

KERALA FLOODS – A CATASTROPHE OR A MAN-MADE DISASTER

In late July 2018, severe flooding affected Kerala state in India due to unusually high rainfall during the monsoon season. Kerala's worst floods in nearly a century, over 350 people died, while at least 7.5 lakh people were displaced and property worth 50,000 crore damaged.

BUT WHAT CAUSED THIS HAVOC?

For the state's oldest living generation, this was take two.

The last rival to a flood of this scale and severity in Kerala was in 1924. At that time, over 1,000 people are said to have lost their lives, not to mention an enormous toll on livestock. In 1924, monsoons pelted the hapless state with 3,368 mm of rain; this year the figure was just 2,086 mm, which is not as bad as the former one but still 30 percent above the annual average. But there are more reasons to these floods:

1. Improper Dam Management

Leading experts suggest a heavy, artificial hand in this latest deluge. They say dam reservoirs need to be relatively empty before the onset of rains. According to Himanshu Thakkar, coordinator of the South Asia Network for Dams, Rivers and People, this was not the case in Kerala. The Idukki dam was already near full capacity by July-end even as rains were relatively weak (below normal levels) during that period. Thakkar believes this lack of foresight is common in India's dam management and has worsened floods across the country. "Filling up the reservoirs before the end of the monsoon is an invitation to disaster," he said over phone, adding that "while dams can help control floods, they need to be managed properly". Due the same reasons, the state was forced to throw open the gates of 35 of its 39 dams, knowing full-well what was to come. The intensity of the rains meant that two dozen more dams in states nearby were forced to follow suit. The dam gates were opened and a torrent of hell was unleashed on God's own country.

One of the most severely affected areas is Ernakulum in Kochi, along the Periyar River, into which excess water from the Idamalayar dam was drained. Dam-safety expert N Sasidharan claimed that authorities waited till the water level in the Idamalayar reservoir reached its capacity of 169 feet, and had it been opened sooner, would likely have spared the massive evacuation efforts in the vicinity. MC Joseph of Kuttikkatt village near Eloor said that the authorities made a mistake by opening all four gates of the dam at once, flooding the underlying regions at a much faster rate than expected. "This is the result of poor planning by the disaster management authority," Sasidharan added.

Even the Gadgil report was skeptical about dams, warning against their construction in the Western Ghats. But most of Gadgil's recommendations were rejected as too impractical, highlighting the tension between dams and development. While the costs and benefits of new dams may be unclear, for existing dams, what is clear is that their management can, and must improve, to limit damages during extreme weather events. Kerala is merely the latest victim of poor dam management: several of India's floods, such as Bihar in 2016 and Surat in 2006, were exacerbated by poor dam management. In the 2015 Chennai floods, which claimed 295 lives, violation of dam safety norms were a critical factor, a CAG report found.

2. Disturbing the Ecology

Beyond dam mismanagement, some environmentalists are pointing to other man-made issues, such as urban development and quarrying. In Kerala, much of which sits on the Western Ghats, development activity can increase the chances of landslides—the biggest source of fatalities in floods. The 2011 Western Ghats ecology expert panel (the Madhav Gadgil Committee report) had labeled areas of the state as extremely ecologically-sensitive where no developmental activities should take place. According to Gadgil, unchecked quarrying and construction in these areas caused these floods. Data from the state's disaster management control room show that flood casualties and injuries are widespread, but there is some concentration in the few ecologically sensitive areas. Idukki and Thrissur were marked as sensitive and account for 30% of total casualties and injuries. However, other sensitive areas (Kollam and Wayanad) were less affected although they also received very heavy rains.

THEORY BEHIND FLOODS

As a layperson, you can call it 'unreliability', or 'ambiguity'. Whereas, to a scientist, the best term is really 'uncertainty'," says Dr Raghu Murtugudde, a prominent climate scientist at the University of Maryland. "You end up with 'certain uncertainty'," Murtugudde continues. "With a (weather) instability coming up, if it doesn't build. Sometimes instead of building over Maharashtra, it builds a couple of hundred kilometers south, or a couple of hundred kilometers north." Tropical countries like India evolve differently than countries in the West, which have larger land area and time periods over which to observe and predict a given weather event, Murtugudde explains. In a recent report by the World Bank Group, average temperatures throughout Southeast Asia were seen rising, and rainfall growing more erratic, particularly in India. The report predicts that these weather changes will continue to shadow us over coming decades. Cities such as Kolkata, Mumbai, Dhaka and Karachi – home to nearly 50 million – are at a substantial risk of flood-related damage in the century to follow, the World Bank report warns.

Floods during monsoons are as common in the centre of our country as much as they are in coastal states. Uttar Pradesh and Bihar are prone to bad monsoons and saw the worst of it in the catastrophic floods last year that affected an estimated 40 million people, according to a UN report. "The main reasons for floods have been assessed high-intensity rainfall in short duration, poor or inadequate drainage capacity, unplanned reservoir regulation and failure of flood control structures," a report filed in March this year by the Ministry of Water Resources to the Rajya Sabha.

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