Is Delhi Becoming an Uninhabitable City?

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What's in today's article?

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- Air Quality Trends (2017–2023)
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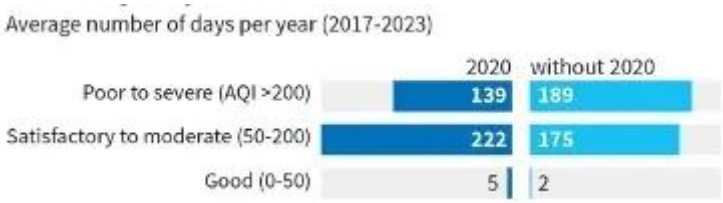
Overview of Air Pollution in Delhi

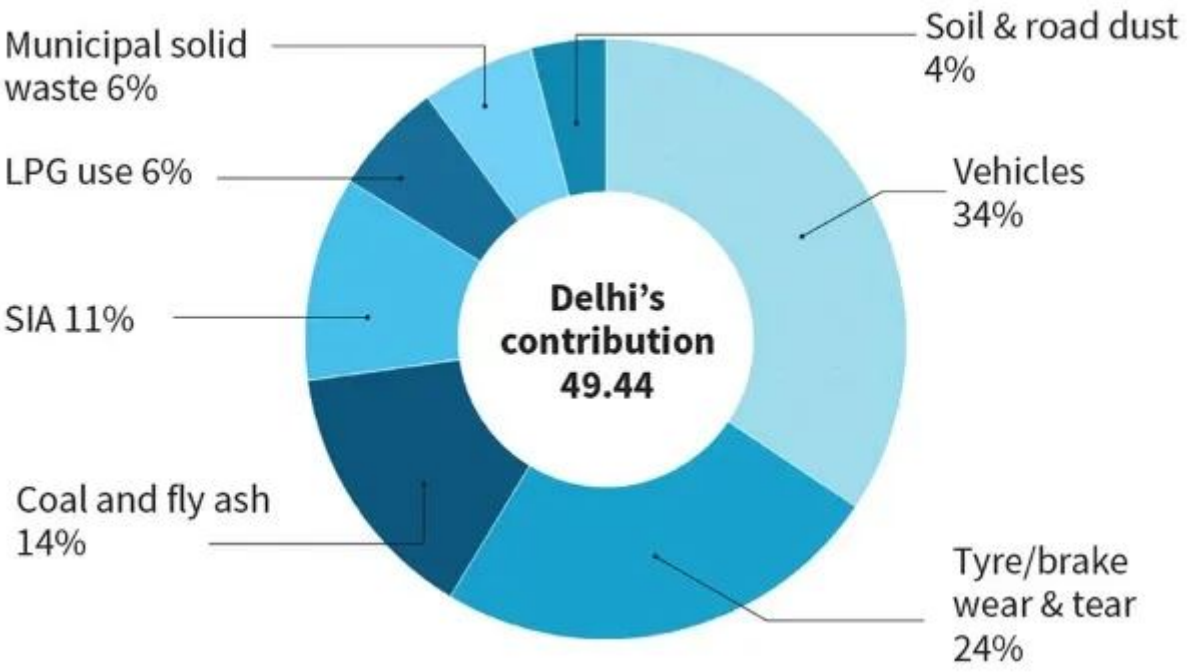
- Delhi faces severe environmental challenges, with worsening air pollution and extreme weather patterns, particularly during winter and summer.
- The **Air Quality Index** (AQI) highlights Delhi's alarming pollution levels, primarily dominated by fine particulate matter (PM2.5), which penetrates deep into the lungs, posing significant health risks.

Air Quality Trends (2017–2023)



- **Healthy Air Days:** Delhi averaged only two days per year with healthy air.
- **Poor Air Quality:** Over half the year, residents inhale air deemed unfit for breathing.
- **Lockdown Impact:** Even during the COVID-19 lockdown in 2020, air quality improved only marginally, indicating systemic issues.

Contributors to Air Pollution



- **Stubble Burning:** Often blamed for Delhi's pollution, **stubble burning accounts for 15–35% of PM2.5 during peak days**. However, even in its absence, the AQI remains dangerously high.
- **Local Sources:** A report by IIT and TERI identifies local sources as responsible for half of PM2.5 levels in winter. Key contributors include:
  - **Vehicles (58%):** Combustion exhaust (34%) and wear-and-tear emissions (24%).
  - Other sources include **construction dust** and **industrial emissions**.

Seasonal Worsening in Winters

- **Meteorological Factors:** Cold air traps pollutants near the ground, while stagnant winds prevent dispersion.
- **Rain and Wind Effects:** Months with higher rainfall (July–September) and stronger winds (February–June) show better air quality.

Health Impacts

- **WHO Findings:** Air pollution affects almost every organ, causing systemic inflammation and potentially carcinogenic effects.
- **Death Rates:** In 2019, **1.67 million deaths in India were linked to pollution**, with Delhi showing higher mortality from ambient PM pollution than the national average.
- **Class Divide:** Poor residents face greater exposure and risks. Children from marginalized areas experience significantly reduced life expectancy compared to affluent peers.

Govt. Response

- **Short-term Measures:** Initiatives like odd-even vehicle rules, water sprinklers, and mask distribution have had minimal impact.
- **Political Stalemate:** Blame-shifting between the central and Delhi governments has hindered systemic reforms.

Solution Needed

- **Public Transport Overhaul:** Transitioning from private vehicles to cleaner, efficient public transport with improved last-mile connectivity.
- **Holistic Action Plan:** Long-term strategies addressing emissions from all sources, paired with political commitment, are critical for reversing the decline in air quality.

Q1. What is Paddy Straw?

Paddy straw is produced as a byproduct of rice production at harvest. It is removed with the rice grains during harvest.

Q2. What is an Aerosol Pollutant?

Examples of natural aerosols are fog, mist or dust. Examples of human caused aerosols include particulate air pollutants, mist from the discharge at hydroelectric dams, irrigation mist, perfume from atomizers, smoke, dust, sprayed pesticides, and medical treatments for respiratory illnesses.

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