

# Among metros, Delhi worst hit by PM2.5: Study

## MIND THE PARTICULATE MATTER

### WHY CLEAN AIR IS IMPORTANT

PM2.5 has been cited as the sixth largest cause of premature death in South Asia in the Global Burden of Disease 2010 study. It's more dangerous than PM10 due to its ability to reach the minutest airways in the lungs

IIT-Delhi's Centre for Atmospheric Sciences correlated premature death due to chronic obstructive pulmonary disease, ischemic heart disease, stroke and lung cancer, in various districts with ambient PM2.5 level



### KEY STUDY FINDINGS

**50%** of the population living in **45%** of Indian districts is exposed to PM2.5 above the Indian standard of 40 micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ )



Only **0.06%** of the population is breathing safe air, according to WHO's air quality guidelines

Kinnaur, Himachal Pradesh, is the cleanest district (annual PM2.5 is  $3.7 \pm 1 \mu\text{g}/\text{m}^3$ ) and Delhi is dirtiest metropolitan area (annual PM 2.5  $148 \pm 51 \mu\text{g}/\text{m}^3$ )

If India manages to achieve the national air quality target of  $40 \mu\text{g}/\text{m}^3$ , annual premature deaths would be lesser by 44,900

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**New Delhi:** A study by the Centre for Atmospheric Sciences at IIT Delhi, which looked at exposure to PM 2.5 and premature deaths caused by the particulate matter pollution, has revealed that Kinnaur in Himachal Pradesh is the cleanest district while Delhi is the dirtiest metropolitan area in the country.

According to researchers who relied on satellite-based estimate, PM2.5 in Kinnaur was found to be  $3.7 \pm 1$  microgram per cubic metre ( $\mu\text{g}/\text{m}^3$ ) annually, which is less than 10% of the national air quality target of  $40 \mu\text{g}/\text{m}^3$ .

Delhi's PM2.5 level, they added, stood at  $148 \pm 51 \mu\text{g}/\text{m}^3$  annually, which is several times higher than the safe limit.

Short-term exposure to PM2.5, a widespread air pollutant, causes bronchitis, allergies, persistent cough and inflammation of airways. But chronic exposure to these fine particles emitted from vehicles could lead to premature deaths as a result of chro-

nic obstructive pulmonary disease (COPD), ischemic heart disease (IHD), stroke and lung cancer.

According to the IIT study, 2.79 lakh Indians die prematurely because of COPD, 1.1 lakh die of IHD, 88,700 of stroke and 14,800 deaths are caused by lung cancer. Many more die because of indoor air pollution that is caused by the burning of biomass fuels in rural areas, Sagnik Dey, one of its authors, told TOI. The study has been published in "Environment International" journal.

He said only coordinated efforts by all states could prevent such deaths. Dey suggested steps such as curbing vehicle emissions, checking the use of biomass fuels and large-scale plantations to tackle the problem of air pollution. "At present, only 0.06% of the population is breathing safe air as defined by WHO," he said. If India manages to achieve an annual target of  $40 \mu\text{g}/\text{m}^3$  for PM 2.5, almost 45,000 people can be saved from dying prematurely because of illnesses.