

A road map to mitigate Delhi's pollution crisis

By *Amitabh Kant**

Delhi's air pollution crisis is a catastrophe. We are months away from Delhi becoming unliveable. Every breath tightens the grip on life expectancy, cutting years off the lives of its residents. This is a brutal reality, and a grave matter of concern for a city aspiring to be a global metropolis. Progress in technology, infrastructure, and economic growth is meaningless if the air we breathe is toxic. No city can sustain prosperity if its lungs are dying.

In 2021, the annual average PM_{2.5} level peaked at 126.5 µg/m³—more than 25 times the WHO safe limit. During winter, these levels soar, flooding hospitals with respiratory patients. According to the 2023 Air Quality Life Index, pollution claims up to 25,000 lives annually in Delhi alone, shortening life expectancy by about 6.3 years.

The economic toll is also staggering. Estimates peg GDP loss at 3%, roughly \$100 billion annually, due to disrupted work, soaring healthcare costs, and decreased productivity. The most vulnerable are low-income families that are often left unprotected against toxic fumes. To breathe has become a privilege, and many now rely on expensive air purifiers that few can afford.

Everything is affected. Education suffers as schools shut during hazardous days, halting learning; workers face health crises leading to absenteeism; businesses bleed money amidst rising health costs. Poor communities, already underprivileged, suffer the most, further entrenching inequalities. Children are growing up inhaling pollutants that will haunt them lifelong, with antibiotics and chronic illnesses becoming common.

Despite this, policymakers have offered only temporary Band-Aids. Bureaucracy, overlapping authorities, and political apathy have failed the people. It's a failure of governance and of moral responsibility. The time for excuses has run out. The only option left is radical, decisive action.

What Must Be Done? - The Delhi Action Plan 2030

Tackle Biomass and Crop Residue Burning

This is the single largest contributor to Delhi's air pollution, responsible for nearly 60% of PM_{2.5} emissions annually. Burning biomass like dung, firewood, and agricultural waste releases vast amounts of particulate matter, especially in winter, choking the city in toxic haze.

- Enforce policies promoting clean cooking fuels like LPG, with subsidies of 75%, starting in NCR+ areas.
- Promote community biomass plants and provide subsidies for transition.
- Phase out traditional cooking methods and agricultural waste burning, preventing an estimated 600,000 indoor pollution-related deaths annually.

Transform Industry and Power Plants

Contributing approximately 31% of PM_{2.5}, industrial processes and thermal power plants are the second biggest source of Delhi's pollution. 25% of this comes from industrial activities and 6% from power generation. Delhi-NCR hosts 12 thermal power plants with a total capacity of 13.2 GW, but only 7 units comply with the 2015 emissions standards. The outdated and poorly regulated plants emit pollutants that jeopardise both health and the environment.

Contributing approximately 8% of total emissions, brick kilns are another large factor of Delhi-NCR's air pollution. Currently, around 4,608 kilns are operating primarily in areas like Baghpat and Bulandshahr, making India's brick production industry the second largest globally, trailing only China. Present methods employed by these kilns release harmful pollutants into the atmosphere, and also expedite soil degradation and groundwater depletion.

- Enforce strict emissions standards—mandatory Flue Gas Desulfurization in thermal plants.
- Close outdated plants more than 35 years old, replace old units with cleaner technologies.
- Accelerate adoption of zig-zag technology in brick kilns—currently operating 4,608 kilns, with only 3,003 finally making the switch.
- Shift SMEs to electric boilers, supported by rooftop solar.
- Establish efficient waste management in industrial zones.
- Ensure greater transparency through quarterly emissions reporting and public disclosures.

Achieve 100% Electric Vehicle Penetration

Responsible for roughly 8% of PM_{2.5} emissions, Delhi's vehicles are a significant but addressable pollution source. The dominance of older, polluting vehicles and slow adoption of electric mobility hinder air quality improvement. India is witnessing rapid

growth, where two-wheelers and three-wheelers account for about 95% of total EV sales. Delhi, however, contributes only 5% of this figure.

- Transition all last-mile delivery two-wheelers to electric within 2-3 years.
- Retrofit or replace two-wheelers older than 10 years within 24 months.
- From July 2024, mandate that all new autorickshaws are electric; replace autos over 8 years within 12 months, over 5 years within 24 months.
- Convert 30,000 taxis older than 8 years into electric vehicles over the next two years.
- Procure and deploy 5,000 new electric public and school buses within three years.

Waste Management and Civic Governance

Delhi produces about 11,000 tonnes of municipal solid waste daily, more than any Indian city, and yet over half of it ends up in overloaded landfills, causing land and water pollution. Its sewage system is equally strained; with its treatment capacity far below the volume of wastewater generated, untreated sewage flows into the Yamuna, polluting its waters and endangering public health. Despite some efforts, ineffective waste segregation, inadequate treatment infrastructure, and neglect of urban sanitation have only compounded the crisis.

- Enforce waste segregation at source, drawing from Surat's successful system, with digital monitoring and penalties.
- Replicate Indore's approach by investing in modern decentralised sewage treatment plants, and repairing old infrastructure.
- Formalise waste picking, expand recycling facilities, and support circular economy practices.
- Prioritize land reclamation and beautification projects, turning contaminated sites into green spaces like Indore.
- Strengthen municipal governance with data-driven management, similar to Bhubaneswar's innovations, ensuring accountability.
- Strengthen civic governance by promoting public participation through community cleanup drives and awareness campaigns, creating a sense of city pride.

Amplify Public Engagement

- Publicly disclose pollution data regularly.
- Encourage community-led monitoring and initiatives.

- Create accountability through citizen advocacy.

Regional Cooperation

- Collaborate with neighbouring states to reduce external pollution sources.
- Aim for a 40-50% reduction in PM2.5 levels below 2023 standards by 2028.

Redesign Urban Planning

Urbanisation in India has become both the driver of economic progress and a cause of chaos. By 2036, India's population could reach 1.5 billion, and if growth remains unplanned, our cities will be swallowed by unsustainable expansion. In Delhi-NCR alone, real estate prices have skyrocketed by 57% since 2019, yet infrastructure remains woefully inadequate to support this surge. Residents are caught in a vicious cycle of mismanagement: government agencies, planners, and industries repeatedly neglect their responsibilities, turning urban growth into a ticking time bomb for environmental and social collapse.

- Implement comprehensive master planning—focused on walkability, green spaces, and sustainable growth.
- Enhance public transport and de-incentivise car dependence.
- Promote citizen involvement in urban development to balance prosperity with health.

Inaction costs lives. Every delay exacerbates the health crisis, worsening respiratory illnesses, lowering life expectancy, and increasing economic hardship—especially for Delhi's most vulnerable demographics. Wildlife suffers, biodiversity declines, and the problem compounds year on year. Children grow up with compromised lungs, susceptible to chronic disease. Healthcare costs skyrocket; productivity declines; social inequality widens.

Delhi must realise that progress without clean air is hollow. The city's survival hinges on an urgent pursuit of environmental justice. The failure of governance is self-evident, but the power of change and advocacy also lies with the citizens, activists, policymakers.

Delhi's air crisis needs bold action. The capital needs a policy overhaul, tech innovation, community push, and regional unity to align for a singular mission. Only then can we truly say India is building world-class cities.

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