

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION No. 1313
TO BE ANSWERED ON 14.12.2023

Impact of air pollution on health of citizens and climate change

1313. SHRI NARESH BANSAL

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

- (a) whether Government has conducted any study to assess the impact of growing air pollution on climate change and on health of the citizens in the cities and rural areas of the country;
- (b) if so, the details thereof;
- (c) the steps taken by Government to improve the air quality; and
- (d) whether, in view of the fact that Uttarakhand has a large forest belt which fights pollution, the Ministry has provided any extra benefits to Uttarakhand for the same, if so, the details thereof?

ANSWER

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

- (a) & (b):** Ministry of Environment, Forest and Climate Change has sanctioned Projects to assess impact of air pollution on human health in 20 selected Cities across the country under National Environmental Health Profile Study. National Environmental Health Profile Study is a comprehensive assessment of the environmental factors that can affect public health within a specific region including air pollution which include:
- i. Estimate of mercury levels and exposure for pregnant women and new born babies in selected coastal and South Indian cities
 - ii. Bio-availability of Dioxin like Polychlorinated Biphenyls, Dioxine and Furan released due to combustion of electronic waste
 - iii. Assessment of Air Pollution with Co-beneficial Factors for Tiruchirappalli City.
 - iv. Impact of Traffic Emissions on Health Amongst Adolescents in Delhi.
 - v. Health impact of firecrackers bursting during Diwali in National Capital of Delhi.
 - vi. Air quality impact on respiratory health due to crop residue burning in close proximity to residential areas adversely affect respiratory health.
 - vii. Health effects of chronic exposure to smoke from biomass fuel burning in rural households in Northern and Eastern India.
- No study has been undertaken regarding impact of air pollution on climate change.

(c): “National Clean Air Programme” (NCAP) has been launched in January 2019 which is a long-term, time-bound national level strategy for prevention, control and abatement of air pollution. Under NCAP, it has been envisaged to achieve targets of 20 to 30% reduction in Particulate Matter concentrations by 2024 in 131 cities of 24 States/UTs with respect to base year 2017. Subsequently, the target has been revised to achieve up to 40% reduction or achieve National Ambient Air Quality Standards (NAAQS) in terms PM concentrations by 2025-26. Some of the steps taken by the Government to improve air quality are enclosed at **Annexure-I**.

(d): Under Nagar Van Yojana, MoEF&CC, Uttarakhand State has been sanctioned an amount of Rs.80.5 lakhs for creation of Nagar Van/Nagar Vatikas as urban forests in an area of 20 hectares. Further, an amount of Rs.53.69 crore was released to Uttarakhand for implementation of City Action Plans for improvement of air quality.

Steps taken by the Government to improve air quality

Steps taken for improvement of air quality ACTIONS TAKEN BY THE CENTRAL GOVERNMENT

1.0 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 131 cities (non-attainment cities and Million Plus Cities) in 24 States by engaging all stakeholders.
- NCAP envisages reduction by 20-30% in PM concentration over baseline in year 2017 by 2024. Target has been revised to achieve reduction in PM10 level up to 40% or achievement of national standards (60 µg/m³) by 2025-26.
- City Action Plans (CAPs) have been prepared by all 131 cities and being implemented by Urban Local Bodies.
- The city specific clean air action plans target city specific air polluting sources like Soil & Road Dust, Vehicles, Domestic Fuel, MSW Burning, Construction Material and **Industries**
- Performance based financial support is being provided to these 131 cities for implementation of activities of City Action Plan.
- Further, funding for implementation of CAPs is being mobilised through convergence of resources from various schemes of Central Government such as Swachh Bharat Mission SBM (Urban), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart City Mission, Sustainable Alternative towards Affordable Transportation (SATAT), Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME-II), Nagar Van Yojna, etc. and resources from State/UT Governments and its agencies such as Municipal Corporation, Urban Development authorities and Industrial development authorities etc.
- Public Grievance Redressal Portal (PGRP)/helpline have been developed by all 131 cities to address public complaints of air pollution in timely manner.
- Emergency Response System (ERS/ GRAP) have been developed by all 131 cities for taking action in air emergencies
- 88 cities out of 131 cities have shown improvement in air quality in terms of annual PM10 concentrations in FY 2022-23 with respect to the baseline of FY 2017-18.

2.0 Measures for control of vehicular emissions:

- **Leapfrogging from BS-IV to BS-VI fuel standards** since 1st April, 2018 in NCT of Delhi and from 1st April, 2020 for the rest of the country.
- **RFID (radio-frequency identity)** system implemented by South Delhi Municipal Corporation (SDMC) for collection of toll and Environment Compensation Charges from commercial vehicles entering Delhi.
- Introduction of **BS VI compliant vehicles** across the country since April, 2020.
- Department of Heavy Industry is providing subsidy on e-vehicles under **Faster Adoption and Manufacture of (Hybrid &) Electric Vehicles in India (FAME -II India)** scheme.
- **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.

- Operationalization of Expressways & Highways to divert non-destined traffic

3.0 Measures for control of industrial emission:

- **Notification regarding SO₂ and NO_x emission standards** have been issued for Thermal Power Plants.
- **Ban on use of pet coke and furnace oil** as fuel in NCR States since October 24, 2017 and ban on use of imported pet coke in the country since July 26, 2018, with exception for use in permitted processes.

4.0 Measures for control of emissions from Stubble Burning:

- 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 Centers. In 2022, the Scheme has been merged with Sub-Mission on Agricultural Mechanization (SMAM) and SMAM has been merged with Rashtriya Krishi Vikas Yojana (RKVY).
- The Commission for Air Quality Management in NCR and Adjoining Areas (CAQM) on 17.09.2021 directed the coal-based Thermal Power plants situated up to a radius of 300 Km of Delhi to co-fire biomass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%).
- Coal based captive Thermal Power Plants in NCR and adjoining areas directed to co-fire at least 5% biomass pellets by 30.09.2023 and at least 10% biomass pellets by 31.12.2023.

Actions taken by Central Pollution Control Board (CPCB)

1.0 Air Quality Monitoring and Network

- **National Air Quality Index (AQI)** was launched in 2015. Information is being disseminated to public through daily air quality bulletins.
- **Ambient Air Quality Network:** The country has a network of 1447 ambient air quality monitoring stations (516 continuous and 931 manual) covering 516 cities in 28 states and 7 UTs.
- A **Central Control Room** is operated by Central Pollution Control Board wherein, hour to hour tracking of various information such as **PM concentrations, Live Air Quality Data of Monitoring stations, Live Air Quality Index is available. Further, Air Quality Forecast is also available for Delhi-NCR.**
- AQI is monitored along with other parameters and is published on the website in the form of **AQI Bulletin** after analysis. The links for the same have been made available to CAQM for consideration and deciding on urgent actions for control of pollution in Delhi-NCR.

2.0 Measures for control of vehicular refueling emissions

- Installation of Vapour Recovery System (VRS) in new and existing petrol pumps selling gasoline >100kl per month in million plus cities and those selling >300kl per month in cities with population between 1 lakh to 1 million.
- Directions issued to M/s IOCL, M/s BPCL, M/s HPCL, M/s RIL, M/s Shell and M/s Nayara for installation of VRS as per above mentioned criteria

3.0 Measures for control of industrial emission

- For strengthening monitoring mechanism and effective compliance through self-regulatory mechanism, CPCB directed all 17 categories of highly polluting industries to install OCEMS. There are 4,315 units under 17 categories of industries, out of which 3,734 units have installed OCEMS and closure directions are still in-force for 581 units.
- The Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India notifies industry specific discharge standards under Schedule-I: 'Standards for Emission or Discharge of Environmental Pollutants from various Industries' of Environment Protection Act, 1986. So far, industry specific environmental standards, for 79 industrial sectors (including emission standards for 56 sectors) have been notified. Industrial sectors, for which specific standards are not available, general standards as notified under Schedule-VI of Environment Protection Rules, 1986 shall be applicable.
- 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.
- Shifting of all operational **brick kilns to zig-zag technology** in Delhi and NCR.
- CPCB has come out with System and Procedure for Emission Compliance Testing of Retro-fit Emission Control Devices (RECD) for Diesel Power Generating Set Engines up to Gross Mechanical Power 800 kW.

4.0 Measures for Control of Emissions from Stubble Burning

- 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. During 2018-2022, total fund released to Delhi and other states under the said scheme is Rs. 2440.07 crores using which, over 2 lakh crop residue machineries have been delivered to individual farmers and CHCs, and over 39,000 CHCs have been established.
- CPCB has framed guidelines for providing one-time financial assistance for setting up of paddy straw based pelletization 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. A corpus of Rs. 50 crores have been earmarked for utilisation through the guidelines. A total of 09 plants have been sanctioned so far (7 in Punjab, 1 in Haryana and 1 in UP) and also one proposal approved in-principle.
- CPCB has also issued an addendum to the guidelines under which one-time financial assistance is provided to Municipal Corporations, Municipal Councils and Zilla Parishads of the states of Punjab, Haryana, NCT of Delhi and NCR districts of Uttar Pradesh and Rajasthan, for establishing paddy straw based briquetting plants for use of briquettes for cremation purpose only.
- Directions issued by CAQM to State governments of Punjab, Haryana and Uttar Pradesh to strictly and effectively implement framework and revised action plan to eliminate and control stubble burning.

- From 10.11.2023 onwards, 33 scientists of CPCB were deployed as flying squads for assisting the Commission for Air Quality Management in National Capital Region and Adjoining Areas (CAQM) 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 are coordinating with the state Government/ nodal officers/ officers from respective Pollution Control Boards towards prevention and control of stubble burning in their respective districts and sending their daily reports to CAQM. All teams have been recently recalled in view of paddy harvesting season coming to an end.

5.0 MSW and C&D Waste:

- CPCB published guidelines (available on
 1. Environmental Management of Construction & Demolition (C & D) Wastes' in March, 2017
 2. 'Guidelines on DUST Mitigation Measures in Handling Construction Material & C&D Wastes' in November 2017.
 3. Disposal of legacy waste by bio-mining and bio-remediation to address open burning and landfill fires
- CPCB has issued direction to all SPCBs/ PCCs for deployment of Anti-Smog Gun and implementation of adequate dust mitigation measures at construction projects/ sites having area more than 20,000 sq. meters.
- CPCB has issued directions under Section 5 of E(P) Act to all SPCBs/PCCs for implementation of SWM Rules, 2016 with reference to fire incidents at MSW dumpsites.
- All these guidelines and Directions are available on CPCB website to be implemented by SPCBs/PCCs

6.0 Technical Interventions

- Research projects are being carried out by CPCB in collaboration with premier institutions like IIT, NEERI, etc. under Environment Protection Charge (EPC) funds which provide scientific inputs for taking focused action towards improvement in air quality of Delhi NCR. Based on the results of one such project, advisory has been issued to State Boards to use dust suppressant, along with water to control dust at unpaved roads, roads with heavy traffic and construction sites, as about 30% reduction in dust concentration was observed up to 6 hours after application of dust suppressant.
- 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, AFE counts, contribution of stubble burning and meteorological forecast. This report is prepared based on the inputs available from various sources such as IMD, SAFAR, IARI, etc., and disseminated through CPCB website.

7.0 Close Monitoring & Ground level implementation

- Central Pollution Control Board has been continuously deploying dedicated CPCB's teams on the field during the winter season from 2017 onwards to check on-ground scenario of air pollution related activities and refer these to implementing agencies for necessary action.
- 03.12.2021 onwards 40 officers of CPCB have been deployed as flying squads, for conducting incognito inspection of industries, construction sites etc. in various areas of Delhi NCR. Based on CPCB reports, further action is taken by Commission on Air

Quality Management in National Capital Region and Adjoining areas (CAQM) including issuance of closure directions.

8.0 Regular Stakeholder Consultation, Public & Media Outreach

- Continuous interactions and coordination with government bodies, public agencies, urban local bodies for assessment of mitigation measures and to combat air pollution through review meetings for air quality management in Delhi-NCR. 41 review meetings convened as on date.
- Twitter and Facebook accounts have been created for public outreach and complaint redressal is closely monitoring the complaints on SAMEER app and social media platforms (Twitter & Facebook). Sameer and social media complaints are resolved through enforcement agencies and redressal status are being shared with respective agencies.
- Dedicated media corner on CPCB website informs latest developments and actions taken.

9.0 Regulatory Actions

- 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, wherein CPCB is also a member and provided technical inputs to CAQM. Further, policy to curb air pollution in NCR has also been formulated.
- **Graded Response Action Plan (GRAP) was prepared for implementation under different Air Quality Index (AQI) categories** in pursuant to the Hon'ble Supreme Court's Order dated December 02, 2016.
- CPCB prepared a revised GRAP, based on which, a revised GRAP has been published by CAQM on 05.08.2022, which has come into effect from 01.10.2022. GRAP revised again on 06.10.2023. CPCB is also a member of the sub-committee responsible for invoking various provisions under GRAP.

10.0 Other actions

- In order to control road dust emissions, CPCB is funding NCR ULBs for construction/ repair of roads and procurement of anti-smog guns and Mechanical road sweepers under EPC funds,
- In order to control DG set emissions, CPCB is funding retrofit/ upgradation of DG sets in Govt. hospitals in Delhi-NCR under EPC funds.
