

Adaptation is the best strategy for Bangladesh to face climate change

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Bangladesh has been the victim of catastrophic natural calamities and disasters like cyclones, flooding, desertification, salinization, soil impoverishment and arsenic contamination of ground water. Certainly, there have been severe impacts of global warming and climate change on Bangladesh.

Many climate experts stated that the combination of rising seas, harsher storms and degradation of the Bengal delta may wreak so much havoc that Bangladesh as we know it may virtually cease to exist. Bangladesh has been in the forefront of the climate change debate.

Impacts of climate change are first felt biophysically such as in sea level rise, the inundation of low-lying coastal areas, stronger cyclones resulting in increased coastal flooding, changing patterns in crops and vegetations, runoff changes and the risk of spread of infectious diseases. The long list of biophysical consequences does not stop here; it also includes a range of potential socio-economic impacts. Coping with these impacts depend on a society's technical, institutional, economic, and cultural ability. Therefore, how well-planned is the adaptation will determine how best Bangladesh can cope with the odd impacts of climate change.

Understanding regional and local environmental changes in the Bengal delta is very important. In a global environmental discourse like global warming and climate change, it is essential to relate the global concept to the regional and local scale. Instead of drawing a straightforward conclusion, the complex physical environment of the Bengal delta needs to be explored first. Regional diversity of climate, seasonal contrast, geological characteristics, subsidence of low-lying coastal areas, local variability and even variations of one monsoon to another and, above all, the components of environmental instability have put Bangladesh in a unique situation in the global discourse of global warming.

Floods are usual phenomena and constant threats to Bangladesh. Bangladesh is familiar with large-scale flooding during the rainy season and the intensity and duration of such a flood can bring devastation to society and economy as a whole

. Bangladesh is well-known as one of the most flood-prone countries in the world.

Subsidence and motion of the earth's surface, are alternative threats to Bangladesh. Many experts have blamed several factors that have contributed to Bengal delta subsidence including continuous loading of sediment from the rivers, excessive tapping of hydrocarbons or groundwater, and compaction or shrinkage with drying. Many experts also make more explicit reference to Bangladesh and they suggest that some low-lying deltas have natural subsidence rates as great as 1 to 10cm/year, that is 10 to 100 times the rate of present sea-level rise and Bangladesh is shown as subsiding at 1cm/year, which is greater than the Nile (3.5mm/year) and less than Mississippi (1.5cm/year) and New Orleans (2cm/year).

Another unique dimension of Bangladesh's environment is the role of plate tectonics. Three geotectonic provinces such as the Stable Shelf, the Central Deep Basin (extending from the Sylhet trough in the northeast towards the Hatia trough in the south and finally, the Chittagong-Tripura Fold Belt have been related to a regional plate tectonic scenario, especially the collision pattern of the Indian plate with the Burma and Tibetan (Eurasian) plates. Movement of these tectonic plates may create earthquakes which pose far greater threats than impacts of climate change in Bangladesh.

In order to safeguard from the impending impacts, there is an urgent need to take effective adaptive responses to climate change and sea level rise. These measures include creation of support and extension services to improve or change agricultural practices, efficient mechanisms for disaster management with construction of safe shelter in an emergency situation, construction of embankments where possible, development and introduction of desalinisation techniques, and the plantation of mangrove protection belts. We need to evaluate the effectiveness of our sea and river defences. One of the main focus should be on how we can prevent big cities from flooding. However, the adaptation needs to be multi-disciplinary and an integrated approach needs to be taken up to reduce vulnerability. Coastal resources, freshwater resources, agriculture, human health, ecosystem and biodiversity have been identified as the most vulnerable to climate change

in a study the World Bank entitled Bangladesh: Climate Change and Sustainable Development, 2000.

The question has always been raised about which one of the two – adaptation and mitigation - will be the strategy for Bangladesh. Lots of initiatives towards mitigating measures of climate change have been taken by both at national and international levels, namely signing of the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, for stabilising or reducing greenhouse gas emissions, and enhancing carbon sinks. However, even if rigorous mitigation levels are applied in countries around the world, the impacts of climate change are inevitable. And that is why a country like Bangladesh needs to focus on strategic adaptation and implementation related to the effects of climate change into the policy making under the National Adaptation Programme of Action (NAPA) and Bangladesh Climate Change Strategy and Action Plan (BCCSAP) for continuous adaptation and mitigation activities.

Building adaptive capacity depends on a country's plan, wealth, technology, infrastructure, knowledge that it possesses, institutional arrangements, its commitment to equity, and its social capital. It is, therefore, not surprising that most industrialised countries have higher adaptive capacities than the developing countries. Considering such issues, a question may be asked whether developing countries like Bangladesh have the current level and sufficient adaptive capacity to cope with the impacts of climate change in the long run. And what about the funding for such strategies? Rajendra Pachauri, chair of the

UN's Intergovernmental Panel on Climate Change, recently said 'financing is a prerequisite for a climate agreement'. He also stated that developing countries were very sensitive about the funding issue and feared that talks in December 2010 UN climate change meeting in Mexico would end without strong and secure financing in place. The poor have always been vulnerable to natural calamities. Therefore, the best way to help the poor is to enable an environment that would provide the poor an opportunity to climb out of poverty and to afford a whole range of adaptation strategies to protect and insure themselves against climatic uncertainties.

There is no doubt that our planet is warming up, but how this will affect us in the future is difficult to quantify.

It is necessary that a country like Bangladesh put its focus on strategic adaptation and implementation related to the effects of climate change in its policy making process. And climate change issues should not be environmental concerns alone but should also be treated as developmental problems where social concerns need to be addressed.

The writer is a UK-based environmentalist.