

# Problem solving in Brahmaputra Valley

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For almost as long as India has been independent, its north-eastern region (NER) has struggled with issues of disasters and development, often looked at separately. The region has seen a range of complex issues related to earthquakes, floods, riverbank erosion, distress migration, violence and poverty. Columnist Sanjoy Hazarika calls the region “an anthropologist’s delight and an administrator’s nightmare”.

The region is home to around 225 tribal communities, out of 450 in India, each with its characteristic culture. Many of their cultural attributes often illustrate influences of practices and spaces that may not match the political boundaries within the NER but of the larger transboundary (China, India and Myanmar) landscape of the floodplains of the Brahmaputra and Salween rivers. The first question for people like us who are interested in solution-oriented or problem-solving scholarship is, what are the different discourses or knowledge tropes currently used by policymakers and people who can influence policy to make sense of problem situations in this region? For the sake of focus for this article, we attempt to delineate knowledge bases influencing such discourses around disasters and development in the Brahmaputra Valley of NER. We see three distinct knowledge bases shaping three different discourses. The first is the hydro-geomorphology knowledge base that draws from the disciplines of earth sciences and hydrology while explaining the changes in patterns of water flow in different reaches of the Brahmaputra and its tributaries and the dynamics of sediment transport in different periods. Such knowledge plays a vital role in understanding the geological fragility of the region and the dynamics of landforms. It explains the impacts of the earthquakes, like that of 1950, on the sediment load of the Brahmaputra

and the changes in the river’s width and depth further leading to issues of flood and riverbank erosion. The policies of flood control and disaster management in Assam often use elements of this knowledge base in legitimising its continued efforts of construction and maintenance of embankments. But the work of noted scholars in the field like Emeritus Prof Robert J Wasson from Australian National University has found that flood control through embankments has been less successful than

initially envisaged. The second is the knowledge of political economy that draws from the disciplines of history, political science, and economics. This helps in the critical thinking of the determining factors shaping policy-making and policy changes. Scholars of history like Prof Arupjiyoti Saikia from IIT Guwahati have helped to trace the change of vision for governance in the Brahmaputra basin – from one of a frontier and source of prosperity in the pre-colonial era to one of colonial aspirations of control and navigation, to that of flood protection for an agrarian economy in the post-Independence era, and now of a potential powerhouse to meet energy demand of a liberal economy of the 21st century. Academics and members of civil society often draw from this knowledge to debate the motivations and legitimacy of recent infrastructure projects like hydropower dams in the geologically fragile landscape. They further raise issues for lack of equity in benefit sharing from such projects among the Indian state and the communities of the valley, other parts of NER, and the larger landscape sharing the river. The third is knowledge of identity and space that is shaped by contributions from political science as well

as human geography. Scholars like Professor Sanjib Baruah, from Political Studies in Bard College of USA, have helped in making sense of the tensions between a development paradigm embedded within the political agenda of nation building in this border area of India and the fear of becoming a minority among different communities of NER in their own ethnic homeland. In our previous research on flood and riverbank erosion in the Brahmaputra Valley, we could see how useful this knowledge can be in explaining the existence of mistrust, varying narratives

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of causality of disasters, and different notions for development among the riparian communities, the government employees based in subdivision offices of revenue and disaster management and the policymakers in the Chief Engineer’s Office in the Water Resources Department of the Government of Assam.

The discourses have been successful in explaining the evolution of the hydro-geomorphological and socio-political context of the Brahmaputra Valley. The unsuitability of storage reservoirs in this geologically and politically fragile border area of a newly independent India inhibited public investment in the multipurpose dams, which were common elsewhere post-Independence.

The immediate policy strategy after the impact of the 8.3 Richter scale earthquake of 1950 was to construct earthen embankments that began a political economy associated with embankment construction. By the 21st century, with the Neo-liberal reforms in the country and the largely successful counter-insurgency operations, the Government of India is taking a greater interest in the entire region’s potential for hydropower as well as a strategic geographical node between India and the ASEAN region. Accordingly, there have been investments to fill the gaps in infrastructure and skill development. New institutions have been designed for better management of funds, community participation and capacity development for better coordination across government departments and the public for disaster management. Assam and the other states of NER have designed policy plans for adaptation to and mitigation of climate change. Besides, there are plans for setting up mega dams in the NER, as mentioned earlier.

There have been success stories in sectors of dairy, fisheries and tourism enterprise. At the same time, our own work has shown that Assam continues to lose land in riverbank erosion and embankment failures together with demands for relief packages from the national government dominate the policy debate after every flood cycle in the State. Protests by different ethnic groups of NER continue against the construction of dams along with serious questions on the credibility of environment impact assessments (EIAs) for such projects. Farmer agitations against land loss in rural areas, ghettos of displaced and minority groups in urban spaces, and protests against forced evictions from land deemed

as encroachments have emerged. Peace building remains unfinished along with the continuation of the Armed Forces Special Powers Act (AFSPA). These observations indicate a continuation of public discontent in the region and a paradox between the new agendas of policy-making and the actual needs and interests of the public in the region.

The next question for us then becomes - are the three discourses enough to facilitate inclusive and sustainable solutions? The ongoing work of Dr Raghupratim Rakshit in JB College, Assam shows that there are morphological changes in certain dammed tributaries of upstream Brahmaputra that have pushed river channels towards townships increasing flooding events. Embankments that have been built to control such floods have created a sense of safety and facilitated more settlements in these townships near the newly protected riverbanks. Although scientific attribution is very difficult in such a complex and uncertain landscape, this co-evolution of river dynamics and human settlements is an established fact. Such co-evolution can increase vulnerability to flood events, particularly when embankment breaches are common, while risks of actual flooding can keep on changing due to natural geological processes, climatic changes, and/or human-induced changes. We do not have answers yet, but another relevant question is, how do we envision sustainable development in this landscape which itself is like a moving goalpost? This should motivate scholars to explore interdependencies between issues of disaster and governance in the region. In such a volatile context, where Nature keeps throwing surprises, where appealing one ethnic community in their territory threatens the existence of many other communities, and where the belief of neglect from policymakers is deep-rooted, there is a need for studies beyond the existing knowledge tropes for seeking innovative solutions which are scientific as well as acceptable.