

From **Vulnerability** to **Resilience**

Bangladesh Preparing for Climate Resilient Development

All over the world, impacts of global warming and climate change is already challenging development aspirations. This brief describes the case of Bangladesh, one of the countries most vulnerable to adverse impacts of climate change. As a nation, our priority concern is to progress from our vulnerable state toward a state of climate resilience. Bangladesh showcases what will happen under climate change, and what many countries will need to do to protect themselves in the years ahead.

The brief highlights how a nation of 150 million people who are mostly poor prepares to address the impacts of global warming nationally. The idea is to share our experience till date with other countries urgently requiring planning and mobilizing national efforts toward climate resilient development.

National preparedness is critical to develop relevant capacity to mobilize and utilize necessary resource flows, domestic and international. This presentation aims to elevate the spirit, will and capacity of vulnerable countries to support each other in preparing to address emerging climate challenges.

Climate Responds to Global Warming – We Face the Challenges

Rapid global warming has caused fundamental changes to our climate. No country and people know this better than Bangladesh, where millions of people are already suffering. This is due to its unique geographic location, dominance of floodplains, low elevation from the sea, high population density, high levels of poverty, and overwhelming dependence on nature, its resources and services. The country has a history of extreme climatic events claiming millions of lives and destroying past development gains. Climate change is making things worse. Sudden, severe and catastrophic floods have intensified and taking place more frequently owing to increased rainfall in the monsoon.

In the last ten years, Bangladesh has been ravaged by floods of catastrophic proportion in 1998, 2004 and 2007. In November this year, Cyclone SIDR ravaged our coast flattening the Sunderbans on its path of destruction. Heavy downpour over short spell has resulted in landslides. Cold spells claim human lives as well as damage crops. Droughts often affect even coastal districts. Bad weather keeps the coastal waters risky for fishing expeditions. Damages and losses due to climatic extremes like flood, cyclone and drought are phenomenal to the victims as well as the state. These are early signs of rapid global warming. In Bangladesh alone, sea level rise in the coming decades will push over 25 million people to become climate refugees.

The people and social system have knowledge and experience of coping with their effects – to some degree and extent. In a changing climate the pattern of impacts are eroding our assets, investment and future. This applies equally for families, communities and the state. Global warming and climate change threatens settlements and resource and effort of government and people are quickly drained addressing the impact of one event when another hazard strikes. The number of people displaced from their land due to riverbank erosion, permanent inundation and sea level rise is increasing rapidly every year. Global warming and climate change challenges our development efforts, security and the future of generations to come.

Vulnerable countries including Bangladesh must move on in their pursuit to develop and strive as a nation, taking into account their vulnerability, susceptibility and capacity to manage climate risks and adaptation. In this respect, Bangladesh has taken bold steps to prepare and respond to the challenge already on us.

Our hands hold our future. We must secure our well-being and development, utilizing necessary resource and support, both internal and external. By sharing each other's capacity, we can prepare better to address this challenge.

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Understanding Challenges Global warming will continue for many decades, resulting in dangerous consequences for poor countries like Bangladesh, depending on respective vulnerability contexts. Impacts of climate variability, change and extreme events will lead to severe stress on overall development, environment and human well-being, for decades ahead. Understanding the challenges over time is an urgent priority. Also, the challenges need to be explored from an inter-generational perspective. Ultimately, the better we understand, the better we can plan and respond to the challenges effectively. Each country must consider its development and vulnerability contexts, which should include, among other things, its **Geographic Location**, in terms of its position with regard to exposure to sea, confluences of major rivers, its landscape, aridity, floodplains etc., its **Economic Profile, Social Status, Infrastructure, etc.** Bangladesh has addressed this characterization process systematically encompassing all sectors and operational levels. Bangladesh has also initiated the process of analyzing observed climatic parameters, which include climate trends, variability and extreme events.

Responding to Challenges Sustainable Development is understood as improvement in well-being of people, environment and economy. Development must ensure reducing the risks posed by climate change to people's lives and livelihoods. Development itself serves as a key to adaptation by enhancing resilience and increasing capacity to respond effectively to climatic challenges. On the other hand, adaptation is vital for development and progress and reduces costs of natural disasters. Ultimately, adaptation to climate change requires economy wide planning and regional cooperation. The links between development and adaptation has implications for official development assistance (ODA), both in terms of scale and focus.

The following provides a summary of key actions and progress in Bangladesh in its journey towards climate resilient development.

A Climate Change Cell To address current impacts and manage future risks of climate change and variability at all levels in all stages toward a climate resilient Bangladesh, the government has established the Climate Change Cell. The Cell acts as the central focus for the Government's climate change related work, operating as a unit of the Department of Environment. Its objective is to enable the management of long term climate risks and uncertainties as an integral part of national development planning.

The Climate Change Cell has established a mechanism that facilitates management of long term climate risks and uncertainties as an integral part of national development planning. The Cell also facilitates strengthening the capacity of the professionals, practitioners, policy makers to reduce unacceptable risks and improve preparedness for climate change impacts.

Understanding climate risks To understand climate impacts and risks, some key questions need to be answered: Will these hazards become more frequent and intense? Will their magnitude increase? Which locations are most vulnerable? When will hazards occur? And what shall be possible impacts? For example: A farmer would like to know the likely rainfall patterns while planning his crop calendar, preparing his land, sowing, harvesting, etc. Obviously the development practitioners, professionals and policy makers need to gather this knowledge to provide extension and other services to such primary stakeholders who are at risk.

Increasing awareness among vulnerable communities, agencies, professionals and practitioners at different levels of activity A comprehensive program to increase the level of awareness is underway. Already, development of education, training and awareness materials as well as their application is underway.

Sharing knowledge through services networking Climate Change Cell compiles, generates, archives and manages data, information and knowledge and provide support and services in making knowledge based decision to all stakeholders. A climate change database and a library archives not only data but also reports and study findings in the arena of the climate change. The website offers a pool of resources, including news on events at home and abroad, progress and achievements.

Adaptation research Climate Change Cell is facilitating key research actions to fill knowledge gaps in addressing adaptation to climate change and its impacts on the life and livelihoods; explore new adaptation options for the community to adapt with the impact of climate change; sharing experiences with relevant stakeholders on good practices for adaptation to climate change and variability. So far Bangladesh is promoting saline tolerant rice variety in coastal areas and early maturing rice variety in flashflood prone areas among farmers. Early results are encouraging, demonstrating these as viable adaptation and risk management options. We are struggling to develop drought and flood tolerant rice varieties. With regard to impacts of climate change on health, in particular, incidence of cholera and its management is underway. Bangladesh is also exploring options to establish crop insurance mechanisms.

Cost of impacts and investment needs for adaptation Bangladesh has initiated assessing the cost of climate change on key development sector, and investment needs for adaptation, beginning with water resources.

Climate impact prediction Bangladesh has prepared a institutional road map and business plan for impact prediction modeling in the country. An in-country climate impact modeling centre has been established, which is expected to provide impact scenarios for 2030 and 2050. We are also developing scenarios on floods, droughts and salinity intrusion.

Meteorological and hydrological information Relevant agencies have stated cooperating and collaborating on climate information. *The* Met department is already working with water sector agencies. The Disaster Management Bureau, Flood Forecasting and Warning Centre, Cyclone Warning System and Preparedness Programme are working toward a harmonized system to support development planning incorporating climate risks. Substantial work remains with regard to systematic observation and forecasting hazards.

Managing climate risks Building adaptive capacity to climate change and managing climate risks will be addressed through the mainstreaming of climate risk into sustainable development strategies. To do this successfully requires awareness and understanding of climate change issues. Specific adaptation actions take place at community or individual level. These actions are building on existing coping methods. Communication between communities is enabling coping strategies.

Capacity building and promoting partnerships Climate Change Cell promotes partnership with both government and non-government agencies to service long term and immediate needs. In this respect, a total of 34 focal points have been established in different government agencies, academic institutes, research institutes and organizations. Government officers including the Focal Points have been provided orientation on climate change concerns and responses.

Mainstreaming climate change into development plans and processes Mainstreaming climate change is to engage in a systematic, comprehensive effort to reduce the negative impacts of climate change through integration into overall national development and planning process of the country. The government has taken necessary steps to facilitate achieving mainstreaming across all sectors and at every level of development. Some of the basic prerequisites for mainstreaming are awareness, orientation, capacity building and advocacy at different levels and spheres of operation.

The mainstreaming process will emphasize on (a) coordination across institutions and tiers; (b) partnership among all stakeholders, including partnerships between agencies in charge of implementing development programs and local beneficiary groups; and (c) integration of local plans into meso-scale plans, of meso-scale plans into macro-level plans, and of macro-level sectoral plans into national development plans. It will consider whether climate change would (a) put investment for development activities at additional risk; (b) could aggravate vulnerability directly or indirectly; and (c) could pose a threat to local level resilience in any perceived way etc.

Disaster risk reduction with climate change adaptation offers a win-win opportunity Strategies for Disaster risk reduction and adaptation to climate change are being developed and applied. Disaster risk reduction offers opportunities for “bottom-up” strategies for adaptation to current climate variability and climate extremes. In this respect, disaster risk reduction can promote early adaptation to climate risks and impacts.

A Country Framework for Climate Resilient Development Bangladesh has developed a country framework (generic) to ensure national development is resilient to climate change and its impacts in such a way that the lives, livelihood and well being of its people is sustained over time. The objective of this country framework is to facilitate addressing climate risk management and adaptation holistically, practically and systematically in a country setting, thereby enabling development to take into account climate related risks and their management. It will chart a way for Bangladesh to integrate climate risk and adaptation practically. The framework will enable countries to assess and determine the scope and level of adaptation and risk management across different sectors on a continued basis, and over time, at each level of operation. This allows our countries and its development process to address climate challenges holistically in its mainstream – a shift from ad-hoc, and segmented interventions.

A National Climate Change Policy and Action Plan To guide, coordinate and manage all the national and international responses and processes to integrate climate risk into development plans and processes, the government has recently launched the preparation of the Climate Change Action Plan for Bangladesh. This Plan will take a holistic, inclusive and comprehensive approach involving all stakeholders toward understanding climate risks and vulnerabilities and then responding to these through concerned sectors, agencies and stakeholders. The Plan will address the needs and priorities of the country and will come into practice with mainstreaming climate risk management and adaptation using the country framework as an operational tool. This plan will facilitate policy makers to consider concerns specific to sectors, locations and levels of development activities and processes. Side by side the Climate Change Action Plan will facilitate coordination among the country’s development partners to address necessary investments to make Bangladesh climate resilient. This plan is to be finalized by 2008, necessary actions are underway.

Regional cooperation For Bangladesh, regional cooperation is essential to manage climate risks comprehensively. Bangladesh has led the initiative within SAARC countries to address shared concerns through cooperation and collaboration.

Cooperation with vulnerable countries Bangladesh also has demonstrated its commitment and will to represent and voice the concerns of vulnerable countries in all international processes.

Way forward

Every country must take pragmatic decisions to protect the well-being of it people. Bangladesh hopes to confront the challenge by preparing better to utilize its capacity and resources optimally. The preparation underway will provide the basis for future planning and investment to make our country climate resilient. It will also facilitate development partners and evolving international mechanisms to assist vulnerable countries systematically.

CLIMATE CHANGE CELL is a component of the Comprehensive Disaster Management Programme (CDMP) of the Government of the People’s Republic of Bangladesh and its development partners Department for International Development (DFID), The European Union (EU) and United Nations Development Programme (UNDP). A major objective of the Climate Change Cell is providing necessary support to the Government in addressing climate change concerns and challenges through capacity development, knowledge management, and mainstreaming climate and disaster risks into development planning, policies and processes.

GOVERNMENT OF THE PEOPLE’S REPUBLIC OF BANGLADESH
MINISTRY OF FOOD AND DISASTER MANAGEMENT
Comprehensive Disaster Management Programme (CDMP)

