

Escalating heat, boiling questions

The increasingly urgent need for questioning existing climate change adaptation measures

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Mumbai (India) skyline - the rich have airconditioned escapes from the heat, but what about the poor_ © Vipul Sangoi

Having grown up in New Delhi, I am aware of the heat. Peak temperatures in summer go up to 45 degrees Celsius for several days at a stretch, and there is little respite in the night. But people have learnt to cope with all kinds of mechanisms. I recall as a child, we would sprinkle our verandah or room floors with water, let it dry, and sleep on the (relatively) cool surface under a fan. Then, at some point, we bought a big air cooler, with a fan throwing moist air through a khas (vetiver) grass screen; pretty effective when it was dry outside, but less useful when it was humid. As I grew into college, my family acquired an air conditioner and we would crowd into the one room where it was installed (my father's study), trying hard to stay quiet so as not to disturb him.

But that was at 45 degrees. Last week, when I read that the temperature had almost broken the 50-degree ceiling in New Delhi, I was left speechless. Schools were told to declare early summer vacations and public warnings were repeatedly issued about not venturing out in the afternoon. I assume sales of air conditioners and coolers must have shot up; the peak electricity demand reached an all-time high of

about 8300 MW. Perhaps air-conditioned malls (dozens of which have sprouted up in India's cities and big towns) were more crowded, with many visitors pretending to window-shop while being there simply for respite.

But it is only a limited class of people (and I was lucky to be part of it) who can afford to buy coolers or (even more limited) air conditioners, or who would be able to muster the courage and have the right kind of attire to be allowed into a shopping mall. For most of those who live in urban India's burgeoning jhuggi-jhopdis (squatter settlements or slums), who work in manufacturing or retail or service establishments which barely have a creaky fan or two, or who labour out on the streets, these are luxuries. In some or most of India's cities, these would make up half or more of the population. Add to this the 50%-plus of the country's population that farms, fishes, hunts, forages, and husband animals for a living, and we are talking of hundreds of millions of people for whom sitting in air-conditioned rooms when the temperature soars is simply impossible.

Is India prepared to deal with how climate-induced extreme heat situations are impacting, or going to impact, such people? I ask this question in relation to India but what follows below is a likely scenario in many parts of the world.

Climate adaptation: dealing with heat

Extreme heat events are projected to noticeably increase in frequency and intensity globally. Available records show that this has already happened in the last couple of decades. In India, about 25,000 people are officially recorded to have been killed by heat between 1990 and 2020, most likely a significant underestimate. According to the International Labour Organisation's report [working on a warmer planet](#), the inability to work to full capacity due to heat stress will amount to an annual loss of 34 million jobs by 2030 in India. While overall warming is the main factor, localized conditions exacerbate it, such as the creation of heat islands in highly urbanized or built-up areas. Possibly the most dangerous condition will be 'wet bulb temperatures' where a combination of high heat and humidity is lethal for people (and a lot of wildlife). When I read of New Delhi's extreme temperatures and then heard that nearly 20 election officials had died due to heat while on duty in the national elections that just concluded, it brought to mind the chilling opening chapter of Kim Stanley Robinson's science-fiction book 'Ministry for the Future'. This sets out a scenario in which millions of people die in wet bulb temperatures in the northern state of Uttar Pradesh.

Whether Robinson's fictional scenario becomes reality or not, the situation is already dire and likely to get worse. There is an urgent need for action plans to help people cope (a part of climate adaptation) even as movements around the world are pressurising governments and fossil fuel companies for mitigation or the reduction of global warming emissions. A crucial imperative is to identify the most heat-vulnerable sections of society and their conditions of living and working. These include people who have to work outdoors or in cramped spaces with no cooling, who live in crowded settlements with little ventilation and green spaces, who have

to commute long distances in exposed conditions (two-wheelers, cycle-rickshaws), and amongst all these, who have special conditions that make them more vulnerable. It also includes other species that do not have their own mechanisms of coping (which may be normally available in natural conditions), such as animals in zoos.

Unfortunately, India's National Climate Action Plan, formulated in 2008 and not revised since then, is silent on this aspect. Nor, as far as I know, has there been any cohesive guidance on this from the central government. In the absence of any national direction or advice, states and city administrations have been left to their own devices to formulate action plans. [A 2023 report](#) by the Centre for Policy Research (CPR) lists and analyses 37 state, district, and city level Heat Action Plans (HAPs), though there may be more that they could not find (there being no central repository or database of these).

HAPs vary considerably, but all have a predominant focus on how various institutions should respond in situations of extreme heat. Public awareness measures and warnings to avoid getting into vulnerable situations, provision of water where lacking, rapid medical response for those impacted, training of government and hospital staff to prepare for incidents, and so on, are commonly included. Some go into appreciable specifics. For instance, the Ahmedabad Heat Action Plan directs the Real Estate Department to mandatorily provide buttermilk and water to construction workers, and in situations of temperatures exceeding 45 degrees (classified as 'extreme heat alert day'), stop work from 12 noon to 4 pm. Some note not only the direct impacts of heat, but also indirect ones such as what may happen to power and water supplies (like the grid collapsing under heavy demand), agriculture and livestock-based occupations, and educational institutions.

The CPR analysis notes that notwithstanding such positive features of the HAPs it studied, there are some overall weaknesses. These include:

- Simplistic and generalised approaches lacking local contexts and failing to integrate factors such as humidity and the duration of continuous heat.
- Lack of assessment of climate projections to identify factors and impacts that could intensify in the future.
- Inadequate identification, and therefore, actions, for the most vulnerable sections.
- Significant underfunding with many of them looking for existing budgets in relevant departments (in a context in which there is no national-level adaptation budget).
- Weak legal foundations which would make it harder for agencies to act or be more accountable to the public.
- Lack of transparency with no national repository and online unavailability of most HAPs.

The CPR report has provided recommendations that could help plug these gaps, such as more nuanced vulnerability assessments (based on criteria like gender, age, caste, class, ability, etc) and targeted actions for the most vulnerable, central and state budgets dedicated for the purpose, integrating projected changes in climate and heat, and making action plans more participatory and publicly available. Central and state governments should urgently consider these.

The Need for Structural Solutions

Beyond the urgent adaptation and ameliorative measures that need to be taken (and not underplaying their importance), there is a need to identify and act on the structural factors that cause and sustain vulnerability to climate impacts. Why is urban planning neglecting the living and working conditions of the poor, why is it creating heat islands, and why do cyclists, pedestrians, and bus users get much less attention than motorists?

These questions cannot be answered without understanding the structural features of socio-economic-ecological vulnerability in India. Traditional and new sources of inequality and inequity, including caste, gender, class, and ability, play out in various ways to create or sustain vulnerability and lack of access to dignified livelihood sources and basic services. The capitalist economy (which India has increasingly become), enables corporations to corner vast profits by exploiting workers and nature. Centralised governance structures or statism deny the possibility of exploited and marginalised people being able to exercise their agency in decision-making in aspects such as the use and allocation of land in a city, the distribution of electricity and water, and what forms of livelihoods public investment should prioritise. A [neo-liberal model of 'development'](#) imposes heavy infrastructure, industrialisation, and urbanisation on what has, till now, been a largely land-based economy causing displacement and dispossession on massive scales (including about 6 crores - 60 million - physically uprooted in the last few decades) as well as ecological devastation. Many of those displaced or whose livelihood resources are taken away end up in urban squatter settlements and/or in jobs that expose them more to heat or other climate impacts.

These are all determinants, directly or indirectly, of who is the most impacted by extreme heat. In cities, property prices are well out of reach of the poor, which, along with elite (class-caste) bias in planning, forces them into cramped squatter settlements. Civic amenities such as power and water are very skewed in distribution, enabling the rich to have air conditioning while the poor make do with fans and often not even that. Roads and traffic planning favours those with private cars. Most workers remain in the informal or unorganised categories, with employers too uncaring to provide them with proper work and housing facilities. There is also a lack of access to insurance or compensation schemes when they succumb to the impacts of extreme heat. As far as I know, there is no specific category for insurance or compensation for such impacts in relevant banks or

government departments (though some disaster schemes may apply). And beyond humans, these determinants also work to destroy habitats and the survival of countless other species of animals and plants.

These structural factors have a significant impact, even on the implementation of the HAPs. For instance, it is all very well to say that construction workers should get the afternoon off on 'extreme heat alert' days, but how many inspectors will be doing rounds to ensure that employers are actually doing this? Undoubtedly, many workers will be laid off by private employers because they simply are not able to work full hours since there is always a steady stream of people available to replace them – who is to check this? Some sensitive city administrations may provide shelters and shade on extreme heat days, but how will it be ensured that workers can actually relax there without employers shouting at them? Schemes for cool rooftops can reduce temperatures within homes, but how many slum-dwellers would actually be able to avail of them? And without very different equitable urban planning with full involvement of the poor, how would green spaces be available where they are most needed in the colonies of the poor?

Such issues can be pointed out equally for the rural poor, farmers, fishers, forest dwellers, pastoralists, and craftspeople who have to labour in the open, whose settlements may also be unprepared for extreme heatwaves, or who are being affected by related impacts such as water shortages. Some of the district HAPs advocate mechanisms to reach relief to communities but they do not address the underlying factors of vulnerability.

The severely inadequate, or even complete lack of, national and state budgets for adaptation and coping is shocking. India's people are resilient and many will find their own ways to cope but this does not absolve the government from fulfilling the responsibility of 'serving the public' for which it was elected.

As I write this, the Bharatiya Janata Party (BJP) is taking on its third consecutive term as the Government of India, with Narendra Modi as the Prime Minister. Modi has over the last few years tried to project India as a global climate champion but he and his party do not have their act together on adaptation and coping mechanisms (assuming that they care at all). Already in the 2024 elections, India's electorate has given them notice that if they do not act on matters of livelihoods, inflation, etc, and hope to keep winning elections by a politics of hatred and pitching one religion against another, they may be badly misreading the signs. To these can be added a growing frustration and anger about the lack of action on matters like heat stress, water scarcity, crop failures, coastal erosion, and others, even if people are not necessarily linking these to climate change and biodiversity loss. The BJP is likely to face an even angrier electorate the next time it seeks its votes. If the ethical imperatives of good governance are not in the dictionary of the BJP, at least survival instinct should spur them into meaningful action on this front. And the same for any other party that may succeed it.

Equally important, in the spirit of radical democracy and self-reliance, communities with the aid of civil society organisations, scientific organisations and others have to find their own coping mechanisms. Many are doing so, for instance by innovative harvesting and use of water, adapting their production methods, innovating architecture with a mix of traditional and new techniques, and so on. These initiatives (some of which are documented on [the national platform Vikalp Sangam](#), need to be showcased by media and others, to inspire similar efforts across India, even as public pressure is mounted on the government to fulfil its responsibilities.

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