Improved Air Quality during COVID-19

Part of: GS Prelims and GS-III- Environment

The nationwide lockdown, to prevent COVID-19, has led to minimal air pollution in over 90 cities including Delhi.

- Environmentalists have welcomed the reduction in pollution and have urged the government to treat it as a wake-up call and stop the development at the cost of the environment.

Key Points

- During the lockdown, the government has asked the people to avoid unnecessary travel which has significantly reduced the traffic movement.
- Other factors which have contributed to the improved air quality are shutting down of industries and construction sites and rains.
- According to the centre-run System of Air Quality and Weather Forecasting and Research (SAFAR), the measures against COVID-19 have led to a drop in:
  - PM2.5
    - It is an atmospheric Particulate Matter of diameter of less than 2.5 micrometres, which is around 3% of the diameter of a human hair.
    - 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.
  - Nitrogen Oxide (NOx)
    - NOx pollution is mainly caused due to a high motor vehicle traffic and can increase the risk of respiratory conditions.
- Generally in March, pollution is in the moderate category in the Air Quality Index while currently, it is in the satisfactory or good category.
  - Under the good category, pollution is considered to be at the lowest and the air is believed to be the healthiest to breathe.
- According to the Central Pollution Control Board (CPCB) data:
  - Air quality in the National Capital Territory of Delhi is presently in the good category.
  - Kanpur, which has high pollution levels normally, is in the satisfactory category.
  - 92 other cities with CPCB monitoring centres have recorded minimal air pollution, with the air quality ranging between good and satisfactory.

- Observations and Suggestions:
  - The low AQI and the blue skies prove that air pollution was mostly anthropomorphic (man-made), which can be reduced by conscious efforts.
  - Reducing air pollution by rapidly slowing down the economy is not an ideal way so mindful use of technologies and low-emission alternatives can be opted to minimise the pollution.
  - It was also emphasised that air pollution weakens the lungs so countries like India with higher pollution and lower nutrition levels will be more affected by COVID-19 leading to higher morbidity and deaths.

Air Quality Index
- The AQI is an index for reporting **daily air quality**.
- It focuses on health effects one might experience within a few hours or days after breathing polluted air.
- AQI is **calculated for eight major air pollutants**:
  - **Ground-level ozone**
    - It is also found in the **stratosphere** and **protects from ultraviolet (UV) rays**, while it acts as a **pollutant**.
    - It is not a primary pollutant but a secondary one.
    - Ground-level ozone is not emitted directly into the air but is **created by chemical reactions** between oxides of nitrogen (NOx) and **volatile organic compounds (VOC)** in the **presence of sunlight**.
  - PM10
  - PM2.5
  - Carbon monoxide
  - **Sulfur dioxide**
  - Nitrogen dioxide
  - Ammonia
  - Lead

- **Ground-level ozone and airborne particles** are the two pollutants that pose the **greatest threat**.