



Living with floods

By Naren Karunakaran

There was a time when the people of north Bihar, India's most flood-prone state, celebrated the monsoons and lived with floods. How and when did they become victims of floods, struggling to control the waters? Now, a silent movement to empower citizen's groups to re-establish their cultural ownership over rivers is taking shape

☒ The recurring abundance of water in the river basins of north Bihar and the northeast is what people living in these regions fear most. While countrymen elsewhere yearn for life-giving water, the fury of many rivers in spate engulfs the lives of the people here. The monsoon months turn them into a miserable, helpless populace, dependent on state and voluntary support for their survival.

It is indeed ironic that their forebears, who gravitated towards and lived in these very river basins, looked forward to and welcomed the floods. The silt left behind by the rising, flowing waters enriched their fields. Bumper crops and prosperity ensued. It was in fact this fertility that attracted early settlers to the plains of north Bihar just as it did along the Nile, the Tigris, the Euphrates and the Indus valley.

In the Mithila region of Bihar there is a saying: "***Ael Balan ta banhaloun dalaan; gel Balan ta tutale dalaan,***" (let the Balan (river) spill this year, we will build a new extension to our house; if it doesn't, then we lose whatever we have in the house). Indeed, the monsoon months -- a time for floods -- was a festive time and women, on starlit nights, would often come out in boats, singing and celebrating the floods. There was a certain kinship with the rivers.

Occasionally, the rising waters did overwhelm the people but they, generally aware of every aspect of the floods (depth, duration, etc), took reasonable precautions.

Over time, the people of north Bihar who constitute over 56% of India's flood-affected, have undergone a nomenclature change -- from being 'worshippers of floods' to 'victims of floods'. What has brought about this transformation?

☒ The floods of yore used to come, wash over the land, and go. But, thoughtless

development unleashed by politicians and engineers over the years has pushed the populace of Bihar into a permanent flood trap. Sustained attempts have been made to control and hem in rivers along their course by building embankments. The unplanned construction of roads, canals and railways across the Bihar plains, blocking the natural drainage of rivers, has made them unwieldy, unpredictable and destructive. "Floods that sneaked in like cats earlier, now come roaring like lions," says Dinesh Kumar Mishra of Barh Mukti Abhiyan (BMA). Misra, an Indian Institute of Technology engineer-turned-activist, has been trying to re-establish peoples' cultural and political ownership of rivers since 1991, when the Abhiyan took shape. The BMA's aim is to promote local and traditional alternatives to government flood-control policies. The organisation has over 700 rural groups of flood activists.

Eight major river basins -- the Ghagra, Gandak, Buri Gandak, Bagmati, the Adhwara group of rivers, the Kamla, Kosi and the Mahananda -- spread across north Bihar. Most of them originate in Tibet or Nepal, erode the soil easily as they flow downwards, depositing it on the Bihar plains before draining into the river Ganga. Deltas created by this avalanche of sediment often provoke the rivers to meander and flood the plains. Shifting courses also create and leave behind **chaurs** (huge land depressions).

The Kosi, the most notorious of north Bihar's rivers, also known as 'the sorrow of Bihar' (a British term) has thus shifted westwards by 160 km over the past 250 years. "The annual sediment load in the Kosi is such that if a bund, one metre high and one metre wide, is built it would circle the equator three times," says Misra.

The British tried to 'tame' the Damodar, 'the sorrow of Bengal' by building embankments. Still, the river overwhelmed them. Consequently they refrained from touching the Kosi (they eventually demolished the Damodar embankments in the 1850s). Since Independence, however, successive governments have tried to confine the Kosi and other rivers in the region in a maze of embankments that often breach and divide communities and cause permanent waterlogging.

When heavy silt-laden rivers are restrained between embankments, the silt that would have spilled over into a large area is confined between the embankments. This raises the level of the riverbed. The rising bed level provokes the building of higher embankments. As a consequence, in certain areas, rivers flow above the surrounding ground level. The Kosi's embankments have been raised over two metres since they were first constructed in the mid-50s.

Embankments meant to protect people living along rivers have often been breached. The Kosi breach of 1984 wiped out 11 villages, inundated 196 and rendered 4.5 million people homeless. In the 1987 floods there were 105 breaches along Bihar's river

embankments.

These mud barriers have also caused considerable social friction, especially amongst those living within and outside the embankments. As a river rises, people living within the embankments breach them in many places to enable the floodwaters to flow out, lest they drown in it. Those outside, obviously, are adversely affected and oppose it. The ongoing confrontation occasionally leads to gunfights.

Over 800,000 people in 338 villages continue to live within the Kosi's embankments even today. They converge and live on the embankments for months when the river is in spate.

Fields within the embankments are also sand-cast, rendering them useless for cultivation. Kant Lal Mandal of Sikatia (Azamnagar block) used to grow paddy and jute before the Mahananda embankments were built in the 1970s. The land in this part of Bihar was so fertile that farm labourers from other parts of the state converged here to harvest grain. Today, Mandal migrates to Punjab during the harvest season to make ends meet.

River embankments have thus turned Bihar into a land of farm labourers who travel to other states to earn a living. "Landlords with tens of acres of land have today become **paan** and **bidi** vendors," says Pancham Bhai of the Lok Bharati Seva Ashram in Supaul where the Kosi enters India from Nepal.

In 1954, when India's flood control policy was first introduced, Bihar had 160 km of embankments and 25 lakh hectares of flood-prone land. Today, after spending over Rs 1,327 crore, the embankments on Bihar's rivers total 3,430 km. And the state's flood-prone areas, instead of decreasing, have increased to 68.8 lakh hectares!

Waterlogging is the other major problem. Rainwater, which gets collected in the so-called 'protected' area outside the embankments, cannot flow into the river. This causes serious, permanent waterlogging. Tributaries are also thus blocked, leading to backflows into the protected area. Scores of sluice gates were built at the confluence of rivers to control flows in and out of the rivers. None of them, except one, is functional today.

The Kusheshwar Asthan block in Darbhanga, where the Kamla, Kosi and Kareh rivers converge, has thus turned into a huge expanse of water that refuses to drain away. Boats ply round the year and water hyacinth has replaced paddy. Landlords have turned into waterlords! In keeping with the fast-changing character of the land here, the government has been quick to declare the area a bird sanctuary! About 124,000 hectares in the Kosi-Kamala Doab is waterlogged.

Nowhere in Bihar is the problem of waterlogging more acute than in the Gandak command area, extending to over seven districts (Gopalganj, Saran, Siwan, Vaishali, Muzaffarpur and East and West Champaran) and boasting a canal network of over 6,000 km. Water seepage from embankments and the maze of canals and roads, including haphazard village roads built under the Jawahar Rojgar Yojana, have worsened the situation. The Gandak canals irrigate over 3.5 lakh hectares; waterlogging however has gobbled up over 7.5 lakh hectares. "The persistent problem has demolished the livelihoods of over 6 million people," says Misra. For them, migration is the only solution.

The **chours** of Bihar stand testimony to the problem of waterlogging. The Hardia **chaur**, for instance, spreads over 32,000 hectares in Saran district. "The Gandak canals have impeded the drainage of this **chaur** and the waterlogging has worsened over the years," says Jitendra Kumar of the Jal-Jamav Virodhi Sangharsha Samiti. The Samiti has been trying to retrieve submerged land by devising simple, community-driven drainage systems. The government, meanwhile, has done little to clear waterlogged stretches. In fact, through the entire 1990s, no funds were sanctioned for this purpose.

Years of suffering have now emboldened village communities to seize the initiative and take issues into their own hands. Embankments are being breached systematically at vantage points to benefit people within and outside the embankments. Consequently, the floods, when they do come, rise slowly, unlike when embankments suddenly give way.

The Mahananda Tatbandh Virodhi Sangharsha Committee has not only broken the Mahananda embankments at several places, but has also prevented the government from plugging them. In 1996, the Samiti, following an agitation, secured written assurances from government engineers and local contractors that they would leave the breaches untouched. The 'public cuts' on the Mahananda embankments have been accepted by the state bureaucracy.

Vinodanand Sah, secretary of the Samiti, today gloats over the bumper crops of wheat on both sides of the embankments. "The kind we have never seen before," he says. The villagers have been coping marvellously well with the 'normal' floods. It was the man-made ones that wreaked havoc on them all these years.

The accent now is on going back to the old traditions that enabled their forebears to live with the floods. Seven breaches to the Bagmati embankments, made in 1993, remain, as the villagers have prevented their plugging. Such examples of the closing of ranks by communities are slowly gaining momentum in Bihar.

Partapur village on the banks of the Balan in Madhubani district often enters the

spotlight when its village elders talk of tradition. Partapur had one big and three small tanks. The big one, located at a height, was linked to the Balan with a drain, the entry point of which was blocked with mud. As the Balan rose during the monsoons, villagers would open the drain allowing river water into the main tank. When full, the water was diverted to the other tanks through link drains.

This store of water lasted throughout the year, enabling the village to irrigate over 100 hectares of land. Moreover, the villagers grew a variety of deep-water paddy that tolerated submergence. Hundreds of seed varieties, typical to the region, existed then. Many have been lost forever.

Today, Partapur is only a name. The village was abandoned in the 1960s when trapped between the embankments of the Kamla-Balan.

Many tales of tanks -- integral to life in the Mithila region -- abound. These village tanks were not only harnessed for irrigation they were also used as fisheries and for growing **makhana** (a water fruit peculiar to the region). Once a year, on sankranti day (mid-April), the villagers would come together to clean the tanks.

A couplet captures the grandeur of the Mithila region: "**Pag pag pokhar, paan, makhan;tab dekhiau Mithila kai saan** (tanks, betel and makhana all over; that was the grandeur of Mithila). But this grandeur is a thing of the past. Today, most of Mithila's tanks are dilapidated or have slipped into the hands of the government.

Surprisingly, the people of yesteryear also had a solution to the problem of land erosion and sand-casting caused by meandering rivers. Neighbouring villages often extended land to those affected, for cultivation and to build houses, albeit on a temporary basis. Such gestures or examples of traditional social security networks are beyond the ken of the present-day populace.

People in flood-prone areas had also devised a number of locally-inspired mechanisms to cope with the floods -- right from the use of building material (bamboo, stilts, etc, as in the northeast) to floating platforms for defecation.

"Modern interventions in the name of flood control have disturbed the equilibrium between rivers and communities. It's about time we seek lessons from our past," says Misra. But that's easier said than done. Money-guzzling relief and rehabilitation operations during recurrent floods have turned into a virtual industry for politicians, engineers, contractors and even non-governmental organisations seeking to perpetuate themselves.

There is a vested interest in maintaining the status quo. It is this lobby that often

resurrects the call for the building of the Barahkshetra dam, or the high dam on the Kosi in Nepal, as a permanent solution to floods in Bihar. Despite it being a known fact that dams do not banish floods and flooding. Every monsoon since the 1950s, the propaganda machine for the Kosi high dam is cranked up.

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