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## Washed away by the Brahmaputra

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Drawings by Raymond Verdager

A recent visit to Assam brought home once again how little attention the states of the Northeast get from the capital, or indeed from the supposedly "national" media. This region has been ravaged by very severe floods, directly affecting at least ten million people and indirectly many more, causing large dislocations, devastating huge areas of cultivation, destroying thousands of houses and other property, and cutting off major transport links for several states.

However, the coverage in the national media has been far from commensurate with the severity and extent of the damage and the continuing trauma of the flood-affected people in the Northeast. Instead, media focus has been concentrated on the floods in the Indo-Gangetic plain, especially Uttar Pradesh and Bihar, and more recently on the excessive rainfall leading to floods in Andhra Pradesh and Karnataka.

Yet the floods in the Northeast should be of national concern, and not only because it is necessary to rectify the deficit of

attention that this region regularly receives. It is also because these recent floods may be a harbinger of a more worrying new natural tendency which we are so far ill-equipped to handle.

These floods in this part of the country were not predicted by the Indian Meteorological Department, which projected only "normal rainfall" for this monsoon. And indeed, one worrying aspect of these floods is that the rains so far have not been much in excess of normal — in Assam, for example, rainfall until the end of August has been at 99 per cent of the 30-year average for the state. Six districts of Assam have actually received significantly less rainfall than normal, and only three districts have received significantly more than normal.

So flooding in Assam cannot be traced to excessive rainfall, except in one or two districts at most, which are not even the worst affected flood districts. Instead, a major role has been played by what can only be described as water logging — resulting from the overflow of rivers affecting low-lying areas

in particular.

Of course, rainfall has created some of the problem — not in its aggregate behaviour, but because of its pattern, with more intense precipitation over some days interspersed with prolonged dry spells, which causes more runoff. But a more important factor has been the effect of rising water levels in the major rivers in the Brahmaputra basin.

Some have attributed this to the melting of glaciers and snows of the Himalayas, as part of the global warming effect. It is certainly true that high altitude hydro power projects have been receiving more water, partly due to the melting of glaciers. But scientists have argued that this is so far not enough to explain the extent of downstream flooding, or at least that the evidence is insufficient to conclude that the most recent floods have been caused by this. Of

course, the fact that the evidence is not conclusive does not mean that this is not happening, or that there will be no flooding (or other disasters) caused by this in future. But it does suggest that there are other causes as well.

Three years ago, in 2004, there were similar floods in Assam (as well as in neighbouring states) that were not related to excessive rainfall so much as to rivers overflowing because of other reasons. At that time, a task force of the Union government's ministry of water resources had studied the reasons for those floods. The task force had concluded that the high degree of sedimentation and silting in the Brahmaputra river was to blame.

The high sediment load leads to frequent and often quite drastic changes in the river channel, a process that is experienced not only in Assam but in neighbouring West Bengal and Bangladesh, with increasing intensity and devastating consequences for the people on both sides of the banks. This has led to very large internal displacement of people, for which the policy response

is still not adequately developed, and with many different implications for the local economies and societies.

The silting and sedimentation of the Brahmaputra have other effects which are directly relevant today. There has been a decline in the water carrying capacity of the river, which means that the river easily rises above the level of its banks in different places, thereby inundating the surrounding lands. It is likely that this process has been responsible to a large extent for the recent floods in the North-east.

What is true of the Brahmaputra basin today may well be true of the other major river basins of India in the near future, if it is not true already. And this is not something we can afford to ignore. If too much sedimentation is indeed a major cause of the recent floods, then clearly, flood prevention, flood prediction and flood control strategies all have to change to take account of this. And the longer we avoid these necessary measures, the worse will be the impact on our people, our economy, and even on our future.