

One year after the Kusaha breach

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There was no end to the miseries of people in the Kosi Basin as the river used to change its course. It is a vibrant river and used to inflict immense losses in the districts of Purnea and Saharsa. All that is history now... Now, the river is jacketed on either side and has been controlled. This has benefited the people living in the countryside of the embankments and the biggest benefit is that the people there are not scared of the river that it would bother them anymore. The areas that have been protected by the embankments have got a new lease of life and after travelling to those places one gets an impression that the life has started afresh there.”

This was Kedar Pandey on behalf of the government in the Bihar Vidhan Sabha on October 6, 1959.

Every word was proved wrong 50 years down the time line on August 18, 2008, when the Kosi breached its eastern afflux bundh at Kusaha in Nepal. The floodwaters engulfed 35 blocks and 993 villages spread over five districts. Nearly 3.3 million people and 3.68 lakh hectares were trapped in floods; 2.34 lakh houses were destroyed and 527 persons died in the disaster.

This was the eighth incident of its kind in the past 45 years. There is no reason for people to be complacent about the cover provided by the Kosi embankment, as the threat of a breach continues to loom large. In a similar incident on the Kosi's eastern embankment in 1984, the river wiped out 11 villages in Navhatta block of Saharsa district and engulfed 196 villages in seven blocks of Saharsa and Supaul districts of north Bihar. The floodwaters spread over 67,000 hectares and 4.58 lakh people were rendered homeless. They sheltered on the remaining portion of the embankment for more than six months.

The Kusaha breach was plugged in the month of May this year at an estimated cost of Rs 143.42 crore, approved by the Centre, which sanctioned Rs 1,010 crore for emergency relief after the breach was declared a national calamity on August 28, 2008. The state government reportedly mobilised an equal amount for relief and many NGOs did their own bit. Despite all these inputs, the state needs another Rs 14,800 crore to bring back the victims and the state economy on the rails. It is time to do the sums on the benefits of the Kosi Project.

Unresolved debate

Embankments prevent a river from overflowing its banks during floods but they also prevent the entry of floodwater including the flow from the tributaries. Thus, while the countryside is deprived of the fertilizing silt contained in floodwater, waterlogging starts along the embankments. The situation is aggravated by seepage under the embankments. Theoretically, sluice gates located at these junctions should solve the problem but in practice such gates quickly become useless. As the riverbed rises above the surrounding land, the gates only let water out. So the only option is embankments for the tributary as well. This results in water being locked up between two embankments. Moreover, no embankment has yet been built or can be built that will not breach. When a breach occurs, there is a deluge, as happened at Kusaha last year.

Some engineers say when embankments are built along any river, its velocity increases and the water can erode the banks and dredge the bottom of the river, thereby increasing its capacity reducing the chances of a flood. Unfortunately, there is no evidence to substantiate these claims, at least not in India. The debate on embankments is yet to be resolved among the engineers and the politicians have the last laugh when they decide on technical matters.

Pro-embankment lobby succeeds after Independence

The British refrained from constructing embankments after their project to contain the Damodar failed in the middle of the 19th century. The situation changed drastically after Independence. In 1956, Kanwar Sain, chairman of the Central Water and Power Commission, addressing a meeting of the Institution of Engineers in Patna had said: "Essentially, it has to be a choice between the demand of the people for immediate flood protection and evolving a plan of flood control that can be guaranteed flawless. If the plans for control of Kosi are to be held in abeyance until an absolutely trouble-free solution can be found we may be certain no work will be done for a long time to come." The Centre obviously did not wait for an 'absolutely trouble-free solution'.

Return to status quo

With the plugging of the breach at Kusaha, status quo has been restored. The people have been assured that the embankment would not breach in future but nothing can be far from truth. The river will now flow within the embankments and the sediments it contains will continue to raise its bed level. This in turn will force the

authorities to raise the embankments and the river will be rising above the lowest points of its catchment area. Any breach will devastate the area, as it did in 2008. One is reminded of a statement of Captain F C Hirst in 1908, on the Hwang Ho (China) embankments. He had said, "...Each succeeding generation has been compelled to raise the height of the embankments, to make them keep pace with an ever-increasing flood level.... unusually heavy flood breaks down or overtops the embankments, and the pent-up waters deal death to the posterity of those who, originally in good faith, prepared the way for disaster".

Groping in dark

This is not the place to discuss shortcomings in maintaining and repairing embankments, but to discuss the shortcomings of embankments themselves. The government is busy whipping the old horse of the proposed Barahkshetra Dam on the Kosi in Nepal. It has been doing this for the past 72 years, and occasionally talks about interlinking rivers. Its special task force sends feelers about a pair of embankments within the embankments to reduce the waterway and increase the velocity of flow that would help re-section the river and reduce the floods. In case of the Bagmati, it has a proposal to send floodwaters to the subsoil, and so on. It has nearly 10,000 engineers but never asks them to say that the dam in Nepal is not possible in the near future, and come out with a solution to the Kosi where we do not have to depend on others. Will they ever do it?