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## Air Pollution in India: One in 8 Deaths due to Air Pollution

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A recent study under **India State-Level Disease Burden Initiative** has estimated the exposure to air pollution and its **impact on deaths, disease burden, and life expectancy in every state of India in 2017**.

- The study was conducted by the **Indian Council of Medical Research (ICMR)**, Public Health Foundation of India (PHFI), and Institute for Health Metrics and Evaluation (IHME) in collaboration with the Ministry of Health and Family Welfare.
- It has been estimated that **one in every eight deaths in India is attributable to air pollution** which now contributes to more disease burden than tobacco use.
- In India, the major **sources of ambient particulate matter pollution** are coal burning for thermal power production, industrial emissions, construction activity and brick kilns, transport vehicles, road dust, residential and commercial biomass burning, waste burning, agricultural stubble burning, and diesel generators.

### Key Findings

- India has one of the highest exposure levels to air pollution globally.
- 77% of India's population was exposed to mean PM 2.5 more than 40  $\mu\text{g}/\text{m}^3$ , which is the recommended limit set by the National Ambient Air Quality Standards of India.
- India accounts for around **26%** of the global premature deaths and disease burden due to air pollution. This is disproportionately high because India only holds **18%** of the global population.
- Air pollution was **the second largest risk factor contributing** to the disease burden in India after malnutrition in 2016, with an increasing trend in exposure to ambient particulate matter pollution and a decreasing trend in household air pollution.

- Contrary to the popular association of air pollution with respiratory diseases only, in India, the disease burden included ischaemic heart disease, stroke, chronic obstructive pulmonary disease and lung cancer, which is commonly associated with smoking.
- More than half of the 12.4 lakh deaths in India were of persons younger than 70 and this can be attributed to air pollution in 2017.
- The **average life expectancy** in India **would have been 1.7 years higher** if the air pollution level were less than the minimal level causing health loss.
- India has **one of the highest annual average ambient particulate matter PM<sub>2.5</sub>** exposure levels in the world.
- In 2017, no state in India had an annual population weighted ambient particulate matter mean PM<sub>2.5</sub> less than the WHO recommended level of 10 µg/m<sup>3</sup> ( PM 2.5 particles are those that are suspended in air and have a diameter lesser than 2.5 microns).
- States in north India had some of the highest levels of both ambient particulate matter and household air pollution, especially Bihar, Uttar Pradesh, Rajasthan, and Jharkhand.
- Delhi, Haryana, and Punjab in north India had some of the highest ambient particulate matter pollution exposure in the country.
- The **Disability Adjusted Life Years (DALY)** which is a measure of overall disease burden expressed as the number of years lost due to ill-health rate due to ambient particulate matter pollution, was highest in the case of north Indian states like Uttar Pradesh, Haryana, Delhi, Punjab, and Rajasthan.

## Way Forward

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- Creating a **robust system** to implement existing clean-air policies, **promoting coordination between the centre and states**, and devising state and district-level pollution control plans are vital to improve air quality.
- **Detailed emission inventories** are needed to provide information on the type of pollutant, its proportion, its source and its chemical properties.
- **Satellite data can supplement the routine monitoring of air pollution**, as it can be more economical than setting up and operating a number of fixed stations. They could also be used to identify potential air quality hot spots.
- The **National Clean Air Programme (NCAP)** which lays down a comprehensive strategy framework for enhanced management of air quality should incorporate the time-bound pollution reduction targets across sectors with fixed accountability and strong legal backing.
- The government already has regulating norms for the emissions from industries and policy on reducing dependency on fuel based power. Emphasis should also be on pollution caused by solid fuel used for cooking, dust pollution, inefficient municipal waste disposal.

- Sustainable government support is required for checking the indoor pollution due to solid fuels.  
For example, **Pradhan Mantri Ujjwala Yojana** under which women of poor households are being provided free cooking gas connections to reduce their dependence on firewood is a good step but the scheme has failed to convert a majority of the poor LPG users because they find LPG less affordable.

### **Government Initiatives to Combat Air Pollution**

- Notification of National Ambient Air Quality Standards and sector-specific emission and effluent standards for industries;
- Setting up of monitoring network for assessment of ambient air quality;
- Introduction of cleaner gaseous fuels like CNG, LPG etc and ethanol blending;
- Launching of National Air Quality Index (AQI);
- Universalization of BS-IV for vehicles by 2017;
- Leapfrogging from BS-IV to BS-VI standards for vehicles by 1st April 2020;
- Banning of burning of biomass;
- Promotion of public transport network;
- Pollution Under Control Certificate;
- Issuance of directions under Air (Prevention and Control of Pollution) Act, 1981;
- Installation of on-line continuous (24x7) monitoring devices by 17 highly polluting industrial sectors;
- Regulating the bursting of pollution-emitting crackers;
- Notification of graded response action plan for Delhi identifying source wise actions for various levels of air pollution, etc.