

## Waiting for climate change



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Syed Miraz Ahmed 4 May 2014 10869 views

The Brahmaputra river basin is considered as highly vulnerable to climate change impacts according to recently published scientific literature. The information and the knowledge base on the dynamics of causal factors and impacts are still emerging. Awareness about the climate change impacts, the means of mitigation

or the need of adapting to the same is limited in the NE region. Most of this knowledge-base and understanding has developed at large spatial scales such as the Ganga-Brahmaputra-Meghna basin, Brahmaputra basin, upper Brahmaputra basin, eastern Himalayan region, the Indian sub-continent or large river catchments.

Studies suggest that the River Ganges-Brahmaputra-Meghna (GBM) delta is one of the world's largest (~100,000 km<sup>2</sup>), draining land from Bangladesh, Bhutan, China, India and Nepal. The delta covers most of Bangladesh and part of West Bengal, India, with many of the millions of people living in the delta under extreme poverty and facing multiple challenges. The total population of the area is expected to increase by 28 per cent by the year 2015. Already 30 per cent of Bangladesh is within 5 m of sea level, experiencing tidal water movement 100 km inland during the dry season and relative sea-level rise that exceeds global-mean sea-level rise, demonstrating subsidence. Together these factors make the GBM delta one of the most vulnerable coastal regions in the 21<sup>st</sup> century.

The gradual melting of Himalayan glaciers as a result of climate change will impact the amount of water in the Brahmaputra. As the ice disappears, so will significant fractions of south Asia's water supply. As the River Brahmaputra dries up, along with other rivers critical to the survival of India, gross per capita water availability will decline by 1/3rd by 2050. The feedback loops that result from massive declines in water availability are directly correlated with human health and may result in a rise in water-borne diseases such as cholera.

The River Brahmaputra flows southwest through the valley of Assam and then south through Bangladesh where it assumes the name Jamuna. It is navigable for most of its length and is one of the few rivers in the world that exhibits a tidal bore.

In view of the Asia Regional Launch of the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), Canada's International Development Research Centre (IDRC) and the UK's Department for International Development (DFID) announced the Asian institutions that would be part of four new multi-partner research consortia for tackling the impacts of climate change in Africa and Asia. Funded under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) program, a seven-year, CAD 70 million research initiative, the consortia take a fresh approach to understanding climate change and finding ways to adapt in some of the most vulnerable regions of Africa and Asia.

Organized around four multi-regional consortia, CARIAA will focus on three types of "hot spots," namely semi-arid regions in Africa and South and Central Asia; major river deltas in Africa and South Asia; and the Himalayan River Basins, with a view to contributing to effective policies and action on the ground. The program straddles countries, regions, and sectors. CARIAA's research in South and Central Asia is very timely, as demonstrated by the call for action coming out of the 8th Conference on Community Based Adaptation that concludes today in Kathmandu.

CARIAA's consortium on the Himalayan river basins is led by the International Centre for Integrated Mountain Development (ICIMOD) based in Kathmandu. Its partners in Asia are the Bangladesh Centre for Advanced Studies, The Energy and Resources Institute (TERI) in India, and the Pakistan Agricultural Research Council. It will include case studies in Pakistan, India, Nepal, and Bangladesh. The consortium working in deltas includes the Bangladesh University of Technology and Engineering, and Jadavpur University in India and includes research on the Ganges-Brahmaputra-Meghna and the Mahanadi deltas. The remaining two consortia working in semi-arid regions include the Indian Institute for Human Settlements and the Sustainable Development Policy Institute in Pakistan.

“CARIAA will provide key insights into future water supply and effective adaptation options available at a local, national and regional scale in the countries dependent of the Hindu Kush Himalayas glaciers” said Dr. David Molden, Director General of ICIMOD in a recent communiqué to the press.

“Anticipated changes in the water flow patterns and glacial melt are going to affect the life and livelihoods of the population of Bangladesh”, said Dr. Atiq Rahman, Executive Director of the Bangladesh Centre for Advanced Studies. The research undertaken by CARIAA will contribute to the advancement of science and to the welfare of the most vulnerable populations of Bangladesh, he added.

Many areas of Asia are highly vulnerable to climate change. Changes in temperature and precipitation will affect snow and ice in the Hindu Kush Himalayan region, and atmospheric circulation patterns that drive the South Asian summer monsoon. These changes could put the livelihoods of millions at risk. Downstream, populations in South Asian deltas are highly vulnerable to sea-level rise and to changing temperature and rainfall patterns. The IPCC projects that without adaptation measures to safeguard populations from the risks associated with climate change, hundreds of millions of people will be affected by coastal flooding and will be displaced due to land loss by year 2100; the majority of those affected are from East, Southeast and South Asia. Finally, in semi-arid parts of Asia, more frequent and prolonged droughts threaten livestock and agriculture, a major source of food and income.

According to Dr. Rajendra K Pachauri, CEO of TERI, India and Chairman of the Intergovernmental Panel on Climate Change (IPCC), collaboration on adaptation research holds large scale mutual benefits to both Africa and Asia. “It will enrich our knowledge on options available to help the most vulnerable populations in wide range of countries and regions,” he said.

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### Syed Miraz Ahmed

Writes, edits and researches. In 2013 he was conferred the Rotary International District 3240 Young Achiever Award for his work in the area of environment and digital journalism. In 2006 he was awarded first in the category of Wildlife Photography by the Department of Environment & Forests and Tourism, Government of Assam.

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