

## COMMENT

# Living With Floods

BIHAR IS ALWAYS IN THE NEWS. This time it made headlines for floods and corruption associated with relief distribution. After all politics of relief is a time-tested lucrative business in this part of the globe. Many rivers of Bihar emerge from hills in Nepal and carry heavy load of silt. Previously they flowed freely. Flood waters deposited the silt laden with organic matter in these vast lands leading to increased productivity. Bihar was one of the richest areas that the British coveted to conquer. Flood water would spread evenly across large tracts of land and flow like a sheet of cloth. It would deposit silt here and there. The river would change its course and deposit silt over large areas. Kosi, for example, has changed its course by 160 km in last 250 years. The level of water did not rise much even in worst floods because it spread across large areas. People had devised ways of living with the floods such as by making houses of bamboo that could be reassembled at high places quickly. The dislocation of civil life was less intense though it recurred almost every year.

Traditionally farmers of North Bihar welcomed the floods because flooding made agricultural practice cheaper and easier. It's no more.

The Government has built embankments along the sides of rivers to save people from this trouble. Embankments provide relief from floods in normal years. Flood water is contained between the embankments and areas outside remain unaffected. But devastation is much greater in years of floods. Water rises suddenly as the river breaches the embankments and the huge amount of water is spilled out like a torrent. People find it difficult to reach safe places and many die as has happened in Bihar this year. Huge spills carry much coarse sand that covers the productive topsoil and lays them waste.

Furthermore, embankments create an artificial obstruction in the drainage system of the river basin. As a result, flood water takes a long time to recede. During 1998 floods waters remained for about 15 days even though rains had stopped because it simply could not get out of the area causing epidemic. Another disadvantage is that silt is arrested between the embankments and prevented from flowing to the sea. The entire Ganges basin from Haridwar to Ganga Sagar is made from such silt. Trapping of silt between embankments deprives coasts of silt-renourishment and hastens their erosion. Large areas of eastern coastal land are likely to be engulfed as the sea level rises due to global warming. Flow of silt could help raise the level of land of Bengal and reduce this danger.

But this is not happening now. And tiny islets are vanishing in the Bay of Bengal.

Bihar had 160 km embankments in 1954 and 25 lac hectares land was flood-affected. Since then more than 3,000 km new embankments have been made but the area that is flood-affected, instead of decreasing, has increased to 69 lac hectares. More embankments mean more floods, not less.

A true study of costs and benefits of the embankments will most likely lead to their removal as dams on Elhwa river in Washington State, USA were removed because US government found that people had high level of non-use value for the

free flow of Elhwa River. But politicians and bureaucrats in this country are unlikely to think over decommission-ing of embankments and dams because they cannot kill the relief goose.

G F Hall, the Chief Engineer of Bihar had said as early as 1937: "As my knowledge of flood conditions increased, I began to doubt the efficacy of embankments and gradually came to the conclusion that not only was flood prevention undesirable but that embankments are the primary cause of excessive flooding. North Bihar needs floods, not flood prevention." Hall also feared that the way embankments were being constructed engineers were "storing up a disaster for the future," though they may not be around to witness its climax. It is time that people rethink of living with nature instead of trying to control it. □□□

*[contributed]*