Tackling India's Air Pollution Crisis for a Sustainable Future

This editorial is based on **"Giving the Urban Indian a better life"** which was published in The Hindu on 06/11/2023. It argues that India needs a comprehensive urban policy framework that can address the challenges of rapid urbanization, such as housing, infrastructure, environment, governance, and social inclusion. It also suggests some possible solutions.

For Prelims: **World Air Quality Report,** PM2.5, **Chronic obstructive pulmonary disease (COPD)**, Gray infrastructure, Jawaharlal Nehru National Urban Renewal Mission, **Graded Response Action Plan**

For Mains: Status and Consequences of Air Pollution in India, Reasons behind Air Pollution in India, Measures that can be taken to Control Air Pollution

The focus of this year's World Cities Day, celebrated on 31st October, was on **"Financing Sustainable Urban Future for All."** The aim is to ensure that finances are directed towards addressing the **challenges posed by flawed urbanization, ultimately creating livable and safe cities.** It is alarming to note that air pollution alone is responsible for reducing our life expectancy by more than 10%. This emphasizes the urgent need to tackle this issue and prioritize the well-being of urban populations.

What is the Status of Air Pollution in India?

- According to the **World Air Quality Report by IQAir,** India was the **eighth most polluted** country in the world in 2022, and **Delhi was the most polluted capital city** for the fourth consecutive year.
- The report also found that **39 out of the 50 most polluted cities in the world were in India,** with Bhiwadi and Ghaziabad topping the list.
- The report used **PM2.5** air quality data from over 30,000 ground-based monitors in 131 countries.
    - PM 2.5 refers to fine particulate matter that can cause serious health problems when inhaled.

What are the Consequences of Air Pollution in India?

- **Health Impacts:** Air pollution is a significant cause of death in India, with **about 1.67 million people dying in 2019 due to air pollution**. The pollution-related deaths **accounted for 17.8% of all deaths in the country in 2019.**
    - The health impacts of pollution include **respiratory infections**, lung diseases, **Chronic obstructive pulmonary disease (COPD)**, asthma bronchial infections, **cardiac arrest**, and gastrointestinal problems.
    - Respiratory infections are also the **third or fourth highest mortality factors in India.**

    - Fine particulate air pollution (PM2.5) **shortens an average Indian's** life expectancy **by 5.3 years**, relative to what it would be if the **World Health Organization (WHO)** guideline was met.
- **Economic Impacts:** According to a report by Dalberg Advisors, if India had achieved safe air quality levels in 2019, its GDP **would have increased by USD 95 billion,** or 3%.
    - This is because pollution reduces the productivity, health, and consumer demand of businesses and workers.
    - Pollution-related **economic losses in India were USD 36.8 billion** in 2019, which was **1.36% of the country's gross domestic product.**
    - The economic loss due to pollution varies across states, with the highest in Uttar Pradesh (2.2% of GDP) and Bihar (2% of GDP).
    - These losses could impede India's aspiration to be a USD 5-trillion economy.
- **Inequity:** Poorer households in India are bearing a disproportionate impact from pollution caused by others. **Low-income groups**, despite not producing a lot of air pollution directly because they don't consume much, are facing a disproportionate impact of air pollution from other sources.
- **Environmental impacts:** Pollution takes many forms in India, including the use of poorly ventilated stoves and open fires for cooking inside dwellings. India is the **world's 8th most polluted country,** and fine particulate air pollution (PM2.5) is the greatest threat to human health in India. **39 of the 50 most polluted cities** in the world are in India.

"Bad air is not limited to the Indo-Gangetic plains anymore where the argument of inversion of temperature and slowing down of wind speeds was considered as a factor for poor air quality. The situation is getting to be bad even in India's coastal cities."

What are the Primary Reasons behind Air Pollution in India?

- **Excessive Motorized Transport:** Motorized transport, such as cars and commercial vehicles, is a major contributor to urban pollution. It is estimated to be the **cause of 60% of urban pollution** due to vehicular emissions.
    - India's automobile market has **risen in value from $100 billion and is expected to touch almost USD 160 billion by 2027**, registering a growth of 8.1%.
- **Road Expansion and Traffic Congestion:** The focus on widening roads to accommodate more vehicles while ignoring increasing traffic congestion leads to higher pollution levels. Traffic snarls and inefficient road planning contribute to pollution.
- **Construction Activities:** Construction activities are **responsible for approximately 10% of air pollution in certain regions.** The lack of monitoring and control over construction emissions, along with inadequate enforcement of standard operating procedures, contributes to pollution.
- **Burning of Paddy Straw (Parali)**: While not the primary source of pollution, the seasonal **burning of paddy straw**, particularly in Haryana and Punjab, exacerbates smog and particulate matter pollution during North India's winters.
- **Inadequate Green Spaces:** The green lungs of the cities, water bodies, urban forests, green cover on urban commons, and urban agriculture have all reported shrinkage, even as **"gray" infrastructure has seen rapid expansion.**
    - Gray infrastructure refers to structures such as dams, seawalls, roads, pipes or water treatment plants.
- **Lack of Public Participation:** City residents often have minimal participatory roles in urban development decisions, resulting in policies and projects that may not consider the well-being of the population or environmental concerns.

What Measures should be taken to Control Air Pollution?

- **Alternative Strategy of City Building:** There is a compelling need to have an alternative strategy of city building, where the focus is on **more public transport,** having **secure pedestrian paths and bicycle lanes** with the **creation of a post of bicycle officers.**
    - **Promote Public Transport:** There needs to be good public transport, with investment in buses for towns and cities. It is estimated that nearly **10 lakh buses would need to be added to the existing bus fleet** in cities to meet the demands of urban mobility.
        - There must be firm initiatives that emulate the **Jawaharlal Nehru National Urban Renewal Mission.**

- **Control of Private Vehicles:** Strong steps need to be taken to control private motorized vehicular movement in the cities. A congestion tax being levied on private car owners driving during peak hours can be thought of. Likewise, an **odd number-even number plate formula** can be another important intervention.
    - Some cities have a **no-car day** on certain days — an example that should be put into practice by those in power and with influence.
    - For Example, **World Car Free Day** is celebrated annually on 22nd September to encourage the use of alternative modes of transportation.
- **Zero Acceptance of Industrial Pollution:** There should be zero acceptance of industrial pollution and real-time monitoring must become a reality. There must be **street supervision by residents** instead of waiting for the statutory bodies to react, which urban local bodies can ensure.
- **Preservation of Urban Commons:** Urban commons (ponds, water bodies, urban forests, parks, playgrounds) are another major area that should not at all be allowed to be taken over by either public or private bodies for private gains. Urban communities must protect, nurture and expand them.
- **Incorporating Ecological Wisdom in Urban Planning:** Incorporating ecological principles into urban planning, as advocated by **Ian McHarg's "Designing with Nature,**" can help create more sustainable and environmentally friendly cities. This involves considering the natural environment, open spaces, and afforestation within the city.
- **Promote Public Awareness and Participation:** Raise public awareness about the sources and effects of air pollution and integrate pollution guides and standard operating procedures into the daily lives of city residents.

Conclusion

India must urgently address air pollution through measures like better public transportation, stricter industrial emission controls, sustainable urban planning, and public awareness to ensure a cleaner, healthier, and more sustainable future for all. The need for action is pressing.

Drishti Mains Question:

Discuss the multifaceted challenges posed by air pollution in India and outline the key strategies required to ensure a cleaner, healthier, and more sustainable future for its citizens.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. In the cities of our country, which among the following atmospheric gases are normally considered in calculating the value of Air Quality Index? (2016)

1. Carbon dioxide
2. Carbon monoxide
3. Nitrogen dioxide
4. Sulfur dioxide
5. Methane

Select the correct answer using the code given below:

(a) 1, 2 and 3 only
(b) 2, 3 and 4 only
(c) 1, 4 and 5 only
(d) 1, 2, 3, 4 and 5

Ans: (b)

Mains

Q. Describe the key points of the revised Global Air Quality Guidelines (AQGs) recently released by the World Health Organisation (WHO). How are these different from its last update in 2005? What changes in India’s National Clean Air Programme are required to achieve revised standards? **(2021)**