

CLIMATE CHANGE CELL

ISSUE 4 July 2007



Supporting the People of Bangladesh
toward Climate Resilient Development



Department of
Environment



Rowshan Ara has come to this awareness raising meeting in the *haor* region in Jamalganj where local farmers and scientists share their success in shortening the maturity period for *Boro* crop using a new variety BR-28. Jamalganj and the northeast of Bangladesh is highly prone to flashfloods during April-May each year. Like most agrarian society, women in farming households in Bangladesh often carry out more on-farm and off-farm activities than their male counterparts.

Bangladesh is already affected and will be hit hardest

Bangladesh is globally considered as one of the most vulnerable countries. An overwhelming majority (82.8 percent; World Bank 2006) of its 150 million people live on income averaging less than two dollars a day.

Observed past and present climate trends and variability indicates an increasing trend in temperature of about 1° C in May and 0.5° C in November has been observed during the fourteen year period 1985-1998. Inter-seasonal, inter-annual and spatial variability in rainfall trend has been observed during the past few decades. Annual mean rainfall exhibits increasing trends. Observed changes in extreme climatic events revealed from new evidences on recent trends show increasing tendency in the intensity and frequency of extreme weather events over the last century and into the 21st century. Impacts of these observed changes have been significant on agriculture, particularly on food production and security.

Another area critically affected is water resources, characterized by water shortages. Our coastal zone is most threatened. Saltwater from the Bay of Bengal has penetrated 100 km or more inland along tributary channels during dry season. Evidences of the impacts of climate related factors on mangroves are the severe destruction of mangroves due to reduction of freshwater flows and salt water intrusion. Wetlands have been observed to suffer from precipitation decline and droughts in the delta region.

The country is affected by floods and riverbank erosion, the north and northwestern parts affected by droughts, while the northeast is ravaged by flash floods annually. Heat waves and cold spells have claimed hundreds of lives in recent years. Vector borne diseases particularly dengue has become a health hazard claiming hundreds of lives every year.

Bangladesh needs to act urgently to address climate change. It is necessary now to provide guidance to policy makers and development practitioners to utilize opportunities emerging from negotiated outcomes. For example, opportunities are emerging in capacity building, technology transfer, education and public awareness, adaptation fund, etc. A systematic and holistic approach to this is to establish and operationalize a country framework to mainstream climate risk management and adaptation in the development planning and management policies, institutions and processes.

Also, the stake and interest of Bangladesh as a vulnerable country to climate change, especially when it is striving to address and achieve significant poverty reduction as well as the millennium development goals against all odds, is needed to establish the rationale for setting goals and targets in relation to its stake at the climate change negotiations, and to engage meaningfully and effectively in the negotiation process.



The IPCC's "Climate Change 2007" assessment report

A summary and interpretation by UNEP

Our changing climate

The earth's average temperature has fluctuated widely over the eons, from a steamy 22°C when the dinosaurs roamed the planet to a chilly 10°C during the more recent ice ages. The global temperature seems to have been remarkably stable for the past 10,000 years, varying by less than 1°C, allowing human civilization to thrive at what is today a comfortable 15°C.

But the very success of our civilization risks disrupting the climate that has served us so well until now. Unless we make significant efforts to reduce our emissions of greenhouse gases, the global climate will continue to warm rapidly over the coming decades and beyond. Scientists have made enormous progress over the last few years in understanding why this is happening, how a warmer climate will impact natural and human systems, and what can be done to slow down and then reduce our heat-trapping emissions.

This progress has been assessed by the WMO/UNEP Intergovernmental Panel on Climate Change, whose most recent multi-volume report is summarized below.

About the IPCC

Scientists, economists and other climate change researchers regularly publish their findings in peer-reviewed journals. To make these findings more accessible to policymakers, the World Meteorological Organization and the United Nations Environment Programme established the Intergovernmental Panel on Climate Change (IPCC) in 1988.

The IPCC does not conduct new research. Instead, its mandate is to make policy relevant assessments of the existing worldwide literature on the scientific, technical and socio-economic aspects of climate change. Its multi-volume assessment reports of 1990, 1996 and 2001 played a major role in inspiring governments to adopt and implement the United Nations Framework Convention on Climate Change and the Kyoto Protocol.

Positioned at the intersection between science and policy, the IPCC engages leading experts to write its reports and both experts and government officials to review them. Its procedures emphasize rigour, transparency and inclusiveness. The IPCC is widely considered the most effective international mechanism of its kind.

Climate change science

The theory of how greenhouse gases shape the climate was first articulated in the 19th century. Direct measurements of atmospheric carbon dioxide levels started in 1959. More recently, governments and scientists have invested growing resources in monitoring, analyzing and the modeling the climate system and climate change. As a result, a clearer picture of how the climate is changing and what the future will likely hold is now emerging.

In addition to tracking trends in greenhouse gas emissions and concentrations, researchers closely monitor changes in temperature. Systematic global temperature records are available only since 1860 in the form of air temperatures measured on land and sea-surface temperatures measured from ships and buoys.

More recent records of lower atmosphere temperatures have been made possible by satellites. Over the past few years a rich trove of both current and historical data has been gathered and analyzed.

Temperatures and other evidence from ancient climates are important for understanding trends in, and impacts of, changing greenhouse gas levels. Tree rings, corals, ice caps and ocean sediments can all preserve information about the past. Using a combination of measurements, models, and "detective work", scientists convert the quantities they can measure (such as the chemical composition of an ice core sample) into the physical variables they wish to investigate (such as the Antarctic temperature of 100,000 years ago).

Because the climate system is so complex, scientists also rely on computer simulations to model the many interactions between its various components. The most detailed projections are based on coupled atmosphere-ocean general circulation models. These are similar to the models used to predict the weather, in which the physical laws governing the motion of the atmosphere are reduced to systems of equations to be solved on supercomputers. However, climate models must also include equations representing the behavior of the oceans, land vegetation, sea ice, glaciers and ice caps.

Over the past five or 10 years, dramatic upgrades in computer power and a growing record of model runs have provided new insights into how the oceans and the atmosphere respond to rising levels of greenhouse gases. Together the advances in climate modelling and data collection and analysis now give scientists "very high confidence" (defined as being at least a 9 out of 10 chance of being correct) in their understanding of how human activities are causing the world to warm.

Nevertheless, there are still many uncertainties about the scale and impacts of climate change, particularly at the regional level. Key remaining uncertainties involve the roles played by clouds, glaciers and ice caps, oceans, deforestation and other land-use change, and how climate interacts with changes in soils, the biosphere and chemical processes.

To develop their scenarios of future climate change, researchers also try to estimate trends in greenhouse gas emissions. Future emissions will depend on global population as well as economic, technological, and social trends. Rich countries generally emit more per person than do poor countries. However, countries of similar wealth can have very different emission rates depending on their geographical circumstances, their sources of energy and the efficiency with which they use energy and other natural resources.

A new climate regime, its consequences

The changes that scientists can measure in the atmosphere, oceans, ice caps and glaciers reveal unequivocally that the world is already warming in response to past greenhouse gas emissions. These changes are part of an accelerating transition to a warmer world of greater heat waves, new wind patterns, worsening drought in some regions, heavier precipitation in others, melting glaciers and Arctic ice and rising sea levels.

Over the past 100 years (1906 - 2005), the earth's average surface temperature has risen by around 0.74°C, with the warming greater over land regions than over the oceans. The rate of warming averaged over the last 50 years is nearly twice the rate for the last 100 years. The late 1990s and early 21st century have featured the warmest years

since modern records began. A further warming of about 0.2°C is projected for each of the next two decades.

If atmospheric concentrations of greenhouse gases double compared to their pre-industrial levels, this would “likely” cause an average warming of around 3°C (5.4°F), with a range of 2 - 4.5°C (3.6 - 8.1°F).

According to a number of scenarios, such a doubling could occur by or soon after the middle of this century. Various other greenhouse gas levels have also been modeled. If, for example, they more than quadruple, the expected average warming would be 6.3°C.

Rising temperatures are already accelerating the hydrological cycle. A warmer atmosphere holds more moisture, becomes less stable and produces more precipitation, particularly in the form of heavy rain bursts. Greater heat also speeds up evaporation. The net effect of these changes in the cycling of water will be a decline in the quantity and quality of freshwater supplies in all major regions.

Meanwhile, wind patterns and storm tracks are likely to change. The intensity (but not the frequency) of tropical cyclones, for example, is expected to increase, with larger peak wind speeds and heavier rains. The poorest communities will be the most vulnerable to the impacts of climate change. Some of the most at-risk people include subsistence farmers, indigenous peoples and coastal populations. Climate change will increasingly alter the distribution of malarial mosquitoes and other carriers of infectious diseases, affect the seasonal distribution of some allergy-causing pollens and increase the risks of heat waves. On other hand there should be fewer deaths due to the cold.

Wildlife and biological diversity – already threatened by habitat destruction and other human-caused stresses – will face new challenges from climate change. Many ecosystems are already responding to greater warmth by advancing towards the poles and up mountainsides. Some species will not survive the transition, and one fifth to one third of species are likely to face an increased risk of extinction. The most vulnerable ecosystems include coral reefs, boreal (sub-arctic) forests, mountain habitat and those dependent on a Mediterranean climate.

One of the most dramatic consequences of global warming is sea-level rise. Sea levels increased by around 17 cm during the course of the 20th century. Geological observations indicate that they rose far less over the previous 2,000 years. The best estimate for how much further the sea level with rise due to ocean expansion and glacier melt by the end of the 21st century (compared to 1989 - 1999 levels) is 28 - 58 cm. This will worsen coastal flooding and erosion.

Larger sea-level increases of up to 1 m by 2100 cannot be ruled out if ice sheets continue to melt as temperature rises. There is now evidence that the Antarctic and Greenland ice sheets are indeed slowly losing mass and contributing to sea level rise.

About 125,000 years ago, when the polar regions were significantly warmer for an extended period than at present, melting polar ice caused the sea level to rise by 4 to 6 m. Sea-level rise has substantial inertia and will continue for many centuries.

The oceans will also experience higher temperatures, which have implications for sea life. Over the past four decades, for example, North Atlantic plankton have migrated poleward by 10 degrees of latitude. Similarly, the acidification of the oceans as they absorb more carbon

dioxide will impair the ability of corals, marine snails and other species to form their shells or skeletons.

In all regions of the world, the faster the temperatures rise, the greater will be the risk of damage. The climate does not respond immediately to emissions, which can last for years or decades in the atmosphere. And because of the delaying effect of the oceans – which absorb and eventually release heat more slowly than does the atmosphere – surface temperatures do not respond immediately to greenhouse gas emissions. As a result, climate change will continue for hundreds of years after atmospheric concentrations have stabilized.

Adapting to a new climate regime

People will need to take additional measures to adapt to the new conditions created by current and future climate change. Many of these measures can be worthwhile even without climate change. For example, early action to improve seasonal climate forecasts, food security, freshwater supplies, disaster and emergency response, famine early-warning systems and insurance coverage can minimize the damage from future climate change while generating many immediate practical benefits.

Activities for adapting to current climate change are already underway in various parts of the world.

Limiting the rise in global temperatures

Without additional action by governments the emissions from the basket of six greenhouse gases covered by the Kyoto Protocol will rise by 25 to 90% by 2030 compared to 2000. (The six gases are carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, PFCs and HFCs.)

By adopting stronger climate change policies, however, governments could slow and reverse these emissions trends and ultimately stabilize the level of greenhouse gases remaining in the atmosphere. For example, stabilizing GHG levels at 445 - 490ppm (parts per million) – the most ambitious target that was assessed – would require global CO2 emissions to peak by 2015 and to fall to 50 - 85% of 2000 levels by 2050. This could limit global mean temperature increases to 2 - 2.4°C above pre-industrial levels.

Stabilizing GHG levels at 535 - 590ppm would require global CO2 emissions to peak by 2010 - 2030 and return to -30% to +5% of 2000 levels by around 2050. This could limit the temperature increase to 2.8-3.2°C. If emissions peak later, more warming can be expected. By way of comparison, the current (2005) level of GHGs is about 379ppm.

Source – UNEP, 2007



Deforestation increases the vulnerability and risk from climate change

Climate Change Negotiations at Nairobi, 2006

The United Nations Climate Change Conference concluded with the adoption of a wide range of decisions designed to mitigate climate change and help countries adapt to the effects of global warming. The conference was attended by around six thousand participants, among them more than 100 ministers, the Secretary-General of the United Nations and two heads of state. At the meeting, activities for the next few years under the "Nairobi Work programme on Impacts, Vulnerability and Adaptation" were agreed. These activities will help enhance decision-making on adaptation action and improved assessment of vulnerability and adaptation to climate change.

Another important outcome is the agreement on the management of the Adaptation Fund under the Kyoto Protocol. The Adaptation Fund draws on proceeds generated by the clean development mechanism (CDM) and is designed to support concrete adaptation activities in developing countries.

The CDM permits industrialized countries, which have emission targets under the Kyoto Protocol, to invest in sustainable development projects in developing countries that reduce greenhouse gas emission, and thereby generate tradable emission credits.

Rules were finalized for the Special Climate Change Fund. The fund is designed to finance projects in developing countries relating to adaptation, technology transfer, climate change mitigation and economic diversification for countries highly dependent on income from fossil fuels.

At Nairobi, Parties also adopted rules of procedure for the Kyoto Protocol's Compliance Committee, making it fully operational. The Compliance Committee, with its enforcement and facilitative branches, ensures that the Parties to the Protocol have a clear accountability regime in meeting their emission reductions targets.

Talks on commitments of industrialized countries for post-2012 under the Kyoto Protocol advanced well, with Parties reaching agreement on a detailed work plan spelling out the steps needed to reach agreement on a set of new commitments.

The fact that Parties now have a concrete work plan means that they can move ahead with addressing issues fundamental for agreement on future commitments, such as the level of emission reductions that is required and the ways in which they can be achieved.

Parties also held a second round of the Dialogue on long-term cooperative action to enhance implementation of the Convention, open to all 189 Parties to the UNFCCC. Landmark presentations on the latest findings on economic challenges posed by global warming were made, along with economic solutions.

A revolutionary shift is taking place in the debate on climate change, from looking at climate change policies as a cost factor for development, countries are starting to see them as opportunities to enhance economic growth in a sustainable way. The further development of carbon markets can help mobilize the necessary financial resources needed for a global response to climate change and give us a future agreement that is focused on incentives to act.

Brazil put forward a concrete proposal for an arrangement to provide positive incentives to reduce deforestation emissions in developing countries.

As a Party, Bangladesh is recognized as one of the most vulnerable countries to climate change and its adverse impacts. As such, Bangladesh delegation has been playing a significant and strategic role in the intergovernmental negotiation process. At Nairobi, Bangladesh also continued and served as the LDC Chair. Accordingly, the national delegation and working agenda was prepared and equipped to address the COP12 agenda. Climate Change Cell supported in preparing a detailed Brief (attached) for the national delegation addressing the current needs, based on several meetings in the preparatory process, and consensus. Preparation and use of this Brief was recognized as an integral part of effective preparation, and to ensure coordination within the members of the delegation as well as communicate our position at the current round of negotiations.

There are important milestones for the LDCs and Bangladesh that need to be followed up. The Government should take advantage of the negotiated decisions from the climate negotiations and build vision and focus on how to engage effectively and represent national interests and concerns. The limitation of the Nairobi outcome was in the failure of Parties reaching any agreement on the review of commitments for emission reduction, a critical need for greenhouse gas stabilization in the atmosphere.



“Bangladesh must participate meaningfully and effectively in international processes to work out a viable and equitable future climate regime.”

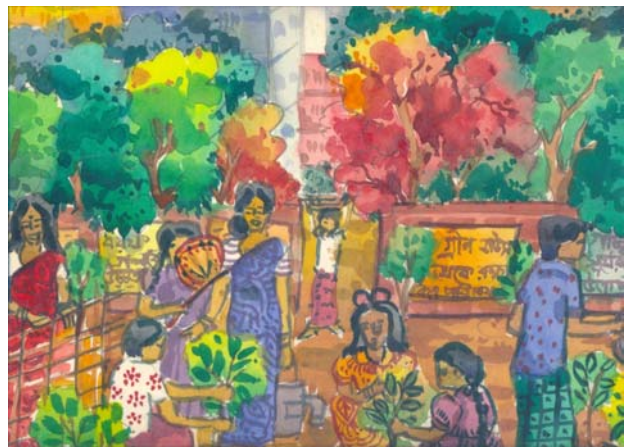
Environment Ministers and High Officials from 28 countries and the European Commission met at Riksgården, Sweden during 11-14 June 2007 for an informal discussion on international cooperative Action on Climate Change - The Midnight Sun Dialogue on Climate Change. The purpose of this meeting was to allow in-depth discussions on key issues related to the future of international cooperation on climate change. The aim was to increase understanding of the views of different countries in order to enhance prospects for agreements in forthcoming negotiations. The discussion focused both on long term issues regarding principles and elements of a future international climate change regime as well as concrete questions relating to the preparations for the important meetings of the Convention on Climate Change and the Kyoto Protocol to be held in Bali, Indonesia in December 2007.

consensus that the Bali Conference should establish a Road Map with a timetable and concrete steps for the negotiations on the future regime with a view to reaching agreement by 2009. Bali will thus provide an excellent opportunity to advance the important climate negotiations including by converting the present exploratory dialogue into a negotiating framework. It would be necessary before Bali to reach convergence on new or additional processes that may need to be established within the UNFCCC framework. In conclusion, the Honorable Adviser outlined possible actions for the Government of Bangladesh to have a clear picture of the country's position in view of the forthcoming Conference of Parties in Bali, Indonesia in December 2007. He urged the Department of Environment and the Climate Change Cell to organize consultation and dialogue to facilitate this preparation.



Dr C.S. Karim, Honorable Adviser, Ministry of Environment and Forest, describing his experience at the meeting. Seated on his right are Khandaker Rashedul Haque, PhD, Director General, Department of Environment, and on his left, Mohammad Reazuddin, Director, DoE

Dr. C.S. Karim, Honorable Adviser for the Ministry of Environment and Forest, represented Bangladesh in this high level Dialogue. On 9 July 2007, the Honorable Adviser shared his experience from the high level discussion. Over 80 participants representing government ministries, department and agencies, research and academic institutions attended the sharing event organized by the Climate Change Cell, Department of Environment. The Honorable Adviser informed that the discussion had enabled a clear picture of the positions of different countries in view of the important forthcoming Conference of Parties in Bali this year. Recent conclusions by the European Council in March and the G8 Summit have created favorable prospects for negotiations at Bali and beyond. In particular, it might be possible to agree on the main elements of a climate regime for the period after 2012. There was broad



Economics of Climate Change

The Stern Review and Implications for Bangladesh

The Stern Review was made public on 30 October 2006. Since then, it has been a subject of much discussion and debate worldwide. This independent Review was commissioned by the Chancellor of the Exchequer, reporting to both the Chancellor and to the Prime Minister, United Kingdom, as a contribution to assessing the evidence and building understanding of the economics of climate change.

The evidence gathered by the Review leads to a simple conclusion: **the benefits of strong, early action considerably outweigh the costs.**

Modeling work undertaken by the Review suggests that the risks and costs of climate change over the next two centuries could be equivalent to an average reduction in global per capita consumption of at least 5%, now and forever. The estimated damages would be much higher if non-market impacts, the possibility of greater climate sensitivity, and distributional issues were taken into account.

"All countries will be affected. The most vulnerable – the poorest countries and populations – will suffer earliest and most, even though they have contributed least to the causes of climate change. The costs of extreme weather, including floods, droughts and storms, are already rising, including for rich countries. Adaptation to climate change – that is, taking steps to build resilience and minimize costs – is essential. It is no longer possible to prevent the climate change that will take place over the next two to three decades, but it is still possible to protect our societies and economies from its impacts to some extent – for example, by providing better information, improved planning and more climate-resilient crops and infrastructure. Adaptation will cost tens of billions of dollars a year in developing countries alone, and will put still further pressure on already scarce resources. Adaptation efforts, particularly in developing countries, should be accelerated."

In conclusion, the Review makes recommendations, considering Adaptation as one of the three elements for future international frameworks: "The poorest countries are most vulnerable to climate change. It is essential that climate change be fully integrated into development policy, and that rich countries honor their pledges to increase support through overseas development assistance. International funding should also support improved regional information on climate change impacts, and research into new crop varieties that will be more resilient to drought and flood."

Implications for Bangladesh

Efforts need to be taken to determine the economic costs of the impacts of climate change for Bangladesh in the same way as the Stern Review – considering the physical impacts of climate change on the economy, on human life and on the environment; economic models; and comparisons of current level social costs of carbon with future trajectories.

The Stern Review provides substantive directions for Bangladesh. First, Bangladesh can scope the review framework and develop its own framework for modeling climate change and its economic implications. Further, Bangladesh can draw on the Review findings to apply and create some leverage and argument in the climate change negotiation to demand and seek necessary and adequate investment funding to ensure climate resilient development.

To do so, it will be necessary to contextualize the arguments, principles, methods and analyses contained in the Stern Review to define and describe our "economic vulnerability", and ascertain the magnitude of investment to facilitate the overall economic growth and performance of Bangladesh.

The economic analysis and modeling for Bangladesh's vulnerability and susceptibility to climate change, disaggregated across sectors, could indicate investment requirements to assure climate resilient development. The adaptation deficit for Bangladesh can be determined to a large extent from such analysis. This could contribute greatly to rationalize and secure funds from development partners.

The Stern Review also establishes the case for country level framework to mainstream adaptation to climate change in all countries, especially in the developing world. The Working Paper recently published from the Climate Change Cell titled "CLIMATE RESILIENT DEVELOPMENT – COUNTRY FRAMEWORK TO MAINSTREAM CLIMATE RISK MANAGEMENT AND ADAPTATION" offers a generic tool/process that can be adapted and contextualized for a country to operationalize mainstreaming at all levels, across all sectors.

This Country Framework can help one country address climate related development concerns identified in the Stern Review, and enable taking appropriate measures in time. It offers a road map to address current and future adverse impacts of climate change and climate variability at country level by systematically integrating climate risk management and adaptation in its development process.

The Country Framework to implement mainstreaming climate risk management and adaptation serves a wide range of needs. It provides a way for every country to integrate climate risk and adaptation practically. It enables each country 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.

The Climate Change Cell is preparing the grounds to apply this Country Framework in Bangladesh. This will enable address the concerns of the Stern Review, especially in integrating its key recommendations within overall development contexts.



The coastal areas of Bangladesh will be one of the most affected from climate change impacts

14th SAARC Summit, 3-4 April 2007

The Delhi Declaration recognizes Climate Change as a regional concern, calling for collective actions

Climate change has been recognized as a major concern in the 14th SAARC Summit held in New Delhi this year. The Climate Change Cell prepared the following brief for the Bangladesh Delegation to the Summit. We are re-printing the full text below:

Brief on Climate Change for SAARC Summit, 3-4 April 2007
CLIMATE CHALLENGES DEVELOPMENT -REGIONAL PRIORITIES FOR ACTION

1. All SAARC member countries are already affected by adverse climate impacts. The scientific community has universally recognized, drawing on evidence and observations, that climate change will continue to worsen over the next decades. The most vulnerable – the poorest countries and populations – will suffer earliest and most, even though they have contributed least to the causes of climate change. The costs of extreme weather, including floods, droughts and storms, are already rising. We need to prepare from now to manage what is unavoidable, and avoid the unmanageable.

2. Climate impacts will affect everyone in the coming decades. Each of us must know what we confront, if we are to prepare and address them. The need to recognize the challenges of the changing climate in context of its development aspirations becomes an important pre-requisite for any society in their pursuit for sustainable development. The systematic recognition across sectors and stakeholder groups further ensures each to identify and assess risks, and scope risk management and adaptation options

3. Adaptation to climate change requires taking steps to prepare and rationalize costs. It is no longer possible to prevent the climate change that will take place over the next two to three decades or more, but it is still possible to protect our societies and economies from its impacts to some extent – for example, by providing better information, improved planning and more climate-resilient crops and infrastructure. Adaptation costs will be substantial every year in all member countries, and will put still further pressure on already scarce resources.

4. Development implies the well-being of people, and progress of the nation and its society. For a country, sustainable development rests on the improvement of welfare of its economy, environment and society over time. Efforts to address sustainable development goals in every member country already are, and will be challenged more and more by climate variability and change.

5. Almost one billion people living in the great Indo-gangetic plain who struggle every day to break out of the poverty trap will confront greater hardship and shocks due to climate change. Livelihood and survival is at stake. Millions face the possibility of migrating out of the low coast line as storm surge, tidal bores and sea level rise engulf or destroy the very land they stand on.

REGIONAL PRIORITIES AND PROSPECTS

6. This calls for development efforts to integrate climate risk management such that development becomes resilient to climate changes. Thus mainstreaming climate risk management and adaptation into development planning and processes is the first foundation that each country must establish which is critical and paramount. The problem and concern is too complex and overwhelming to consider anything less in order. This provides the basis to ensure systematic assessment of risks, exploring options for management, and calculating the investment needs for climate resilient development, and the value of the damage avoided.

7. Climate risk management and adaptation efforts in each member country can benefit substantially from sharing, coordination and cooperation among members within our Association. For example, the Climate Change Cell in Bangladesh has developed a generic tool to operationalize mainstreaming climate resilient development across sectors and at all levels. This tool can provide some ideas and approach for other member countries in their national pursuit.

8. Further, sharing of our mutual concerns and options can play a vital role toward consensus building, leading to common positions in key areas, for collective bargaining in international processes and institutions such as the UN Commission for Sustainable Development (UNCSD), United Nations Framework Convention on Climate Change, International Financial Institutions, and

COOPERATION IS A KEY PRIORITY FOR CLIMATE RESILIENT DEVELOPMENT Our Association can benefit each member country in reducing climate risks and preparing for the challenge. The following areas are

- Sharing of know how on assessment of climate risks and challenges on development.
- Sharing of experiences on adaptation research, planning, and implementation.
- Addressing shared concerns of member countries through the undertaking of initiatives and programme in the above.

A SAARC DECLARATION ON CLIMATE RESILIENT DEVELOPMENT In the spirit of the continuing cooperation of all members in the Association, a SAARC Declaration on Climate Resilient Development may serve as a guide to member countries and the Association to steer our future through the climate challenges.

The Delhi Declaration is available in the SAARC Website www.saarc-sec.org. A SAARC Workshop is taking place this October in Dhaka to follow up on collective actions to address climate change.

MELTING ICE – A HOT TOPIC?

Bangladesh celebrates the World Environment Day 2007

World Environment Day (WED), commemorated each year on 5 June, is one of the principal vehicles through which the United Nations stimulates worldwide awareness of the environment and enhances political attention and action.

The World Environment Day slogan selected for 2007 is **Melting Ice – a Hot Topic?** In support of International Polar Year, the WED theme selected for 2007 focuses on the effects that climate change is having on polar ecosystems and communities, and the ensuing consequences around the world. The day's agenda is to give a human face to environmental issues; empower people to become active agents of sustainable and equitable development; promote an understanding that communities are pivotal to changing attitudes towards environmental issues; and advocate partnership, which will ensure all nations and peoples enjoy a safer and more prosperous future. World Environment Day is a people's event with colourful activities such as street rallies, bicycle parades, green concerts, essays and poster competitions in schools, tree planting, as well as recycling and clean-up campaigns.



The Department of Environment, Bangladesh organized a number of events and activities to promote this year's theme – global warming and climate change. A colorful rally in Dhaka city took place in which thousands of people participated braving the rain.



The Honorable Adviser and the Secretary, Ministry of Environment and Forest visit the Climate Change Cell stand at the World Environment Day Fair 2007.

A Seminar series was organized in partnership with different government and non-government agencies. Climate Change Cell organized two seminars addressing the WED 2007 topic and theme, one on 5th June and another on 7th June.

On 5th June, an open discussion took place on the topic *Climate change – Bangladesh Prepares*. A large number of people from all walks of life participated in the event and shared information, views, and concerns.



On 7th June, a second seminar *The Role of Education and Research in addressing Climate Change* took place. Scientists, academicians and professionals from the environment and development sectors provided an update on recent efforts in research and education addressing climate change concerns. Participants shared their views, opinions and concerns relating to impacts, vulnerability, and risks and sought support from the government and research community toward promoting awareness, education and capacity building to address climate change issues and concerns and in preparing to address these effectively and timely.



The Department of Environment also organized an Art Competition for school children on this year's theme. A number of those which received awards are reproduced in this newsletter.

On every World Environment Day, let us examine the state of our environment. Let us consider carefully the actions which each of us must take, and then address ourselves to our common task of preserving all life on earth in a mood of sober resolution and quiet confidence.

In Bangladesh, we must make every effort to know how global warming and climate change affect lives, resource, livelihood and development



Global warming is already affecting the lives and livelihood of millions of people in Bangladesh. Farmers, fisher folk, the poor and already vulnerable are directly dependent on nature and climate for survival. Climate change will lead to water shortage during winter, flood during monsoon and unpredictable extreme events like cyclone, storm surge etc. Sea level rise will displace millions of people from their home and settlement.

How do we start our preparation to build resilience? First, we can help ourselves by identifying climate risks, and then determine how to manage the risks.

Raising awareness on climate risk, management and adaptation to climate change is necessary at each and every level of government and society. Climate Change Cell is now preparing awareness and communication materials for government, local government, NGOs and school.

Climate Change Cell has initiated an awareness campaign to promote better understanding on climate change related issues and concern. In this respect, a series of materials in *Bangla* have been produced and disseminated among different actors and stakeholders in the country.

The first set of materials in the form of fact sheet, booklet, poster, leaflet, etc. have been widely distributed during the World Environment Day. The poster was distributed among 400 schools in Dhaka City where teachers used them in classrooms to sensitize children.



Students in Sher-E-Bangla Girls High School in Dhaka listens to their teacher explaining how climate change affect our lives



Adaptive Crop Agriculture and Innovative Farming Practices shows potential in the flashflood prone *haor* basin

Climate change, climate variability and extremes are already affecting our food production and will most likely challenge our food security. The northeastern part of Bangladesh is highly prone to flash floods from March-April. This is due to excessive rainfall over very short period in the upper catchment area, and flowing over land with degraded vegetation coverage. Even a couple of decades ago, major flashfloods occurred once every three years or so. In the recent years, this phenomenon is taking place almost on a regular basis, although its timing, extent and coverage vary.

Farmers and extension services have been baffled on ways to address this uncertainty, manage crop production and ensure a good harvest. The physical and natural conditions, combined with people's farming practices have restricted farming to a single crop harvest each year. This vulnerability must be addressed to ensure development gains of the past are protected and future development efforts can take place in a changing climate.

The Center for Natural Resource Studies (CNRS), in collaboration with BARI, BIRRI and Inter Cooperation-LEAF is implementing the research project "Adaptive Crop Agriculture Including Innovative Farming Practices in the *Haor* Basin" at Pakhner *Haor* and Hail *Haor* in Jamalganj upazila under Sunamganj district. The research activity has been commissioned by Climate Change Cell to assist farming community in their decision-making as well as to promote adaptation to climate change (flash flood) in the locality. Seventeen different types of crops have been demonstrated in 47 plots in seven villages. All of the plots were set up during first week of December, 2006. Harvesting of the vegetables started in January and by March 2007, most of the crops other than rice were harvested.



Farmers who participated in the field demonstration expressed enthusiasm towards non-rice crop cultivation in the *Kanda* (High land). They also expressed concern about the need for better irrigation facilities, timely and sufficient supply of fertilizer. The sharing also surfaced the following concerns:

- Immediate measures should be taken to protect crops from flash flood



- For better irrigation management deep tube well should be installed (farmers are willing to share the cost)
- More land could be brought under cultivation if proper drainage facilities ensured
- Identify the prospect of Hydroponics;
- Massive tendering of the rice crop is required during the flowering period;
- DAE should take initiatives to motivate farmers for timely irrigation;
- Measure should be taken to establish proper irrigation infrastructure;
- Field demonstrations could be arranged by DAE and CNRS;
- Fertilizer must be reached to farmers in time and in sufficient quantity;
- BRRI-19 & BRRI-29 have potential for improved yield;
- Restructuring of the cropping pattern should be tried;
- To avoid damages by Flash Flood, new variety of crops (both rice and non-rice) and management practice should be tried;
- Ideas from local community is of more important, as they are sufferer and can suggest better solution;
- CNRS should take initiatives for resources inventory, vulnerability indexing, land type mapping;
- T. Aman could be tried in the medium high land
- Non-rice crop practice should be intensified;
- Homestead vegetables should be encouraged;
- Climate Change will also affect the fisheries sector (reduce fish production; diminish some of the fish species etc.). Yield of rice could increase by 40% with proper management practice.



Consultation Meeting charts Institutional Road Map for Climate Impact Prediction Modeling in Bangladesh

Climate Change Cell organized a consultation meeting on Tuesday, 19 June 2007 to take decisions on immediate measures to facilitate planning for climate resilient development by using climate impact prediction modeling in Bangladesh. The meeting was Chaired by Dr. Ainun Nishat, Country Representative, IUCN Bangladesh and moderated by Mohammad Reazuddin, Director (Technical), Department of Environment, and Component Manager, Climate Change Cell.

obtain deliverables of finer resolution (eg. 25km x 25km); and, provided LBC for

PRECIS is available then the models shall be used for Impact Prediction

Application Model - Options

Water modeling and application models do not necessarily have to wait for climate impact prediction model deliverables. Water modeling should proceed considering

"what - if
"scenario for 2 degree rise in the temperature, associated with different regional precipitation levels.

Institutional Home for Modeling
For Climate Modeling, PRECIS modeling may be housed at BUET provided BUET reveals interest/commitment and assures necessary facilities.



Dr Ainun Nishat helps steer the workshop and participants to chart a roadmap

The meeting discussed and took decisions on the following agenda

- Institutional Road Map for Climate Impact Prediction Modeling in Bangladesh
- Climate Models – Options
- Institutional Home for Climate Modeling
- Contractual arrangements

Decisions

The meeting considered the above discussion, clarification, viewpoints, and recommendations and proposed the following as decisions for further action:

Institutional Road Map for Climate Impact Prediction Modeling in Bangladesh

Address the suggestions, recommendation from the meeting and revise the road map with detailed work plan, identifying all stakeholders including end users, describing the deliverables, timelines and resources necessary.

Climate Models – Options

For PRECIS, it was decided to contact Hadley Center, U.K. for LBC for the following time scales: 2010 – 2030; 2030 – 2050; 2050 – 2070; Opt for 50km x 50km resolution outputs as immediate deliverables, and work on how to

Prepare and execute Contracts with institutions to serve as modeling homes as opposed to MoU.

For PRECIS, provided required LBC is made available, issue contract to BUET via BRTC to deliver immediate output.

Modeling Capacity Development

It is necessary to address gaps in both knowledge as well as understanding with regard to the potential of PRECIS in delivering the desired outputs against CDMP requirements.



Supporting Capacity Building on Climate Risk and Adaptation

The Cell completes 3rd Batch Training for Government Officers

A Training Workshop for designated focal points from Government agencies and departments was organized during 27 – 29 March 2007 in Dhaka. The three day workshop offered basic knowledge on the changing climate, what impacts are likely to happen in Bangladesh, and how to respond to the changes so that development is not compromised.

Mohammad Reazuddin, Director (Technical), DoE and Component Manager of the Climate Change Cell welcomed participants and summarized the objectives, roles and expectations. An overview of the sessions was described with a view to demonstrate the linkages between the sessions, participation needs, and interactive nature of the process.

The training workshop served to

- sensitize Focal Points on climate change, climate risks, risk management and adaptation to climate,
- share concern with regard to role and expectation from Focal Points,
- identify processes and areas to support mainstreaming in government departments, sector planning and programmes

The Focal Points from different government departments are major actors with defined roles to pursue mainstreaming climate risk management and adaptation (CRM&A) in the overall national development process and help prepare their respective agency/department toward this end. As a forum, the Focal Points will also be able to promote and influence policy and actions with regard to CRM&A within any single agency/department as well as collectively, at National and Sector levels. Session facilitators included eminent scientists, researchers, academicians, and practitioners.

The Workshop was divided into twelve sessions under three modules. The sessions and interactive exercises were designed to provide knowledge contextualized to match the participant's concerns, and guide them in shaping and managing their role as Focal Points, and foster integration and mainstreaming.



Uncertain climate is increasing the risks of those who are most vulnerable and depend on good weather

Khandaker Rashedul Haque, PhD, Director General, DoE made closing remarks and awarded Certificates to participants.



Dr. Ahsan Uddin Ahmed explaining observed changes in the climate of Bangladesh

MODULE 1 Climate Change: An Introduction

Session 1 *Climate Change: Basic Concepts (science, causes and consequences)*

Session 2 *Responses to Climate Change: International Processes*

Session 3 *Responses to Climate Change: Bangladesh*

MODULE 2 Climate Change: Understanding Development Risks

Session 4 *Understanding Hazard, Vulnerability and Risks: Bangladesh Context*

Session 5 *What if climate changes? Implications for Bangladesh*

Session 6 *Implications of climate change within a dynamic context*

Session 7 *Adaptation to Climate Change: Needs, Priorities and Opportunities*

Session 8 *Adaptation to Climate: Priority and opportunity for agriculture sector*

MODULE 3 Managing Climate Risks

Session 9 *From Risk Awareness to Management of Climate Risks*

Session 10 *A Framework to mainstream climate risk management and adaptation*

Session 11 *Participatory Climate Risk Reduction Action Plan Development Process – Bottom Up approach*

Session 12 *Preparing for Climate Change: Way Forward*

PREPARING FOR CLIMATE CHANGE

Understanding the challenge to play our part

Climate change is happening now. Bangladesh is already suffering from its present impacts. According to current scientific understanding, the state of well being and survival of the people in Bangladesh will be under serious threat from climate change over the coming decades. Particularly, the poorest are the most vulnerable to the climate threats and they already are and will continue to suffer most.

Extreme weather and events like cyclone, flood, storm surges will intensify, become more frequent and unpredictable. Changes in the temperature and rainfall pattern will be significant, with grave implications on our natural resource base, putting agriculture and related livelihood at risk.

Droughts and flash foods, untimely hailstorm, mists will increase and take place more frequently. In addition, changes that take place gradually over years and sometimes decades, such as salinity intrusion, desertification and sea level rise will compound our risks and national development goals, particularly poverty reduction.

As a nation we must face up to this challenge. For Bangladesh, climate change is everyone's concern.

Therefore we must all understand the challenge and act now. Everyone has a stake and therefore a role to play in their respective capacity. Adequate and appropriate understanding of climate challenges begins with accurate information, knowledge and communication.

*We need to help people understand that climate change is a serious challenge, but one that we can do something about. We want to communicate a positive vision of what we are collectively trying to achieve. Our goal is that **working together this generation will prepare and address climate change challenges.***

Initially we need to focus on making climate change easily understood and a 'here and now', 'front of mind' issue. We also want people to have an increased awareness of what needs to be done to tackle it. We want to avoid giving the impression that it is solely the responsibility of individuals to take action. Everyone in society – government and its

agencies, business, industry and the public – needs to tackle climate change together.

Research shows that among the general public, few people understand what is actually causing climate change. The first and most important thing is to change the way people think about climate change. Then we can try to change their behavior.

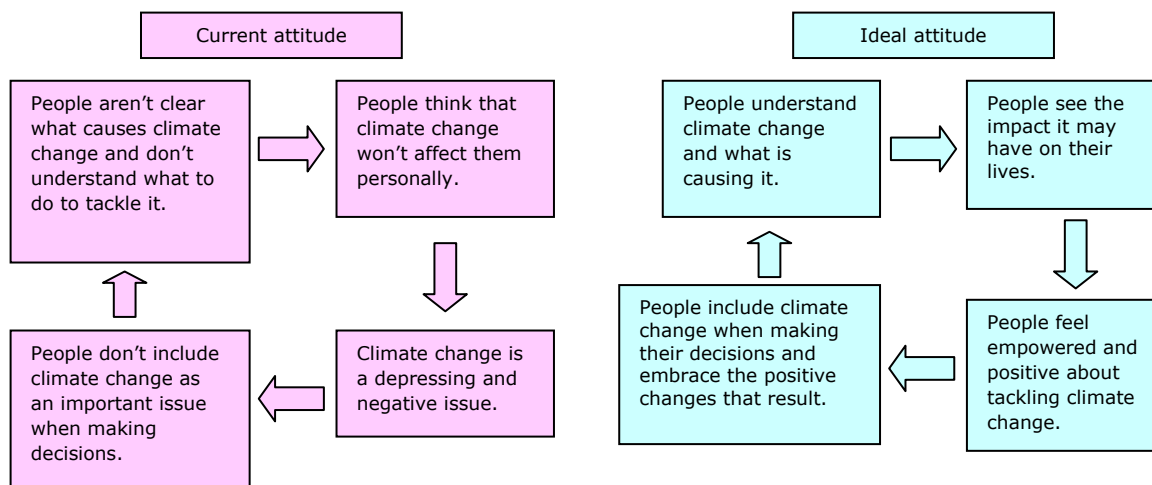
Most people in Bangladesh think that

climate change is confusing; they can't see how it relates to them; won't affect them personally; is a problem for the future, not now; and can't be affected by their individual actions, because the problem is so big.

These are the challenges we need to face. We can prepare for the challenges if we believe something can be done. Firstly, we need to change these attitudes.

Communicating climate risk and adaptation – 10 Steps

1. Develop relationships and understand specific/local setting
2. Work with the stakeholders/community to identify problems, solutions and actions
3. Identify concerned (community) groups and stakeholders
4. Identify communication needs, objectives, activities
5. Identify appropriate communication tools
6. Prepare and pre-test communication content and materials
7. Facilitate and build partnerships
8. Produce an implementation plan
9. Monitor, evaluate and document
10. Plan the sharing and utilize materials



Preparing for Second National Communication, 25 June 2007

National Workshop addresses preparation needs and priorities

Bangladesh is one of the countries which are already suffering from global warming and adverse climate impacts. As a Party to the UN Framework Convention on Climate Change (UNFCCC), Bangladesh needs to prepare and submit national communication on the status of climate change related activities in the country. Although this is not mandatory for Bangladesh as a non-annex-I country as it is with the Annex-I parties, it is still very important that we prepare and communicate our status and progress made in addressing global warming and tackling climate change, as well as identify gaps to address to ensure that our development is climate resilient.

As a part of the reporting commitment to the UNFCCC, Bangladesh has prepared its Initial national Communication (INC) in 2002, and the process to prepare the Second National Communication (SNC) has been initiated recently. UNDP/GEF is providing necessary funds to enable the preparation of SNC.

The preparation of SNC will follow as per guidelines to prepare national communications provided by UNFCCC. The government as well as UNDP Bangladesh hopes that the SNC will promote energy efficient pathways of growth and development, self-reliance, reduction of risks from climate related hazards, policy integration, cooperation and GO-NGO collaboration.

The Second national Commission is also expected to chalk out a functional route to mainstream climate change related activities, both mitigation and adaptation, in every aspect of development. Such mainstreaming would encompass integration of climate change concerns in the general strategy and plan formulation processes as identified by various government agencies and as guided by relevant national and sectoral policies. Relevance between people's livelihood related vulnerabilities and activities undertaken to meet the MDGs in the light of PRSP will also be explored and highlighted in the SNC.

Recognizing the need for a balanced approach, the SNC will establish linkages between economic growth, socio-cultural development and environmental harmony. It will also probe into the sector with the highest greenhouse gas (GHG)

Areas which are most vulnerable and likely to be worst affected due to climate change will be identified under SNC in line with the National Adaptation Programmes of Action (NAPA), prepared in 2005 also as an obligation under UNFCCC, and other relevant nationally documents available.

The outcome of the SNC will highlight sectors/areas with the highest potential for adaptation to climate change.

The Second national Communications will be prepared by the Government of Bangladesh through the UNDP Bangladesh Country Office. It will build on the foundation laid by the Initial National Communications, Bangladesh NAPA and the ongoing National Capacity Self Assessment (NCSA) activities. In addition, the SNC seeks to utilize national capacity fully, by ensuring meaningful and effective participation of all relevant stakeholders, actors and institutions, in the public and private sectors.

Efforts will also be made toward enhancing the capacity within relevant government agencies and personnel to undertake and prepare subsequent national communications in the future.

The role of the Climate Change Cell and Department of Environment was also discussed where it was proposed that CCC would serve as the key national unit to guide the

processes of developing the SNC.

So far, a stocktaking exercise has been completed and a brief report describing the findings has been prepared. The main objective of the stocktaking exercise was to review development of climate change related activities and information since the preparation of the Initial National Communications. It was found that a good number of small scale initiatives have been taken by NGOs and private sector while the government has taken a few firm and long-term steps in addressing climate change issues and concerns. The report which also draws on relevant available literature covers impacts and implications of climate change on development.



Mohammad Reazuddin from DoE summarizes the open discussion at the preparatory workshop. Others in the photo are (left to right) Mirza Shawkat Ali, Project Director, Climate Change Enabling Activity from DoE, Dr. Asaduzzaman from BIDS, Dr. Q.K. Ahmed from BUP, Dr. Aminul Islam and Shireen Kamal Syed from UNDP Bangladesh Country Office

Workshop **Climate Change: A Challenge for Development**

A Workshop on "Climate Change: A Challenge for Development" was held in Dhaka, Bangladesh on 20 February, 2007. The event was organized by Climate Change Cell, Department of Environment.

The Workshop initiated a process to develop a country framework for Bangladesh toward Climate Resilient Development. The Workshop shared emerging findings on climate change concerns and challenges from the Stern Review, implications for Bangladesh, and the Working Paper on CLIMATE RESILIENT DEVELOPMENT. All these can serve as a tool to implement mainstreaming climate risk management and adaptation in Bangladesh.



Ian Rector, CDMP explains climate risks and disaster links

The Panel Discussion highlighted several important actions the following:

- More information is required to address risk of climate change, particularly linking natural resource and people.
- The climate Change Cell could play a role in this matter and facilitate different ministry to take action through capacity building and ensuring access to knowledge.
- The government should emphasize on research on salinity, flood and drought tolerant crop varieties.
- Crops must be diversified for food security. Crop production and climate change issues should be focused with same emphasis
- Indigenous adaptation practices and recent achievement in research should be disseminated through Bengali transcription at root level.
- Auto gauge stations could be installed to get actual feature of coastal morphology and climatic parameters (Sea Surface Temperature, Sea Level Rise)
- Different development agencies of government could take responsibility in their program with climate change cell as a facilitator.
- Governments, NGOs, researchers, civil society groups and activists, development practitioners, private sector and people at risk all carry responsibilities in preparing for climate change. Effort to climate risk management and adaptation must be holistic taking all stakeholder concern on board and ensuring community participation.

Seminar **The Role of Media in Addressing Climate Risks in Bangladesh**

As a country already suffering from the impacts of climate change, the people, agencies and organizations who are already affected and those who are likely to be affected most need to know the risks of climate change and variability. In this regard, the media has a crucial role to play by providing coverage on relevant news, knowledge and information timely and contextualized to the need of the society.

To facilitate the media in addressing climate risks, the Comprehensive Disaster Management Programme organized a seminar on Promoting the Role of Media in Addressing Climate Risks in Bangladesh. A large number of representatives from print and broadcast media participated in the discussion.



Mohammad Reazuddin of DoE, Larry Maramis of UNDP, S.M. Morshed of CDMP and Kamrul Hasan Manju of MMC shared concerns with the media on how to play their role effectively

The Seminar provided an opportunity to familiarize the media on relevant sources for information and encouraged cooperation and coordination between the media and the different stakeholders responsible to service the society toward climate resilient development.

The representatives from different newspapers and television channels welcomed this initiative and expressed interest in similar events on a regular basis to promote their understanding and uptake. They also reaffirmed their commitment to ensure adequate coverage relating to climate risks and adaptation to climate change.



Little Green Data Book 2007

This pocket sized quick reference book on key environment and development data for over 200 countries, based on the World Development Indicators 2007. Country, regional and income group profiles provide a baseline for comparison on the state of the environment and its linkages with the economy and people. This year's publication affirms that carbon dioxide emissions continue to rise, with the world producing today 16 percent more carbon dioxide than in 1990. Available: www.worldbank.org

Scientific Expert Group on Climate

Change (SEG) 2007: Confronting Climate Change: Avoiding the Unmanageable and Managing the Unavoidable [Rosina M. Bierbaum, John P. Holdren, Michael C. MacCracken, Richard H. Moss, and Peter H. Raven (eds.)]. Report prepared for the United Nations Commission on Sustainable Development. Sigma Xi, Research Triangle Park, NC, and the United Nations Foundation, Washington, DC, 144 pp.

In this report, Chapter 1 summarizes the key aspects of the science of climate change and associated environmental and societal impacts. Chapter 2 provides a review of the technological options for slowing climate change by limiting emissions of greenhouse gases. In this light, several recommendations are made to fulfill the objective set forth in the 1992 UNFCCC. Chapter 3 offers guidance on making society less vulnerable and even more resilient to the changing climate.

These chapters make clear that it is critical to begin both mitigation and adaptation, focusing in early efforts on steps that offer cost-effective opportunities and ways to reduce pollution and other maladaptations to the current climate, while establishing the rules and incentives to spur long-term investment and change through a portfolio of approaches. If done wisely, an important co-benefit of a comprehensive approach by the public and private sectors will be making it easier to fulfill the United Nations' MDGs.

Climate Change Threatens UNESCO

World Heritage sites The threats posed by climate change to natural and cultural sites on UNESCO's World Heritage List are outlined in a new UNESCO publication, "Case Studies on Climate Change and World Heritage". whc.unesco.org/document/public_climatechange.pdf

The Global Outlook for Ice and Snow

Melting Ice-A Hot Topic? New UNEP Report Shows Just How Hot It's Getting Lives and Livelihoods of Hundreds of Millions if not Billions in Many Parts of the World Influenced by Ice and Snow Losses Linked to Climate Change. The Global Outlook for Ice and Snow, involving UNEP and a network of some 70 of the world's best experts, has been compiled in part to support the International Polar Year (IPY) running from 2007 to 2008. The peer reviewed report builds on and in some areas extends the work of the Intergovernmental Panel on Climate Change (IPCC) whose fourth assessment reports were issued between February and May this year.

Climate Change Cell

www.climatechange-cell-bd.org

Comprehensive Disaster Management Programme CDMP

www.cdmp.org.bd

UN Climate Change Secretariat UNFCCC

www.unfccc.int

Inter-governmental Panel on Climate Change IPCC

www.ipcc.ch

Climate Change Information Kit

www.undp.org/gef/new/ccinfo.htm

United Nations Environment Programme

www.unep.org/themes/climatechange/

UN International Strategies for Disaster Reduction

www.un-isdr.org

European Commission

ec.europa.eu/environment/climat/home_en.htm

Department for International Development DFID

has produced a set of key sheets that examine the impact of climate change on poverty and the Millennium Development Goals.

www.dfid.gov.uk/pubs/files/climatechange/

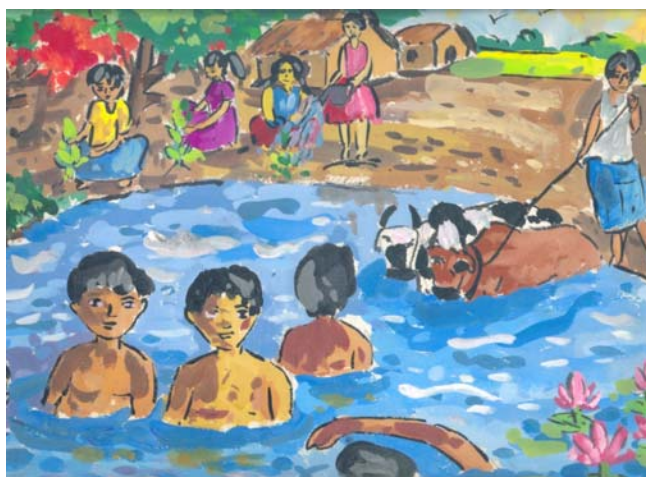
Food and Agriculture Organization FAO

www.fao.org/clim/

World Meteorological Organization (WMO)

The World Climate Research Programme (WCRP)

wcrp.wmo.int/ClimateChange_index.html



About the Climate Change Cell

The Climate Change Cell has been established in the Department of Environment in 2004 under the Comprehensive Disaster Management Program (CDMP) of the Government. It responds to the recognition that Bangladesh is particularly vulnerable to the effects of climate change, and that the number and scale of climate-related disasters is likely to increase. The Cell provides the central focus for the Government's climate change related work, operating as a unit of the Department of Environment (DoE) under the Ministry of Environment and Forests (MoEF). Its objective is to enable the management of long term climate risks and uncertainties as an integral part of national development planning. This will contribute to the primary objective of the wider Comprehensive Disaster Management Programme, which aims to strengthen the capacity of the Bangladesh disaster management system to reduce unacceptable risks and improve response and recovery activities.

Meeting these objectives will enable more effective and sustained poverty reduction through the reduction of disaster and climate risks within the overall development process.

The Climate Change Cell's work program focuses on four main areas:

Building the capacity of Government to coordinate and integrate climate change issues in mainstream development activities across government. It also acts as a secretariat to coordinate other national climate change activities such as National Communication preparation, the NAPA process, and the Clean Development Mechanism.

Strengthening existing knowledge and availability of information on impact prediction and adaptation to climate change. This includes compiling and synthesizing existing studies, and filling some of the gaps, as well as improving information exchange between science and policy-makers.

Awareness raising, advocacy and coordination with partners across government, NGOs, civil society, private sector and donor organizations. Using a variety of mechanisms and information products, the Cell is working to promote the integration of climate change adaptation and risk reduction in development activities, especially within climate sensitive sectors and the disaster risk reduction process.

Improving capacity to adapt livelihoods to climate change in the agriculture sector. Working with the concerned Ministry, DAE, and NGOs, we are field-testing livelihood adaptation strategies with farmers to better respond to disasters and climate change risks. This includes translation of climate change modeling into agricultural response options and livelihood adaptation practices.

The Knowledge Network on Climate Change

The Climate Change Cell is supporting the development of a climate change knowledge network aiming to collect, analyze and disseminate climate change related information. Through this network the Climate Change Cell hopes to build information on climate risks and adaptation options, disseminate the results and support the translation and communication of information into a format useful to government line departments, local government and NGOs working with vulnerable communities.

We invite you to participate in the Network to help service climate change related knowledge needs and services. Please share with us your interests, concerns, viewpoints, knowledge and resources that can enable others engage effectively in meeting the climate change related challenges.

The Network organizes meetings to engage with relevant actors, institutions and stakeholders with an effort to deliver its mandate. To participate, please write us expressing your interest.

Photo Credit

Climate Change Cell - Nasimul Haque, Showkat Osman, Abdullah Al-Mamun, Jahiruddin Babar
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Upcoming Events

31 st Jul – 1 st Aug	UN General Assembly: Thematic Debate on Climate Change, New York City
27 – 31 August	Inter sessional: 4 th AWG and Dialogue, Vienna
03 – 05 Sept	LDC Expert Group (LEG) Stocktaking Meeting, Bangkok
06-08 Sept	12th Meeting of the LDC Expert Group, Bangkok
10 -12 Sept	Workshop on adaptation planning and practices under the Nairobi Work Programme, Rome
20 th September	G8 Foreign Ministers Meeting, New York City
24 th September	High-Level Event convened by the UN Secretary-General, New York City
24-25 October	SAARC Workshop on Climate Change, Dhaka
31 st Oct	Third workshop on Finance and Investment to address climate change, Bonn
3 – 14 Nov	27 th Session of the IPCC, Valencia
15 – 16 Nov	G20, Cape Town, South Africa
27 – 28 Nov	Twelfth meeting of the Expert Group on Technology Transfer. Bali
29 – 30 Nov	Consultations on Adaptation Fund, Bali
3 – 14 December	The thirteenth Conference of the Parties (CoP 13) to the UN Framework Convention on Climate Change, and second Meeting of the Parties (COP MOP 3) of the Kyoto Protocol, Bali, Indonesia

**CLIMATE RISKS AND CHALLENGES WILL BE FELT MOST LOCALLY,
BY PEOPLE ALREADY VULNERABLE AND POOR**

Ask this landless woman with three children where to move as the river engulf their village



Ask this small farmer how uncertain climatic conditions challenge his decision making and success