

RECOGNISING THE IMPACT OF CLIMATE CHANGE ON HEALTH

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A man crosses the dry and cracked bed of the Koparli dam on May 26, in Peth Taluka village, Nashik, Maharashtra. | Photo Credit: Getty Images

As India gets ready for the 28th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP28), it is important to examine how climate change affects the country's health. India's inadequate health systems make our population particularly vulnerable to the impact of climate risks on health. Climate change affects health directly, causing more sickness and death. In more indirect ways, it affects nutrition, reduces working hours, and increases climate-induced stress.

The precipitating factors continue to be unrelenting. One estimate suggests that if global temperature were to rise by 2°C, many parts of India would become uninhabitable. All nations during the Paris Agreement agreed to cap the rise in temperature at 1.5°C. Clearly, we have failed. The year 2023 saw the highest temperatures and heat waves in recorded history. The situation is likely to worsen for the planet. Climate emergencies — extreme heat, cyclones, floods — are expected to occur with increasing regularity. These will interfere with food security and livelihoods and sharpen health challenges.

The double burden of morbidity that India faces from communicable and non-communicable diseases will be worsened by climate change. It could facilitate the growth of vectors such as mosquitoes, sandflies, ticks, and as yet unknown ones, and change the seasonality of infection through changes in their life cycle. It could also facilitate the introduction of vectors and pathogens into areas where they did not exist before, such as mosquitoes in the Himalayan States. Heat also alters the virulence of pathogens. Reduced availability of food and water and the decrease in nutritional value of food increases vulnerability to diseases. Epidemics commonly occur after floods, but extended warm periods also promote the proliferation of water and food-borne pathogens and diseases.

Less well recognised is the impact of climate change on non-communicable diseases and mental health, both of which are poorly managed in India. Heat, physical exertion, and dehydration, a constant state for labourers, could lead to kidney injuries, which are rising in India due to uncontrolled diabetes. Chronic Obstructive Pulmonary Diseases are exacerbated by increased and extended episodes of air pollution. The risk of dying from pulmonary disease increases by 1.8–8.2% during a heat wave and hospitalisation rates will go up by 8% for every

1% increase in temperature above 29°C. Depression, aggravated by stress generated by the change in weather conditions, and Post Traumatic Stress Disorder invariably accompany a climate emergency. These are rarely recognised in India, much less addressed.

India is urbanising at a rapid pace, in an unplanned manner. Urban areas, not tempered by urban greenery and open spaces and filled with asphalt roads and heat-retaining buildings that physically block air circulation, bear the worst ill effects of climate change due to the urban heat island effect. (Urban areas are warmer than surrounding rural areas, especially at night). Climate change puts further pressure on the weak urban primary health system, already suffering the ill effects of air pollution; urban planning that discourages physical activity; and work-related and cultural stress.

Mitigation efforts begin with understanding the direct and indirect pathways by which climate change impacts health and assessing the burden. Currently, the health information systems are not modified to gather this data. Since the impact is accentuated by socio-economic conditions, having systems in place for social support and health services will reduce the impact. But the benefits from upstream interventions that focus on better urban planning, green cover, water conservation, and public health interventions will be much larger — not only for health but for many determinants of health.

Action to control climate change needs to happen at global, regional, and local levels. Pathways of climate change and their impact will determine the appropriate area of intervention. To achieve this, India has to recognise climate change and its impact on health as a problem that can be and needs to be addressed. Researchers who work in this area need to come up with policy options for action. National, State, and local governments have to decide to act on the policy options that have been generated by research. Only when the three streams of problematisation, policy options, and political decision-making come together is meaningful change likely to happen. It will be worthwhile to examine if these necessary conditions have been satisfied before expecting a change in the status quo on climate change and its impact on health.

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