सत्यमेव जयते

Air Pollution Challenges in Delhi NCR, India and Actions Taken

11.03.2025

At ADB, Manila

COMMISSION FOR AIR QUALITY MANAGEMENT IN NATIONAL CAPITAL REGION AND ADJOINING AREAS

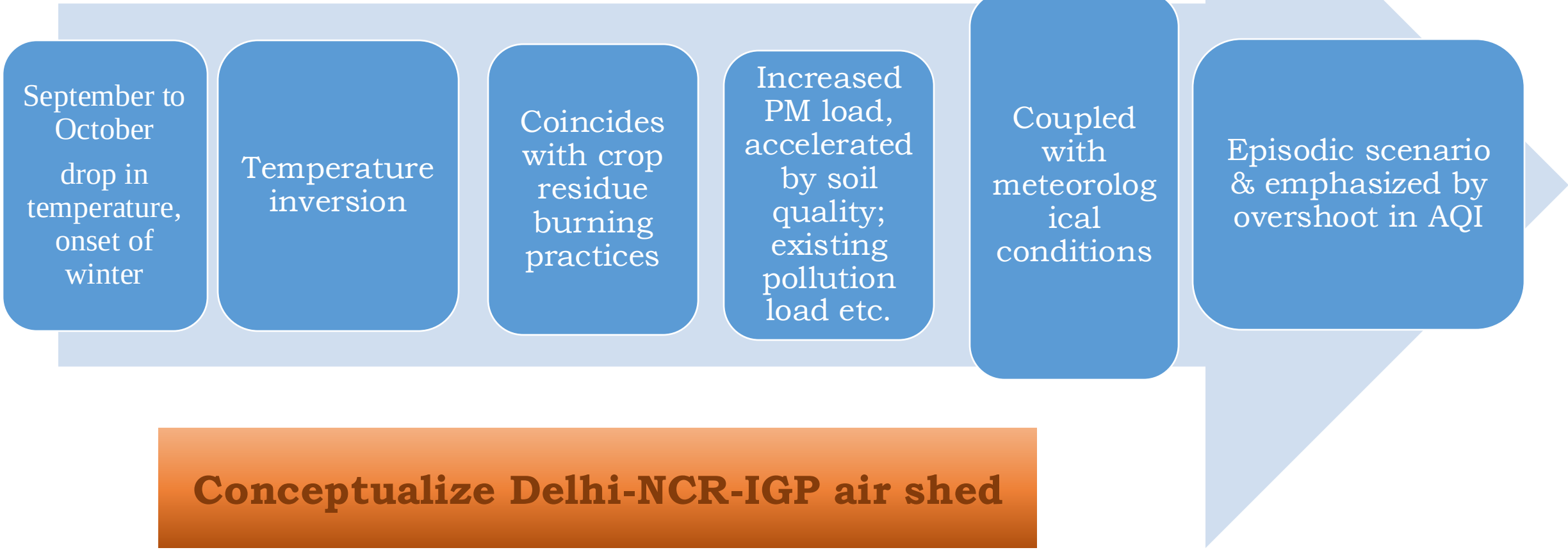
Perspective

The India	• Vast geological structure where northern part is guarded by the Himalayas of Hindu Kush Region (HKR), rich with riverine system with sediment deposit termed Indo-Gangetic Plain (IGP) with high population density along the flood plains.
MoEF&CC	• MoEF&CC Nodal in the administrative structure of the Government of India for the planning, promotion, co-ordination and overseeing the Environment including the air pollution through its policy under Environment (Protection) Act, 1986
Air Pollution & mitigation approach	• Air pollution-one of the biggest environmental challenge and health concern, associated with multiple sectors with impacts away from the source. • Need for regional-level initiatives through inter-state and inter-city coordination with appropriate policy intervention.

National Clean Air Programme (NCAP)

- **Aims to improve air quality**
  - 130 Non-attainment and Million Plus Cities in 28 States/8 UTs
  - Up to 40% reduction in Particulate Matter (PM) or National Air Quality Standards by 2025-26 against the baseline of 2019-20
- National, State & City level Action plans for mitigation of sources *viz.* Municipal Solid Waste & Biomass Burning, Road Dust, Construction & Demolition activities, Vehicular Emissions, Industrial Emissions through
  - Convergence of schemes of line Ministries (SBM 2.0, Smart City, SATAT, UJJWALA, AMRUT, FAME-II, PM e-BUS Sewa, Nagar Van Yojana) –
  - Resources of States and Urban Local Bodies
  - Performance based incentive grant to cities for funding the critical gap
- City-wise Annual Air Pollution Reduction Targets against the baseline of 2019-20

How problem of Air Pollution is different in the Delhi-NCR and Adjoining Area



Conceptualize Delhi-NCR-IGP air shed

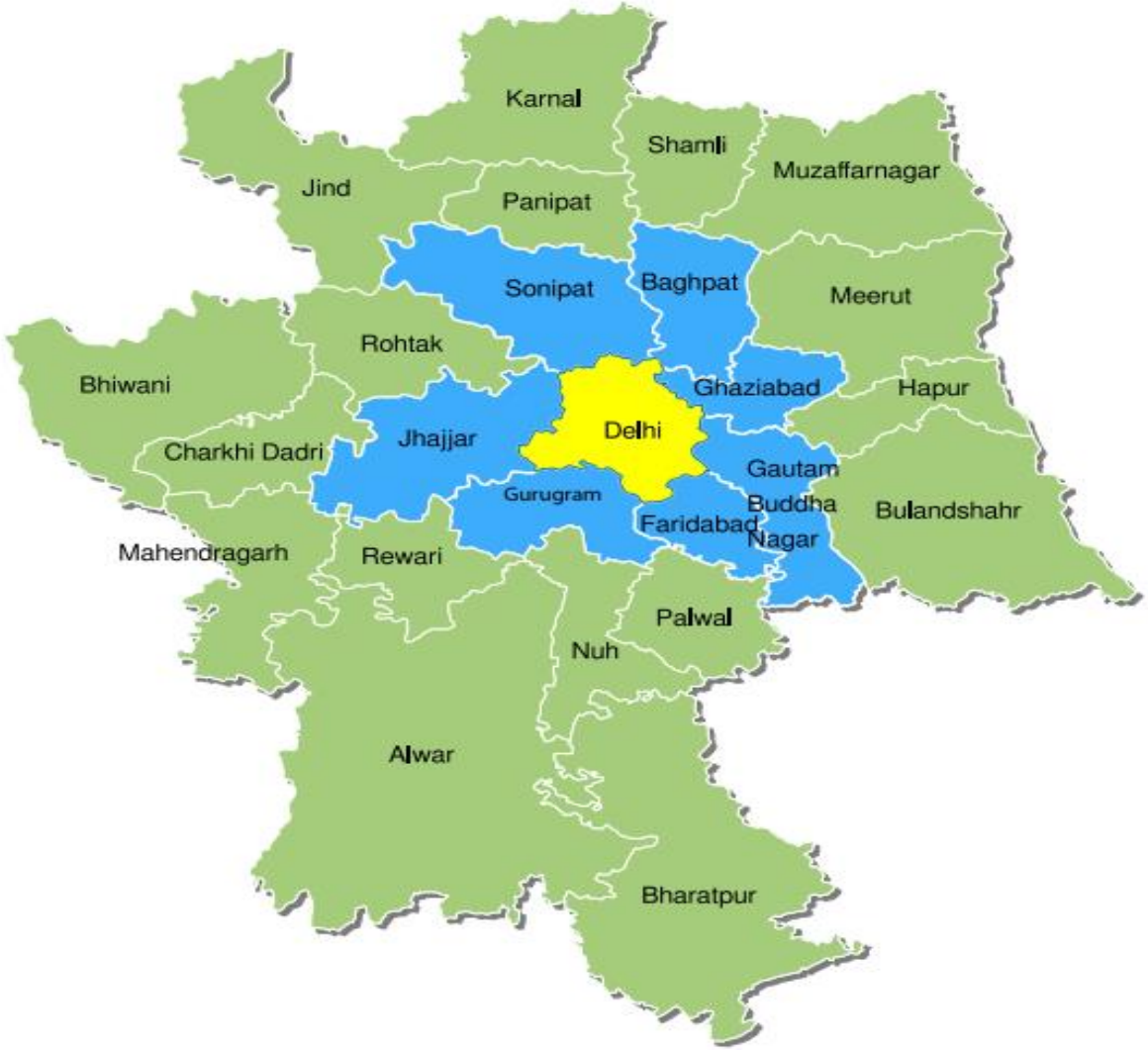
CAQM an Apex Statutory body constituted created in 2021 through an Act of Parliament for better coordination, research, identification and resolution of problems related to Air Pollution in the NCR Region

BROAD MANDATE

- **Coordination of actions** by different state govts.
- **Planning and execution of programs** for prevention, control and abatement of air pollution.
- **Laying down parameters** for air quality and for emission of pollutants.
- Restrictions in operations or processes related to industries, C&D etc. having bearing on air quality
- **Investigation, Evidence building, R&D and Knowledge.**
- **Statutory Directions** to authorities or persons for control of air pollution.
- Air Quality Management through "Policy to Curb Air Pollution in the National Capital Region" **devised in 2022**

AIR QUALITY:
Area of CONCERN

- Entire Indo Gangetic Plain is susceptible to poor air quality conditions owing to geographical, topographical, climatic conditions and high level of anthropogenic activities.
- Metropolitan cities and dense urban agglomerates developing into air pollution hotspots.



National Capital Region and Adjoining Areas

CAQM & Stakeholders

- Central Government Ministries/Niti Ayog/ Organisation
- State Government Departments/Organisations (Agriculture, Environment, Power, Transport ULBs etc.)
- Pollution Control Boards/Committees

CAQM-Nodal

Knowledge institutions (ISRO, IARI, IITs etc.)

Civil Societies, RWAs, Think tanks, NGOs, Industry Associations etc.

CAQM's efforts based on Multisectoral "Airshed approach"

Policy Intervention

Task assigned through mandates

Public, stakeholder opinions invited & formation of Expert Group

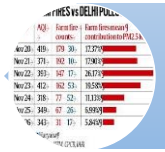
Review of existing policy, scientific data and strategy of Central & State Govt. etc.

Formulated

Policy to curb Air Pollution in The National Capital Region" in 2022

Implementation strategy with year-to-year progress review

Actions in priority areas



Strengthening Air quality monitoring & source apportionment

Revised Graded Response Action Plan (GRAP)

Vehicular Pollution

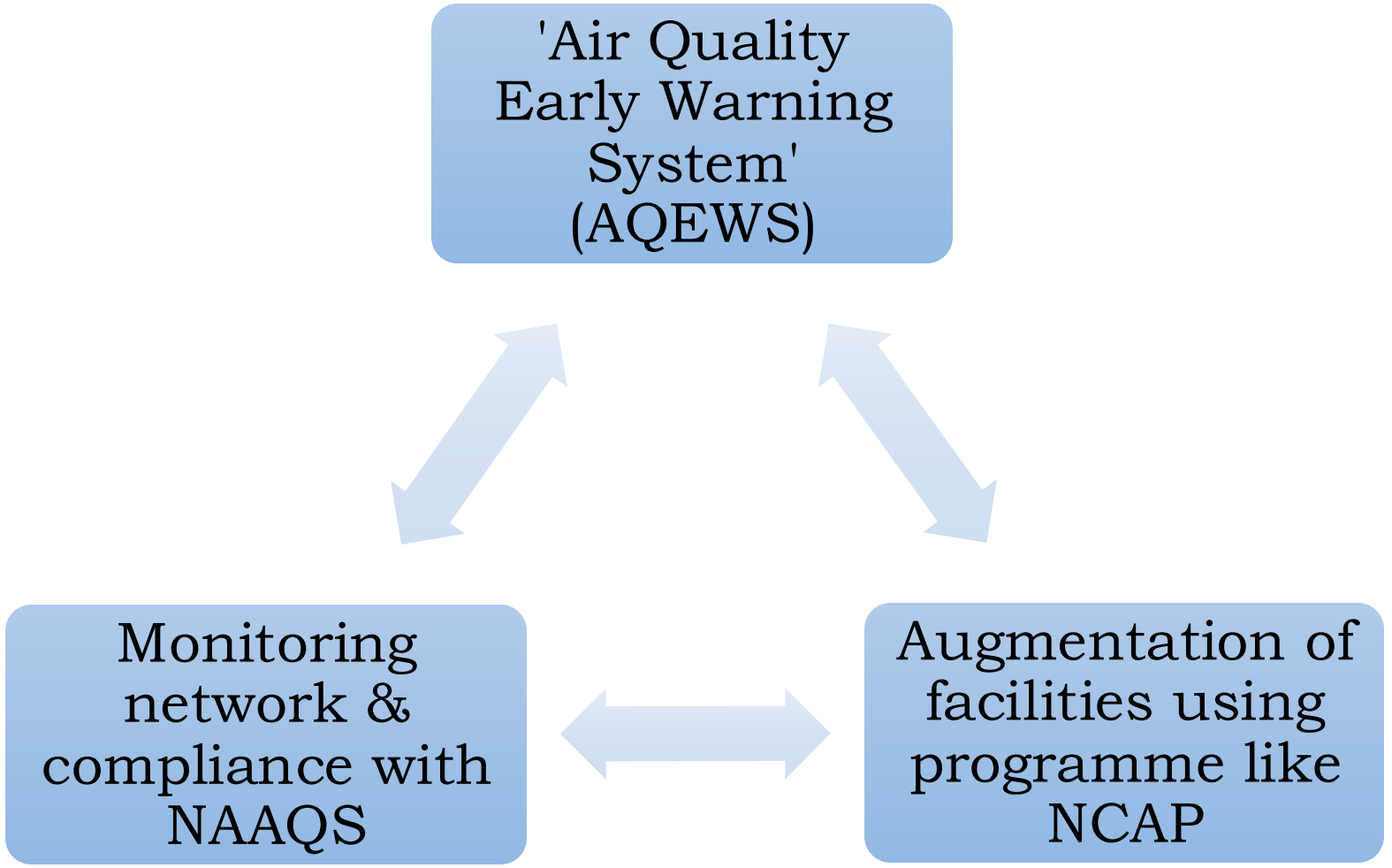
Industrial Pollution

Open Biomass Burning & Agricultural Stubble Burning

Dust from C&D Project activities, Road and open area and greening

Enforcement

Strengthening Air quality monitoring framework



Graded Response Action Plan - for the Delhi NCR (Notified)

Stages

- Classified 4 stages : .
- **Stage – I 'Poor'** (AQI 201 – 300), **Stage – II 'Very Poor** (AQI 301-400),
- **Stage – III 'Severe'** (AQI 401-450) and **Stage – IV 'Severe +'** (AQI >450).

Forecast

- Invoked Stages I, II, III and IV of the GRAP, based on the dynamic meteorological condition and AQI forecast on a day-to-day basis

Measures

- Measures adopted in advance, before AQI of Delhi reaching to the projected range of that stage, also considering whether the higher projected AQI are likely to sustain for longer period.

Monitoring

- Dedicated GRAP monitoring Control Room : to monitor and ensure actions and resolution of issues.

Vehicular Pollution – change in motion

In Delhi

- Emphasizing Cleaner Public transport & last-mile connectivity with metro.
- Already integrated approximately 25% electric buses of the city's fleet.
- Induction of over 8,000 zero-emission electric buses also targeted.

Action

- Time bound phasing out of End of Life (EoL) vehicle under stringent monitoring

Action

- 87 % of buses plying to Delhi from NCR and 66% buses plying from 6 adjoining states replaced with EV/CNG/BS-VI,
- Balance replacement already targeted.

Scope

- Other mid to long term initiatives are under evaluation based on learnings and global practices.

Industrial Pollution

Gap Bridging

- Mandating standard list of fuels, to optimally balance operations vis-à-vis type of fuel in terms of its bearing on the air quality.
- Modification of emission standards w.r.t. fuel to be used

Implementation

- 95% of identified industries in Delhi NCR, adopted approved fuel
- Optimized expansion of PNG/NG facilities to industrial areas
- Adoption of ECDs Retro-fitment or upgradation of DG sets to meet new norms

Upscaling facilities

- Facilitating Common Boilers for Industrial Clusters of NCR are in pipeline to reduce emission load.

Open Biomass Burning & Agricultural Stubble Burning

In-situ	• In-situ crop residue management using CRM machinery in conjunction with Bio-decomposer etc.
Ex-situ	• Crop residue management through viable supply chain and key uses in Industrial Boilers, Furnaces, WtE Plants, TPPs, brick kilns, CBG plants etc.
Co-firing	• Co-firing of biomass/ agro wastes based pellets (@5% of coal) by TPPs (located within 300 Km of Delhi) successfully achieved up to 44% of the target given in a year.
Impact	• A reduction in stubble burning has been observed up to 85 % in Punjab and 80% in Haryana during the active season in 2024, compared to 2021

Dust from C&D Project activities, Road and open area

Measures	• Strictly ensuring measures for controlling dust from project sites on size ≤ 500 > sq.m.
Monitoring	• Adopted multi-agency based Dust Control & Monitoring Cell for ensuring management of C&D sites and Road dust
Planning	• Nine major cities from NCR states have been instructed to prepare a district action plan for development/ redevelopment of all roads
Greening	• Specialized year wise close monitoring of greening

Enforcement:

Comprehensive policy formulation

Provide immediate resolution to indicative road map towards resolution of the air pollution in NCR

Specific guidance and directions for various actions

Statutory Directives	Advisories, Guidelines & Framework

Monitoring & Implementation

Regular inspection and action taken	Incognito inspection

Progress so far…..

Average AQI reduction in %	From 2018 to 2024 -7%
Increase in No. of days (in %) with AQI ≤ 200 (Good to Moderate)	From 2018 to 2024- 24%
Reduction in No. of days (in %) with AQI 201 to > 400 (Poor to Severe+)	from 2018 to 2024 -24%
Long term resolution	Mid to long-term action plans are in pipeline / at different stages of formulations/ implementation for comprehensive address of the issue.

THANK YOU