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Reducing Air Pollution

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Clearing The Air # Economic costs of air pollution

India's economy has experienced remarkable growth, establishing itself as a significant player on the global stage



With a GDP surpassing \$3 trillion and a CAGR of approximately 7 per cent over the past decade, India has demonstrated robust economic development across various sectors, including technology, manufacturing, services, and agriculture. "Despite this remarkable progress, a cloud on the horizon remains: Air pollution: an invisible threat on our path to progress. As the fifth-largest economy in the world according to the World GDP Ranking 2024 list, India faces a substantial challenge in its pursuit of economic development due to rising air pollution. This dangerous menace costs businesses approximately \$95 billion annually, equivalent to 3 per cent of the nation's GDP.

The alarming levels of pollution, particularly in urban areas, pose severe health risks and economic costs, potentially hindering India's growth trajectory. The problem initially became prominent in major urban centres such as Delhi and Mumbai but has since spread rapidly to other cities nationwide. In Delhi, air pollution levels often reach highly toxic levels, especially during the winter months. The city's air quality is severely impacted by vehicular emissions, industrial activities, and the widespread use of diesel generators. Similarly, Mumbai faces severe air pollution challenges due to high population density, traffic congestion, and construction activities.

Economic costs of air pollution

Air pollution has a significant impact on labour productivity through both absenteeism and presenteeism. High pollution levels cause employees to fall sick or stay at home to care for affected dependents, significantly reducing productivity. Furthermore, presenteeism—where employees are at work but not fully functioning due to health issues—costs businesses an additional \$24 billion annually. Reduced consumer activity owing to poor air quality has a significant economic impact, lowering consumer spending by 1.3 per cent and costing the economy \$22 billion in 2019. Consumers avoid outdoor activities and shopping during high pollution seasons, resulting in lower footfall in retail and commercial sectors. Air pollution accounts for 18 per cent of all deaths in India, resulting in a loss of 3.8 billion working days in 2019 and costing the economy \$44 billion. This high death rate has an impact not only on the existing workforce, but also on future productivity, as children and younger demographics are also negatively affected.

Unseen threats: The dire health impacts of air pollution in India

Air pollution is the leading risk factor for death in India, with more than 2.09 million deaths attributed to it. When air quality deteriorates or a smog is experienced, it's a signal of elevated pollutants in the atmosphere, including fine particles known as PM2.5. These minuscule particles are so small that they can bypass the respiratory system's defenses and enter the bloodstream directly. Once in the blood vessels, PM2.5 can lead to numerous health risks, such as cardiovascular diseases, respiratory issues, and even exacerbating existing conditions like asthma and diabetes. The presence of these particles in the air underscores the critical need for improved air quality measures and technologies to safeguard public health. The top five health risks in India are air pollution, high systolic blood pressure, dietary risks, tobacco, and high fasting plasma glucose. As mentioned in the State of Global Air report, India averages 148 deaths per 100,000 people due to air pollution, which is higher than the global average.

Sector-specific impacts

The IT industry loses around \$1.3 billion annually due to pollution-induced productivity losses. Companies in high pollution areas like Delhi experience reduced attendance and productivity, making it harder to attract and retain talent. The tourism sector suffers a 1 per cent decline in GDP, costing \$2 billion. Poor air quality deters international tourists, leading to significant revenue losses and job reductions in tourism and related industries. Cities like Delhi and Kolkata suffer badly from air pollution, losing 6 per cent and 4 per cent of their GDPs, respectively. These losses highlight the need for immediate and comprehensive policy interventions to address air quality issues.

India's National Clean Air Programme (NCAP): Driving progress towards cleaner air

The Government of India has made a significant advancement with the launch of the National Clean Air Programme (NCAP), a federal initiative aimed at enhancing air quality nationwide. Managed by the Central Pollution Control Board (CPCB) and supported by State Pollution Control Boards (SPCBs), the NCAP outlines clear Key Result Areas (KRAs) to ensure targeted progress. The program aims to reduce particulate matter (PM10) and PM2.5 concentrations by 20-30 per cent by 2024, compared to 2017 levels. The government has taken significant steps to tackle air pollution, including setting National Ambient Air Quality Standards, expanding air quality monitoring, promoting cleaner fuels, and advancing vehicle emission standards to BS-VI. Other measures include banning biomass burning, enhancing public transport, and enforcing Pollution Under Control Certificates. The installation of continuous monitoring devices in key industries and a ban on noisy firecrackers further reflect a strong commitment to improving air quality. The Graded Response Action Plan for Delhi and NCR highlights targeted actions for managing pollution effectively.

Establishing state-level committees for air quality monitoring and compliance

To achieve its ambitious goals, it is essential to extend the program's efforts to state and local levels by establishing dedicated state-level committees. These committees should rigorously monitor air quality and enforce compliance with regulations, utilizing comprehensive systems and regular inspections. They must streamline efforts to ensure a rigorous approach, holding all accountable. To motivate teams and states, implement special rewards and recognition programs, fostering a sense of individual responsibility. The state level committee should be empowered to take decisions, promoting the vision of "Viksit Bharat 2047," a cherished aspiration for every Indian citizen.

Policy and strategic responses

A comprehensive nationwide strategy is essential to address India's air pollution crisis effectively. This strategy should include implementing stringent emission standards for vehicles, industries, and power generation facilities; encouraging the adoption of clean technologies and renewable energy sources, such as retrofitting diesel generators and commercial vehicles; raising public awareness about the health impacts of air pollution and promoting behavioral changes; investing in advanced air quality monitoring systems for accurate data collection and informed policy-making; and fostering collaborative efforts among government agencies, industries, and civil society to develop and enforce effective clean air policies.



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