of the city specific action plans are regularly monitored by Committees at Central and State level namely Steering Committee, Monitoring Committee and Implementation Committee.
- PRANA a portal for monitoring implementation of NCAP has been launched.
- City Specific Action Plans have been prepared and rolled out for implementation in 132 non-attainment and million plus cities. The City Specific Action Plans, *inter-alia*, include measures for reducing vehicular/industrial emissions, reducing stubble/bio-mass burning, solid waste management, construction and demolition waste management, strengthening the monitoring network and increasing public awareness. The details of action plans are available at <https://cpcb.nic.in/approved-city-action-plans>.
- High Level Committees have been set up at the Central, State/ UT and District/ City levels to steer activities under NCAP and also for their monitoring and implementation.

Steps taken to improve air quality in NCR and adjoining areas

- The Commission for Air Quality Management in NCR and Adjoining Areas(CAQM) constituted a sub-committee for operationalization of GRAP and issuing necessary orders to the effect, under which regular meetings are held.

Measures taken by the Government for Water Quality Management

Central Pollution Control Board (CPCB), monitors water quality of surface and ground water at 4294 locations under National Water Quality Monitoring Programme (NWMP) in association with the SPCBs/ PCCs. The network of monitoring locations has enhanced over the years resulting in wider coverage thus increase of river stretches monitored. Based on the assessment of water quality, rivers which are having BOD level more than 3 mg/l are considered as 'polluted'. Based on exceedance of Bathing Water Quality Criteria parameter of BOD (exceeding 3 mg/L), total 351 polluted river stretches have been identified on 323 rivers in the country.

For rejuvenation of identified polluted rivers, 176 action plans have been approved by four-member Committee called "River Rejuvenation Committee". Some of the measures taken are as follows:

- Under AMRUT and Repair, Renovation and Restoration (RRR) schemes, Govt. of India is supporting States on cost sharing basis for development of infrastructure for sewage management and rejuvenating polluted rivers.
- Various programmes like National Lake Conservation Programme (NLCP), National River Conservation Programme (NRCP) launched by Government of India for restoration of water bodies including enhancement in ground water levels in the country apart from training programmes to the stakeholders under the National Hydrology Project.
- Indicative guidelines to the Stakeholders for ensuring restoration/rejuvenation of water bodies, including small rivers flowing through district headquarters, cities and industrial areas.
- Revised Guidelines for idol immersion on 12.05.2020 for Idol makers/ artisans, Pooja organizing committees and local and urban authorities to emphasize the need for restriction on single use plastic materials for making idols, use of naturally occurring colors for colouring idols, imposing restrictions on size of the idol, construction of temporary synthetic lined ponds of adequate capacity, etc.

Measures taken by the Government for Noise Pollution

Total 70 National Ambient Noise Monitoring Network (NANMN) stations have been installed spreading over 10 cities.

Measures taken by the Government for Industrial Pollution

Some of the steps taken for controlling the pollution by industries are as follows:

Industrial estate and clusters numbering 100 were assessed in the country to assess Comprehensive Environmental Pollution Index (CEPI) in 2018. Based on CEPI score, the critically polluted areas are identified to take necessary measures through time-targeted Action Plans.

- i. The Ministry of Environment Forest and Climate Change notifies industry specific discharge standards under Schedule-I: 'Standards for Emission or Discharge of Environmental Pollutants from various Industries' of Environment Protection Act, 1986. SPCBs and PCCs

in States and UTs respectively are adhered to ensure the compliance of these standards. So far, industry specific environmental standards, for about 80 industrial sectors, have been notified.

- ii. For strengthening monitoring mechanism and effective compliance through self-regulatory mechanism, CPCB has directed all 17 categories of highly polluting industries, Grossly Polluting Industries (GPIs) of Ganga basin, Common Effluent Treatment Plants (CETPs), biomedical waste management facilities and common hazardous waste facilities to install Continuous Effluent/ Emission Monitoring Systems for constant vigil on pollution levels.
- iii. Inspection of 17 categories of highly polluting industries based on the computer generated SMS alerts, due to violation of effluent and emission standards, recorded in OCEMS (Online Continues Effluent/Emission Monitoring System). Industries are selected for inspection on the basis of SMS generated/off line from the online monitoring systems installed in these industries. In case of non-compliance, action against industry is taken under provisions of Water Act, 1974, Air Act, 1981 and Environment (Protection) Act, 1986.

So far, CPCB has carried out inspection-cum-monitoring of 759 industries, out of which 370 industries were found non-complying. Show-cause notices and closure directions were issued to 186 and 1830 units, respectively. As on date, 320 units have complied with CPCB directions and for remaining 48 units, directions are still in-force. For 2 non-complying units, matter was forwarded to concerned SPCBs/PCCs for further action.

- iv. CPCB has revised the criteria for categorization of industries and directed all SPCBs/PCCs, vide letter dated 07.03.2016, to adopt the same. CPCB has categorized 254 industrial sectors into red (61), orange (90), green (65) and white (38) categories.

Waste Management:

Some of the measures taken are as follows:

- Prepared guidelines for “Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients” so as to eliminate the risk of spread of infection through COVID19 related biomedical waste.
- Developed a Tracking App to monitor management of COVID-19 related biomedical waste from the point of generation till disposal.
- “Guidelines on Disposal of Legacy waste” has been published and uploaded on the website.
- Bio mining of legacy waste at dumpsites has been initiated in 23 states/UTs by concerned ULB.
- 23 SOP’s has been prepared and followed by the laboratories as per ISO/IEC 17025 to streamline and improvement of quality activities of laboratories around.
- Guidelines for Pre-Processing and Co-Processing of Hazardous and Other Wastes in Cement Plant as per H&OW (Management& Trans-boundary Movement) Rules, 2016
- Guidelines for Environmentally Sound Facilities for Handling, Processing and Recycling of End-of- Life Vehicles (ELV). Prepared ‘Guidelines for Environmentally Sound Facilities for handling, Processing and Recycling of End of Life Vehicles’.
- Standard Operating Procedure (SOP) for processing the proposal received for utilization of hazardous waste. 59 Standard Operating Procedures for utilization of different kind of hazardous waste under Rule 9 of HOWM Rules, 2016. Also co-processing of waste promoted

during this period and 1.09 Million Ton of waste has been co-processed. Presently, 39% of overall hazardous waste generated is being recycled.

- Guidelines issued on September 09, 2020 for phasing out of all plastic bags irrespective of size and thickness, plastic cutlery (plates, cups, glass, straw, stirrers etc), Styrofoam cutlery and decorative items.
- Extended Producer Responsibility (EPR) for plastic and e-waste management.
- Ban on burning of biomass/garbage.

ANNEXURE - II

Annexure - II referred in reply to part (a) & (b) of the Lok Sabha Unstarred Question No. 991 due for answer on 10.02.2022 regarding 'Steps for environment protection' by Shri Brijlal, Hon'ble Member of Parliament

Air Quality Index of major Metropolitan cities during 2019-2021

Delhi Comparative AQI Status 2019-2021							
Category		2019	2020	2021	2019	2020	2021
Good	(0-50)	2	5	1	182	227	197
Satisfactory	(51-100)	59	95	72			
Moderate	(101-200)	121	127	124			
Poor	(201-300)	103	75	80	183	139	168
Very Poor	(301-400)	56	49	64			
Severe	(>401)	24	15	24			
Total Number of Days		365	366	365	365	366	365

Kolkata Comparative AQI Status 2019-2021							
Category		2019	2020	2021	2019	2020	2021
Good	(0-50)	76	144	89	264	292	282
Satisfactory	(51-100)	114	72	103			
Moderate	(101-200)	74	76	90			
Poor	(201-300)	64	60	75	99	74	83
Very Poor	(301-400)	30	14	8			
Severe	(>401)	5	0	0			
Total Number of Days		363	366	365	363	366	365

Hyderabad Comparative AQI Status 2019-2021							
Category		2019	2020	2021	2019	2020	2021
Good	(0-50)	76	113	109	365	366	365
Satisfactory	(51-100)	135	158	101			
Moderate	(101-200)	154	95	155			
Poor	(201-300)	0	0	0	0	0	0
Very Poor	(301-400)	0	0	0			
Severe	(>401)	0	0	0			
Total Number of Days		365	366	365	365	366	365

Chennai Comparative AQI Status 2019-2021							
Category		2019	2020	2021	2019	2020	2021
Good	(0-50)	43	60	74	352	365	365
Satisfactory	(51-100)	230	275	266			
Moderate	(101-200)	79	30	25			
Poor	(201-300)	12	0	0	12	0	0
Very Poor	(301-400)	0	0	0			
Severe	(>401)	0	0	0			
Total Number of Days		364	365	365	364	365	365

Mumbai Comparative AQI Status 2019-2021							
Category		2019	2020	2021	2019	2020	2021
Good	(0-50)	58	119	37	336	346	326
Satisfactory	(51-100)	170	104	164			
Moderate	(101-200)	108	123	125			
Poor	(201-300)	26	20	39	26	20	39
Very Poor	(301-400)	0	0	0			
Severe	(>401)	0	0	0			
Total Number of Days		362	366	365	362	366	365

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Cities showing decreased concentration (96 cities) of PM₁₀ - 2019-2020 & 2020-2021

States / UTs	Cities	2019-2020	2020-2021
		Average concentration (F.Y.) of PM ₁₀ (µg/m ³)	Average concentration (F.Y.) of PM ₁₀ (µg/m ³)
Andhra Pradesh	1. Vijayawada	57	56
Andhra Pradesh	2. Anantpur	60	58
Andhra Pradesh	3. Chittur	51	41
Andhra Pradesh	4. Eluru	64	58
Andhra Pradesh	5. Guntur	58	56
Andhra Pradesh	6. Kurnool	56	52
Andhra Pradesh	7. Nellore	67	56
Andhra Pradesh	8. Ongole	59	49
Andhra Pradesh	9. Vizhianagaram	68	63
Assam	10. Nagaon	92	90
Assam	11. Nalbari	75	57
Assam	12. Silchar	45	43
Assam	13. Sivasagar	55	48
Bihar	14. Patna	170	143
Bihar	15. Gaya	76	71
Chandigarh	16. Chandigarh	92	90
Chhattisgarh	17. Korba	54	46
Chhattisgarh	18. Durg	75	56
	Bhilainagar		
Chhattisgarh	19. Raipur	63	55
Gujarat	20. Rajkot	113	94
Gujarat	21. Surat	109	93
Gujarat	22. Vadodara	108	95
Himachal Pradesh	23. Baddi	133	123
Himachal Pradesh	24. Kala Amb	95	64
Himachal Pradesh	25. Nalagarh	113	90
Himachal Pradesh	26. Paonta Sahib	98	78
Himachal Pradesh	27. Parwanoo	60	44
Himachal Pradesh	28. Sunder Nagar	69	63
Jharkhand	29. Dhanbad	211	198
Jharkhand	30. Jamshedpur	138	96
Jharkhand	31. Ranchi	108	105
Karnataka	32. Bengaluru	73	62
Karnataka	33. Hubli-Dharwad	78	69
Madhya Pradesh	34. Bhopal	141	114
Madhya Pradesh	35. Gwalior	136	125
Madhya Pradesh	36. Jabalpur	111	106
Madhya Pradesh	37. Sagar	71	64

States / UTs		Cities	2019-2020 Average concentration (F.Y.) of PM ₁₀ (µg/m ³)	2020-2021 Average concentration (F.Y.) of PM ₁₀ (µg/m ³)
Maharashtra	38.	Aurangabad	76	65
Maharashtra	39.	Greater Mumbai	106	98
Maharashtra	40.	Nagpur	80	68
Maharashtra	41.	Nashik	57	51
Maharashtra	42.	Pune	81	69
Maharashtra	43.	Vasai virar	99	43
Maharashtra	44.	Akola	66	54
Maharashtra	45.	Amravati	89	58
Maharashtra	46.	Badlapur	88	67
Maharashtra	47.	Jalgaon	57	53
Maharashtra	48.	Jalna	95	86
Maharashtra	49.	Kolhapur	95	83
Maharashtra	50.	Latur	84	54
Maharashtra	51.	Navi Mumbai	54	52
Maharashtra	52.	Solapur	90	79
Maharashtra	53.	Ulhasnagar	83	66
Odisha	54.	Angul	95	88
Odisha	55.	Balasore	86	78
Odisha	56.	Bhubneshwar	103	78
Odisha	57.	Cuttack	104	86
Odisha	58.	Kalinga Nagar	113	104
Odisha	59.	Rourkela	112	96
Odisha	60.	Talcher	122	98
Punjab	61.	Dera Baba Nanak	68	66
Punjab	62.	Khanna	113	101
Punjab	63.	NayaNangal	98	95
Punjab	64.	Patiala	107	102
Rajasthan	65.	Jaipur	124	112
Rajasthan	66.	Jodhpur	167	155
Rajasthan	67.	Kota	102	100
Rajasthan	68.	Alwar	126	110
Rajasthan	69.	Udaipur	136	109
Tamilnadu	70.	Madurai	66	57
Tamilnadu	71.	Trichy	58	40
Tamilnadu	72.	Patencheru	87	77
Tamilnadu	73.	Sangareddy	87	77
Uttar Pradesh	74.	Allahabad	219	184
Uttar Pradesh	75.	Kanpur	200	169
Uttar Pradesh	76.	Lucknow	216	209
Uttar Pradesh	77.	Meerut	203	200
Uttar Pradesh	78.	Varanasi	180	168
Uttar Pradesh	79.	Anpara	169	142

States / UTs		Cities	2019-2020 Average concentration (F.Y.) of PM ₁₀ (µg/m ³)	2020-2021 Average concentration (F.Y.) of PM ₁₀ (µg/m ³)
Uttar Pradesh	80.	Firozabad	213	186
Uttar Pradesh	81.	Gajraula	217	168
Uttar Pradesh	82.	Gorakpur	278	168
Uttar Pradesh	83.	Jhansi	102	99
Uttar Pradesh	84.	Khurja	226	194
Uttar Pradesh	85.	Moradabad	243	206
Uttar Pradesh	86.	Noida	213	197
Uttar Pradesh	87.	Raebareli	161	98
Uttarakhand	88.	Dehradun	166	144
Uttarakhand	89.	Kashipur	130	129
Uttarakhand	90.	Rishikesh	136	77
West Bengal	91.	Asansol	124	114
West Bengal	92.	Kolkata	101	99
West Bengal	93.	Barrackpore	108	75
West Bengal	94.	Durgapur	125	103
West Bengal	95.	Howrah	144	117
West Bengal	96.	Rani Ganj	177	107

Cities showing increased concentration (36 cities) of PM₁₀ - 2019-2020 & 2020-2021

States		Cities	2019-2020 Average concentration (F.Y.) of PM ₁₀ (µg/m ³)	2020-2021 Average concentration (F.Y.) of PM ₁₀ (µg/m ³)
Andhra Pradesh	1.	Visakhapatnam	97	104
Andhra Pradesh	2.	Kadapa	48	50
Andhra Pradesh	3.	Rajamahendravaram	61	69
Andhra Pradesh	4.	Srikakulam	66	66
Assam	5.	Guwahati	113	114
Bihar	6.	Muzafarpur	138	180
Delhi	7.	Delhi	192	193
Gujarat	8.	Ahmedabad	116	120
Haryana	9.	Faridabad		229
Himachal Pradesh	10.	Damtal	52	65
Jammu&Kashmir	11.	Jammu	145	186
Jammu&Kashmir	12.	Srinagar	132	163
Karnataka	13.	Devanagere	66	72
Karnataka	14.	Gulburga / Kalaburgi	80	92
Madhya Pradesh	15.	Indore	91	96
Madhya Pradesh	16.	Dewas	91	93
Madhya Pradesh	17.	Ujjain	90	104
Maharashtra	18.	Chandrapur	93	100
Maharashtra	19.	Sangli	70	71

States		Cities	2019-2020 Average concentration (F.Y.) of PM ₁₀ (µg/m ³)	2020-2021 Average concentration (F.Y.) of PM ₁₀ (µg/m ³)
Maharashtra	20.	Thane	79	105
Meghalaya	21.	Byrnihat	97	127
Nagaland	22.	Dimapur	84	85
Nagaland	23.	Kohima	81	84
Punjab	24.	Amritsar	109	113
Punjab	25.	Ludhiana	115	129
Punjab	26.	DeraBassi	100	105
Punjab	27.	MandiGobindgarh	130	131
Punjab	28.	Jalandhar	121	150
Tamil Nadu	29.	Chennai	60	60
Tamil Nadu	30.	Tuticorin	84	84
Telangana	31.	Hyderabad	86	88
Telangana	32.	Nalgonda	59	60
Uttar Pradesh	33.	Agra	163	188
Uttar Pradesh	34.	Ghaziabad	218	218
Uttar Pradesh	35.	Bareilly	185	193
West Bengal	36.	Haldia	69	93