5. State of Global Air Report 2025 - Reports

The State of Global Air Report 2025, has been released.

1. About the Report

Published by - Health Effects Institute (HEI) — an independent research organization.
Collaborating Institutions - University of Washington's Institute for Health Metrics and Evaluation (IHME); and NCD Alliance (Non-Communicable Diseases Alliance).
Nature - An annual, evidence-based global assessment of the health impacts of air pollution.
Data Source - Derived from the Global Burden of Disease (GBD) study.
Objective - To present scientifically credible, open-access data on global air pollution and its health outcomes. To guide policy, research, and public health interventions for cleaner air and sustainable development.
Coverage - Encompasses both ambient (outdoor) and household (indoor) air pollution exposures,

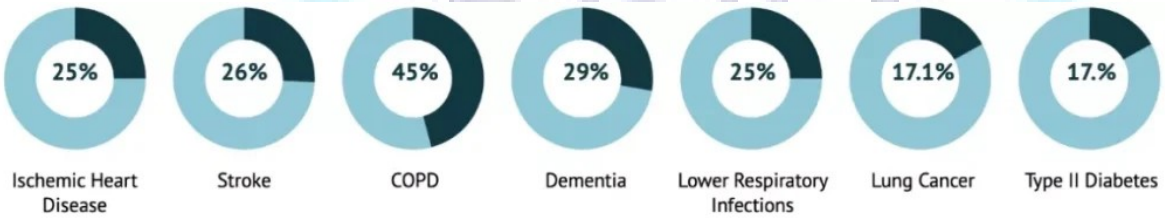

FIGURE 16: **Percentage of global deaths from specific causes attributed to air pollution in 2023.**

analysing mortality, morbidity, and disease burden trends across countries and demographic groups.

Global Overview of Air Pollution (2023 Data)

Scale of Mortality
Total Deaths - Air pollution caused 7.9 million deaths globally in 2023 — roughly 1 in every 8 deaths worldwide.
Magnitude of Impact - This makes air pollution the second leading environmental risk factor after dietary risks.
Health Burden - 232 million healthy years of life (DALYs) were lost globally due to air pollution exposure. DALYs combine both premature deaths and years lived with disability, providing a measure of the total disease burden.

Disproportionate Regional Impact

Geographical Concentration - The burden remains heaviest in low- and middle-income countries (LMICs).
High-Burden Regions -

1. South Asia (India, Bangladesh, Pakistan, Nepal)
2. Sub-Saharan Africa
3. Southeast Asia (Indonesia, Vietnam, Philippines)

Reasons - Rapid urbanization, industrialization, biomass burning, vehicular emissions, and inadequate pollution control mechanisms.

Country-wise Findings

India and China - Epicentres of Global Air Pollution Burden
India and China combined accounted for more than half of global air-pollution-related deaths in 2023.
India's Case - Recorded 2 million deaths from air pollution in 2023. This marks a 43% increase from 1.4 million deaths in 2000, reflecting worsening exposure despite mitigation efforts.
China's Case - Similar mortality levels (~2 million), though the country has shown improvement in PM2.5 concentrations in recent years due to aggressive clean-air policies.

Air Pollution's Burden of Disease

A. Non-Communicable Diseases (NCDs) – Major Contributor
Share - About 86% of global air-pollution-related deaths are linked to non-communicable diseases (NCDs).

Key Health Outcomes -

1. Chronic Obstructive Pulmonary Disease (COPD) - Responsible for nearly 1 in 2 air pollution deaths.
2. Heart Disease - Accounts for 1 in 4 deaths associated with air pollution exposure.
3. Dementia - Over 1 in 4 deaths show a linkage to degraded air quality.
4. Diabetes - Nearly 1 in 6 deaths are connected to long-term pollution exposure.

B. Dementia and Neurodegenerative Disorders

Mortality Burden - Approximately 626,000 deaths were attributed to air-pollution-related dementia in 2023.

Health Burden - Nearly 11.6 million healthy years of life (DALYs) lost globally due to pollution-linked cognitive decline.

Scientific Evidence -

1. Long-term exposure to PM2.5 (fine particulate matter) disrupts brain inflammation and neural connectivity, leading to neurodegeneration.
2. This represents a growing dimension of the public health cost of pollution, beyond respiratory and cardiac impacts.

Demographic and Epidemiological Trends

Age Distribution of Mortality

Elderly at Risk - About 95% of total air pollution deaths occurred among adults aged 60 and above.

Chronic Disease Link - Of the 7.9 million global deaths, 6.8 million were due to NCDs, confirming the age-related vulnerability to long-term pollution exposure.

Gender Dimension - Women, especially in developing countries, face higher indoor air pollution exposure due to biomass cooking fuels.

Global Air Quality Trends

PM2.5 Concentration Levels

Exposure Levels - Around 36% of the world's population is exposed to PM2.5 levels above the WHO's least stringent interim target of 35 µg/m³.

Critical Thresholds - The WHO Air Quality Guideline (2021) recommends an annual average PM2.5 concentration of no more than 5 µg/m³, a level exceeded almost everywhere in South Asia.

Policy Gaps -

1. 11% of the global population lives in areas without national air quality standards.
2. Even where standards exist, implementation and monitoring remain weak due to lack of infrastructure and enforcement capacity.

Key Observations for South Asia and India

South Asia remains the world's most polluted region, with Bangladesh, India, Nepal, and Pakistan among the top 10 countries with the highest PM2.5 exposure.

India's Policy Landscape - National Clean Air Programme (NCAP) launched in 2019 aims to reduce PM2.5 and PM10 levels by 40% in 131 cities by 2026. Ujjwala Yojana has improved access to LPG, reducing indoor air pollution for women and children. Despite these measures, urban-industrial clusters such as Delhi, Kanpur, and Lucknow continue to report critically high PM2.5 levels.

Global Health and Policy Implications

Air Pollution as a Global Health Crisis - The report reinforces that air pollution is not merely an environmental problem but a public health emergency.

Economic Cost - Air-pollution-related diseases impose billions of dollars in productivity losses, healthcare costs, and reduced life expectancy globally.

Policy Imperatives -

1. Integrate air quality management with climate policy and urban planning.
2. Accelerate the shift to clean energy and transport systems.
3. Strengthen public health surveillance for pollution-linked diseases.

Equity and Justice Dimension - The heaviest burden falls on developing countries and vulnerable

populations, making it a key concern under global environmental justice and SDG 3 (Good Health and Well-being).

India's Challenges and Opportunities

Challenges

High Population Exposure - Over 75% of Indians live in areas exceeding WHO air quality limits.

Incomplete Implementation - Air quality monitoring networks remain limited, especially in rural and peri-urban areas.

Health Linkage Awareness - Air pollution is still viewed mainly as an environmental issue rather than a public health priority.

Opportunities

Renewable Energy Transition - Expansion of solar, wind, and electric mobility can drastically cut emissions.

Integrated Policy Approach - Linking health, energy, and environment ministries for cross-sectoral air quality management.

Data and Citizen Engagement - Use of open data portals and community monitoring to increase accountability.

Concluding Remarks

The State of Global Air Report 2025 underscores that air pollution remains the world's leading environmental risk to health, responsible for millions of premature deaths annually. India's position as one of the worst-affected nations calls for urgent and sustained action, balancing development with health-oriented environmental policy. Effective mitigation will require a multi-sectoral, evidence-based approach — combining clean energy adoption, stringent emission norms, urban planning reforms, and public awareness campaigns. Addressing air pollution is thus central not only to SDG 3 (Health) and SDG 13 (Climate Action) but also to India's broader human development and sustainability goals.

Source - https - //www.downtoearth.org.in/air/air-pollution-damaging-brain-health-worsening-disease-burden-in-india-soga-2025