

India's Progress Under NCAP

Source: DTE

India achieved a 26.84% reduction in nationwide <u>Particulate Matter (PM)</u> levels from 2019 to 2024, with <u>National Clean Air Programme (NCAP)</u> cities showing a **24.45%** improvement due to targeted interventions.

- **Top Performers: Varanasi** led with a 76.4% reduction in pollution, followed by **Moradabad** (58%) and **Kanpur** (51.2%).
 - Among the major cities, Kolkata saw a 21.5% reduction in pollution, driven by stricter industrial regulations and improved public transport.
 - Southern and western cities, like Bengaluru (8%) and Chennai (9.2%), steadily reduced pollution levels.
- Challenges: Cities like Delhi (PM 2.5 at 107 μg/m³) and Byrnihat in Assam (PM 2.5 at 127.3 μg/m³) remain the most polluted cities.
 - Cities like Gurugram, Faridabad, and Ghaziabad require urgent interventions.
- **Key Contributors:** Industrial emissions, vehicular pollution, and <u>stubble burning</u> exacerbate pollution in northern states.
- NCAP: Launched in January 2019 by the Ministry of Environment, Forest and Climate Change (MoEFCC), aims to reduce PM10 and PM2.5 levels by 20% by 2024-25, with 2017 as the baseline.
 - The target has been revised to 40% reduction in PM10 levels or meeting national standards (60 μg/m³) by 2025-26.

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Air Pollutants

Sulphur Dioxide (SO₂)





It comes from the consumption of fossil fuels (oil, coal and natural gas). Reacts with water to form acid rain.

Impact: Causes respiratory problems.

Ozone (O₃)





Secondary pollutant formed from other pollutants (NOx and VOC) under the action of the sun.

Impact: Irritation of the eye and respiratory mucous membranes, asthma attacks.

Nitrogen Dioxide (NO₂)







Emissions from road transport, industry and energy production sectors. Contributes to Ozone and PM formation.

Impact: Chronic lung disease.

Carbon Monoxide (CO)







It is a product of the incomplete combustion of carbon-containing compounds.

Impact: Fatigue, confusion, and dizziness due to inadequate oxygen delivery to the brain.

Ammonia (NH₃)







Produced by the metabolism of amino acids and other compounds which contain nitrogen.

Impact: Immediate burning of the eyes, nose, throat and respiratory tract and can result in blindness, lung damage.

Lead (Pb)





Released as a waste product from extraction of metals such as silver, platinum, and iron from their respective ores.

Impact: Anemia, weakness, and kidney and brain damage.

Particulate Matter (PM)







PM10: Inhalable particles, with diameters that are generally 10 micrometers and smaller.

PM2.5: Fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller.

Source: Emitted from construction sites, unpaved roads, fields, fires.

Impact: Irregular heartbeat, aggravated asthma, decreased lung function.

Note: These major air pollutants are included in the Air quality index for which short-term National Ambient Air Quality Standards are prescribed.





Read more: Advancing Air Pollution Control in India

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