



## Deluge Of Questions

Why does nearly every ‘natural’ disaster hit us on such a scale? What are we doing wrong? Who’s guilty? Kerala’s monster monsoon leaves us with a deluge of questions.

**THUFAIL PT, PRAGYA SINGH, SIDDHARTHA MISHRA**



### WATERY RAGE

Water gushes out of the Idamalayar dam when the gates were opened on August 9

PHOTOGRAPH BY GETTY IMAGES



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### Tragedy Is No Lessons Learnt

- **2001** Gujarat (Bhuj) earthquake, around 20,000 casualties
- **2004** Quake and tsunami, over 1,000 killed
- **2005** Floods in Gujarat and Maharashtra, nearly 5,000 dead
- **2007** Floods in Bihar, nearly 1,300 deaths
- **2013** Cloudburst in Uttarakhand, nearly 6,000 deaths
- **2014** Kashmir floods, 300 deaths
- **2018** Uttarakhand forest fires, 3,500 hectares burned

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The Deluge. It’s just over a week since it hit Kerala. Yes, the scale was epic enough to recall Pauranic and Biblical lore, and the effect profound enough for all of us to revisit our basic ideas about how we live. As the flood waters recede, the freed lands unveil more destruction every day. But the story has gone beyond the human toll, the material devastation, the heroic rescue work, the exhausting social media battles. It’s almost as if we have attained the wide-angle perspective of an aerial shot at one of those dams in the Idukki high ranges, bursting at the seams: Nature threatening to

overwhelm puny human efforts to control and contain her. One look at it and you know. India simply has to reckon with its past follies and prepare for the future. It cannot meet the next disaster like a deer caught in the headlights of an oncoming train.

Cut to Scene 1: a hum of activity. It's CM Pinarayi Vijayan's secretariat in Thiruvananthapuram. There's near-mayhem here, and a precarious order emerging from it. The Communist strongman's all-powerful secretary, former CPI(M) legislator M.V. Jayarajan, is trying to manage the crisis from the top office. With a towel draped over his chair—the regulation blue-on-white characteristic of Kerala's officialdom—Jayarajan is monitoring television news. His telephone will not stop ringing. Entreaties are pouring in—millions are still marooned on makeshift 'islands', an archipelago of rooftops and ridges. "Our hill stations, our coastal belt, the intermediary areas, all are affected," says Jayarajan, gloomily. "All 42 dams in the state have been opened as their water level was exceeding capacity. We never expected this to happen."



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That last line is the real giveaway. No one ever expects a disaster. It follows, logically, that no one *prepares* for one. And therein lies the rub. Natural disasters can indeed overpower the best-laid plans of tsars and technocrats. But India's recent history is like a timeline of mega-disasters whose effects could have been largely mitigated. A supercyclone in Odisha. The earthquake in Bhuj. A tsunami all along the coast. A massive cloudburst over glacial Kedarnath. Not to speak of forest fires and periodic droughts, or the floods that torture and paralyse our coastal megacities annually. Or the raging Brahmaputra that routinely fills Assam with woes, and likewise the Kosi in Upper Bihar. The cumulative toll is obscene...inching close to a lakh. Add the social dislocation, the economic miseries, the unquantifiable miseries. In each instance, we could have done way better. But we don't.



### NATURE'S FORCE

This bridge near Munnar was washed away

PHOTOGRAPH BY THE NEW INDIAN EXPRESS

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Take Kerala. It's true that it's after a full 113 years that this sliver of a state has seen such waters. It's a state spoiled by monsoons—its average annual rainfall of 3,055 mm is five times that of what Haryana gets, and double of what Gangetic Bengal gets. Even a drought here can look like a glut to a visiting northerner. And August here saw 164 per cent excess rainfall. Almost *double* of Kerala's normal.

The reservoirs in its three main highland river systems—Periyar, Pampa and Bharathapuzha—filled to the brim. Rivers raged against bridges. Water skidded off a newly-concretised topography in its futile search for a channel to the sea—vast paddy lands that were once the recharge zones have all been 'reclaimed' in a state that's become an endless housing colony. Soon, stormwater drains, rural canals, ponds, panchayat roads, city promenades, backwaters—everything merged to form numerous seas. In coastal parts, even the ocean rushed onshore, creating a perfect storm. Kerala sank in parts. And it was still raining.

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You need a Noah in such circumstances. But we have to make do with Indian officialdom. Given the scale of abnormality, after the state government woke to the crisis on August 8, its response mechanisms have largely held up. But the crisis protocol—the simple steps to be taken—is riddled with greys. Who takes the call? Who coordinates among the multiplicity of authorities that manage something as complex as a dam system? When indeed is a crisis really a crisis?

Depends on what kind of disaster. Cyclones call upon one structure, drought another. When it comes to floods, the key players, are the India Meteorological Department (IMD) and the Central Water Commission (CWC). "The CWC comes up with flood forecasts based on our rainfall forecasts," says Mrutyunjay Mohapatra, director of forecasting at the IMD. In Uttarakhand's 2013 flash floods, the state government had failed to take note of early

warnings from the IMD. But in 2018, this basic structure—the IMD and CWC as first informants—appears to have failed Kerala.

The Kerala government's first response was to open the sluiceways of every dam in the state. Any more sustained pressure on the dams could have been disastrous. This too was a story filled with snafus. Cheruthoni is a dam within the Idukki system—the name literally means a 'small boat'. On August 8-9, its gates were opened as a trial run—to see how much water could be safely let out. Officials found that a district panchayat bus stop had been built in the way of the old river's course in the years it had been blocked. "We had to remove it with a bulldozer," a district official says. The trial was a flop: because of heavy rains, officials could not get the gates to close again. (Two of its five gates are still open.)

Once the dams opened, stored water merged with the already rain-flooded landscape. In this most densely populated state, even minor events can trigger disproportionate losses. So incessant rains, bursting dams and the sea together wreaked havoc on farmland and factory, home and office, hill and flatland alike. A rapid estimate: Rs 19,512 crore losses in major sectors.

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"Kerala will have to be rebuilt," Jayarajan admits. Around the Sphinx-like Pinarayi, the sceptical silence and solidarity the Opposition was offering till now is beginning to vanish. They now want a judicial inquiry to determine the exact sequence of events. It's the usual questions. When did Kerala receive alerts about rising water levels? When were the decisions taken to release dam water? And so on. We have the usual deflections too. "I will talk about this later. We are in the midst of a crisis right now," state electricity minister M.M. Mani tells *Outlook*.

### **A National Disaster?**

Questions could, in fact, be asked of just about any disaster in the past decade. The essential question that cropped up with the floods in Kashmir, or the periodic ones in Chennai, Mumbai and Guwahati: how much of the devastation is man-made? Or specific ones: should dam water, say in Kerala or Chennai 2015, have been released gradually, easing the pressure, instead of stocking up till the last in our resource-scarce mentality and suddenly waking to a crisis? Kerala had already seen record-breaking precipitation before the dams were opened. Was the coming deluge from the skies not forecast properly? Were the forecasts not disseminated well enough? Or is Kerala only a symptom of a collective failure—of meteorological authorities, disaster managers, planners, state and Centre, being unable to act in concert?

One key presence—and often, curious absence—here is that of the National Disaster Management Authority (NDMA), the apex body responsible for disaster management in India, whose terms of reference include preparation for and mitigation of disasters as well as rescue and relief. For the record, they speak all the pat lines. "There's never a coordination problem between the Centre and states during disasters," says NDMA member R.K. Jain. At the moment, the NDMA is at the forefront of coordinating relief for Kerala. Its ground troops, the National Disaster Response Force (NDRF), have been mobilised in the largest-ever numbers—58 companies (or roughly 2,320 men) were deployed early this week. One could take from this a sense of well-oiled efficiency. But the reality is way, way fuzzier.

A full week's gap—that's what separates Kerala's first suo motu crisis response on August 8 to the time the NDMA came into the picture. For reasons unknown, it was made to join the Centre's discussions on tackling the catastrophe only on August 15. "That evening, it was decided there would be a National Crisis Management Committee (NCMC) meeting the next day. We have met every day, sometimes twice, since then," says Jain. (It's a well-rounded, power-packed congregation: top political representatives from the health, communications, power, defence and home ministries, chiefs of coast guard and other military outfits and senior NDMA representatives. But the NDMA has not had a vice-chairperson since 2014 and only an ex-officio chairman in the prime minister—in short, India's nodal disaster management agency has been functionally headless for four years.)



## RECOVERY

A house being cleaned as the water level recedes

PHOTOGRAPH BY THE NEW INDIAN EXPRESS

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Suspicion that something went wrong underlies the Opposition’s demand for a probe. “We are legally bound to provide assistance only at the state government’s request,” says Jain, tiptoeing cautiously around the key question. “We cannot say Kerala did not ask for assistance on time. But the responsibility for responding to disasters lies with state governments.” But first, a closer look at what unfolded on August 8—as we said, a full week before the NCMC first met.

### Each Boat To Its Own

On the intervening night of August 7-8 in Kochi, Sudhesh Kumar, ADGP in charge of coastal security, happened to be handling a search-and-rescue operation after a ship had hit a boat. There was no official word till now, but he noticed it. “I could see what was happening,” he says. “The rainfall was intense and the sea level was visibly rising.” Having been around a bit—a UN stint and a key role in setting up the NDMA—Sudesh could recognise a coming catastrophe when he sees one. And he was seeing one.

“I informed the DGP of the rising waters. He immediately made me nodal officer for rescue, with the Kerala Police in the lead. We were soon joined by other forces,” he says. Within 24 hours, 400 boats were mobilised from fishermen, becoming the backbone of the rescue ops. “Fishermen volunteered to help too,” he says. In the absence of word from a central disaster forecasting and response mechanism, local intelligence acted on its own. By then, disaster was already at the doorstep.

How exactly would things have been different had the NDMA and its command structure come into play earlier? Here, Cyclone Phailin offers a textbook illustration. That was the last disaster handled by an NDMA with a functioning head, back in Odisha in 2013. “We successfully evacuated 10 lakh people, double our target of 5 lakh,” says M. Shashidhar Reddy, the last NDMA vice-chairperson. “That means there has been lack of preparedness in Kerala’s case.”

Until Reddy’s term—December 2010 to June 2014—the NDMA vice-chairperson enjoyed the rank of a cabinet minister; its members that of ministers of state. The Modi government made the vice-chairperson’s post equivalent to that of a cabinet secretary. “If a crisis is not

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tackled from the highest levels, it can't be handled effectively in India," says Reddy, who has since joined the Congress. "You end up handling a big catastrophe as a 'local event'. With these changes in ranks and by not appointing a vice-chairperson, the NDA government has downgraded the NDMA."

Look back at Phailin. Only 24 hours before the cyclone's landfall, Odisha was lagging seriously behind with evacuations. "It's only when I directly contacted the chief secretary that it really picked up," says Reddy. "Otherwise, international agencies had predicted 10,000 deaths, like in the 1999 cyclone. Cabinet rank cuts through red tape and helps access top officials directly—a necessity during disasters."

There's also enabling law: Section 6 of the Disaster Management Act allows the NDMA to "take such other measures" to prevent or mitigate threatening disaster situations "as it may consider necessary". This means it can order forcible evacuation if it deems the crisis serious enough. For, paradoxically, people in a danger zone can be extremely unwilling to leave their home and belongings. In Odisha, once a clear word went through, police even fished out elderly village folks hiding in inner rooms or lurking in the woods behind their houses! Thus, 10 lakh were vacuumed out and countless lives saved.

As a study in contrast is Kerala's story of bottom-up grit: heroic, but not enough. The state police chief, Lokanath Behera, recounts the sequence of events: "After incessant rains on August 8, we were rattled. Police stations were unable to handle the flood of distress calls. We had no order or instructions to go by. We decided to go *suo motu*. We put 15,000 policemen on rescue ops along with other officials. Men were added as the situation worsened, until 40,000 pairs of boots were on the ground. Most police stations were emptied of staff as the flood took precedence. We did not have helicopters, but we have local knowledge—this saved many lives."

People in relief camps that *Outlook* visited admitted police made evacuation announcements on loudspeakers in villages. Plenty refused to leave. They were still stranded and begging from rooftops for drinking water when *Outlook* visited the areas on a police rescue truck on Tuesday. Signs of a systemic failure for Reddy. "The Disaster Management Act authorises them to take any measure—including force—because evacuation is about saving lives," Reddy says.

### **Bipolar Weather?**

Not everything is in human control. One reason why human systems need to be in top form is the extreme variance in weather patterns of late. Consider the irony that, just this March, nine out of Kerala's 14 districts were officially declared drought-hit. These include hilly Idukki, where the mighty Periyar originates and where 44 have died so far in August. Damned by dearth, Idukki is now damned by overabundance.

"For the past two years, Kerala was deficient in rainfall," says Mohapatra, wryly. And this month, the gates of the Idukki reservoir had to be opened for the first time in 26 years as they threatened to overspill. This reservoir is one of Kerala's most ambitious hydro-power sites. Among Asia's highest arch dams, it rises to 169 metres, towering over surrounding regions—imagine a building 56 stories high, wide as the sea, and filled with as much water. Built across the Periyar, it has a 780 MW capacity and is critical to Kerala's growing power demand.



## RELIEF

A volunteer brings bread to a stranded family

### PHOTOGRAPH BY AP

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This is the other twist in the tale of conflicting, overlapping authorities. The electricity board regulates the water levels in dams—states simply tend to view this from the prism of harnessable electricity. Letting water out from dams is like letting go of power output—or rather, like throwing away firewood. And power insufficiency has unpleasant social, political, industrial and environmental consequences, as we all know. “Thus, state electricity departments always try to keep their dams full,” says Avinash Mishra, joint advisor (water) at Niti Aayog.

Another central government official, requesting anonymity, says: “This issue relates to all states. Nobody wants to stick their neck out. They don’t follow technical advice about when to open or close the floodgates.”

There’s reason behind this conservatism: dams take care of a variety of needs, ranging from electricity to irrigation, drinking water and industrial uses. “Reservoir managers are very conservative because to release or hold water in reservoirs is not a simple or binary choice. They must weigh a range of factors: what if they release water and a dry spell occurs, leaving no water to drink? This is partly dictated by the fact that seasonal variation in rainfall is very high,” says another NDMA official.

“The Kerala model of development was thrown away at least two decades ago. Now there’s blatant flouting of laws,” says Madhav Gadgil.

Pioneering water conservationist Rajendra Kumar, who has been described as the ‘Waterman of India’, completes the logic. “Drought and flood are two sides of the same coin,” he says. This has a strong bearing on the Kerala story; but first, to emphasise the scale of the crisis, consider faraway Bundelkhand. This region that straddles UP and Madhya Pradesh is a prime illustration of schizoid weather—droughts alternating with floods in very quick succession.

The pattern, visible across the country, has an inner cycle of its own. First, rain erodes soil, which settles down in rivers, thrusting its waters upward and outward, creating a classic flood. Drought, on the other hand, hits those lands that have lost topsoil to this erosion. In Bundelkhand, 2016 saw a flood and a drought within two months.

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Can we put figures on this bipolarity in weather patterns? A series of papers on ‘Observed Climate Variability and Change’ (2016) published in Springer’s *Geography* examined rainfall patterns from 1901 to 2010 to find higher frequency of dry days during winter, pre-monsoon and southwest monsoon seasons, besides significant

decreases in very light and light-to-moderate rains. Their most significant observation is the rise in incidence of “very heavy to extremely heavy rainfall”—precipitation patterns have changed so the amount of rain earlier received over 75 days now lands over just 45 days across India.

Travel further north, to Kashmir, and find a different part of the pattern. After the September 2014 floods that killed 300 people and damaged over 2.5 lakh houses in the Valley, the Centre embarked upon flood management of the Jhelum river. This involved ‘dredging’—scooping up the erosion deposited in the river to make room for more water. The river has thus almost doubled in carrying capacity. So far so good?

Not really. Ghulam Rasool Shah, executive engineer, irrigation and flood control, tells us why. In a recent meeting chaired by (former) Governor N.N. Vohra’s advisor Khurshid Ganai, several engineers said the project harmed the river. It has weakened its embankments. Why? Because, instead of silt, the company awarded the dredging project fished out profit-making sand. In the process, the river’s geology changed. “This will have consequences,” a flood control official warns. At Batwara, near the Badamibagh cantonment in Srinagar, residents fear the embankments are so weak, they will be breached at the slightest increase in water levels.

More signs of bipolarity and its reasons come from Karnataka. Districts to the northeast of Kerala, including Kodagu and Mysore, are being battered by rainfall at present. Meanwhile, Bidar and Kalaburgi to the north are drought-like. “No doubt we got excess rainfall this year, but it would have been beneficial if only we had managed the Cauvery basin catchment area,” says T.V. Ramachandra of the Centre for Ecological Sciences at the Indian Institute of Science in Bangalore.

Ramachandra was part of Karnataka’s Western Ghats Task Force, for which his ongoing study of the Cauvery basin has some startling findings: only 17-18 per cent forest cover and large-scale deforestation. “This is a tragedy,” he says. Tragic because regions with native vegetation intact can carry water all year unlike streams passing through monoculture plantations, which carry only for 6-8 months. This is why many say the destruction in Kodagu was something foretold and the blame falls on changes in land-use over the years. In short, Kodagu should wake up and smell the coffee.

In a catchment area, native vegetation allows percolation of water by at least 40-50 per cent—only 50 per cent goes over-ground. In monoculture plantations, only 20 or 25 per cent goes into the underlying layers. Barren areas, of course, spell flash floods.

Environmentalist Madhav Gadgil, whose report on the Western Ghats ecology was ignored by Kerala and its neighbours, now questions afresh the current model of development. “At the height of the Kerala model, it was admired as it involved people right down to panchayats planning resource use. That model was thrown away maybe at least 20-25 years back. Now there’s blatant flouting of laws,” he says. “Climate scientists are in consensus that extreme weather events are likely to become much more frequent and intense. The combination is deadly.”

The shambolic ways of officialdom increases the risks manifold. Aamir Ali, director of J&K’s Disaster Management Authority, speaks of the inadequate equipment they labour under. The government has only acquired 40 boats to prepare for the next flood, he concedes. But there’s more. An official, unnamed in the best traditions, paints the picture for us: and it could be a metaphor for all of India. The Srinagar battalion of the disaster response force has only around 600 personnel, which is already less. “Almost 75 per cent of the battalion is over 40,” says the official. “And when they were taken for swimming tests, most failed.” Noah, anyone?

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*By Thufail P.T. in Kerala and Pragya Singh and Siddhartha Mishra in New Delhi with Lola Nayar in New Delhi, Ajay Sukumaran in Bangalore and Naseer Ganai in Srinagar*

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# Indian Sport Needs Urgent Reforms, Writes Ashwini Nachappa

Indian sport, monstrously run as ever, needs urgent reforms. A flicker is visible.

**ASHWINI NACHAPPA**



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After our creditable performance in the Commonwealth Games, there is much to look forward to the Asian Games in Jakarta and Palembang. With over 500 Indian athletes taking part and some recent world-class performances by them in events like track and field and archery, there is expectation of a larger medal haul than the 57 won in 2014. Of course, there is China, Japan and South Korea, who were not part of the CWG, to contend with. So, it won't be as easy for India.

Junior world and Indian record holder in javelin, Neeraj Chopra, 400m ace Hima Das and Mohammad Anas will be the ones to look out for in athletics. Our archery team led by Deepika Kumari can also fetch us medals. Then there is our badminton team, with P.V. Sindhu, Saina Nehwal, Srikanth Kidambi and others who have world-beating potential, having proven that the hegemony of the Chinese, Indonesians and Malays can be broken.

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Then, there is our hockey men's team, which has shown a marked improvement, leading to a top-ten world ranking, though it has been inconsistent as usual. However, with Harendra Singh as the head coach now, I am optimistic of a

good performance. There are other disciplines such as shooting, wrestling, and boxing, from which we can expect to increase our medal tally.

And then, we have the same old story of the struggle to find a consistent stream of world-class athletes. In every international meet, there's the old rigmarole of trying to improve performances from a very limited group of athletes. While there has been an improvement in certain disciplines, we still grapple with the same problems—inept officials, total lack of concern by those governing the sport for the well-being of the athlete and constant bickering between the national sports federations (NSFs), the Indian Olympic Association (IOA) and the Union sports ministry. I still see athletes complaining bitterly about lack of transparency in selection, lack of adequate travel arrangement and chaos in deciding basics like ceremonial kitting and gear!

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This time around, I have noticed that the list of sports and athletes has been changed and chopped till the last minute. When athletes are not sure if they would be selected, how can they focus and give their best? Even those selected, it seems, are not too sure of their places, for they could be dropped like hot potatoes—like it happened with pencak silat and sambo practitioners. This uncertainty has undermined our performances over the years. It has to go.

I remember that at her first international meet, the Asian Track and Field Championships in 1985, the great P.T. Usha, all of 18 years, won five gold from six events. After Usha, there has been no one to continue her legacy. Thirty-odd years later we finally have a Hima Das! That underscores the systemic problem.

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With a large Indian contingent there is hope of a bigger medal haul. We must build a reserve of world-class talent.

Sport in India has seen a disorganised growth, forever in the grips of the debilitating culture of entitlement among those who run it. Most NSFs and the IOA are nothing but personal playgrounds of the few at the helm. No adequate thought has been given to how talent can be nurtured. These organisations function typically in a kneejerk, random manner and are driven by personal ambitions. Corruption, poor selection, lack of knowledge of the sport, poor managerial skills mark them. How is it possible for our country to produce a strong bench-strength of world-class talent? So, India has to be satisfied with those few sparks of individual brilliance. Thank God for these athletes.

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However, over the last couple of years, I have seen change in the right direction. For the first time ever, we have a sportsperson as Union minister of sports. Rajyavardhan Singh Rathore has taken steps that augur well for developing sports in an organised way. The Khelo India initiative has broken new ground too.

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But more needs to be done to the system. Our sporting bodies operate in silos. Development of infrastructure and capacity building is haphazard. What we need is a non-profit, non-governmental organisation, something on the lines of the Australian Sports Commission, which will coordinate the efforts of all our NSFs and the IOA, so that there is clarity of direction. Given the huge mandate that our current government enjoys, it is possible, and imperative, for it to do. Hope Rathore is listening.

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*(The author is an Arjuna Award-winning former India sprinter)*

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