

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन नदी विकास एवं गंगा संरक्षण विभाग
केंद्रीय जल आयोग
जल प्रणाली अभियांत्रिकी निदेशालय



Government of India
Ministry of Jal Shakti
Dept. of Water Resources, RD&GR
Central Water Commission
Water System Engineering Directorate

दिनांक: 14-8-2019

विषय - समाचार पत्रों की कटिंग का प्रस्तुतीकरण।

जल संसाधन विकास और संबद्ध विषयों से संबंधित समाचार पत्रों की कटिंग को केंद्रीय जल आयोग के अध्यक्ष और सदस्य (कार्य योजना एवं परियोजना / अभिकल्प एवं अनुसंधान / नदी प्रबंध) के अवलोकन के लिए संलग्न किया गया है। इन समाचारों की कटिंग की सॉफ्ट कॉपी केन्द्रीय जल आयोग की वेबसाइट पर भी अपलोड की जाएगी।

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वरिष्ठ कलाकार
जल प्रणाली अभियांत्रिकी निदेशालय

संलग्नक: उपरोक्त

उप निदेशक, (ज. प्र. आ.) निदे०

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निदेशक, (ज. प्र. आ.) निदे०

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सेवा में,

अध्यक्ष, के. ज. आ., नई दिल्ली

सदस्य (कार्य योजना एवं परियोजना/ अभिकल्प एवं अनुसंधान / नदी प्रबंध) और

जानकारी हेतु - सभी संबंधित केन्द्रीय जल आयोग की वेबसाइट www.cwc.gov.in पर देखें।



News item/letter/article/editorial published on 14-8-2019 in the following newspaper

Hindustan Times	<input type="checkbox"/>	Deccan Herald	<input type="checkbox"/>	Hindustan (Hindi)	<input type="checkbox"/>
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Red alert in 3 Kerala districts

NEW DELHI, AUGUST 13

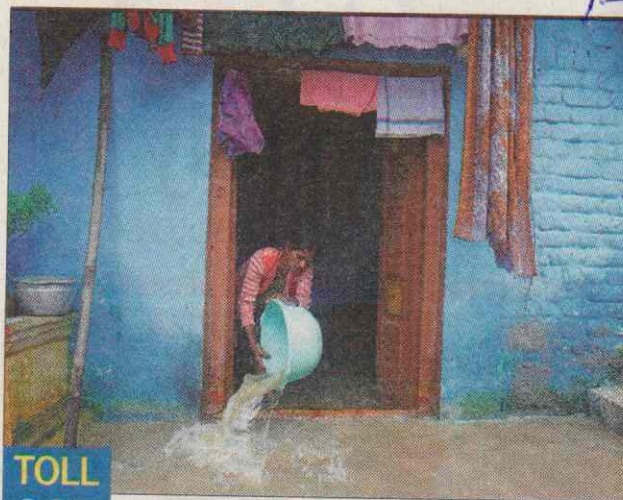
The death toll in the Kerala floods increased to 91 on Tuesday with an "extremely heavy rain" warning issued for three districts, even as the weather in deluge-hit Karnataka and Gujarat improved, allowing the authorities to speed up rescue and relief operations.

In Kerala, a red alert has been issued for Ernakulam, Idduki and Alappuzha as extremely heavy rains are expected in central areas of the state.

Due to strengthening of low pressure in the Bay of Bengal, heavy rains are expected to lash several parts of the state, said K Santosh, IMD Director in Thiruvananthapuram. The state government said the toll is likely to go up as 59 people are still missing.

Rescue operations in Maharashtra's flood-hit Kolhapur and Sangli districts are over, officials said, adding that with waters receding, the focus is now more on providing essential supplies to the affected people. The situation has also improved in flood and heavy rain-affected districts of Karnataka and inflows in reservoirs are also steadily decreasing, the government said.

Eight persons were killed in Odisha due to heavy rain triggered by formation of two back-to-back low pres-



TOLL
225

A woman tries to clear floodwaters from her home in Hunsur town of Karnataka on Tuesday. AFP

KERALA
91 Situation: Extremely heavy rain likely

KARNATAKA
54 Situation: Floodwaters receding

CENTRE SANCTIONS ₹52 CR TO KERALA

The Centre has sanctioned ₹52 crore immediate assistance to Kerala, while the state government has sanctioned three-month free ration for the flood victims.

MAHARASHTRA
49 Situation: Rescue ops intensify

GUJARAT
31 Situation: Weather improved



OP 'VARSHA RAHAT'

- 14,000 persons have been rescued by the Navy from Maharashtra, Goa and Karnataka in the past seven days
- 41 Navy teams were deployed in difficult terrains where they used advanced helicopters, boats to reach the marooned areas

M'RAHSTRA TO SEEK ₹6,813 CRORE AID

Mumbai: Maharashtra would seek ₹6,813 crore Central aid to tackle the flood-induced crisis, Chief Minister Devendra Fadnis said. The proposal would be forwarded to the Centre soon, he said. "A committee of experts will be set up shortly to recommend measures if the state again witnessed the kind of rainfall it received in the last four days," Fadnis said. IANS

sure areas, while fear of flood loomed large in several areas, officials said. Train services were affected in parts of west Odisha as

water submerged tracks in some places as incessant rain pounded districts such as Boudh, Bolangir, Kalahandi, Kandhamal and Sub-

arnapur districts, they said. Two rain-related deaths were also reported from UP where several parts saw overnight showers. —PTI

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8 killed as rain pounds Odisha

Chief Minister reviews the flood situation

SPECIAL CORRESPONDENT
BHUBANESWAR

At least eight people were killed as heavy rains battered Odisha's western and southern parts for the second consecutive day on Tuesday, causing large scale inundation in several districts.

The deaths were reported from the districts of Nabarangpur, Kalahandi, Kandhamal, Koraput and Malkangiri, according to Special Relief Commissioner Bishnupada Sethi.

Chief Minister Naveen Patnaik reviewed the flash flood situation in the districts of Bolangir, Kalahandi, Subarnapur, Boudh and Kandhamal. He interacted with the concerned district collectors through video conferencing and enquired about their requirements.

The coastal Odisha districts were also bracing for floods as more than 10 lakh cusecs of water was expected



Water world: Vehicles submerged in water after a heavy downpour in Bolangir district of Odisha. ■ SPECIAL ARRANGEMENT

to flow in Mohanadi river on Thursday morning. The collectors of Khordha, Cuttack, Jagatsinghpur, Nayagarh and Kendrapara have been alerted and advised to strengthen river bank patrolling.

It has been raining incessantly in the interior regions of the State due to low pressure area over northwest Bay of Bengal and adjoining West Bengal and north Odisha coast forcing the administration to evacuate people from the low-lying areas at several places.

Seven units of the Odisha Disaster Rapid Action Force

along with fire services teams have been pressed into service to tackle the flood situation.

As hundreds of villages were marooned due to flash floods, road connection was also hit with breaches at many locations and roads remaining under water.

At least nine trains were cancelled and several others were diverted with water flowing over the track at many locations between Deogaon Road-Bargarh, Loisinga-Bolangir and Barpalli-Dnguripalli stations in the Sambalpur-Titilagarh section.

9 fishermen die off Gujarat coast

SPECIAL CORRESPONDENT
AHMEDABAD

Nine more fishermen have died in Gujarat, taking the toll to 15, after their boats sank in rough seas off the Porbandar coast when they went for fishing expedition, ignoring an official fiat to not venture into the sea. "15 fishermen have died in the seas from Dwarka and Porbandar," an official from Porbandar said, adding the Coast Guard rescued more than 75 fishermen stuck in rough seas off the Porbandar coast.

According to sources, 95 fishermen along with 16 boats had ventured into the sea from Porbandar but they were stuck in rough sea. Their two boats capsized in which 15 fishermen drowned. The government has reiterated its directive, asking fishermen to not venture into the sea during the active monsoon period.

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FACE THE DELUGE

Floods in different states raise questions about understanding of monsoon, preparedness to deal with rivers in spate

THE SOUTHWEST MONSOON has left a trail of destruction this year. Nearly 500 people have reportedly lost their lives in Kerala, Karnataka, Maharashtra, Gujarat, Assam and Bihar. In Kerala, which experienced its worst deluge in a century last year, more than 80 people have lost their lives in five days since August 8. In neighbouring Karnataka, the toll stands at 48. Northern Karnataka, which was facing drought like conditions in May, is now under water. According to Chief Minister BS Yediyurappa, the state is witnessing its worst floods in 45 years. In Maharashtra, more than 40 people have lost their lives in Sangli and Kolhapur districts, while the Marathwada and Vidharbha regions are reeling under a drought.

The floods this year have drawn attention to the changing dynamics of the southwest monsoon. Take the case of Kerala. According to India Meteorological Department (IMD) data, the state recorded a more than 25 per cent deficit in rainfall between June 1 and August 7. But Kerala has nearly made up the deficit in the past five days. Palakkad district has received 80 per cent excess rainfall after August 8, Wayanad and Thrissur have also experienced sharp departures from normal rainfall, with an excess of nearly 40 per cent. Similarly, on August 8, Karnataka received nearly five times the rainfall the state receives in a day. Kodagu, the state's worst flood-hit district, received 460 per cent above normal rainfall between August 5 and 11. In fact, monsoon rains in the past five years have followed a pattern: A few days of intense rainfall sandwiched between dry spells.

The focus this year, as in the past, has been on providing relief to the flood-affected. But questions must also be asked about the ways states prepare for, and deal with, floods. The vagaries of weather, for example, demand cooperation between states that share a river basin. This year, Maharashtra and Karnataka bickered over opening the gates of the Almatti dam on the river Krishna. By the time the two states agreed over the amount of water to be discharged from the dam's reservoirs, the damage was already done. The floods also drive home the urgency of focusing on nature's mechanisms of resilience against extreme weather events. Policymakers and planners have shown little inclination to place wetlands, natural sponges that soak up the rainwaters, at the centre of flood control projects. Flood governance in the country has placed inordinate emphasis on embankments. But the floods in Bihar and Assam showed — for the umpteenth time — that these structures are no security against swollen rivers. Of course, what is true for the Western Ghats states may not hold for Assam and Bihar. But the message from the floods this year is clear: There is a need to revisit the understanding of the monsoon and find ways to deal with its fury.

Maharashtra flood toll rises to 43, govt pegs losses at Rs 6,814 crore

SANDEEP ASHAR
MUMBAI, AUGUST 13

WITH TORRENTIAL rain and subsequent flood leaving a trail of destruction in Maharashtra, the state government on Tuesday pegged the damages at Rs 6,813.93 crore as the preliminary assessment, even as the toll from various flood-related incidents rose to 43.

A staggering 4.06 lakh hectare farm area under kharif cultivation has been ravaged, inflicting losses to over 8.7 lakh farmers. The government on

Tuesday decided not to follow the Centre's financial assistance norms for crop losses due to natural disasters — calculated at Rs 6,800 per hectare for rain-fed crops — and will pay compensation for loss valued at Rs 50,000 per hectare. Similarly, an amount of Rs 75,000 per hectare was considered for irrigated area, though the Centre's relief norms approve of Rs 18,000 per hectare.

While Chief Minister Devendra Fadnavis said that "a memorandum of assistance" will be sent to the Centre, he added that till help is received, the amount will be spent from

the state's exchequer.

As per the initial assessment, the flood has damaged 1.39 lakh houses. The government will pay as compensation Rs 16,602 and Rs 5,200 for pucca structures fully and partially destroyed, respectively. Those who have lost their huts, will receive Rs 4,100.

With over 400 km of road network damaged, the state has estimated Rs 876 crore will be needed for road and bridge repairs.

Fadnavis, meanwhile, has engaged an IIT team to map vulnerability of residences situated near the floodplains.

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Part I of 2

More rain in less time behind flooding: Data

HT-1418

Abhishek Jha and Roshan Kishore

letters@hindustantimes.com

NEW DELHI: In August 2018, Kerala faced one of the worst floods in its history. In the two weeks ending 22 August, 2018, the state received 652.4 mm of rain, the highest in two weeks since 1 January 1989. It was this burst of rain, rather than a large increase in annual rainfall, which resulted in large-scale flooding in the state.

Events such as the 2018 floods have drawn attention to the trend of increasing skewness in rainfall patterns. Total rain in a year might not change significantly, but is it the case that increasingly, large parts of the monsoon season are dry and there is a deluge in a short time-span? This is not a matter of mere statistical interest. No rain during large parts of the monsoon can delay and derail sowing and growth of crops. Sudden bursts of rain can lead to



■ A view of Hampi, a world heritage site, that was flooded following heavy rainfall on Tuesday.

PTI

flooding and replenish less ground water than what spread-out and regular rainfall would do.

HT has analysed granular rainfall data from the IMD to check whether this is happening.

The short answer is that it is.

This is clear in the difference between the mean and median rainfall, which has been increasing in the first two decades of this century as compared to the last five decades of the last century.

FULL REPORT »P13

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Part 2 of 2

India's changing monsoon trend: Fewer rainy days, but more rain

PATTERN Rainfall more skewed in the last 20 yrs; while no rain delays crop sowing, sudden bursts lead to floods

HT-14/5

NUMBER THEORY

Abhishek Jha and
Roshan Kishore

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NEW DELHI: In August 2018, Kerala faced one of the worst floods in its history although this isn't reflected in the annual rainfall data for the state. According to the Centre for Monitoring Indian Economy (CMIE), which has annual rainfall data from 1902, total rainfall in Kerala in 2018-19 was 3164.1 millimetres (mm). This is the 34th highest annual rainfall in the state, nowhere near extraordinary. So, why did the floods happen?

A shorter time window presents a clearer picture.

Again, according to CMIE, which has weekly and monthly rainfall data from 1989, there was nothing out of the ordinary about the rainfall in June, July, and September (three of the four months that are considered the monsoon season in many parts of India; August is the other month) in the state. The rainfall in June, July, and September 2018 in the state was the sixth, seventh, and 26th highest since 1989.

August 2018 was different. It was the wettest since 1989 in Kerala.

Further disaggregation is even more illuminating.

In the two weeks ending 22 August, 2018, Kerala received 652.4 mm of rain, the highest in two weeks since 1 January 1989. It was this burst of rain, rather than a large increase in annual rainfall, which resulted in large-scale flooding in the state.

Rainfall patterns vary. That is why they are measured in terms of long-period averages rather than one year values. However, events such as the 2018 floods in Kerala have drawn attention to the trend of increasing skewness in rainfall patterns. Total rain in a year might not change significantly, but is it the case that increas-

EVENTS SUCH AS THE 2018 FLOODS IN KERALA HAVE DRAWN ATTENTION TO THE TREND OF INCREASING SKEWNESS IN RAINFALL PATTERNS

ingly, large parts of the monsoon season are dry and there is a deluge in a short time-span?

This is not a matter of mere statistical interest. No rain during large parts of the monsoon can delay and derail sowing and growth of crops.

Sudden bursts of rain can lead to flooding and replenish less ground water than what spread-out and regular rainfall would do.

HT has analysed granular rainfall data from the India Meteorological Department (IMD) to check whether this is happening.

The short answer is that it is.

This is clear in the difference between the mean and median rainfall, which has been increasing in the first two decades of this century as compared to the last five decades of the last century.

A quick digression on the significance of the measure. Mean rainfall is the simple average of total rainfall divided by the number of rainy days. Median rainfall is the middle value of rainfall during the monsoon period when daily rainfall is arranged in increasing order. If much of the season is dry and much of the rain happens in a short intense burst, then the difference between the mean and the median will be high.

HT's analysis shows that this value is higher in the last decade and this (2001-2010 and 2011-) than in any decade between 1951 and 2000.

This suggests that rainfall

Monsoon rainfall in India is becoming more skewed

CHART 2 Each dot represents the difference between mean and median monsoon rainfall in a box of area bounded by 0.25 degree latitude and longitude

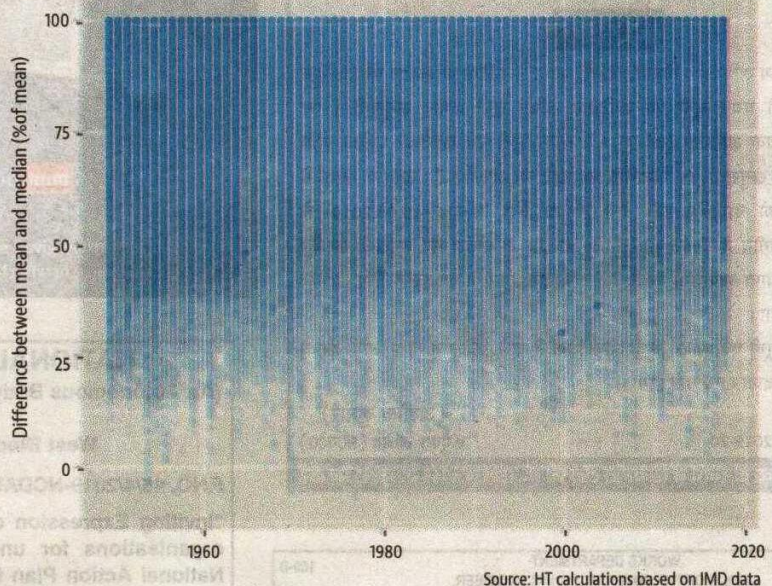
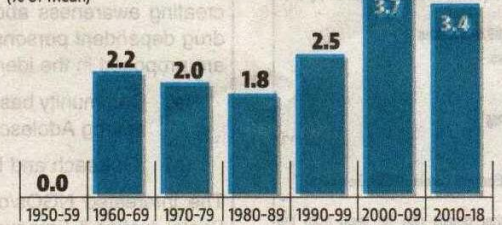


CHART 1 Difference between mean & median rain (% of mean)



has become more skewed in the last two decades.

See Chart 1

To be sure, this method is an approximation. This is because rainfall varies drastically

across India. The India Meteorological Department or IMD provides rainfall data across grids (basically a small square of area). There are 4964 grids in India, which is almost eight

times the number of districts (640) in the country at the time of the 2011 census.

Doing this exercise from 1950 to 2018 yields a plot with at least 342,000 points. The plot is shown in chart 2.

An upward shift in the number of points with time suggests that rainfall is getting more skewed across India, as the difference between mean and median rainfall is rising. The chart does show such a shift to some extent, which is in keeping with the summary trends shown in Chart 1.

See Chart 2

If these trends intensify, we should prepare ourselves for a monsoon season, which has fewer rainy days, but more rain than what we're used to.

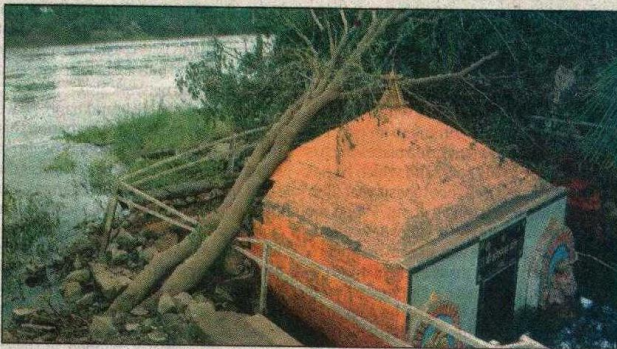
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Part 1 of 2

West well Stocked with water, South is short

Reservoirs exceed normal levels for this stage of the year after heavy rain in Maharashtra and Gujarat, way below normal in rain-hit Kerala and Karnataka



The Koyneshwar temple on the bank of the swollen Koyna river, in Karad, Maharashtra, on Tuesday. PTI

ANJALI MARAR
PUNE, AUGUST 13

AMONG THE four states that have experienced extremely heavy rainfall this month, the status of water stored in their reservoirs is vastly different. Nationwide, the 103 reservoirs monitored by the Central Water Commission (CWC) had stored 76.845 billion cubic metres (BCM) by August 8, or 47 per cent of their live storage capacity. This was below last year's storage at this stage (97 per cent) as well as the 10-year average (97 per cent).

In Gujarat and Maharashtra, storage in the 35 reservoirs has surpassed the 10-year average (considered normal), following incessant rainfall over the Western region since the start of August, according to the latest live storage report issued by the CWC, with figures updated until August 8. On the other hand, although coastal Karnataka and north Kerala too have had heavy rainfall over the last fortnight, the water stock in reservoirs in both two Southern states is still below normal for this time of the year.

Southern Gujarat, and western and southern Maharashtra have had heavy rainfall, which has led to floods in Kolhapur, Sangli, Satara districts of southern Maharashtra. The Western region has 35 reservoirs, in Maharashtra and Gujarat. The current live storage in the 35 reservoirs is 17.40 billion cubic metres (BCM), which is 54 per cent of their live storage capacity of 32.31 BCM. Last year, the live storage during this period was 35 per cent, the CWC report said. The 54 per cent also surpasses the 10-year average storage of 46 per cent.

In the Southern region are 32 reservoirs under CWC monitoring, with a total live stor-

age capacity of 52.10 BCM. As of August 8, the total live storage available in these reservoirs is 21.83 BCM, which is 42% of total live storage capacity. This is below the storage during the corresponding period of last year (62 per cent) as well as the 10-year average for the corresponding period (50 per cent).

Of the two Southern states that have witnessed very heavy rainfall, the storage in the 14 reservoirs of Karnataka is 6 per cent below normal. In the six reservoirs of Kerala, storage is as much as 49 per cent below normal for this time of the year. Of the 32 reservoirs in the entire Southern region, as many as 19 have reserves that are below 40 per cent of full level. The lowest deficit is in Telangana, where the two reservoirs (not counting combined projects with Andhra Pradesh) are 62 per cent below normal. Tamil Nadu's six reservoirs are 55 per cent below normal.

As in the Western region, Northern India's six reservoirs, at 69 per cent of their total live storage capacity (12.4 BCM of 18.01 BCM), too, have exceeded the corresponding storage at this time last year (39 per cent) as well as the 10-year average for this stage of the monsoon (56 per cent).

In Central India, the 14 reservoirs are at 19.13 BCM, or 44 per cent of total live capacity (43.11 BCM), which is better than last year's corresponding status (42 per cent) but lower than the 10-year average for this period (49 per cent). With less than two months of the monsoon season remaining, Uttar Pradesh's reservoirs are at 54 per cent below normal.

In the Eastern region, the 16 reservoirs are at 6.09 BCM, or 32 per cent of total live capacity (18.83 BCM), which is lower than last year's corresponding status (47 per cent) as well as the 10-year average for this period (39 per cent).

REGION BY REGION: HOW FULL ARE RESERVOIRS

The 3 figures, in order, are current status, last year's, and 10-year average

Region	Current Status	Last Year's	10-Year Average
ALL INDIA	47%	99%	97%
EASTERN REGION	32%	47%	39%
CENTRAL REGION	44%	42%	49%
NORTHERN REGION	69%	39%	56%
WESTERN REGION	54%	35%	46%
SOUTHERN REGION	42%	62%	50%

REGION-WISE FILLING POSITION AS PERCENTAGE OF FRL

	100%	81-99%	51-80%	41-50%	40% & below
North	-	-	4	2	-
East	-	1	2	6	7
West	2	8	4	4	17
Central	-	-	5	1	8
South	-	3	7	3	19
Total	2	12	22	16	51

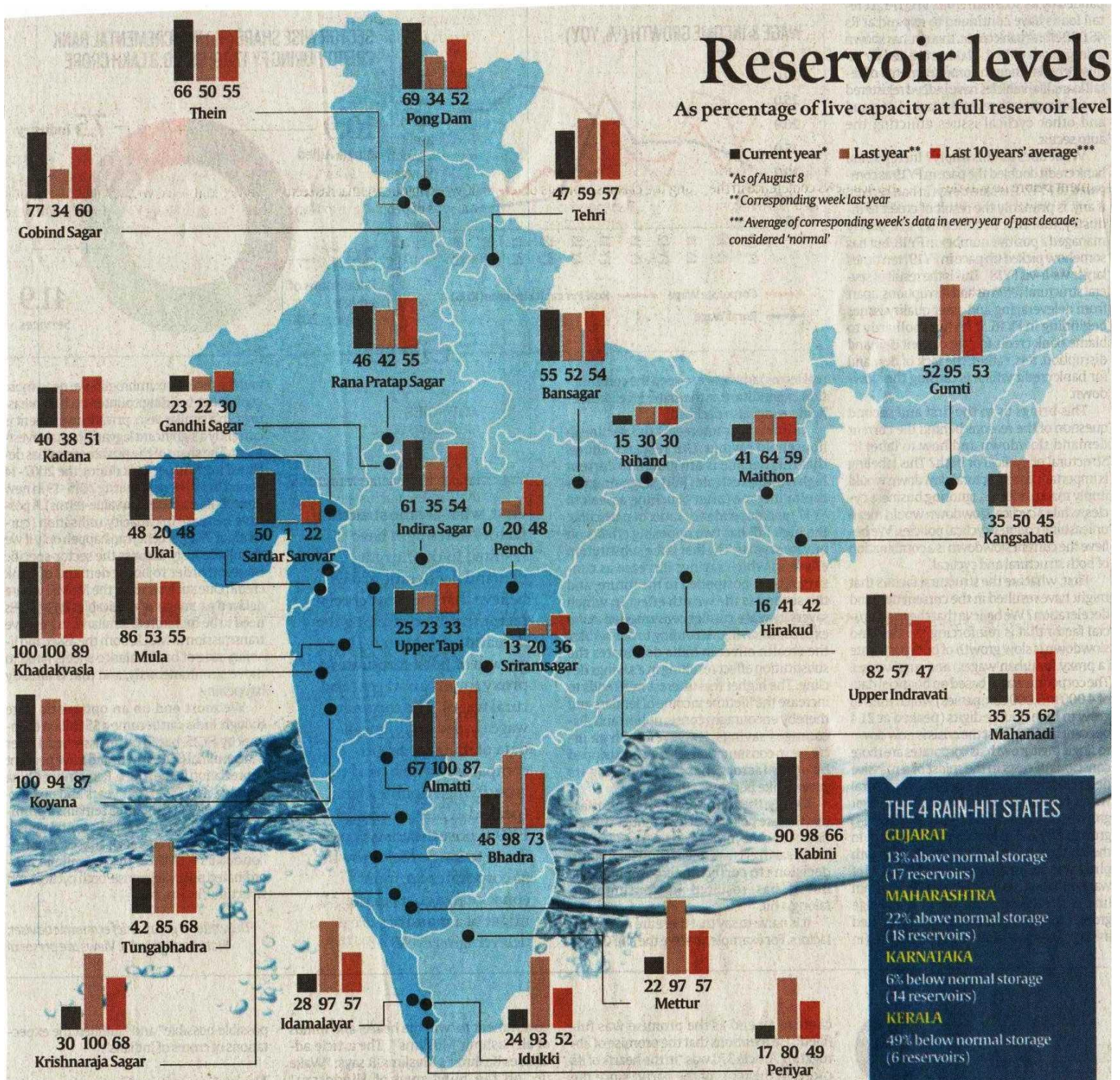
BASIN WISE STORAGE POSITION

BETTER THAN NORMAL (average storage of last 10 years): Indus, Narmada, Tapi, Godavari and West Flowing Rivers of South

DEFICIENT: Ganga, Mahanadi & Neighbouring East Flowing Rivers (EFRs) and Cauvery & neighbouring EFRs.

CLOSE TO NORMAL: Mahi and Krishna

HIGHLY DEFICIENT: Sabarmati and Rivers of Kutch



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Statesman	<input type="checkbox"/>	Deccan Herald	<input type="checkbox"/>	Nav Bharat Times (Hindi)	<input type="checkbox"/>
The Times of India (New Delhi)	<input checked="" type="checkbox"/>	The Economic Times	<input type="checkbox"/>	Punjab Kesari (Hindi)	<input type="checkbox"/>
Indian Express	<input type="checkbox"/>	Business Standard	<input type="checkbox"/>	Rajasthan Patrika (Hindi)	<input type="checkbox"/>
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Pioneer Delhi	<input type="checkbox"/>	Financial Express	<input type="checkbox"/>	Jansatta	<input type="checkbox"/>
Rashtriya Sahara	<input type="checkbox"/>	Dainik Bhaskar			

and documented at WSE Dte, CWC.

WHY FLOODS CONTINUE TO CAUSE SO MUCH DAMAGE IN INDIA

TOI-14/8

Rains continue to lash several states around the country claiming lives, displacing families and damaging property. Just a month after severe flooding in Bihar and Assam, southern and western states are facing torrential rain and widespread floods. A look at the regions affected and why floods create havoc every year



But govt still fails to take action

While record-breaking rain might be to blame for severe floods, poor planning and management are culprits too. The govt spends more on compensation after floods than it does on prevention

Govt agencies need to adapt forecasting techniques to factor extreme weather patterns

A 2017 CAG report found that of the 219 planned telemetry stations, used to forecast floods, only 56 were set up and 60% of existing stations didn't work

Rampant mining and quarrying, especially in hilly regions, brings landslides (like in Wayanad in Kerala) while riverbed sand-mining extends the flood-affected areas

Source: Media reports;

Flood-hit Malappuram district in Kerala pictured from an IAF helicopter

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<input type="checkbox"/> The Hindu (New Delhi)	<input type="checkbox"/> Tribune		

How a hill in the Western Ghats buried a part of a village in Kerala 16-14/8

Almost 60 people are feared dead in Kavalappara, buried alive under layers of mud and rocks. It is the worst tragedy in Kerala's devastating monsoon so far this year

RAINING DEATH

Malappuram meteorological subdivision got 189.4 mm rain from August 1 to August 7, 66% more than the normal 114.3 mm. On August 8, the Nilambur rain gauge station, the one nearest to Kavalappara, recorded the highest rainfall of that day in Kerala.

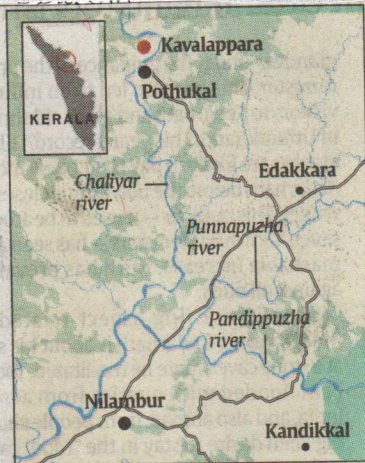
At least 59 people from 43 families are feared dead. 23 bodies had been recovered until Tuesday evening

HOURS EARLIER

17 people from 7 families died after a landslide washed away 10 acres of land in a private tea estate in Puthumala in Meppadi village panchayat of Wayanad district. 53 houses, a mosque, a temple, a shop and two estate-quarters vanished under mud and rocks. The crown of the landslide was 800 ft high. Wayanad meteorological subdivision got 252.3 mm rain from August 1-7 — the most in Kerala during this period, and a 37% departure from the 184.5 mm normal.

REPORTING: SHAJU PHILIP

Photo: IAF



THE AREA

The landslide at Kavalappara occurred a couple of hours after another in Puthumala in neighbouring Wayanad district. The two landslide sites are on either side of a section of the ecologically sensitive Western Ghats, close to Tamil Nadu's Nilgiri district. Water coming down the hills at Puthumala becomes the Chulika stream, which meanders through gorges and valleys to emerge as the bigger Chaliyar river, which flows by Kavalappara. On August 8-9, the Chaliyar inundated several towns along its banks.

THE HILL COLLAPSES

Around 7.30 pm on August 8, in pounding rain, villagers heard a deafening roar as an entire hillside at Kavalappara in Pothukal village panchayat near Bhoodanam in Kerala's Malappuram district crumbled.

MUD, ROCKS, TREES

The top of the hill remains inaccessible, so the height of the landslide's crown is yet to be ascertained. A mass of mud, gravel, and boulders came sweeping down, uprooting hundreds of trees along the way.

BURIED 50 FT UNDER

The hill settled on a 10-acre arecanut plantation at its base, entirely burying a few dozen homes. There is no estimate of the volume of mud that came down, but state Minister KT Jaleel has said bodies could be buried 50 feet deep.

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Statesman	<input checked="" type="checkbox"/>	Deccan Chronicle	<input type="checkbox"/>	Nav Bharat Times (Hindi)	<input type="checkbox"/>
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Indian Express	<input type="checkbox"/>	Business Standard	<input type="checkbox"/>	Rajasthan Patrika (Hindi)	<input type="checkbox"/>
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Rashtriya Sahara	<input type="checkbox"/>	Dainik Bhaskar	<input type="checkbox"/>		

and documented at WSE Die, CWC.

Riverine decline

India is passing through an acute water crisis. It is time that both the Central and State governments take more effective measures for improving the quality of river water so that it can be used during times of crisis. Assam, Bihar, Gujarat, Haryana, UP and West Bengal have been categorised as 'bad performing' states. Among them, Gujarat, UP and West Bengal are the 'worst performing' states. Further analyses reveal an interesting feature. The quality of river water even in the 'good performing' states does not conform to the specification prescribed by the Central Pollution Control Board for use as a source for drinking water and outdoor bathing

ST-14/2



Water is fundamental to life, livelihood, food security and sustainable development. However, due to climate change, the source of water has depleted from year to year. Water has now become a scarce commodity. It will be further scarce in the days to come.

In such a situation, the use of river water has become imperative. However, due to various factors, the quality of river water has deteriorated to such an extent that it has become unsuitable for drinking, outdoor bathing, fisheries, irrigation and maintaining aquatic ecosystem. The Central Government has enacted several acts and taken various measures with the objective of prevention and control of water pollution and for punishing the polluters responsible for contaminating the quality of water. But then, what is the outcome?

India holds the 120th position among 122 countries with respect to the water quality index of 2018. It is not that the Centre has not taken any action. It had introduced many action plans, notably the Ganga Action Plan, National River Conservation Plan, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart Cities Mission programmes of the Ministry of Urban Development, "Namami Gange" under the Ministry of Water Resources and River Development and Ganga Rejuvenation. Data available from many sources indicate that the Central government has so far spent Rs 7500 crore in this regard.

However, the outcome of such efforts is not encouraging.

Has the quality of river water improved over the past twenty years? No. In some states, on the contrary, it has deteriorated. Let us make the position clear about the latest river water quality. There are sixteen major states in India. By major states, we mean those states that contribute more than ninety per cent of the total value of output, invested capital and number of workers. These states are Maharashtra, Kerala, Andhra Pradesh, Uttar Pradesh, Gujarat, Assam, Bihar, Tamil Nadu, Madhya Pradesh, Rajasthan, Karnataka, Haryana, Himachal Pradesh, Punjab, Odisha and West Bengal.

There are eighteen major rivers that flow through the major states. The Central Pollution Control Board (CPCB) has formed five classes with respect to the quality of surface water on the basis of its designated "best use". This classification has been made on the basis of certain parameters namely, Biological Oxygen Demand (BOD), Dissolved Oxygen (DO), Total Coliform (TC), pH, Free Ammonia (N) and Electrical Conductivity. While deciding on this classification, CPCB has focused on five kinds of use of surface water - (a) drinking water sources without conventional treatment but with chlorination; (b) outdoor bathing; (c) Drinking water source after conventional treat-

ment and disinfection, (d) Propagation of wildlife and fisheries and; (e) Irrigation, industrial cooling and controlled waste disposal.

The results of empirical analyses of data collected from CPCB is disheartening. Over the past twenty years, the quality of river water in terms of Dissolved Oxygen has deteriorated in all states except Assam, Rajasthan and Gujarat.

With respect to Biological Oxygen Demand, the river water quality has deteriorated considerably in Assam, Bihar, Karnataka, Kerala, Odisha, Haryana, Himachal Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, UP and West Bengal. As regards Total Coliform, the quality of the river water that passes through Andhra Pradesh, Assam, Bihar, Haryana, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, UP and West Bengal has deteriorated to a large extent. The pH level of river water has gone below the prescribed level in Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu.

Similar is the status with respect to level of electrical conductivity and free ammonia. If we segregate sixteen major states with reference to the six important parameters mentioned, we get two clusters - (a) Good performing states and (b) Bad performing states.

This shows that there is heterogeneity in the major states in India with respect to performance in terms of improving the quality of river water. It is also evident that measures taken and policies adopted by the Central government from time to time have not been effective in doing away with inter-state disparity with respect to the action taken by major states in improving the quality of river water.

Andhra Pradesh, Karnataka, Madhya Pradesh, Rajasthan and Odisha have been found to be "good performing" states. Assam, Bihar, Gujarat, Haryana, UP and West Bengal have been categorised as "bad performing" states. Among them, Gujarat, UP and West Bengal are the "worst performing" states. And within the "good performing" category, Rajasthan, Madhya Pradesh and Odisha are the best.

Further analyses reveal an interesting feature. The quality of river water even in the "good performing" states does not conform to the specification prescribed by the Central Pollution Control Board for use as a source for drinking water and outdoor bathing. This is because of high content of Total Coliform generated from effluents arising from warm-blooded animals and sanitary sewage systems. These effluents are not treated properly before being discharged into the rivers.

India is passing through an acute water crisis. It is time that both the Central and State governments take more effective measures for improving the quality of river water so that it can be used during times of crisis.



DILIP DATTA

The writer is Director and CEO, Sayantan Consultants Pvt. Ltd, Kolkata

News item/letter/article/editorial published on 14-8-2019 in the following newspaper

Hindustan Times	<input type="checkbox"/>	Deccan Herald	<input type="checkbox"/>	Hindustan (Hindi)	<input type="checkbox"/>
Statesman	<input checked="" type="checkbox"/>	Deccan Chronicle	<input type="checkbox"/>	Nav Bharat Times (Hindi)	<input type="checkbox"/>
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and documented at WSE Die, CWC.

Sardar Sarovar project: People protest in Dhar

INDORE, 13 AUGUST

Hundreds of people in Madhya Pradesh living in the submergence area of the Gujarat-based Sardar Sarovar Dam on Tuesday blocked NH-3 in Dhar district for six hours demanding proper rehabilitation in a protest spearheaded by Medha Patkar of Narmada Bachao Andolan. A long queue of vehicles was seen on both the sides of the Mumbai-Agra highway due to the blockade.

Patkar has demanded the gates of the dam in Gujarat be opened in view of submergence of human settlements and agriculture land due to Narmada river backwater in Barwani, Khargone, Dhar and Alirajpur districts.

PTI

News item/letter/article/editorial published on 14-8-2019 in the following newspaper

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Rashtriya Sahara	<input type="checkbox"/>	Dainik Bhaskar			

and documented at WSE Die, CWC.

Climate change is the new normal

HT/14/8

Don't blame it for the current floods.
Find out ways to control damage

After the devastating floods in Bihar and Assam, it's now the turn of five other states — Gujarat, Kerala, Karnataka, Maharashtra, and Uttarakhand — to be battered by unrelenting rain. According to the weather website, El Dorado, out of the 15 places that have received most rainfall across the globe in the last 24 hours (Sunday-Monday), eight are in India. While such extreme weather conditions these days are usually attributed to climate change, there is no point blaming merely that phenomenon any more for the fallout; instead, it's best to accept such extreme climate episodes as the new normal, and find out ways to minimise their impact.

One of the key reasons why floods have a devastating impact is because the excess water does not have enough space to drain. This is because the stormwater channels are clogged with plastic, and water sinks, such as wetlands, floodplains, or riverbeds have been destroyed by encroachments and excessive construction. As for how plastic increases the threat of floods, one needs to just see the photograph from Palakkad, Kerala, that went viral last week. The photograph showed an area in the district full of plastic bottles and other waste materials that were brought back by the floods.

The recent round of floods has also raised questions about dam management. This issue has come to the fore after reports said that despite warnings about heavy rainfall in the states, Maharashtra and Karnataka failed to release water from the dams on time. An August 2019 report, *Krishna Basin Floods in Maharashtra - Karnataka: How dams harming rather than helping* has said that the dam operators could have acted prudently by releasing the water in July. The report added that the government hasn't learned any lessons from the past incidents and that the capacity of the catchment areas to hold and absorb the rainwater is reducing with time. All these issues need to be tackled if India wants to weather the climate storm.

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सुरती मॉडल से रोका जाएगा दिल्ली में पानी का लीकेज

PK-14/8

नई दिल्ली, (पंजाब केसरी) : सीएम केजरीवाल ने जाने-माने कार्टूनिस्ट, लेखक और जल संरक्षक आबिद सुरती के पानी बचाने का पायलट प्रोजेक्ट से प्रभावित होकर मालवीय नगर विधानसभा में एक पायलट प्रोजेक्ट शुरू करने की बात कही है। इस पायलट प्रोजेक्ट के नतीजों के आधार पर इसे पूरी दिल्ली में लागू किया जाएगा। मुख्यमंत्री केजरीवाल ने मालवीय नगर में एक कार्यक्रम के दौरान इसकी घोषणा की। केजरीवाल ने कहा कि नीति आयोग ने 21 शहरों की एक लिस्ट निकाली है, जहां पर आने वाले समय में पानी की समस्या होने वाली है। दिल्ली का भी उसमें नाम है। आपकी अपनी सरकार आप सब लोगों के साथ मिलकर दिल्ली के अंदर जो-जो कदम उठा रही है उससे हम उस सिचुएशन को बिल्कुल भी पैदा नहीं होने देंगे। मैंने जल बोर्ड के साथ 3 घंटे की लंबी बैठक की है,



लोगों को संबोधित करते सीएम केजरीवाल।

जिसमें इस बात पर चर्चा हुई है कि दिल्ली में पीने के पानी का हम किसी भी तरह से इंतजाम करना है। 2015 में 58 प्रतिशत घरों में टोंटी से पानी जा रहा था आज 93 प्रतिशत दिल्ली में टोंटी से पानी जा रहा है। बारिश के दिनों में एक दिन में हरियाणा यमुना के अंदर 6 लाख क्यूसेक पानी छोड़ता है और हम

उसे आगे उत्तर प्रदेश में छोड़ देते हैं क्योंकि हम भी उसको रोक नहीं पाते। अगर उस पानी को हम रोक लें तो दिल्ली के पानी की समस्या खत्म हो जाएगी। इस पर हम एक पायलट प्रोजेक्ट कर रहे हैं। यमुना के किनारे 40 एकड़ जमीन में हम लोगों ने एक मीटर गड्ढा खोदा है। अगले साल 1500 एकड़ जमीन

विदेशों की तरह साफ होगा पानी

मुख्यमंत्री ने कहा कि मैं पूरी जिम्मेदारी के साथ कह सकता हूँ कि दिल्ली में पानी की कमी नहीं होने देंगे। उन्होंने कहा कि सिंगापुर में भी पानी की बहुत कमी है लेकिन वो सारा गंदा पानी को साफ करते हैं और वो उसको साफ करने के बाद कई किलोमीटर दूर नदी में छोड़ देते हैं। वो नदी से पानी बहता हुआ आता है तो उसमें ऑक्सीजन भी मिल जाती है और आगे आने पर उसे वाटर ट्रीटमेंट प्लांट में उसको साफ करके उसको वापस शहर को देते हैं।

अधिग्रहित करके इसी तरह के गड्ढे खोदकर पानी को स्टोर करेंगे।

गोदावरी-कृष्णा- पेन्ना नदियों को जोड़ने पर एनजीटी का निर्देश

PK-14/8

नई दिल्ली, (भाषा) : राष्ट्रीय हरित अधिकरण (एनजीटी) ने आंध्र प्रदेश सरकार को मंगलवार को निर्देश दिया कि वह आवश्यक पर्यावरण मंजूरी के बगैर 'गोदावरी-कृष्णा- पेन्ना' नदियों को जोड़ने की परियोजना तथा लिफ्ट सिंचाई योजनाओं पर आगे नहीं बढ़े।

लिफ्ट सिंचाई के तहत पानी को उसके स्रोत स्थान से पंप आदि की मदद से ऊंची जगहों पर भेजा जाता है। इस योजना के तहत पट्टीसीमा, पुरुषोत्तपट्टनम और चिंतलापुडी में लिफ्ट सिंचाई का निर्माण किया जाना है। एनजीटी अध्यक्ष न्यायामूर्ति आदर्श कुमार की अध्यक्षता वाली पीठ ने इस दक्षिणी राज्य की सरकार को इस सिलसिले में एक संयुक्त समिति की सिफारिशों को लागू करने का निर्देश दिया। संयुक्त समिति में पर्यावरण मंत्रालय के क्षेत्रीय कार्यालय, केंद्रीय प्रदूषण नियंत्रण बोर्ड और राज्य प्रदूषण नियंत्रण बोर्ड के प्रतिनिधि शामिल थे।

Hindustan Times
Statesman
The Times of India (New Delhi)
Indian Express
The Hindu (New Delhi)
Pioneer Delhi
Rashtriya Sahara

☐ Deccan Herald
☐ Deccan Chronicle
☐ The Economic Times
☐ Business Standard
☐ Tribune
☐ Financial Express
☐ Dainik Bhaskar

☒ Hindustan (Hindi)
☐ Nav Bharat Times (Hindi)
☐ Punjab Kesari (Hindi)
☐ Rajasthan Patrika (Hindi)
☐ Dainik Jagran
☐ Jansatta

and documented at WSE Die

बाढ़ के मूक शिकार, जिनकी चर्चा भी नहीं होती

H-1418

बाढ़ के दौरान हुए नुकसान की जब भी बात होती है, तो उसमें हमारी वन संपदा का जिक्र नहीं होता।

पंकज चतुर्वेदी
वरिष्ठ पत्रकार



एक सींग के गेंडे और रॉयल बंगाल टाइगर, यानी बाघ के सुरक्षित ठिकानों के लिए मशहूर, यूनेस्को द्वारा संरक्षित घोषित काजीरंगा राष्ट्रीय उद्यान के लगभग 95 फीसदी हिस्से में इस समय पानी भर गया है। जानवर सुरक्षित ठिकाने की तलाश में गहरे पानी में हरसंभव थककर हताश होने की हद तक तैरते हैं, दौड़ते हैं, दलदली जमीन पर थककर लस्त हो जाते हैं। या तो पानी उन्हें आगोश में ले लेता है या फिर भूख। कुछ बचकर बस्ती की तरफ दौड़ते हैं, तो कुछ सड़क पर तेज गति वाहनों की चपेट में आ जाते हैं। कई जानवर अपने पारंपरिक मानसून के सुरक्षित ठिकानों की ओर कार्बी आंगलांग पहाड़ी की तरफ जाते हैं, तो उनके लिए घात लगाए शिकारी उन्हें नहीं छोड़ते। केरल, कर्नाटक, महाराष्ट्र और गुजरात के साथ ही इस बार असम की बाढ़ भी भयावह है। बाढ़ ने लगभग पूरे असम में 32 जिलों के 56 लाख लोगों के जीवन को प्रभावित किया है।

असम की राजधानी से 225 किलोमीटर दूर गोलाघाट व नगांव जिले के 884 वर्ग किलोमीटर में फैले काजीरंगा उद्यान की खासियत यहां मिलने वाला एक सींग का गेंडा है। सारी दुनिया में उपलब्ध इस प्रजाति के गेंडों की दो-तिहाई संख्या इसी क्षेत्र में मिलती है। इसके अलावा, बाघ, हाथी, हिरण, जंगली भैंसा, जंगली बनेला जैसे कई जीव यहां की प्रकृति का हिस्सा हैं। यहां की जैव-विविधता विलक्षण है। 41 फीसदी इलाके में ऊंची घास है, जो हाथी, हिरण के लिए मुफ्तीद आसरा है। 29 फीसदी पेड़, 11 प्रतिशत छोटी झाड़ियां हैं। आठ फीसदी इलाके में नदियां व अन्य जल-निधियां और चार प्रतिशत में दलदली जमीन। अर्थात हर तरह के जानवर के लिए उपयुक्त पर्यावास, भोजन और परिवेश। तभी हालिया गणना में यहां 2,413 गेंडे; 1,089 हाथी; 104 बाघ, 907 हांग हिरण; 1,937 जंगली भैंसे आदि पाए गए थे। पिछले कुछ वर्षों में यहां चौकसी बढ़ी है, सो शिकारी अपेक्षाकृत कम सफल रहे।

पर विशाल ब्रह्मपुत्र के दक्षिणी बाढ़ प्रभावित इलाके में बसे काजीरंगा के जानवरों के लिए बाढ़ काल बनकर आई है। वैसे तो यहां सन 2016 में कोई डेढ़ हेक्टेयर क्षेत्रफल वाले 140 ऐसे ऊंचे टीले बनाए गए थे, जहां वे पानी भरने की स्थिति में सुरक्षित आसरा बना सके। ये टीले चार से पांच मीटर ऊंचे हैं। इस बार पानी ने इनमें से अधिकांश को डुबो दिया है। अभी तक की आधिकारिक

सूचना के अनुसार, 20 गेंडे मारे गए हैं, जबकि एक को वन विभाग ने बचा लिया है। बाढ़ में एक हाथी मारा गया व एक को बचा लिया गया। सबसे ज्यादा संख्या में हांग हिरण (124) की मृत्यु हुई है और ऐसे 49 हिरणों को वन विभाग ने बचाया भी है। ऐसे 16 हिरण, काजीरंगा से सटे राष्ट्रीय राजमार्ग 37 पर दौड़ते तेज गति वाहनों की चपेट में आ गए हैं। नौ जंगली सुअर, इतने ही सांभर और तीन अन्य जानवर इस जल-विप्लव के शिकार हुए हैं। कई भयभीत जानवर बस्ती की तरफ भी आ रहे हैं। हाल ही में एक वीडियो बहुत वायरल हुआ था, जिसमें एक विशाल रॉयल बंगाल टाइगर हारमोती इलाके में एक घर के बिस्तर पर शरण लिए हुए था।

इस संरक्षित पार्क में जानवरों के विचरण के आठ पारंपरिक मार्गों को संरक्षित रखा गया है, लेकिन बाढ़ के पानी ने सब कुछ अस्त-व्यस्त कर दिया है। इस संरक्षित वन के दूसरे छोर पर कार्बी आंगलांग का पठार है। सदियों

अतिवृष्टि और बाढ़ का सच यही है कि ऐसी आपदा में हम अपनी किसी भी संपदा को नहीं बचा पा रहे हैं।

से वन्य जीव ब्रह्मपुत्र के कोप से बचने के लिए यहां शरण लेते रहे हैं और इस बार भी जिन्हें रास्ता मिला, वे वहीं भाग रहे हैं। दुर्भाग्य है कि वहां उनका इंतजार दूसरे किस्म का काल करता है। इस पूरे इलाके में कई आतंकी गिरोह सक्रिय हैं, जिनका एक धंधा जानवरों के अंगों की तस्करी करना भी है।

बहुत ज्यादा बरसात, और इसकी वजह से आने वाली बाढ़ तो प्राकृतिक आपदा है, लेकिन इसमें फंसकर इतनी बड़ी संख्या में जानवरों का मरना तंत्र की नाकामी है। बेशक इस दौरान देश के कुछ दूसरे हिस्सों में आई बाढ़ में हुआ जान-माल का नुकसान शायद ज्यादा बढ़ा है। खासकर केरल और महाराष्ट्र में जो जनहानि हुई है, उसके सामने इन मूक वन्य जीवों की हानि पर शायद ध्यान उताना न जाए, उन्हें तो खबरों में भी जगह नहीं मिल रही। पर सच यही है कि ऐसी आपदाओं से हम अपनी किसी भी संपदा को नहीं बचा पा रहे।

(ये लेखक के अपने विचार हैं)

Hindustan Times	<input type="checkbox"/>	Deccan Herald	<input type="checkbox"/>	Hindustan (Hindi)	<input type="checkbox"/>
Statesman	<input type="checkbox"/>	Deccan Chronicle	<input type="checkbox"/>	Nav Bharat Times (Hindi)	<input type="checkbox"/>
The Times of India (New Delhi)	<input type="checkbox"/>	The Economic Times	<input type="checkbox"/>	Punjab Kesari (Hindi)	<input type="checkbox"/>
Indian Express	<input type="checkbox"/>	Business Standard	<input type="checkbox"/>	Rajasthan Patrika (Hindi)	<input checked="" type="checkbox"/>
The Hindu (New Delhi)	<input type="checkbox"/>	Tribune	<input type="checkbox"/>	Dainik Jagran	<input type="checkbox"/>
Pioneer Delhi	<input type="checkbox"/>	Financial Express	<input type="checkbox"/>	Jansatta	<input type="checkbox"/>
Rashtriya Sahara	<input type="checkbox"/>	Dainik Bhaskar	<input type="checkbox"/>		

मानसून अपडेट : अब ओडिशा में भी खराब हो रहे हालात, बाढ़ प्रभावित राज्यों में अब तक 196 की मौत, दिल्ली में भी चार दिन मुश्किल केरल पर फिर 'संकट' के बादल, पूर्वी राजस्थान में भी भारी बारिश का अलर्ट

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नई दिल्ली. बाढ़ प्रभावित राज्यों में राहत व बचाव कार्यों के बीच केरल में एक बार फिर भारी से बहुत भारी बारिश का अलर्ट जारी किया गया है। सोमवार तक मरने वालों की संख्या बढ़कर 196 पहुंच गई थी।

मौसम विभाग के अनुसार पूर्वी राजस्थान और पश्चिमी मध्य प्रदेश में भी भीषण बारिश हो सकती है। इसके अलावा महाराष्ट्र और जम्मू और कश्मीर, हिमाचल प्रदेश, उत्तराखंड, पंजाब, हरियाणा में बारिश की संभावना है। वहीं, कर्नाटक के 17 जिलों में बाढ़ के चलते अभी भी तीन लाख लोग राहत शिविरों में हैं। मुख्यमंत्री ने कहा है कि सरकार बेघर हुए 40 हजार से अधिक लोगों के पुनर्वास के लिए प्रतिबद्ध है।



महाराष्ट्र

बाढ़ प्रभावित इलाकों से इंसान ही नहीं, बेजुबानों को भी निकाला जा रहा।

पश्चिमी ओडिशा के पांच जिले ज्यादा प्रभावित, ट्रेनें थमीं

भुवनेश्वर. कर्नाटक, केरल, महाराष्ट्र ही नहीं, ओडिशा में भी भीषण बारिश और बाढ़ कहर पा रही है। बीते दो हफ्तों में वर्षाजनित हादसों में आठ लोगों की मौत हो गई, वहीं दो लोग लापता हैं। सरकार ने इसकी पुष्टि की है। पश्चिमी ओडिशा के पांच जिले बारिश से बुरी तरह प्रभावित हैं। ट्रेनों का आवागमन प्रभावित हुआ है। स्कूल-कॉलेजों में छुट्टी की घोषणा की गई है। पश्चिमी ओडिशा के कुल 40 ब्लॉकों में 200 मिमी. तक बारिश हुई। देवगांव रोड बरगढ़, लोजिंगा-बलंगीर और बरपाली, डुंगरीपाली स्टेशन पर गाड़ियां जस की तस खड़ी हैं।



कर्नाटक

कर्नाटक में राहत व बचाव कार्य में डॉग स्कवॉड की भी मदद ली जा रही है, लोगों को सुरक्षित निकाला जा रहा है।