

Poor Air Quality in Mumbai

Why in news?

Mumbai's air quality has deteriorated with the Air Quality Index (AQI) being above 200 (poor).

What is the condition of air pollution in Mumbai?

- **Sources-** Vehicular emissions, industrial activities, construction dust, waste burning, and biomass burning.
- *Open waste burning* is the top pollution source identified by the Mumbai Air Pollution Mitigation Plan.
- **Status** - The *AQI Index* indicates that the air pollution level in Mumbai is *unhealthy*.
- Particulate matter level raised 7 times above the recommended level of World Health Organisation (WHO).



Why air quality is deteriorating in Mumbai?

- **Climate change-** Increased warming in *Middle East* and *Arabian Sea* affects the wind patterns and the temperature, humidity, and rainfall over Mumbai and northwest India in all seasons.
- Increase in pre-monsoon heat waves and heavy rain spells during the summer monsoon in addition to the October heat and pollution caused the poor air quality in Mumbai.
- **Prolonged La Nina-** La Nina is a condition in which the sea surface temperatures in the *eastern Pacific Ocean become cooler than normal*.
- **2022** was part of the longest and strongest La Nina events on record that impacted the wind pattern of the city.
- **Temperature inversion-** The cooling of surface air and warming of upper air create a stable vertical variation in air temperature, which inhibits the mixing of air, making the air quality worse.
- **Lack of civic agencies support-** There was *no biomethanation plants* to process the waste and lack of segregation of wastes in slum clusters and non-gated societies contributed to the poor air quality.
- **Outdated regulations-** There was no significant increase in inspections and penalties for waste burning and the city's regulations remain unaltered for 17 years.
- **Coastal location-** Mumbai was considered largely immune to the issue of air pollution, and the associated problems of haze and smog due to its location near the coast.
- But the last 2 years have shown that this geographical advantage no longer offers reliable protection.

What are the consequences of poor air quality?

- **Health impact**- It can cause respiratory problems, cardiovascular diseases, cancer, and premature death. It can also affect the mental health and cognitive abilities of people.
- **Children**- High prevalence of particulate matter 2.5 is associated with low birth weight, anaemia, and acute respiratory infections among children.
- **Pregnancy outcomes**- High levels of air pollution leads to low birth weight (LBW), stillbirth, foetal mortality, premature birth, and birth defects.

Mumbai has witnessed a gradual rise in lung cancer fatalities from 621 in 2009 to 923 in 2021, reflecting a 48.6% increase over 12 years.

What measures were implemented for curbing Mumbai air pollution?

- The Brihanmumbai Municipal Corporation (BMC) issued a set of **guidelines** for the mitigation of air pollution in Mumbai and gave builders and contractors 1 month to acquire sprinklers and fogging machines at construction sites.
- The BMC has imposed a penalty of Rs 20,000 on vehicles like trucks found without proper tonneau covering, having dirty tyres, and spreading dust while carrying *construction debris*.
- Recycled water or water from local sources like lakes, ponds, wells and borewells is to be used for **road washing**.
- The BMC is also in the process of setting up a **command and control centre** to collect data using sensor-based air quality index monitoring devices.
- Many buses will be fitted with **vehicle-mounted filters** for removal of impurities from dust and other particles.
- The Maharashtra Pollution Control Board has issued notices to major companies in Mumbai to **reduce production by 50%** to control rising air pollution.

What lies ahead?

- The need of the hour is decentralised waste management and bio-methanation plants to process the wastes.
- Mumbai also needs a holistic waste management policy and strict penalties to tackle the pollution problem.
- Long term strategies such as implementing emission standards, promoting public transport, enhancing green cover would be the potential solution.

Quick Facts

System of Air Quality and Weather Forecasting (SAFAR)

- A dedicated Air Quality Information Service for Indian Metropolitan Cities to make India self-sufficient in providing frontier research based scientific accredited robust Air Quality Forecasting system.
- **Launched by-** Ministry of Earth Sciences
- **Implementation-** Indian Institute of Tropical Metrology, Pune and Indian Meteorological Department.
- **Aim-** To provide location specific information on air quality in near real time and its forecast 1-3 days in advance for the first time in India.
- **Coverage-** Delhi, Pune, Mumbai, Ahmedabad.

Air Quality Index (AQI)

- AQI is a number used to communicate to the public how polluted the air currently is or how polluted it is forecasted to become.



References

1. [Indian Express- Mumbai is witnessing poor air quality](#)
2. [The Hindu- October heat pollution](#)
3. [SAFAR- About SAFAR](#)

