



World Air Quality Report 2021

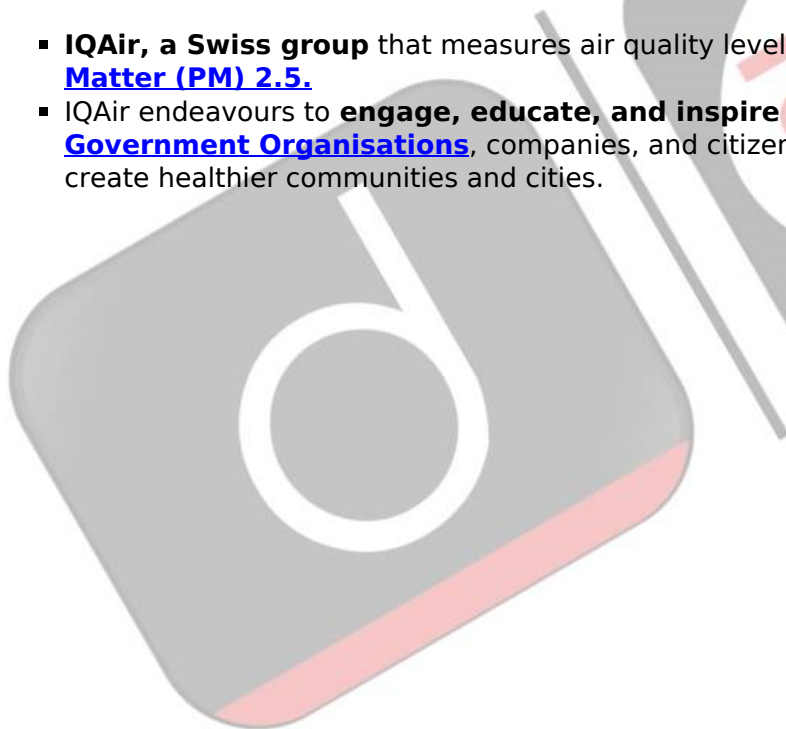
For Prelims: 2021 World Air Quality Report, National Clean Air Program (NCAP), BS-VI Vehicles, Push for Electric Vehicles (EVs), Odd-Even Policy, New Commission for Air Quality Management, Turbo Happy Seeder (THS) Machine.

For Mains: Effects of Air pollution, Environmental Pollution & Degradation.

Why in News?

Recently, the [2021 World Air Quality Report](#) was released, the report presented an overview of the **state of global air quality in 2021**.

- **IQAir, a Swiss group** that measures air quality levels based on the concentration of [Particulate Matter \(PM\) 2.5](#).
- IQAir endeavours to **engage, educate, and inspire governments, researchers, Non-Government Organisations**, companies, and citizens to work together to improve air quality and create healthier communities and cities.



Delhi tops global capital pollution chart again

New Delhi continues to be the world's most polluted capital city for the fourth consecutive year. A look at the report compiled by IQAir

2021 CAPITAL CITY RANKING

Average annual PM2.5 concentration in the year

①	New Delhi, India	85.0
②	Dhaka, Bangladesh	78.1
③	N'Djamena, Chad	77.6
④	Dushanbe, Tajikistan	59.5
⑤	Muscat, Oman	53.9
⑥	Kathmandu, Nepal	50.9
⑦	Manama, Bahrain	49.8
⑧	Baghdad, Iraq	49.7
⑨	Bishkek, Kyrgyzstan	48.3
⑩	Tashkent, Uzbekistan	42.8



No country met WHO air quality guideline for PM2.5, which cut the existing annual guideline value from 10 $\mu\text{g}/\text{m}^3$ to 5 $\mu\text{g}/\text{m}^3$ in 2021

The top five polluted countries in 2021

Only 222 out of 6,475 global cities met updated PM2.5 parameters

93 cities had annual PM2.5 concentrations exceeding **10 times** the WHO norms

Of **1,887** Asian cities, only four met updated PM2.5 norms

46 of 50 most polluted cities in the world are in Central and South Asia | P7

What is the Need for the Report?

- **Air pollution** is now considered to be the **world's largest environmental health threat**, accounting for seven million deaths around the world every year.
- Air pollution causes and **aggravates many diseases, ranging from asthma to cancer, lung illnesses and heart disease.**
- The estimated daily economic cost of air pollution has been figured at **USD 8 billion**, or **3 to 4% of the Gross World Product (GWP)**
 - GWP is the combined Gross Domestic Product (GDP) of all the countries in the world equals the total global GDP.
- Air pollution **affects those that are most vulnerable the most.** It is estimated that in **2021, the deaths of 40,000 children under the age of five were directly linked to PM2.5 air pollution.**
- Further, in this age of **Covid-19**, researchers have found that exposure to **PM2.5 increases both the risk of contracting the virus** and of suffering more severe symptoms when infected, including death.

How is PM 2.5 measured?

- The report is based on PM2.5 air quality data from **6,475 cities in 117 countries, regions and**

territories around the world.

- PM2.5, particulate matter consisting of fine aerosol particles measuring 2.5 microns or smaller in diameter, is **one of six routinely measured criteria air pollutants** and is commonly accepted as the most harmful to human health due to its prevalence in the environment and broad range of health effects.
- PM2.5 is generated from many sources and **can vary in chemical composition and physical characteristics.**
 - Common chemical constituents of **PM2.5 include sulphates, nitrates, black carbon, and ammonium.**
- The **most common human-made sources include** internal combustion engines, power generation, industrial processes, agricultural processes, construction, and residential wood and coal burning.
- The most common natural sources for **PM2.5 are dust storms, sandstorms, and [wildfires](#).**

What is the Indian Scenario?

- India's annual average PM2.5 levels reached **58.1 µg/m³ in 2021**, ending a three-year trend of improving air quality. India's annual PM2.5 averages have now returned to pre-quarantine concentrations measured in 2019.
- India was home to **11 of the 15 most polluted cities in Central and South Asia in 2021.**
- In 2021, Mumbai had recorded **Particulate Matter (PM) 2.5 annual average of 46.4 microgram/cubic metre - nearly nine times above the [World Health Organisation \(WHO\)](#) limit.**

What are Challenges in Front of India?

- Air pollution has a **massive impact on human health in India.**
- It is the **second biggest risk** factor for disease, and the economic cost of air pollution is estimated to exceed **USD 150 billion dollars annually.**
- Major sources of air pollution in India include **vehicular emissions, power generation, industrial waste, biomass combustion for cooking, the construction sector, and episodic events like crop burning.**
- In 2019, India's Ministry of Environment, Forest and Climate Change (MoEF&CC) enacted the **[National Clean Air Program \(NCAP\)](#).**
 - The plan seeks to reduce PM concentrations by **20% to 30% by 2024** in all identified non-attainment cities, increase air quality monitoring, and implement a city, regional, and state-specific clean air action plan as well as conduct source apportionment studies.
- However, the **[lockdowns](#)**, restrictions, and resulting economic downturn due to the **COVID-19 pandemic** have made it difficult to determine the plan's impact based on air pollution levels alone.

What are Initiatives taken by India for Controlling Air Pollution?

- **[System of Air Quality and Weather Forecasting and Research \(SAFAR\) Portal](#)**
- **[Air Quality Index](#)**: AQI has been developed for eight pollutants viz. PM2.5, PM10, Ammonia, Lead, nitrogen oxides, sulphur dioxide, ozone, and carbon monoxide.
- **[Graded Response Action Plan](#)**
- For Reducing Vehicular Pollution:
 - **[BS-VI Vehicles](#),**
 - **[Push for Electric Vehicles \(EVs\)](#),**
 - **[Odd-Even Policy](#)** as an emergency measure
- **[New Commission for Air Quality Management](#)**
- Subsidy to farmers for buying **[Turbo Happy Seeder \(THS\) Machine](#)**

Way Forward

- **Adhering to WHO's 4 Pillar Strategy:** WHO adopted a **resolution (2015)** to address the adverse health effects of air pollution. There is a need to adhere to a roadmap highlighted under this.
 - This **4-pillar strategy calls** for an enhanced global response to the adverse health effects of air pollution. Those **four pillars are:**
 - Expanding the knowledge base
 - Monitoring and reporting
 - Global leadership and coordination
 - Institutional capacity strengthening
- **Addressing Injustice:** There are huge injustices at the heart of the air pollution problem as the Poorer people are also most exposed to air pollution.
 - Thereby, the need to enforce **Polluter Pay principle** and an **environment tax must be levied from industries of polluting in nature.**

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Consider the following: (2011)

1. Carbon dioxide
2. Oxides of Nitrogen
3. Oxides of Sulphur

Which of the above is/are the emission/emissions from coal combustion at thermal power plants?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (d)

Q. Global Financial Stability Report' is prepared by the (2016)

- (a) European Central Bank
- (b) International Monetary Fund
- (c) International Bank for Reconstruction and Development
- (d) Organisation for Economic Cooperation and Development

Ans: (b)

Source: IE

PDF Refernece URL: <https://www.drishtias.com/printpdf/world-air-quality-report-2021>