

# Wounds fresh, floods revisit NE

**DELUGE** Rail link between region and the rest of the country snapped after railway tracks get damaged; over 20 trains cancelled on Sunday

Utpal Parashar

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**GUWAHATI:** Heavy rainfall since Thursday resulted in flooding across 21 of Assam's 38 districts, claiming 15 lives - 10 in the past 24 hours - and affecting more than 22 lakh people.

Floods also affected normal life in Tripura, forcing 9,917 families to take shelter in 75 relief camps. An 11-year-old girl drowned in state capital Agartala, while another person was electrocuted elsewhere.

Assam chief minister Sarbananda Sonowal termed the second wave of deluge since July as the "worst floods in decades". The first wave had claimed 84 lives in Assam and another 62 across Arunachal Pradesh, Manipur, Mizoram and Nagaland between May and July.

With Saturday's casualties, the death toll since May has touched 161.

In an emergency meeting on Sunday, the Assam government asked the Army to help with the rescue and relief operations and put Indian Air Force choppers on standby.

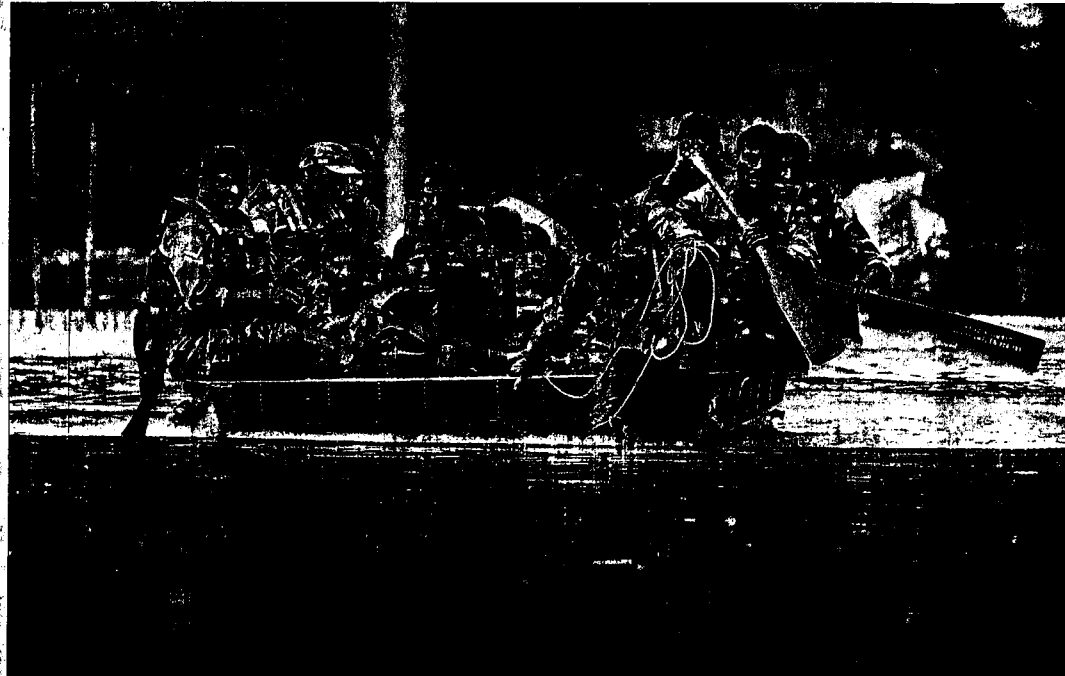
Additional personnel of national and state disaster response forces were deployed in the affected districts to rescue marooned people.

According to Assam State Disaster Management Authority (ASDMA), more than 1.83 lakh people displaced in the recent floods are taking shelter in 678 relief camps across the state.

The Brahmaputra is flowing above the danger level at Neamatighat, Tezpur, Guwahati, Goalpara and Dhubri. Ten other rivers across the state are also flowing above the red mark at one place each.

"Flood waters have submerged 2,734 villages and more than 1.34 lakh hectare of crop area affected. Erosion and breaches of embankments have been reported in 11 districts," an ASDMA officer said.

Parts of the national highway 37 connecting western and east-



Army personnel evacuate villagers in the flood-hit Jakhlabandha area in Kollabor, some 186 km from Guwahati, in Assam on Sunday.

ern Assam got submerged at Jakhlabandha, 175 km east of Guwahati, on Sunday morning disrupting movement of vehicles for several hours.

Rail link between northeast and the rest of the country also snapped on Sunday after railway tracks got submerged or damaged at several places in Assam and West Bengal due to flooding.

"A number of trains had to be stopped at various stations, and many other trains had to be cancelled or rescheduled or short-terminated," Pranav Jyoti Sharma, spokesperson of North-east Frontier Railway said.

Railway authorities cancelled 20 trains on Sunday causing distress to thousands of passengers.

Defence spokesperson Lt Col Suneeet Newton said army personnel rescued some 3,000 marooned people in western and central Assam districts.

**21 OF ASSAM'S 38 DISTRICTS AFFECTED. NEARLY 3,000 VILLAGES SUBMERGED AND MORE THAN 1.34 LAKH HECTARE OF CROPS DESTROYED**

**Flood helpline in Tripura**

Tripura chief minister Manik Sarkar and revenue minister Badal Choudhury visited flood-prone areas on the banks of river Haora on Saturday and ordered officials to monitor the situation.

The Bharatiya Janata Party, however, was not convinced with the efforts and accused the state government of selectively providing relief material to victims in camps run by the CPI(M) cadre. It also announced a 24x7 flood helpline.

## Punjab: 10,000-acre crop submerged in floodwater

**TARN TARAN:** Over 10,000-acre crop in the Mand area of the district has been submerged with the rise in the water level of the Beas and Sutlej rivers.

With heavy rain predicted in the coming days, high flood risk looms large over another 20,000 acres of agricultural land and houses in 62 villages in the area.

The Sutlej and Beas supply water to tributaries spanning over 80 km in Tarn Taran. There is around 30,000 acre farmland along the banks of these rivers in Mand from Goindwal Sahib in Khadoor Sahib sub-division to Kot Budha in Patti sub-division. After rise in the water level of two rivers, though the adminis-

tration has geared up its efforts to save the farmland from flood water by erecting temporary bunds on the critical points of the rivers, the farmers term this as merely an eyewash.

The farmers in the area complain they have been suffering due to floods since 1988, but the successive governments paid no heed to the situation, despite their repeated representations.

"Every year, crop on thousands of acres gets damaged in flood, but no one cares. The government gives only ₹4,000 to ₹5,000 per acre as compensation, which is not enough to make the ends meet," said Mundapind sarpanch Paramjit Singh.

## Army, Air Force to assist in Bihar flood relief operation

Ruchir Kumar

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**PATNA:** The Army and the Indian Air Force (IAF) will join the National Disaster Response Force (NDRF) in evacuation and rescue operation in flood-hit districts of Bihar, even as no casualty was reported so far.

Of Bihar's 38 districts, Kishanganj, Araria and Purnia were the worst affected, with floodwaters also partially affecting Katihar and Narkatiaganj town in Bettiah, West Champaran district.

While one column of Army personnel had moved from Danapur to Kishanganj on Sunday, three more were expected to be airlifted from Ranchi on Monday. The Army contingent from Ranchi would move to Purnia.

Besides, 10 additional teams, each comprising 40-45 personnel of the NDRF, were also being deployed in Kishanganj, Purnia and Araria to strengthen the existing 9 NDRF battalion. A team each of NDRF has already been deployed in East and West Champaran, Muzaffarpur, Darbhanga, Supaul and Purnia districts, while two teams have been positioned at Kishanganj.

The Centre's intervention comes after Bihar chief minister Nitish Kumar spoke to Prime Minister Narendra Modi, Union home minister Rajnath Singh and defence minister Arun Jaitley on Sunday. The CM also spoke to public representatives to assess the situation there.

Addressing media persons on Sunday, Bihar chief secretary Anjani Kumar Singh said the state had also requested the Centre for choppers to assist in evacuation and rescue. Airlifting of the marooned would begin from Kadamkhadi in Baisa block of Purnia district.

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News item/letter/article/editorial published on 13/8/17 in the

Hindustan Times  
Statesman  
The Times of India (N.D.)  
Indian Express  
Tribune  
Hindustan (Hindi)

Nav Bharat Times (Hindi)  
Punjab Keshari (Hindi)  
The Hindu  
Rajasthan Patrika (Hindi)  
Deccan Chronicle  
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M.P. Chronicle  
Aaj (Hindi)  
Indian Nation  
Nai Duniya (Hindi)  
The Times of India (A)  
Blitz

and documented at Bhagirath(English)& Publicity Section, CWC

# 9,000 rendered homeless in Tripura

## Toll mounts as flood situation deteriorates in Assam and West Bengal

SYED SAJJAD ALI  
SHIV SAHAY SINGH  
AGARTALA/ KOLKATA

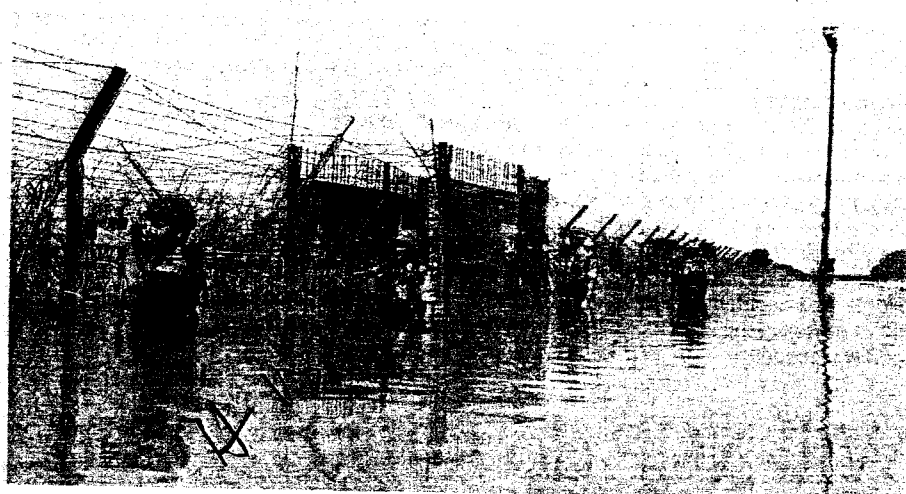
The flood situation in Tripura improved on Saturday after the incessant rain abated. As many as 9,000 people, rendered homeless in the flash floods in the State, are housed in relief camps, said officials of the disaster management authority.

The Opposition BJP alleged that the flood-hit were not provided adequate food and drinking water. "They are almost starving and the government is reluctant to address their needs," party's State president Biplab Kumar Deb told newsmen. He said lack of proper provision to pump out stagnant water and unplanned sewerage systems were responsible for the floods in Agartala city.

### Brahmaputra in spate

Floods in Assam claimed five lives on Saturday, taking the flood toll this year to 89. Nearly 11 lakh people across 19 districts have been affected.

As many as 1,752 villages



**On call, anytime:** BSF personnel guarding the international border in the flood-hit Malda district of West Bengal. ■ SPECIAL ARRANGEMENT

are under water and crops in over one lakh hectares has been damaged, the Assam State Disaster Management Authority said.

Brahmaputra is flowing above the danger mark at Nimatighat in Jorhat, Dibrugarh town, Tezpur in Sonitpur and Dhubri town.

### Three dead in Bengal

Floods in north Bengal has not only affected the lives of

lakhs of civilians but also the personnel of the Border Security Force.

The Punarbhaba river, which runs parallel to the international border, has breached its banks resulting in knee-deep to waist-deep water in some areas in Malda district.

Senior BSF officials said its personnel were guarding the posts in waist-deep water in two battalion areas.

In Cooch Behar district alone, about 1.86 lakh people have been affected and about 500 flood relief centres have been set up.

In Darjeeling district, two deaths have been reported. One woman was swept away in Sukhiapokhri, while another casualty was reported in a building collapse in Darjeeling. Several tea gardens of north Bengal are also under water.

News item/letter/article/editorial published on 12.3.98 in the

|                           |                           |                        |
|---------------------------|---------------------------|------------------------|
| Hindustan Times           | Nav Bharat Times (Hindi)  | M.P. Chronicle         |
| Statesman                 | Punjab Keshari (Hindi)    | Aaj (Hindi)            |
| The Times of India (N.D.) | The Hindu                 | Indian Nation          |
| Indian Express            | Rajasthan Patrika (Hindi) | Nai Duniya (Hindi)     |
| Tribune                   | Deccan Chronicle          | The Times of India (A) |
| Hindustan (Hindi)         | Deccan Herald             | Elite                  |

and documented at Bhagirathi(English) & Publicity Section, CWR

# Mini cruise at Pong Dam soon

NOC granted by BBMB | Asian Development Bank approves ₹6 crore

**PRATIBHA CHAUHAN**  
TRIBUNE NEWS SERVICE

SHIMLA, AUGUST 12

The Tourism Department has constituted a committee, headed by Chief Engineer (BBMB), along with its own officials, to look into the technical aspects and fix the route of the mini cruise to be started in the Pong Dam following the grant of NOC by the Bhakra Beas Management Board (BBMB). The committee is expected to submit its report by the end of this month.

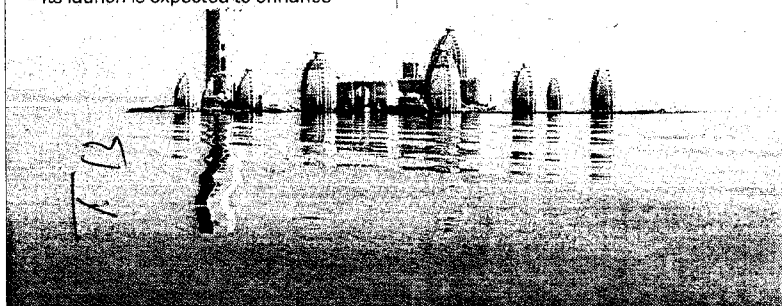
The Asian Development Bank has approved Rs 6 crore for the purchase of the mini cruise which will prove to be a big attraction for the tourists. "There are strict restrictions imposed by the BBMB in its conditional NOC and we will have to adhere to it if the facility has to function smoothly," said officials. It is only after the committee finalises the route along

## FIRST OF ITS KIND IN NORTH

- The mini cruise, the first of its kind in North India, will be able to accommodate about 50 persons
- It will have a deck and restaurant, along with other facilities
- Its launch is expected to enhance

## tourist arrivals in Kangra

- Good connectivity and accessibility of Pong Dam to Pathankot, Jammu, Punjab and Delhi is one of the main reasons for the move to launch the mini cruise in this water body.



with other technicalities that the process of purchase of the mini cruise will be initiated.

The mini cruise will be able to accommodate about 50 persons and will have a deck and restaurant, along with other facilities. The launch of the mini cruise is

expected to help enhance tourist arrivals in Kangra region and specially the Pong Dam area. Good connectivity and accessibility of Pong Dam to Pathankot, Jammu, Punjab and Delhi is one of the main reasons for the move to launch the mini

cruise in this water body. Pong Dam wetland now called, Maharana Pratap Sagar came into existence due to the construction of a dam at Pong across the river Beas which was completed during the year 1975-1976. This largest man made wetland of northern

India has been declared a wildlife sanctuary and was declared a wetland of national importance by the Centre in 1994.

It was in 2002 that the Pong Dam wetland was designated as the one of the international importance. This is the first major wetland which potentially offers a transitory resting reserve for the migratory birds such as bar-headed geese, ruddy shelduck, pintails, coots, pochards, gulls, grebes, cormorants, mallards and numerous waders coming from the trans-Himalayan zone in the winter season when the wetlands in Europe and north and Central Asia have frozen and there is great scarcity of food.

A Rs 3.11 crore management and conservation plan has been proposed for the wetland by the Council for Science, Environment and Technology.

News item/letter/article/editorial published on 14/8/12 in the

Hindustan Times  
Statesman  
The Times of India (N.D.)  
Indian Express  
Tribune  
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## 49 die in Nepal floods, landslips

Around 31,000 families displaced

ASSOCIATED PRESS  
KATHMANDU

Landslips and flooding triggered by heavy rain have killed at least 49 people in southern Nepal and left thousands homeless, the police said on Sunday.

The death toll was expected to go up, with around two dozen other people missing and feared dead after three days of heavy downpours in at least nine southern districts of the Himalayan country, said police spokesman Pushkar Karki. "Another 17 are missing. Search and rescue works are underway but the water levels have not declined yet," said Shankar Hari Acharya, the national emergency centre chief.

The Red Cross estimated a higher death toll of 53, with dozens more missing and injured and thousands of homes destroyed.

Around 31,000 families have been displaced by the floods and landslides, which began Friday, he said.

The police said floodwaters toppled telephone towers and power lines, cutting communications and electricity in many areas.



A man wades through a flooded area in Birgunj Parsa district on Sunday. ■ AFP

Rescue efforts were hampered by incessant rain and roads that were washed away in many places. Traffic on Nepal's main East-West highway was stopped after parts of the road and some bridges were severely damaged by the floodwaters.

### Airport shut down

Teams of soldiers and police officers were working together in the rescue and evacuation efforts, said Ram Krishna Subedi, a Home Ministry spokesman.

In the eastern city of Biratnagar, the airport was closed after the runway was submerged under more than 2 feet of water.

दिनांक 12.08.2017 को निम्नलिखित समाचार पत्र में प्रकाशित मानसून/ बाढ़ सम्बन्धी समाचार

Hindustan Times ( Delhi )

नवभारत टाइम्स ( दिल्ली )

The Tribune ( Chandigarh )

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हिन्दुस्तान ( पटना )

The Deccan Herald ( Bengluru )

The Deccan Chronical ( Hyderabad )

Central Chronical ( Bhopal )

## 2nd wave of floods in Assam, 3.5L hit

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**Guwahati/ Dibrugarh:** The flood situation in Assam worsened overnight with the total number of affected people rising from 63,000 on Thursday to over 3.5 lakh on Friday. The second wave of floods, spread over 15 districts, has wreaked havoc on the state, with at least 13,000 taking shelter in temporary relief camps.

The first wave of floods, which started in April and continued till the end of July, had claimed 85 lives and affected over 18 lakh people. There has been no casualty in the current wave of floods. According to Assam State Disaster Management Authority, more than 1.44 lakh of the affected people are from Dhemaji district. It said 20,000 hectares of crop area has been swamped. While the first wave was largely concentrated in upper Assam region bordering Arunachal Pradesh, the present wave is spread across the entire length of the Brahmaputra.

In the light of the IMD



**IN DEEP WATER:** A man wades through a flooded road in Agartala on Friday

predicting heavy rainfall over Arunachal Pradesh, Assam and Meghalaya, the ministry of water resources issued an advisory, warning people of impending flood warnings in Dibrugarh, Jorhat, Golaghat, Nagaon, Morigaon, Kamrup, Goalpara and Dhubri districts from August 10 to 20.

### Flash floods hit Tripura:

Continuous downpour for nine hours on Friday triggered flash floods in West Tripura, Sepahijala and Khowai districts, rendering more than 3000 families homeless. Residences of all minister's have been inundated due to water logging in the city, including that of the chief minister.

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# Rs 100 cr allotted to study NE floods<sup>Ar-11</sup>

## ■ Centre bid to find permanent solution

**SPL CORRESPONDENT**

**NEW DELHI, Aug 10:** The Centre on Thursday said that Rs 100 crore has been earmarked to find a permanent solution to floods in the Northeastern region. Experts will help find a solution, Union Minister of State for Home Affairs Kiren Rijiju said.

The Centre proposes to fund a permanent solution to floods in the Northeast including Assam, Rijiju said in the Lok Sabha here this morning.

He was replying to a call attention motion on the problem of floods in various parts of the country. Rijiju rejected claims of the Opposition that the government has failed to respond to the "annual feature" of floods in time and that it gives little

financial assistance to states to deal with the calamity.

The minister had last week ruled out the possibility of declaring the floods as a national problem and on Tuesday declared that it can at best be described as "a calamity of severe nature".

The government has adjudged flood as a calamity of "severe nature" in terms of operational guidelines of 2015-16 for constitution and administration of the National Disaster Response Fund (NDRF).

Rijiju said the Centre does not discriminate and two instalments of the state disaster response fund have already been given to the State.

The minister also rejected suggestions that the government's response to floods is often delayed, saying the con-

stant practice has been to ensure that rescue is followed by relief and rehabilitation.

Initiating the discussion, Gaurav Gogoi of the Congress alleged that the government was in deep slumber like the mythological character 'Kumbhakarn' and failed to take quick action when a calamity like floods hit various parts of the country. He said as per a revised formula, the financial liability of the states has increased in tackling floods. The Centre has changed the funding pattern from 90:10 to 80:20 for Special Category States like the Northeast states. Suddenly, after the recommendations of NITI Aayog, the funding pattern has been changed. In 2016, the Water Resources Ministry issued a letter with the subject

(See page 4)

दिनांक 10.8.2017 को निम्नलिखित समाचार पत्र में प्रकाशित मानसून/ बाढ़ सम्बन्धी समाचार

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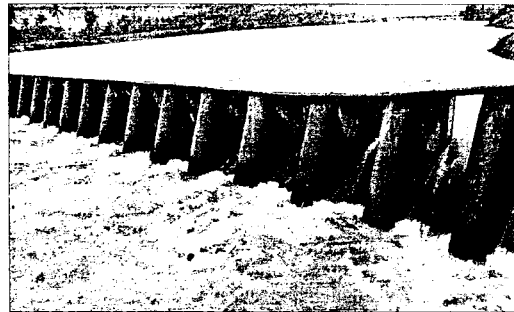
# Key depts divided on waterways proposal for 11 rivers in state

Bharath Joshi

**BENGALURU:** The Centre's ambitious plan to develop 11 rivers in Karnataka as National Waterways to enable transport of goods has not gone down too well with the Water Resources Department, which has questioned the very feasibility of the idea. The Public Works Department (PWD), however, is in favour of the project.

The management of rivers comes under the Water Resources Department, whereas ports and inland water transport belong to the PWD.

Last year, the Centre notified 106 river canals as National Waterways, including 11 in Karnataka: Bhima, Ghataprabha, Gurupura, Kabini, Kali, Malaprabha, Netravathi, Pancha-



**A vented dam built across the River Gurupura in Dakshina Kannada, one of the 11 rivers in the state notified for National Waterways. Officials say Karnataka's river basin is not suitable for waterways and there are already dams and barrages on all the rivers.** DH FILE PHOTO

gangavali (Panchagangoli), Sharavathi, Tungabhadra and Udayavara.

The Inland Waterways Authority of India (IWAI), under the Nitin Gadkari-led Shipping Ministry, has estimated Rs

25,000 crore to develop national waterways, which are "well in line to become the lifeline of the country."

"There are practical difficulties. Karnataka's river basin is not suitable for waterways.

There are already dams and barrages on all the rivers," a Water Resources department official told *DH*, requesting anonymity. "Even if you want to have movement of ships on short distances, the rivers don't have enough flow." The bigger concern the official expressed was on the ecological front: "River trenching will have to be taken up to make waterways work. That means playing with the very topography of the rivers."

Work is already under way on the Ganga and will soon be taken upon the Brahmaputra. "The first phase focuses on perennial rivers where waterways are feasible," the official said, adding that the Water Resources Department would apprise the Centre of these concerns before work is taken up.

PWD Additional Chief Secretary M Lakshminarayana rubbished the concerns.

"There are so many rivers in the coastal areas where we can easily have 3-4 km-long waterways," he said. The Gurupura river, for example, is ideal for waterways, he pointed out. "Waterways strategy for Karnataka will be different from that of other states. We are in touch with the Centre and will share our inputs when the detailed project reports are being prepared."

Water expert S Vishwanath expressed surprise. "Where are the months in which these rivers flow? Even the mighty Krishna dries up while the Cauvery is dry most of the time," he said. Trenching will cause an ecological disaster, he said. "Trenching is the removal of silt from the river bed to increase depth for boats and ships to float. It changes the morphology of a river."

**DH News Service**

दिनांक 12.8.2017 को निम्नलिखित समाचार पत्र में प्रकाशित मानसून/ बाढ़ सम्बन्धी समाचार

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## Kerala wants review of river water pact with T.N.

Says T.N. has been diverting water from Parambikulam dam

**SPECIAL CORRESPONDENT**  
THIRUVANANTHAPURAM

Expressing concern over Tamil Nadu's failure to abide by the inter-State river water sharing agreement under the Parambikulam-Aliyar Project, the Kerala government on Thursday said it wanted a review of the pact. Chief Minister Pinarayi Vijayan told the Assembly that Kerala had been denied its legitimate share of water under the PAP agreement for many years. This year, Tamil Nadu had been diverting water from the Parambikulam

**6** In April, I sought a discussion with the T.N. Chief Minister to resolve outstanding issues

PINARAYI VIJAYAN  
Kerala CM

dam from August 8, while denying Kerala its share to the Chittur dam. This, he said, had created parched conditions in Palakkad.

Responding to a submission moved by Chittur MLA K. Krishnankutty, he said the issue had been brought to the attention of the Tamil

Nadu government at various levels. "I wrote to my counterpart in Tamil Nadu yesterday [on Thursday] and the Chief Secretaries of the two States also talked to each other on the phone. In April this year, I sought a discussion with the T.N. Chief Minister to resolve the outstanding issues and review the PAP agreement. They are yet to respond," he said.

Maintaining that the government did not view this as an emotional issue, he said it hoped to find an amicable solution through talks.

दिनांक 11.08.2017 को निम्नलिखित समाचार पत्र में प्रकाशित मानसून/ बाढ़ सम्बन्धी समाचार

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# Sediment transport in Brahmaputra 67-11

■ Dr JN Sarma

**T**he Government of Assam has planned to dredge the Brahmaputra spending Rs 400 crore; therefore, understanding the nature of sediment transport in the Brahmaputra before starting dredging is desirable. The Brahmaputra river ranks as the second river in the world in terms of rate of sediment yield per square kilometre ( $\text{km}^2$ ), which is next to the Huang He river of China. Presently China has adequately controlled the sediment sources of the Huang He; hence the Brahmaputra has attained the first rank.

The rate of sediment yield per  $\text{km}^2$  at different parts of the catchment of the Brahmaputra is quite irregular. As measured at Tsela Dzong in Tibet, the rate is about 150 tons per  $\text{km}^2$ . But as the river crosses the Himalayas and reaches Pasighat of Arunachal Pradesh at the foothills, the rate increases to 10 folds, i.e., 1,495 tons per  $\text{km}^2$ . It is evident that the river gathers sediments from soft rocks and landslide affected areas of the Himalayas. The Higher Himalaya Range contributes about 70% of the sediments of the Brahmaputra. At Bessamora (Majuli), the rate is 1,513 tons per  $\text{km}^2$ . Here the further increase in the rate, as compared to Pasighat, is due to the contributions from the rivers Dibang and Lohit.

A considerable part of the sediment of the Brahmaputra is contributed by its tributaries. The

tributaries of north bank of the Brahmaputra originate in the Himalayas; hence the amount of sediment carried by these rivers is also high as compared to their south bank counterparts. For example, the sediment yield per  $\text{km}^2$  of the basins of the Subansiri and Jia Bhareli are 2,500 and 4,700 tons, respectively. On the other hand, this rate per  $\text{km}^2$  for the south bank tributaries like the Burhi Dihing, Disang, Jhanji, Dhansiri and Kopili are respectively 700, 968, 1020, 482 and 832 tons.

The data on water discharge and sediment load of the Brahmaputra are classified documents and thus public has no access to the same. The sediment loads are measured as both suspended load and bed load. The published data reveal that on an average the Brahmaputra transported 402 million tons of suspended sediment annually during 1955 to 1979 at Pandu. According to the Water and Power Consultancy Services (India) Limited, the average annual sediment yield for the period from 1978 to 1991 was 527 million tons at Pancharatna. During the rainy season, May through October, the river transports 95% of annual suspended load at Pandu at an average daily rate of 2.12 million metric

tons. This is an enormous amount; if trucks of 15 ton capacity are used to carry this load, the total number of trucks required for this purpose will be 1,41,333. Although suspended sediment is measured at a few stations on the Brahmaputra, no convincing attempt has been made to measure its bed load because of various complexities. Prof DC Goswami estimated the bed load using several empirical equations and concluded that the bed

**But the question is, will it be possible to maintain the dredged channel at the desired width and depth during the rainy season when there is daily input of 2.12 million metric tons of sediments into the river?**

load at Pandu was of the order of 5-15% of the total load of the river.

The data on the amount of silt to be dredged out per day and the total volume of silt to be dredged out from the bed of the river during the span of the entire project is not available. But the question is, will it be possible to maintain the dredged channel at the desired width and depth during the rainy season when there is daily input of 2.12 million metric tons of

sediments into the river?

Moreover, so far there is no data on the Brahmaputra in Assam to know how sediments move along its bed (bottom). A classic field study on this aspect was carried out by Prof JM Coleman (1969) on the Jamuna (Brahmaputra) of Bangladesh. He found that the river bed moves as waves of sand, called bedforms, similar to sand dunes of deserts. The results of his study can be summarized as follows:

"The wave heights of the bedforms range from few inches to over 45 feet. Four types of bedforms can be identified - ripples, mega ripples, dunes and sandwaves. Ripples are small features but mega ripples can attain a height of 3 feet and move over 750 feet per day. Dunes range in wave height from 5 to 25 feet and are most common during peak flood. The rate of their movement ranged from 100 to 370 feet per day. The sand waves are the largest bedforms, height ranging from 25 to 50 feet. They develop during the peak flood and the falling stage. The rate of movement is in order of 100-1500 feet per day."

Further, the might of the Brahmaputra in Bangladesh is much lower than that of Assam as the slope of the river is more in Assam (0.27 to 0.094 m/km) than that of Bangladesh (0.079 m/km). There-

fore, it is not unlikely that the bedforms can attain a height of more than 50 feet (16 m approx.) on the bed of the Brahmaputra in Assam. Hence, the channel dredged out during dry months is likely to be filled by at least up to 16 m in the next rainy season. In that case dredging will have to be carried out annually as a continuous process.

The main purpose of dredging of the Brahmaputra is to prevent the high flows from inundating both of its banks resulting in floods. But the valley of Assam has been created from the sediments deposited by the floods of the Brahmaputra and its tributaries. During the last two million years, it has deposited 200-1000 m thick sediments only by flooding and lateral channel migration. Natural floods have several benefits besides increasing soil fertility. But artificial heavy floods have been created in Assam either due to breaching of embankments or sudden release of impounded water from dams for dam safety purpose. Such floods deposit enormous sterile sands, which are called 'crevasse splays'.

Curiously, dredging appears to be a solution for drainage congestion and flood, but for achieving fruitful result, a proper planning and detailed study on the basic aspects of this project is highly desirable. Hence, a critical analysis of the data on both sediment input and dredging depth together with dimensions of the bedforms is necessary before starting this mega project.

News item/letter/article/editorial published on

14/8/78

in the

Hindustan Times  
Statesman  
The Times of India (N.D.)  
Indian Express  
Tribune  
Hindustan (Hindi)

Nav Bharat Times (Hindi)  
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Deccan Chronicle  
Deccan Herald

M.P. Chronicle  
Aaj (Hindi)  
Indian Nation  
Nai Duniya (Hindi)  
The Times of India (A)  
Blitz

and documented at Bhagirath(English)& Publicity Section, CWC

## कावेरी मसले पर सर्वदलीय बैठक आज

बेंगलूर. कावेरी नदी के जल ग्रहण क्षेत्रों में अपेक्षा के अनुरूप बारिश नहीं होने, कावेरी नदी के चारों जलोशयों में कम जलस्तर के बावजूद तमिलनाडु के बार-बार पानी छोड़ने की मांग करने से उत्पन्न स्थिति पर विचार के लिए मुख्यमंत्री सिद्धरामय्या ने सोमवार को सर्वदलीय बैठक बुलाई है।

राज्य में इस साल भी सामान्य से 50 फीसदी कम बारिश होने से सूखे की काली छाया मंडरा रही है। कावेरी बेल्ट के केआर, सागर, हारंगी, कबिनी और हेमावती बांधों में बहुत ही कम पानी का स्टॉक हो सका है। उन्होंने कहा कि उपलब्ध पानी को पेयजल के लिए तालाबों व झीलें भरने के लिए छोड़ा गया है। राज्य में जल अभाव के बावजूद तमिलनाडु सिंचाई के लिए पानी मांग रहा है।

मात्रिका-14-8-17