

EXTREME WEATHER EVENTS AND THEIR MULTI-SECTORAL IMPACT: LESSONS FROM KERALA

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The scenic state of Kerala is currently threatened by extreme climate events, despite being known for its moderate tropical climate. Over the past few years, the weather pattern has rapidly changed.

The monsoon season in Kerala normally lasts from June through July; but, in recent years, August and September have seen sudden bursts of extremely heavy rain, flooding, landslides, and drought. Since 2018, August has taken on significant importance in the State's monsoon cycle. The southern state has been making headlines over the past few years for its extraordinarily high rainfall and a devastating season that resulted in over 500 fatalities and over a million displaced residents due to flooding and subsequent landslides. This year too, the floods brought on by the southwest monsoon have wreaked devastation in the state. In the districts of Thrissur, Kottayam, and Idukki, significant landslides were observed.

These extraordinary proportions have caused magnified problems for Kerala's public health department which is already coping with the ongoing monkeypox outbreak and the COVID-19 pandemic. Alarming implications due to climate change in Kerala are on the rise, especially given their effects on the vulnerable population who have a low capacity to adapt and mitigate. In particular, these extreme weather events also have long-term effects on health, which impacts the human capital—one of the main forces behind sustainable development.

The most common health concerns after floods were mortality and communicable diseases,

especially waterborne diseases and vector-borne diseases. The State reported an increase in reported occurrences of leptospirosis, dengue fever, malaria, and acute diarrheal sickness in the wake of the flooding. These disasters also have complicated, cascading health effects that can affect a whole community at once. Healthcare workers, emergency service providers, and disaster responders may also be impacted. The extreme floods have not only claimed human lives but also ruined and damaged homes, and schools, while also interrupting the delivery of basic primary healthcare facilities. Malnutrition is also a frequent result of these emergencies and has affected women and young children disproportionately. Before the crisis, the nutritional quality of those impacted was frequently poor; and as communities were wrecked, their infrastructure, sources of income, and social networks were also destroyed.

The worst-affected industries also included agriculture, fishing, and tourism, which together make about 30% of the state's GDP. Kerala has already spent an additional Rs 6,500 crore on disaster management since 2018, despite having a revenue shortfall of Rs 12,860 crore and an annual fiscal deficit of Rs 23,957 crore.

Several authors and published literature have also pointed out that Kerala's changing climate is probably a result of the state's geography, altered land use patterns, urbanization, development activities, and high population density. The accelerated industrialization and urbanization that go hand in hand are increasing greenhouse gas emissions. Environmental balances are upset and the effects of climate change are exacerbated throughout the state by illegal invasion, particularly for industrial interests. These landslides may be primarily caused by quarrying, mining, and large-scale construction projects that have an adverse impact on the ecological stability of the landscape. In Kerala, there are thought to be 5,924 quarries.

It is crucial to take the necessary precautions to lessen the effects of natural catastrophes like floods and landslides in Kerala, a state that is both heavily inhabited (859 people per square kilometre) and geographically small (38,863 sq km). These provide Kerala with adequate cues to pursue long-term mitigation measures rather than quick fixes throughout each monsoon season. Understanding that livelihood mitigation entails multi-sector collaboration, planning, and execution before, during, and after a disaster is one of the critical elements of maximizing preparedness.

In the long run, climate-friendly components with communities' health and safety at the centre must be included in the design of short-term or long-term developmental projects. This is very important not only for the State but also for upcoming nation-building initiatives that aim to boost community resilience. It should also present a chance to develop a professional cadre and contribute to the development of the nation's capability and disaster preparedness programmes.

"Climatology cannot always speak the truth, but climate change is a fact."

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