

Clouds of filth envelop Asian cities: 'you can't escape'

This year has seen some of Asia's worst urban smog episodes in nearly 20 years, as India's air pollution soars above levels recorded in China

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The winter air in Tehran is often foul but for six days last week it was hardly breathable. A dense and poisonous chemical smog made up of traffic and factory fumes, mixed with construction dust, burning vegetation and waste has shrouded buildings, choked pedestrians, forced schools and universities to close, and filled the hospitals.

Anyone who could flee the Iranian mega-city of 15 million people has done so, but, say the authorities, in the past two weeks more than 400 people have died as a direct result of the pollution, known as the Asian "brown cloud".

Tehran is far from alone. A combination of atmospheric conditions, geography and the start of the winter heating season regularly traps urban air pollution from October to February across a great swath of Asia. But this year has seen some of the worst smog episodes in nearly 20 years despite cities trying to reduce traffic and factory emissions.

As temperatures drop and people turn to burning waste to keep warm, pollution levels have been 15 to 20 times the World Health Organisation safe levels in three Indian cities - Delhi, Varanasi and Lucknow. Traffic has been banned and construction projects had to be stopped in Beijing as a dense layer of filthy air descended on northern China.

In Kathmandu, in Nepal, and Kabul, Afghanistan, where pollution is regularly trapped in the cities' valleys, the hospitals have been stretched with people suffering respiratory and cardiac illnesses.

"It is a dreadful situation," said one Tehrani resident, who asked not to be identified. "You see a lot of elderly people in trouble. People get confused. You get worried about the children. People do not know if schools are going to open. People want to leave but they cannot. The worst thing is you can't escape or do anything about it."

The number of cars has trebled in Tehran and many other burgeoning Asian cities in the past 10 years. The authorities know that outrage is growing at the cloud of filth that settles over the region in winter, but they appear politically paralysed.

"On paper the solutions are easy. We need better gasoline, higher standard cars. We need to revise the transport system, increase the capacity of the subway, prevent more people coming into the city centres. They can have alternate days for vehicles but people buy two cars," said Kaveh Madani, an Iranian lecturer in environmental management at the Centre for Environmental Policy, Imperial College London.

Beijing, a byword for pollution for 20 years, has gone the furthest of all Asian capitals to eliminate air pollution, pledging in 2014 to spend \$76bn (£61bn) to clean up its persistently toxic air.

After being shamed ahead of the 2008 Olympics, Beijing relocated some of its most polluting factories and closed its coal-fired power plants, largely replacing coal heating with natural gas. But despite throwing financial and political resources at the problem, it was forced to issue an “orange” pollution alert last week, the second highest.

New research last week confirmed India to be more polluted than China for the first time. According to data (pdf) from the Global Burden of Disease project at the University of Washington, there were 3,283 premature deaths a day in India in 2015 as a result of particulate matter and ozone pollution, compared to 3,233 in China. This compares with a just over one thousand a day in Europe and the US combined.

Data collected from more than 770 sources and analysed by almost 2,000 collaborators in 125 countries show that the number of deaths linked to bad air rose 24% in 10 years in India, making 2015 the worst year on record. But in China air pollution deaths have roughly stabilised on 2005 figures.

Beijing, the study said, has successfully removed tens of thousands of old vehicles and cut out nearly 40,000 tonnes of pollutants a year. New Delhi, by contrast, is still struggling to enforce a ban on diesel vehicles.

The GBD report backs Greenpeace India’s analysis earlier this year of satellite-based particulate matter measurements. “This shows that China’s systematic efforts over 10 years to combat air pollution have achieved an impressive improvement - although pollution levels remain alarmingly high,” said a spokeswoman.

“Between 2005 and 2011, the particulate pollution levels in China rose an estimated 20%. 2011 was the worst on record for China but there was a dramatic improvement there towards 2015, while India’s pollution levels constantly moved upwards,” said Greenpeace.

Capital cities like Delhi and Beijing have money and political clout to tackle pollution within their boundaries, but are unable to check “transboundary” pollution that may originate hundreds of miles away, even in other countries. This week India blamed Punjabi farmers in Pakistan burning stubble for much of Delhi’s pollution.

Alarmingly, smaller Asian cities suffer pollution as bad or worse than in Delhi or Beijing. India has half of the world’s 20 most polluted cities, according to the World Health Organisation (WHO) and, says Greenpeace, it is a critical problem in 15 out of 17 of India’s major cities.

Most Asian cities also have very limited ability to monitor pollution and cannot give citizens real-time warning of episodes. Whereas China has 1,500 online stations monitoring PM2.5 pollution in 900 cities, India has only 39 stations in 23 cities. More than 70% showed pollution above safe limits.

But there are strong signs that countries and global bodies now understand that air pollution is a modern plague for developing countries, killing more people than in wars, braking economic development, and creating a dangerously unhealthy urban populations.

In a major study (pdf) of the economic costs of air pollution, the World Bank this year found that in 2013 China lost nearly 10% of its GDP, India 7.69% and Sri Lanka and Cambodia

roughly 8% because of air pollution.

According to the World Health Organisation (WHO) more than one in 10 deaths a year across the world are now associated with air pollution, from both household and outdoor sources, and 85% of people worldwide are exposed to pollution that exceeds WHO air quality guidelines for fine particulate matter.

“The magnitude of the danger air pollution poses is enormous,” said Anthony Lake, executive director of UN children’s agency, Unicef, which calculates that 300 million children now live in areas with highly toxic levels of outdoor air pollution.

“No society can afford to ignore air pollution. We protect our children when we protect the quality of our air. Both are central to our future,” he said.

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