# 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- **Outdated regulations**- There was no significant increase in inspections and penalties for waste burning and the city's regulations remain unaltered for 17 years.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)

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| • A dedicated Air Quality Information Service for Indian Metropolitan Cites to make India self-sufficient in providing frontier research based scientific accredited robust Air Quality Forecasting system.<br>• **Launched by-** Ministry of Earth Sciences<br>• **Implementation-** Indian Institute of Tropical Metrology, Pune and Indian Meteorological Department.<br>• **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.<br>• **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



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