



## Report on Winter Pollution: CSE

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### Why in News

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Recently, the **Centre for Science and Environment (CSE)** reported that the **levels of PM 2.5, worsened in 43 out of 99 cities** whose winter air was compared for two years, 2020 and 2019.

- **PM 2.5** refers to **fine particulate matter smaller than 2.5 micrometers** in diameter. It causes respiratory problems and also reduces visibility. It is **an endocrine disruptor** that can affect insulin secretion and insulin sensitivity, thus contributing to diabetes.
- **CSE** is a public interest research and advocacy organisation based in New Delhi. It researches into, lobbies for and communicates the urgency of development that is both sustainable and equitable.

### Key Points

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- **Findings:**
  - **Worst Performers:**
    - The cities with the worst pollution spikes in 2020 over 2019 include Gurugram, Lucknow, Jaipur, Visakhapatnam, Agra, Navi Mumbai, and Jodhpur. Kolkata is the only mega city in this group.
    - When ranked from the most to the least polluted cities, **23 of the most polluted cities are from north India.**
    - **Ghaziabad is the most polluted city in the northern belt.**
  - **Best Performers:**
    - **Only 19 registered “substantial improvement”** in PM 2.5 levels, one of these was **Chennai.**
    - There are only **four cities** (Satna, Mysuru, Vijaypura and Chikkamagaluru) that have met the **national 24-hour standard (60 µg/m<sup>3</sup>)** during the winter season.
    - **Satna and Maihar** in Madhya Pradesh, and **Mysuru** in Karnataka, are the **cleanest cities** in the country.
  - **Seasonal Peak Levels:**
    - In 37 cities that are otherwise showing stable or declining seasonal averages, their peak pollution levels have **risen significantly during winter.**  
These include Aurangabad, Indore, Nashik, Jabalpur, Rupnagar, Bhopal, Dewas, Kochi, and Kozhikode.
    - In North India, other cities, including **Delhi, have experienced the reverse**, that is, an increase in the seasonal average but decline in the seasonal peak.
- **Causes of Spike in Winter Pollution:**
  - **Lockdown and Regional Factors:** In the aftermath of the lockdown, several cities reported improved pollution levels but by winter, when lockdowns were significantly eased, pollution levels had clawed back to pre-**Covid-19** levels.  
This underlines the significant **contribution of local and regional factors** to a city’s pollution levels.
  - **Calm Weather:** During winter, cool and calm weather traps and spikes daily pollution, particularly in north Indian cities located in the Indo Gangetic Plain.
    - In 2020, the average level of PM 2.5 during the summer and monsoon months was considerably lower than the previous year due to the summer lockdown.
    - However, the winter PM 2.5 concentration has risen compared to the 2019 winter in many cities across regions.

- **Basis of Analysis:**
  - **Data from Pollution Control Board:** The analysis is **part of the air pollution tracker initiative** of CSE. It's based on publicly available granular real time data from the **Central Pollution Control Board (CPCB)**.
  - **CAAQMS Data:** The data is captured from 248 official stations under the **Continuous Ambient Air Quality Monitoring System (CAAQMS)** spread across 115 cities in 22 States and Union Territories.
    - **CAAQMS facilitates in measuring a real time monitoring of Air Pollution**, including particulate matter, all round the year.
    - It also **displays digitally, other vital statistics of weather**, to include wind speed, direction, ambient temperature, relative humidity, solar radiation, barometric pressure and rain gauge.
- **Significance:**
  - Emphasised that **rather than mega cities, it was the smaller and upcoming cities** that were emerging as **pollution hotspots**.
  - The report findings call for quicker reforms and **action in key sectors of pollution** - vehicles, industry, power plants and waste management to control winter pollution and bend the annual air pollution curve.
- **Initiatives to Control Air Pollution:**
  - **The Commission for Air Quality Management in National Capital Region (NCR) and Adjoining Areas.**
  - **Bharat Stage (BS) VI norms.**
  - **Dashboard for Monitoring Air Quality.**
  - **National Clean Air Programme.**
  - **National Air Quality Index (AQI).**
  - **Air (Prevention and Control of Pollution) Act, 1981.**
  - **Pradhan Mantri Ujjwala Yojana (PMUY).**

**Source:TH**