

An air of gloom

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Somewhat like errant school children who dread their annual report cards, government institutions and experts are wary about periodic findings by international agencies regarding the country's environment and quibble about such data rather than take on board their implications. A case in point is the latest survey by the World Health Organisation (WHO) -conducted every two years -of the most polluted air in cities around the world. It shows that 14 of the 15 worst cities were from north India, forming a band from Jodhpur in the west to Muzaffarpur in the east. Kanpur figured right on top of the list.

Kanpur's average Particulate Matter (PM) were 2.5 levels, 17 times the WHO limit in 2016, the cut-off year for the current study. It was followed by Faridabad, Varanasi, Gaya and Patna. Delhi figured sixth, which is hardly any consolation. One should recall that in 2014, the WHO listed Delhi the worst in the world in terms of particulate matter 2.5, the smallest measurable pollutant, 30 times less than the width of human hair and most hazardous. The authorities drew some comfort in 2016 when that dubious distinction went to Zabol in Iran, but with Gwalior and Allahabad coming a close second and third.

What makes north Indian cities the most polluted in the world? As this newspaper has explained, one can't only blame the usual suspects, which are the burning of crop residue, dust from construction debris and vehicle exhaust, when it comes to less population cities which figure in the list: Varanasi, Muzaffarpur, Gaya, and even Srinagar.

Anumita Roy Chowdhury of Centre of Science & Environment

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in Delhi, who has been tracking air pollution problems for decades, points out: "We have always known about the northern Indian phenomenon. It is a combination of rapid increase in pollution sources due to urbanisation and its inherent geographical disadvantage that is being landlocked, that makes this region extremely vulnerable to winter inversion leading to massive trapping of pollution. This region does not have the advantage of a coastline. At the same time, air pollution sources are proliferating that include motorisation, proliferation of industrial units using extremely dirty fuels without pollution control, extensive use of solid fuels for cooking, massive construction activities, enormous problem of waste mis-management and big dust impacts. This region requires more stringent interventions to counter its disadvantages."

Other experts have cited how the Indo-Gangetic plains are sandwiched between the Himalayas and the Vindhyas, and are home to more than 600 million people with winds blowing from north-west to east, especially in winter, which carry pollutants from other regions. In the 1970s, for example, when the central government was worried about the threat from air pollution to the Taj Mahal - which has resurfaced, with the surface of the "miracle in marble" turning brown—it found that winds were carrying sand particles, which impacted the monument and discoloured it.

The entire north-west belt is prone to high temperatures, which caused the recent deadly storms in UP (including Agra), Rajasthan and Uttarakhand. Temperatures have ranged over 40 degrees Celcius of late. A cyclonic circulation over Haryana -rain storms and dust storms originate from the same meteorological conditions -was apparently the trigger, leading to wind speeds of over 100 km per hour. In May 2016, Phalodi in Rajasthan registered 51 degrees Celcius, the all-time highest

ever in the country. In his influential non-fiction work, 'The Great Derangement: Climate Change and the Unthinkable', novelist Amitav Ghosh records how he faced a tornado in Delhi in 19/8, which many would find "unthinkable".

It would be a mistake, however, if the authorities blame regional meteorological conditions alone for causing pollution in north Indian cities and throw up their hands in despair. Global climate change is also responsible for these increasingly high temperatures and frequent storms and much of this is man-made.

This is nothing less than a national public health emergency, which the authorities at all levels seem blissfully unaware of. Two years ago, a study on the cost of air pollution co-authored by the World Bank found that the country lost 1.4million lives due to such contamination in 2013, shaving off a massive 8.5 per cent of GDP. The case for controlling such pollution is thus incontrovertible in economic terms, if not in saving lives. Indians can live four years longer if we comply with WHO norms.

Last year, the late Environment Minister Anil Daved missed a study on the global burden of disease by the Health Effect Institute in the US, which showed that India tops the list of countries –beating China –in registering the highest number of early deaths due to ozone pollution. Dave said that there was no conclusive evidence linking mortality and air pollution and that Indian institutions should be trusted in such matters. Such ostrich-like parochialism can have no place when it comes to matters of life or death.

To adapt what environmentalists prescribe: Think regionally, but act locally. Beijing, Shanghai and other Chinese cities have demonstrated that, where there is the political will, there is a way to tackle air pollution. Measures that need to be taken aren't rocket science: More efficient means of treating crop residue; replacing smoky *chulhas* with efficient models if not LPC cylinders;

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cracking down on construction debris and polluting thermal power stations; restricting the number of vehicles being some of the main ones. In order of priority, the chulhas are probably the most urgent because 200 million households continue to burn biomass within homes. Switching to mass public transport in cities -not necessarily expensive metros, which many can't afford – is well within the capacity of every city.

The WHO report shows, surprisingly, that Mumbai is the fourth most polluted megacity (with more than 10 million inhabitants) globally. Its PM 10 levels are less only than Delhi, Cairo and Dhaka, despite being on the coast. It is a measure of the ecological illiteracy of the Maharashtra government and Municipal Corporation that work is about to start on a 29-km-long, Rs. 15,000-crore coastal road, that will deprive the country's financial capital of whatever clean air it enjoys as a coastal city. The project is going through without a single public hearing and the refusal of the authorities to engage with any critics.