

# Heatwaves will get worse. Invest in adapting now

A new report says the next five years could be the hottest ever; India's recent heat deaths are not outliers either. They signal a dismal future unless we make investments and start taking the urgent threat of heat seriously

A new report from the World Meteorological Organization predicts that the world will "more likely than not" be 1.5 degrees warmer than the pre-industrial average for at least one of the next five years. It is also near certain that at least one of the next five years will be the hottest ever recorded. This is a public acknowledgement of what climate scientists have feared for decades in the face of persistent global collective action failures. 1.5 degrees is the global average, meaning that large swathes of India will experience heat impacts that threaten health, lives, and livelihoods.

In the last two months, India has known at least two tragedies that may be harbingers of the future. On April 16, a gathering of tens of thousands at an open-air ceremony at Navi Mumbai in Maharashtra ended in tragedy with at least 14 people dying of heat stroke. And last week, also in Maharashtra, a nine-month pregnant tribal woman and her unborn child died after she was forced to walk several kilometres to access health care. These tragedies carry with them lessons for how we should think about, and prepare for, extreme heat.

The first, and perhaps most basic, question is — Why is heat now killing people? We have all grown up with hot summers — so why is this different? Because the heat rash and the heat cramps experienced by many adult Indians in their younger days were phenomena that happen at lower temperatures, and were conditions that were more of a nuisance, could be easily treated, and had few significant long-

term consequences. But as temperatures rise due to the climate crisis, we will face more severe heat illnesses.

Classic heat stroke — which results in death, if not recognised and treated — often occurs over days, from dehydration and gradual organ failure. In circumstances such as those in Navi Mumbai last month, in Ahmedabad in 2010, and in Paris in 2003, heat extremes result in the body overheating so rapidly that its physiological systems fail, and death ensues. The elderly, the frail and those that cannot get themselves out of harm's way, or are forced into harm's way by necessities such as the pregnant woman in Maharashtra, are the most vulnerable. Physical exertion and manual labour increase the core body temperature. Humidity has a multiplicative effect where ambient temperatures feel much hotter, because the body's evaporative capacity is compromised. As the body becomes quickly dehydrated in extreme heat, confusion, nausea, dizziness, and headaches set in. It is imperative that these risks and symptoms are immediately recognised by bystanders, authorities, and event organisers, and those affected are provided prompt care — shade, water, cooling, and so on. Beyond this stage, multi-organ failure sets in, requiring urgent medical attention, including intensive care.

Each one of us in India has experienced worsening heat, whether in congested and polluted urban metropolises, or in unexpected places, such as Meghalaya, where earlier this year, schools were shut due to a heat-wave alert. Climate models estimate that not only will days get hotter on the subcontinent as the climate changes, but the number of hot days will rise as well. But attribution of deaths to heat is hard, and most patients will present to hospitals — if at all they do — with organ failure and other ailments where heat may not even be recognised as the underlying cause. In Navi Mumbai, it was the concentration of thousands of people in a small area that



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allowed the recognition of multiple deaths, drawing our attention to heat.

These deaths portend a dismal future unless we make serious investments in adapting to heat. In fact, dozens of cities, towns and states across India have — in the past decade — invested in drafting Heat Action Plans (HAPs). Yet the Maharashtra event showed us why merely creating a plan is not enough. After a period of uncertainty, newspapers reported that a HAP did indeed cover Navi Mumbai, and was issued mere weeks before the event. But it was not easily accessible to the public, possibly precluding both officials and the citizenry from knowing what should have been in place, and what the barriers to implementation are.

A recent assessment of 37 heat plans by the Centre for Policy Research found this lack of transparency to be common across HAPs and argued for all HAPs to be easily available online for improved accountability, and also for jurisdictions to be able to learn from each other. Independent annual evaluations of implementation are equally important; they could prompt necessary updates as India's landscape rapidly urbanises and the heat threat intensifies with the climate crisis.

One alarming drawback noted in that report was that most HAPs do not have financial means or legal pathways to enforcement, making them one of many competing priorities in the administrator's docket. Without institutional moorings, it is unreasonable to expect that local governments can implement necessary long-term solutions. Re-engineering habitats, roads and green cover in cities, and making health care more accessible to the most vulnerable, will need more than hard-to-trace plans that are accountable to no one.

Nuclear plant safety, cyclone early warning, and elevated flood shelters are examples of successful policy interventions when societies — including in India — have acknowledged the threats they are facing.

A constant challenge with post-disaster assessments in India has, however, been the paucity of data and lack of transparency, as was witnessed during the Covid-19 pandemic. This reticence to make basic data available to scientists and policy makers is misplaced. No society is immune to disasters. But those societies that learn from catastrophes, and change, make their communities safer.

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