

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
STARRED QUESTION NO. 37
TO BE ANSWERED ON 06.02.2025

New strategies to control air pollution

37*. DR. LAXMIKANT BAJPAYEE

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

- (a) the year-wise details of AQI levels in Delhi/NCR during the months of October, November and December during the years 2022, 2023 and 2024;
- (b) whether it is a fact that despite all the efforts, Government is unable to control the pollution level in Delhi/NCR;
- (c) the year-wise details of measures taken during the last three years to control pollution level in Delhi/NCR;
- (d) the year-wise details of amount spent for this purpose during the last three years; and?
- (e) the details of new strategies which Government intends to adopt in order to control pollution level in Delhi/NCR?

ANSWER

MINISTER FOR ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI BHUPENDER YADAV)

(a) to (e) : A Statement is laid on the Table of the House

STATEMENT REFERRED TO IN REPLY TO PARAS (a) to (e) OF THE RAJYA SABHA STARRED QUESTION No. 37 DUE FOR REPLY ON 06.02.2025 REGARDING NEW STRATEGIES TO CONTROL AIR POLLUTION BY Dr. LAXMIKANT BAJPAYEE, HON'BLE MEMBER OF PARLIAMENT.

(a) to (e)

The year-wise details of AQI in 29 cities of National Capital Region (NCR) during the months October-December in between year 2022 to 2024 is attached at **Annexure-I**.

Air pollution in Delhi - NCR is a collective result of multiple factors including high level of anthropogenic activities in the high-density populated areas in NCR, arising from various sectors viz. Vehicular Pollution, Industrial Pollution, Dust from Construction and Demolition Project activities, Road and Open Areas Dust, Biomass Burning, Municipal Solid Waste burning, Fires in Landfills, air pollution from dispersed sources, etc. During post-monsoon and winter months, lower temperature, lower mixing heights, inversion conditions and stagnant winds lead to trapping of the pollutants resulting in high pollution in the region. This is further aggravated due to the emissions from episodic events like stubble burning, firecrackers etc.

With a view to abate and control air pollution in Delhi / NCR, the Commission for Air Quality Management in NCR and Adjoining Areas (CAQM), constituted in 2021, has devised a comprehensive policy for abatement of pollution in NCR in July, 2022, stipulating sector specific action points quantifying targets along with timelines and implementation plan by various agencies in NCR States.

Various measures have been taken by the Government to reduce Air Pollution in Delhi-NCR from different sources, which are enclosed as **Annexure II**.

Due to the efforts made by all stakeholders, gradual improvement has been observed in Delhi air quality. The number of Good-Moderate AQI categories' days in 2024 has increased to 209 from 110 in 2016 and number of Poor-Severe AQI categories' days has decreased to 157 in 2024 from 244 in 2016.

Ministry of Agriculture & Farmers Welfare (MoA&FW) in 2018 launched scheme for providing subsidy for purchase of crop residue management machinery and establishment of custom hiring centres (CHCs) in NCT of Delhi and the States of Punjab, Haryana and Uttar Pradesh for in-situ management of paddy straw for prevention of paddy straw burning in agriculture fields. During the period from 2018-19 to 2024-25 (till 29.01.2025) Rs. 3698.45 crores have been released (Punjab - Rs. 1756.45 crores, Haryana - Rs. 1081.71 crores, Uttar Pradesh - Rs. 763.67 crores, NCT of Delhi - Rs. 6.05 Crores, Indian Council of Agriculture Research (ICAR)-Rs. 83.35 crores and others Rs. 7.22 Crores). The States have distributed more than 3.00 lakh machines to the individual farmers and to more than 40000 Custom Hiring Centres (CHCs) in these 4 States, which also include more than 4500 Balers & Rakes which are used for collection of straw in the form of bales for further ex-situ utilization.

Under the National Clean Air Programme (NCAP), funds have been released to six Non-Attainment Cities (NACs) in the National Capital Region (NCR) namely Delhi, Alwar, Faridabad, Noida, Ghaziabad, and Meerut. Among these, Delhi, Alwar, and Noida are funded by the Ministry of Environment, Forest and Climate Change (MoEF&CC) under NCAP, while Ghaziabad, Meerut and Faridabad are funded by the Department of Expenditure, Ministry of Finance, under NCAP.

In the last three financial years (2021-22, 2022-23, and 2023-24), a total of ₹233.08 crore has been released under NCAP to these six cities, while ₹292.99 crore has been utilized. The details of funds released and utilized during this period are enclosed in **Annexure-III**.

CPCB has sanctioned Rs.14.5 crore for 15 projects under one-time financial assistance for setting up of paddy straw based pelletisation and Torrefaction plants. Total capacity of 15 sanctioned plants are 57.5 TPH (2.07 lakh tonne pellet/ annum and 2.70 lakh paddy straw/ annum).

CPCB has sanctioned total Rs. 116.88 crore under Environment Protection Charge (EPC) to Urban Local Bodies (ULBs) in Delhi-NCR for road construction/ repair, paving works, procurement of Mechanical Road Sweeping Machines (MRSM), Anti-smog guns (ASG) etc. for air pollution control.

CPCB has also made provision for gap funding support for implementation of clean air city action plan in 19 NCR cities which are not covered under NCAP and XVFC. These include Greater Noida, Dharuhera, Gurugram, Sonipat, Bharatpur, Muzaffarnagar, Bulandshahr, Panipat, Charki dadri, Bahadurgarh, Baghpat, Hapur, Bhiwani, Jind, Narnaul, Karnal, Palwal, Nuh and Bhiwadi). A corpus of Rs. 150 crores have been allocated in the first year.

A comprehensive Graded Response Action Plan (GRAP) has been prepared to address air pollution in Delhi-NCR. It is a set of emergency measures that are taken to prevent further deterioration of air quality after AQI of Delhi reaches a certain threshold especially in winter months. Based on AQI forecast from Indian Meteorological Department (IMD) and Indian Institute of Tropical Meteorology Pune (IITM), directions for GRAP implementation are issued by CAQM.

Revised GRAP has been issued by CAQM on 13.12.2024 with stricter rules as compared to the previous GRAP for emergent preventive/restrictive actions depending on air pollution levels. Changes in the GRAP make the plan stronger and more effective and have a positive impact on air quality in Delhi/NCR.

Annexure – I**Number of Good and Bad days observed in cities of Delhi-NCR during 2022 to 2024
(October, November and December)**

Sr. No.	State	City Name	2022		2023		2024	
			AQI<=200 Good Days	AQI>200 Bad Days	AQI<=200 Good Days	AQI>200 Bad Days	AQI<=200 Good Days	AQI>200 Bad Days
1	Delhi	Delhi	17	75	13	79	21	71
2	Haryana	Bahadurgarh	31	60	25	64	21	48
3	Haryana	Ballabgarh	37	54	24	64	42	27
4	Haryana	Bhiwani	52	38	39	52	38	40
5	Haryana	Charkhi Dadri	50	38	48	39	46	44
6	Haryana	Dharuhera	17	60	35	52	35	33
7	Haryana	Faridabad	21	71	18	74	54	38
8	Haryana	Gurugram	18	74	26	66	33	59
9	Haryana	Jind	24	60	39	44	33	40
10	Haryana	Karnal	54	33	53	33	57	21
11	Haryana	Mandikhera	87	2	79	6	66	9
12	Haryana	Manesar	32	56	33	56	46	27
13	Haryana	Narnaul	72	16	50	32	48	14
14	Haryana	Palwal	86	1	78	9	70	4
15	Haryana	Panipat	61	15	56	21	56	19
16	Haryana	Rohtak	49	35	30	62	46	44
17	Haryana	Sonipat	46	35	16	55	21	42
18	Rajasthan	Alwar	88	4	76	14	89	1
19	Rajasthan	Bharatpur	0*	0*	28	56	80	12
20	Rajasthan	Bhiwadi	34	54	15	67	44	48
21	Uttar Pradesh	Baghpat	27	45	25	63	54	34
22	Uttar Pradesh	Bulandshahr	33	59	41	48	51	41
23	Uttar Pradesh	Ghaziabad	22	70	19	73	27	65
24	Uttar Pradesh	Greater Noida	21	71	6	86	28	64
25	Uttar Pradesh	Hapur	58	28	30	57	43	47
26	Uttar Pradesh	Khurja	50	37	72	11	53	32

27	Uttar Pradesh	Meerut	33	57	21	71	44	48
28	Uttar Pradesh	Muzaffarnagar	29	58	15	57	43	48
29	Uttar Pradesh	Noida	25	67	18	74	29	63

* Monitoring station was not available at Bharatpur in 2022.

NB:

- Good-days (AQI \leq 200) = Days under Good, Satisfactory and Moderate category.
- Bad-days (AQI $>$ 200) = Days under Poor, Very Poor and Severe category.

Defined AQI categories:

AQI Category	AQI value
Good	0-50
Satisfactory	51-100
Moderate	101-200
Poor	201-300
Very Poor	301-400
Severe	401-500

Steps taken by the Government for abatement of Air Pollution in Delhi NCR:**1. Air Quality Monitoring and Network:**

- Ambient Air Quality Network: The country has a network of 1524 ambient air quality monitoring stations (558 continuous and 966 manual) covering 550 cities in the country including Delhi and NCR cities.
- A centralized air quality monitoring portal is operated by CPCB wherein, tracking of various information such as hourly PM concentrations, Live Air Quality Data of Monitoring stations and Live Air Quality Index is being carried out.
- Daily AQI Bulletin is published on CPCB website as well as social media platforms giving AQI information for cities across India. Various campaigns as well as informative posts related to air pollution, firecrackers, vehicular pollution, stubble burning, sustainable lifestyle, etc. are also posted regularly on social media platforms.
- CPCB issues a daily report comprising of AQI of Delhi and NCR towns, comparative AQI status, year-wise trends of PM concentration, hotspots for the day, stubble burning cases, contribution of stubble burning and meteorological forecast. This report is prepared based on the inputs available from various sources such as India Meteorological Department (IMD), System of Air Quality and Weather Forecasting And Research (SAFAR), Indian Agricultural Research Institute (IARI) etc., and disseminated through CPCB website.

2. Regulatory Actions in Delhi-NCR:

- Graded Response Action Plan (GRAP) was formulated for Delhi-NCR to tackle the issue of sudden rise in air pollution levels which was notified by MoEF&CC in January 2017 on recommendation of CPCB for implementation. A comprehensive review of actions listed under GRAP was carried out by CPCB in 2020 based on actions taken and improvement observed in air quality in recent years. Based on the inputs given by CPCB, the revised GRAP was published by CAQM and further directions were issued for its implementation. Actions listed for different AQI levels under GRAP are invoked from time to time by a sub-committee constituted by CAQM.
- For air pollution abatement and control in Delhi / NCR, the Commission for Air Quality Management in NCR and Adjoining Areas has devised a comprehensive policy for air pollution abatement in NCR in July 2022, stipulating sector-specific action points quantifying targets along with timelines and implementation plan by various agencies in NCR States. The policy framework details sector-wise interventions, quantified targets and timelines for various sectors contributing to air pollution.
- Directions prescribing measures for control of pollution from various sources such as implementation of RECD system/ dual fuel kits in DG sets, use of cleaner fuels in industries, shift to EV/ CNG/ BS VI diesel fuel in transport sector, implementation of dust control measures at C&D sites etc., have been issued by CAQM. Further, policy to curb air pollution in NCR has also been formulated.

3. Measures for control of emissions from Stubble Burning in Delhi-NCR:

- Ministry of Agriculture & Farmers Welfare (MoA&FW) in 2018 launched scheme for providing subsidy for purchase of crop residue management machinery and establishment of custom hiring centres (CHCs) in NCT of Delhi and the States of Punjab, Haryana and Uttar Pradesh for in-situ management of paddy straw. During the period from 2018-19 to 2024-25 (till 29.01.2025), a total of Rs. 3698.45 crores have been released (Punjab - Rs. 1756.45 crores, Haryana - Rs. 1081.71 crores, Uttar Pradesh - Rs. 763.67 crores, NCT of Delhi - Rs. 6.05 Crores and ICAR-Rs. 83.35 crores). The states have distributed more than 3.00 lakh machines to the individual farmers and to more than 40000 CHCs in these 4 States, which also include more than

4500 Balers & Rakes which are used for collection of straw in the form of bales for further ex-situ utilization. MoA&FW in 2023 revised guidelines under the scheme to support establishment of crop residue/paddy straw supply chain, by providing financial assistance on the capital cost of machinery and equipment.

- CPCB has framed guidelines for providing one-time financial assistance for setting up of paddy straw based pelletisation and Torrefaction plants which may help in addressing the supply chain issues and the issue of open burning of paddy straw in agriculture fields in Northern Region. A maximum amount of Rs. 28 lakhs or 40% of the capital cost considered for plant and machinery of a 1 TPH pelletisation plant, whichever is lower, shall be given as onetime financial support by CPCB, subject to a maximum total financial support of Rs. 1.4 crore per proposal. Similarly, a maximum amount of Rs. 56 lakhs or 40% of the capital cost considered for plant and machinery of a 1 TPH torrefaction plant, whichever is lower, shall be given as onetime financial support by CPCB, subject to a maximum total financial support of Rs. 2.8 crore per proposal. CPCB has sanctioned Rs.14.5 crore for 15 applications. Total capacity of 15 sanctioned plants are 57.5 TPH (2.07 lakh tonne pellet/ annum and 2.70 lakh paddy straw/ annum).
- Based on the deliberations and discussions held in series of meetings with the State Governments of Punjab, Haryana, UP, Rajasthan, Government of NCT of Delhi, State Pollution Control Boards of NCR States and Delhi Pollution Control Committee (DPCC) and various other stakeholders viz. ISRO, ICAR, Indian Agricultural Research Institute (IARI), CAQM has provided a Framework to the states concerned for control / elimination of crop residue burning and directed these to draw up detailed state-specific action plans based on the major contours of the framework.
- An Inter-Ministerial Committee has been constituted under the chairmanship of Special Secretary, MoAFW for convergence of scheme of Schemes/Initiatives supporting Ex-situ management of paddy straw.
- CAQM has issued directions permitting use of PNG or biomass as industrial fuel in NCR except Delhi where only PNG is permitted as industrial fuel. CAQM has also issued directions for co-firing of 5-10% biomass with coal in thermal power plants located within 300 kms of Delhi, and, in captive power plants of industrial units located in NCR.
- Directions issued by CAQM to State governments of Punjab, Haryana and Uttar Pradesh to strictly and effectively implement revised action plan to eliminate and control stubble burning.
- Based on the framework advised by CAQM through Direction dated 10.06.2021 to the concerned State Governments of Punjab, Haryana, Uttar Pradesh, Rajasthan and Government of NCT of Delhi to prepare state specific detailed, monitorable action plans based on learnings from the years 2021, 2022 and 2023. Action plans were reviewed, updated and finalised by the all concerned State Governments for the year 2024. Accordingly, a statutory direction for strict implementation of the framework and revised action plan for prevention and control of paddy stubble burning during the year 2024, to eliminate the practice through strict enforcement was issued to the respective States on 12.04.2024.
- During stubble burning season of 2023 (10.11.23 onwards), 33 scientists of CPCB were deployed as flying squads for assisting CAQM in NCR and adjoining areas for intensifying monitoring and enforcement actions towards prevention of paddy stubble burning incidents in 22 districts of Punjab and 11 districts of Haryana. The flying squads coordinated with state govt/nodal officers//officers from respective districts and sent their daily report to CAQM.

- CPCB has deployed 26 teams (in 16 districts of Punjab and 10 districts of Haryana) for the period 01st October - 30th November, 2024 to intensify monitoring and enforcement actions regarding stubble burning. These teams are coordinating with concerned authorities/ officers deployed at the district level by the State Govt. and reporting to CAQM.
- MoA&FW had deputed 31 Central Teams, which have conducted Quality Survey work w.e.f. 1-15th September, 2024 in the States of Punjab, Haryana and Uttar Pradesh and the Teams had visited 275 manufacturers and conducted quality audit of 910 agricultural machines. Further, 10 Central Teams have conducted survey on utilization of machines in States of Punjab and Haryana during 15th October-31st October 2024. A Team comprising members from DA&FW, CAQM and ICAR and other stakeholders had visited to the State of Punjab to witness the activities of paddy straw management on 14th November, 2024.

4. Measures for control of vehicular emissions:

- Directions issued by CAQM to Government of NCT of Delhi and State Governments of Haryana, Rajasthan and Uttar Pradesh for migration of public transport services, especially buses in NCR to cleaner modes. All state govt. bus services between Delhi and any city/town in the states of Haryana, Rajasthan and Uttar Pradesh to be operated only through EV /CNG/BS-VI diesel w.e.f. 01.11.2023.
- Installation of VRS system at 3256 petrol pumps in Delhi-NCR in compliance with orders of Hon'ble Supreme Court and Hon'ble NGT.

5. Measures for control of industrial emission:

- Installation of Online Continuous Emission Monitoring System (OCEMS) in red category air polluting industries in Delhi-NCR
- Industrial units in Delhi have shifted to PNG/cleaner fuels and, operational units in NCR have shifted to PNG/Biomass.
- Directions issued for conversion of brick kilns to zig-zag technology in Delhi and NCR. A total of 3003 out of 4608 brick kilns have converted to zig-zag technology including 1762 kilns in Haryana, 1024 kilns in U.P. and 217 kilns in Rajasthan. Brick kilns not converted to zig-zag technology are not permitted to operate.
- In order to control DG set emissions, CPCB also provides funds for retrofitment/ upgradation of DG sets in Govt. hospitals in Delhi-NCR and guidelines have been issued in this regard.
- Ban on use of pet coke and furnace oil as fuel in NCR States since October 24, 2017.
- An approved fuel list is in force in Delhi-NCR w.e.f. 01.01.2023. Industries operating on only PNG or biomass are permitted in NCR, except for specific requirement of other fuels by specific industries owing to technical, technological and process requirements. Out of 7759 fuel based industries in NCR, 7449 have been shifted to approved fuels, with the balance 310 industries under closure.
- Stringent PM emission norms for biomass based boilers have been prescribed for compliance in NCR.

6. Construction & Demolition (C&D) Waste:

- Directions issued to DPCC and NCR SPCBs to enforce installation of anti-smog guns and other dust control measures at C&D sites.
- Directions issued for setting up of a "Dust Control and Management Cell" by road owning/ maintaining/ construction agencies for monitoring and effective implementation of dust control measures in the NCR.
- Online monitoring mechanism (through web portal) introduced for monitoring compliance of dust mitigation measures for construction sites.

7. Close Monitoring & Ground level implementation in Delhi-NCR:

- 40 teams have been deputed by CPCB since December 2021, to assist CAQM, for conducting incognito inspections of air polluting industries, C&D sites, DG sets in Delhi-NCR to check implementation status of pollution control measures and compliance of other provisions of the Air (P&CP) Act,1981. A total of 18976 units/entities/ projects have been inspected as on Nov 08, 2024.

8. National Clean Air Programme:

- National Clean Air Programme (NCAP) has been launched by Ministry of Environment, Forest and Climate Change (MoEFCC) in January 2019 with an aim to improve air quality in 130 cities (non-attainment cities and Million Plus Cities) in 24 States by engaging all stakeholders.
- There are total 06 Non-attainment cities (NACs) in Delhi NCR, out of which 03 cities – Delhi, Alwar and Noida are funded under National Clean Air Programme (NCAP) and 03 cities- Ghaziabad, Meerut and Faridabad are funded under Fifteenth Finance Commission (XV-FC).
- City Action Plans for improvement in air quality have been rolled out for implementation in all the 06 identified cities.
- During 2019-20 to 2024-25, a total budget of Rs 476.04 Crore has been released for Delhi NCR cities, out of which Rs, 339.16 Crore (71%) have been utilized. A budget of Rs 42.69 Crore has been released for Delhi during the said period, out of which Rs. 13.56 Crore (32%) have been utilized.

9. Others:

- CPCB is providing gap funding support to Delhi-NCR ULBs for Construction/ repair of roads, Procurement of anti-smog guns, Mechanical road sweepers and MSW collection vehicles. Details of the projects sanctioned is given below:

Total projects worth Rs. 116.8 crores sanctioned.

S. No.	ULB/Agency	Work/Purpose	Sanctioned Amount
1	Ghaziabad Municipal Corporation (GMC)	8 road projects	13.37 crore
2	Meerut Municipal Corporation (MMC)	13.38 km (17 roads) road construction/repair work	19.4 crore
3	Municipal Corporation Faridabad (MCF)	16 km road construction and 2.5 km paving works	27.1 crore
4	Municipal Corporation of Delhi	18 road construction/paving works	4.93 crore
Road construction/repair and paving works from 04 agencies			64.8 crore
1	UPPCB	16 MRSMs and 10 ASGs	13.13 crore
2	Ghaziabad Municipal Corporation	1 MRSM and 10 ASGs	6.5 crore
3	New Okhla Industrial Development Authority (NOIDA Authority)	4 MRSMs and 5 ASGs	5.60 crore
4	Municipal Corporation Faridabad	10 MRSMs and 10 ASGs	8.05 crore
5	New Delhi Municipal Corporation	5 MRSMs	14.3 crore
Procurement of 36 MRSMs and 35 ASGs			47.58 crore

1	Municipal Corporation Alwar	Vehicles for collection of MSW	4.5 crore
Sub-total			4.5 crore
Grand total			116.88 crore

- CPCB has issued guidelines in 2024 for providing gap funding support for implementation of clean air city action plan in 19 NCR cities.
- 2.07 crore trees planted in Delhi-NCR states under the campaign “Ek Ped Maa Ke Naam” (2.06 lakh trees in Delhi, 61 lakh trees in Haryana, 1.11 crore trees in UP and 32.9 lakh trees in Rajasthan).

Annexure-III

Status of fund released and utilized of 6 Delhi NCR cities funded under National Clean Air Programme during the FY 2021-22 to 2023-24

Amount in Rupees (Crore)

Sr. No.	City	Funds released				Funds utilised			
		FY 2021-22	FY 2022-23	FY 2023-24	Total	FY 2021-22	FY 2022-23	FY 2023-24	Total
1	Delhi	11.25	22.5	8.94	42.69	0	7.55	5.05	12.6
2	Noida	6.67	15.28	8.94	30.89	0	0	1.43	1.43
3	Alwar	0	7.66	12.27	19.93	0.04	1.65	5.2	6.89
4	Meerut	13.59	53.6	14.43	81.62	20.67	23.12	67.12	110.91
5	Faridabad	6.25	19.28	0	25.53	6.05	6.16	16.4	28.61
6	Ghaziabad	15.25	0	17.17	32.42	39.79	34.64	58.12	132.55
Total fund released					233.08	Total fund utilised			292.99

Note: Excess utilization of ₹292.99 crore against the released funds of ₹233.08 crore pertains to previous years' fund utilization.
