The Hindu- 22- September-2022

Flood woes are a recent phenomenon in Karnataka

Karnataka's share in India's flood-related deaths surged to 7-8% in the last two decades

DATA POINT

Vignesh Radhakrishnan
Rebecca Rose Varghese

Heavy rainfall during the last week of August and first week of September brought Bengaluru to a standstill. Flooding of offices and houses, traffic bottlenecks and power outages were recorded across the Silicon Valley of India. On August 27, the Bengaluru-Mysuru Highway was inundated with flood water after the Inorapalya lake breached the banks. Three days later, the outer ring road was flooded as water from Savalakere lake overflowed.

While the Bengaluru floods made headlines in recent days, the monsoon season has claimed many lives and damaged several public and private properties across the State this year. As many as 96 lives were lost since June, crops in 5.8 lakh hectares of land were lost, 1,471 bridges and 2,223 km of roads were damaged. In total, the estimated losses amounted to ₹7,647 crore.

A recent phenomenon

In the last two decades, the number of lives lost to floods have sharply increased in the State. In the last decade (2011-20) and the one before (2001-10), Karnataka's share in India's flood-related deaths ranged between 7-8%. In the 2000s, the State had the fourth highest share of flood-related deaths among major States. In the last decade, it had the seventh-highest share.

In contrast, in the decades before 2000s, Karnataka's share was negligible. The State's share in India's flood-related deaths ranged between 0-3% in all the previous decades. **Table 1** lists a State's share in India's total deaths due to flood in each decade. For instance, Gujarat formed 10% of the total fatalities in the 2001-10 period, and 8% in the last decade (2011-20).

Across all decades, Uttar Pradesh's share has consistently been 17% or above. West Bengal, Gujarat and Bihar also accounted for a high share in India's flood-related fatalities in most decades.

The above trends have to be read with caution, given the wide variation in States' population. Also the numbers were for undivided Uttar Pradesh, Madhya Pradesh, Andhra Pradesh and Bihar.

Unique pattern

Table 2 lists the decadal share of a State's total flood-related deaths in the 1953-2020 period. For instance, of all the deaths due to floods recorded in Karnataka in the period, 34% occurred in the last decade, while 39% happened in the decade before that. Similar to the trend observed in Table 1, Karnataka's flood-related fatalities were significantly lower in the decades before the 2000s.

Infact, in the 1950s, 1960s and 1970s, Karnataka's share in India's fatalities as shown in table 1 and the decadal share in State's overall deaths as shown in table 2, were either barely present or non-existent. This reiterates the fact that Karnataka's troubles related to floods are a recent phenomenon.

Outliers

In 1977, 11,316 lives were lost to floods – the most for any given year – of which 9,974 were lost in Andhra Pradesh. Floods damaged 39.6 lakh houses in India in 2015 – the highest number of houses destroyed due to floods in any year between 1953 and 2020.

(With inputs from Bengaluru Bureau)

The deluge meter

The following tables show whether the share of flood-related deaths have increased, decreased or stayed put over the last seven decades across States. The charts highlight the outlier years when floods caused the most damage in terms of human lives lost, cattle lives lost and houses damaged. The data were gathered from "State-wise flood damage statistics: 1953-2020", report prepared by the Central Water Commission

Table 1: Table lists a State's % share in India's total flood-related deaths in each decade

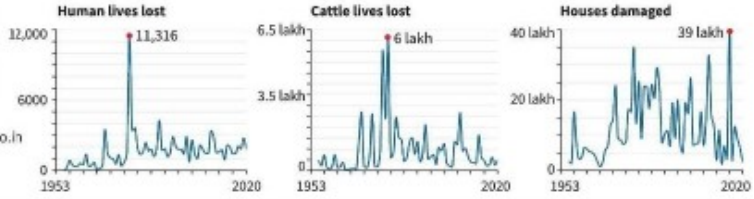
Decades →	1953-60	1961-70	1971-80	1981-90	1991-00	2001-10	2011-20
U.P.	26	16	14	24	20	17	17
M.P.	1	2	1	2	3	7	11
Bihar	4	8	3	9	15	20	9
Gujarat	5	10	10	11	4	10	8
Maharashtra	4	3	1	11	6	2	8
Kerala	1	3	2	4	7	2	8
W.B.	8	30	8	5	13	7	7
Karnataka	**0**	**1**	**0**	**2**	**3**	**8**	**7**
H.P.	4	0	2	2	5	3	4
Assam	3	3	2	4	3	5	4
T.N.	1	1	5	4	3	3	3
Rajasthan	0	1	4	2	3	3	3
J&K U.T.	6	0	1	2	4	0	2
Arunachal	0	0	0	0	1	2	2
Punjab	22	2	1	5	3	1	1
Andhra	6	16	43	10	5	6	1
Odisha	6	2	2	2	1	3	1
Haryana	1	1	1	1	0	0	0
Delhi	0	0	0	0	0	0	0
Tripura	0	0	0	1	0	0	0
Goa	0	0	0	0	0	0	0
Manipur	0	0	0	0	0	0	0
Meghalaya	0	0	0	0	0	0	0
Mizoram	0	0	0	0	0	1	0
Nagaland	0	0	0	0	0	1	0
Sikkim	0	0	0	1	0	0	0
Total	100	100	100	100	100	100	100

Table 2: Table lists the % decadal share of a State's total flood-related deaths in 1953-2020 period

Decades →	1953-60	1961-70	1971-80	1981-90	1991-00	2001-10	2011-20	Total
Manipur	0	0	18	19	0	4	59	100
Arunachal	0	0	0	3	12	38	47	100
M.P.	1	3	7	7	13	27	43	100
Meghalaya	0	0	1	38	9	9	43	100
Karnataka	**0**	**3**	**1**	**10**	**13**	**39**	**34**	100
Kerala	1	6	12	14	27	9	31	100
Sikkim	0	0	1	50	21	0	28	100
H.P.	4	0	15	10	29	16	26	100
Maharashtra	3	5	6	36	21	5	24	100
Nagaland	0	0	0	0	0	76	24	100
Assam	3	8	12	19	14	25	19	100
Tripura	0	12	8	29	16	17	18	100
J&K U.T.	12	0	9	18	43	0	17	100
Rajasthan	1	2	34	13	15	17	17	100
Bihar	1	6	6	14	25	32	15	100
Gujarat	2	9	26	20	8	20	15	100
T.N.	1	2	33	19	16	15	15	100
U.P.	5	7	18	21	19	15	15	100
W.B.	3	26	18	8	22	11	12	100
Goa	0	0	0	0	26	63	11	100
Mizoram	0	0	0	5	7	78	10	100
Odisha	9	9	20	18	9	24	10	100
Punjab	27	7	9	28	19	3	7	100
Andhra	1	9	65	11	5	7	2	100
Haryana	9	21	26	18	14	11	1	100
Delhi	7	6	38	0	50	0	0	100

Chart 3: Charts show the number of human lives lost, cattle lost and houses damaged due to floods in India each year.

vignesh.r@thehindu.co.in
rebecca.varghese@thehindu.co.in



Hindustan Times - 22- September-2022

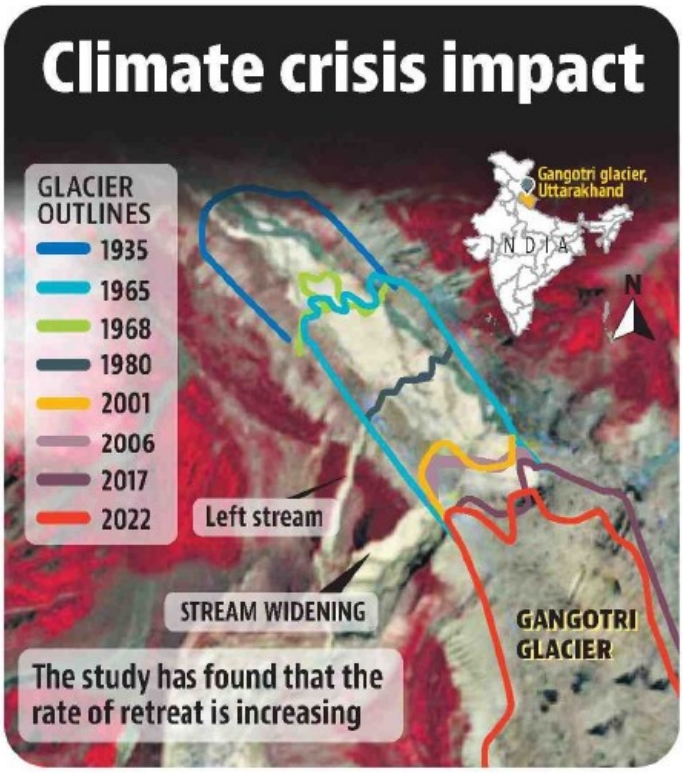
Gangotri glacier retreated by 1,700m since '35: Study

Neeraj Santoshi
Neeraj.santoshi@htlive.com

DEHRADUN: The Gangotri glacier in the Uttarakhand Himalayas, from where the Ganga river originates, retreated by 1,700 metres between 1935 and 2022, a study by Wadia Institute of Himalayan Geology, Dehradun, has found, attributing it to reduced snowfall and more rain, apart from rising temperature in the upper reaches of the Himalayas. Worryingly, the study has also found that the rate of retreat is increasing.

According to various studies, the mean glacial retreat rate between 1935 and 1996 was 20 metres per year which has increased to up to 38 metres per year after that. The studies show that the retreat has further gained steam, with Gangotri retreating by about 300 metres in the past decade or so.

Rakesh Bhambri, a scientist at the central government-run institute and lead author of the yet-to-be-published study said their fresh estimation of the retreat is based on the comparison of the 1935 map of the Geological Survey of India (GSI) with the current situation in the region. "Our fresh estimation shows that the glacier has retreated by 1700 metres, and its retreat rate is increasing," he said. He added that the retreat rate has been increasing with every passing decade and if the present retreat rate continues, it will take about 1,500 years for the entire Gangotri glacier to melt. "But this can't be accurate as we don't know how contributing factors like temperature and rainfall and snowfall will change in the coming years. The decline in the glacial mass, which we are studying currently, will give us a more accurate estimation in the coming time."



Gangotri is the largest glacier in Uttarakhand Himalayas, with a length of around 30 kms, width of 0.5 to 2.5 km and an area of around 143 sq km. The melt water from glacier, that emerges at its snout at Gaumukh at a height of 3,950 metres, is source of Bhagirathi River, which later meets Alaknanda River to form Ganga at Devprayag.

In March , Centre informed Rajya Sabha that the Gangotri glacier had lost nearly 0.23 square kilometre area in 15-year period (2001-2016).

Kireet Kumar, scientist at Almora-based G.B. Pant Institute of Himalayan Environment and Development, who has also studied the Gangotri glacier area said that over the last decade , the average rate of retreat of the Gangotri glacier has been around 12 to 13 metres a year.

"The average temperature change in higher reaches of the Himalayas is more compared to the global average. This coupled with changes in rainfall and snowfall pattern is contributing to the glacial retreat and decline in the overall mass of the Gangotri glacier".

The Morning Standard- 22- September-2022

Parambikulam dam shutter collapses

EXPRESS NEWS SERVICE
@ Palakkad

ONE of the three shutters of the Parambikulam dam collapsed at 1.45am on Wednesday which resulted in flooding the Chalakudy river as the water reached Poringalkuthu dam by morning.

The water discharge from the Parambikulam dam was 20,000 cusecs. Due to rain, all three shutters were raised by 10 centimetres each. However, the chains of the middle shutter came off suddenly, resulting in a huge discharge of water downstream.

Revenue Divisional Officer D Amruthavalli visited the area and spoke to the executive engineer of Tamil Nadu who was in charge of the dam. She said the Tamil Nadu authorities informed her that the work on the shutter could begin only after two to three days.

The RDO also said the Aliyar dam had water up to the full reservoir level (FRL) and, therefore, water was not being released to it. And the water was released directly to the Poringalkuthu dam and, from there, to the Chalakudy river.

The continuous discharge of 16,250 cusecs of water by noon resulted in a rise in the water level in the Chalakudy river by nearly two metres.

Meanwhile, sources in the state irrigation department told this newspaper that the water level when the shutter of the Parambikulam dam collapsed was 1,824 feet from the mean sea level.

Jansatta- 22- September-2022

नेपाल और भारत ने जल संसाधनों पर शुरू की संयुक्त आयोग की बैठक

काठमांडो, 21 सितंबर (भाषा) ।

भारत और नेपाल के शीर्ष अधिकारियों ने बहुप्रतीक्षित पंचेश्वर बहुद्देश्यीय परियोजना से संबंधित मुद्दों तथा जल संसाधन से जुड़े अन्य द्विपक्षीय मुद्दों पर चर्चा करने के लिए बुधवार को तीन दिवसीय बैठक शुरू की।

आधिकारिक सूत्रों ने यहां बताया कि जल संसाधन पर संयुक्त आयोग (जेसीडब्ल्यूआर) की सचिव स्तरीय तीन दिवसीय बैठक में दोनों पड़ोसी देश जल संसाधनों से संबंधित विभिन्न मुद्दों पर चर्चा करेंगे। जल संसाधन मंत्रालय के प्रवक्ता मधु प्रसाद बेतुवाल ने कहा कि जल संसाधन पर संयुक्त आयोग (जेसीडब्ल्यूआर) की सचिव स्तरीय तीन दिवसीय बैठक में दोनों पड़ोसी देश कोसी, गंडक, महाकाली और सप्तकोशी उच्च बांधों के बीच जल संसाधन से संबंधित विभिन्न मुद्दों पर चर्चा करेंगे।