

INTRODUCTION

Bangladesh is globally known as one of the most

anthropogenic influences. During the last decade comprehensive research, studies, information and tools on climate change and its impacts have become available and understanding of the processes, pathways and consequences has improved. Different studies show that in Bangladesh, the sectors which are predicted to be the most affected by changes in water and water resources are agriculture, health, fisheries, biodiversity and infrastructure.

Bangladesh already experiences frequent climate related disasters which lead to loss of life and economic assets, damage to infrastructure and livelihoods. However, over the last decades the intensity and frequency of natural disasters has increased exhibiting an upward trend in economic losses and costs.

Again the affects are more pronounced in specific regions or critical areas which have higher concentration of the poor. According to estimates by World Bank (2010), damages to infrastructure, livelihoods and losses from forgone production caused by natural disasters during the last decade have amounted to 0.5 to 1 percent of the GDP. This estimate will further increase if economic damage due to loss of life, impacts on health and biodiversity is added. The

same report (World Bank, 2010) projects that the net impacts of climate change will result in losses of about 3.1 percent in agricultural GDP and even larger economy-wide losses through 2050. Economic losses from severe floods are shown in Table1.

MANAGING CLIMATIC HAZARDS

The people of Bangladesh have adapted over generations to the risk of floods, droughts and cyclones. In modern Bangladesh, water resources management systems have been focused on the need to regulate and distribute water for irrigation, food production and water supply; and flood defence and drainage measures were taken to reduce flooding. But increased pressures on water resources from high population density, poor infrastructure and low resilience to economic losses are now compounded by uncertainties of climate change and climate variability. Water development and disaster management adaptation mechanisms include structural measures such as polders, embankments, cyclone shelters, cyclone-resisting housing and non-structural measures like early warning, awarene-1(sn mo)1(7olders)15(T* [(d4(in

present approaches and traditional methods of water resources management systems need to be reassessed.

According to Aerts and Droogers, the following elements are keys to effective adaptations to climate change in water resources management:

Flexibility and Robustness: Flexible or robust strategies and plans are imperative to adapt to changing climatic and water resources conditions. This can be done through risk-pooling, diversification and addressing a wide range of scenarios for evaluation of alternative options.

Cross-sectoral Co-operation: Bangladesh's overall adaptation to climate change should produce a coordinated response with specific cross-cutting adaptations that focus on a number of sectors. Related sectors to water resources management should include regional economic development, finance, insurance, livelihoods and poverty.

The Ability to Learn: Water resources management practices need to draw on experience and evolve as new information and perspectives come to light.

Governance: Sound governance and institutional structures in combination with structural or technical flexibility play an important role in ensuring effective adaptation of water resources systems to climate change.

It is also important to note that current approach and practices for development of water management options rely on statistnd institatt

fresh water availability; disturbance of morphological processes; and increased intensity of extreme events and disasters. The policy gives the following directions for addressing climate change issues:

- S Existing institutional arrangements for monitoring of climate change in Bangladesh will continue. Steps will be taken to support upgrading of technology and institutional strengthening for enhancing their capacity for generation of better data and more accurate long-term prediction and risk related to climate change.
- S Implementation of adaptive measures identified in relation to climate change for coastal zone and resources shall be gradually undertaken.
- S Efforts shall be made to continuously maintain sea-dykes along the coastline as first line of defence against predicted sea-level rise.
- S An institutional framework for monitoring/detecting sea level rise shall be

made and contingency plans for coping with its impact.

Relevant policies addressing climate change also include the National Conservation Strategy (NCS), Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009 and the Poverty Reduction Strategy Paper (PRSP). Policymakers at the highest level in Bangladesh are also taking active participation in the international efforts (of IPPCC, UNFCC, COP) and plays an important role in international negotiations with a highly qualified team of negotiators backed by a national team of experts. Bangladesh has also motivated neighbouring countries to actively seek adaptation options to climate change at the regional level. This is reflected in the Sixteenth SAARC summit held in Thimphu, Bhutan in April 2010.

Institutional Arrangement for Tackling Climatic Change

Climate change is a development as well as environmental challenge. To adapt the water in the

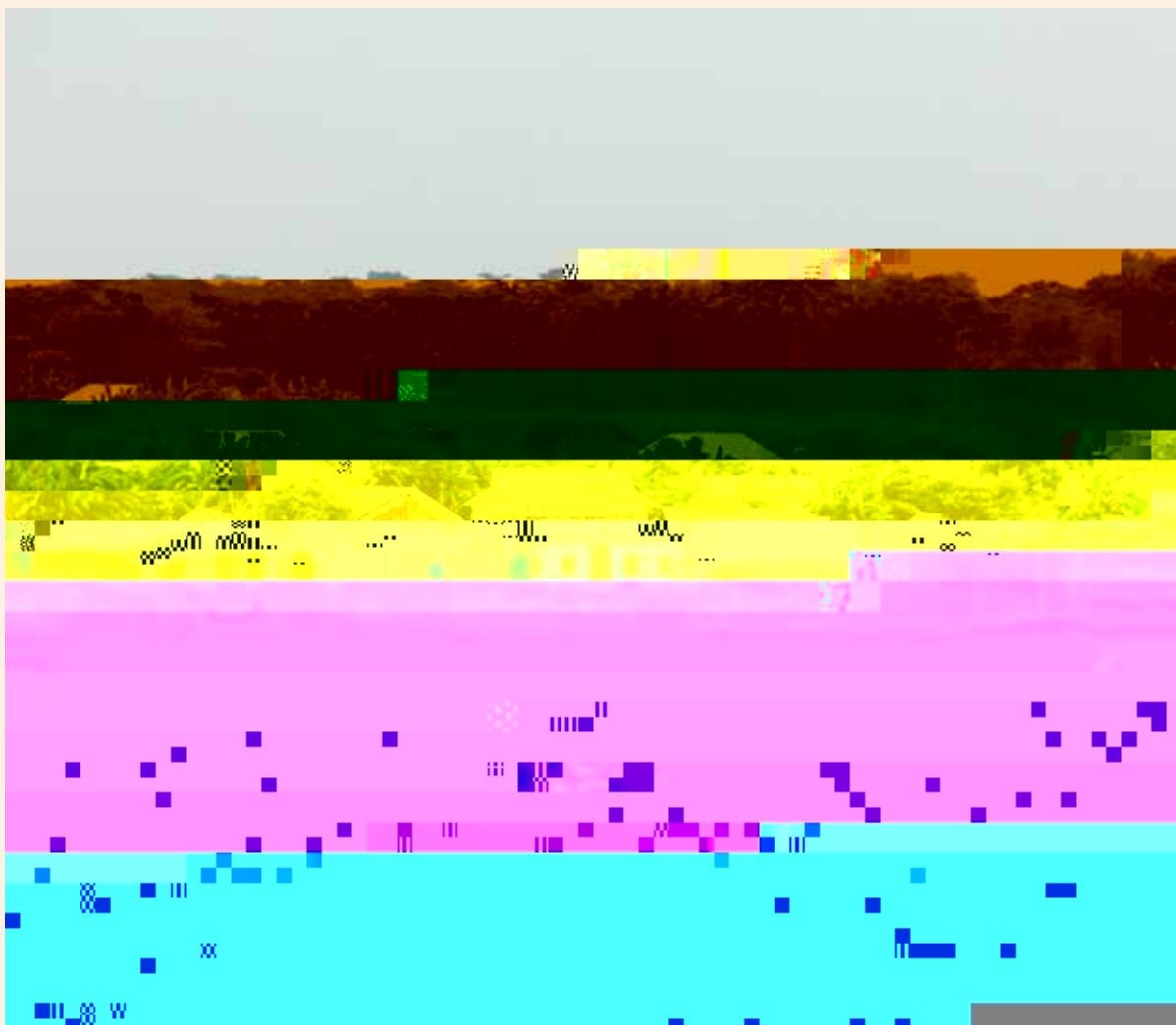


Photo: IUCN / Abdul Quayyum

changing climate, coordination among all government and non government organization is imperative. For this reason, the institutional arrangement plays a key