

CLIMATE CHANGE & ENVIRONMENT



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Environmental, Climate Change and Development Challenges to Bangladesh

Bangladesh is largely dependent on natural resource management and extraction which due to its vast population pressure and low level of technology gives rise to their (natural resource) degradation while the country is also a victim of global climate change while contributing very little to it.

Environmental and resource degradation is manifested in various ways. These include: degradation of land, wetland and water bodies, forests, biodiversity loss, arsenic contamination in ground water, surface water pollution due to discharge of untreated industrial effluents as well as sewage, air pollution, particularly in urban areas, solid waste disposal problems in cities and towns, salinity intrusion in coastal zone and many localised ones. Each of these is caused by both natural and anthropogenic factors while the existence of one often exacerbates the other.

Global climate changes are expected to interact with many of the above issues and further aggravate them. For example, climate change may lead to bio-diversity changes or loss leading to changes in flora and fauna which in turn may create problems of food insecurity. Furthermore, expected climate change will almost certainly create new types of problems including the frequency and intensification of natural disasters such as flood, drought, cyclones and coastal storm surges, crop failures and widespread loss of livelihood in various sectors as well as health hazards. Sectors to be most affected adversely include agriculture and food production, water, disaster management, forestry, and health. In the longer run all sectors will face severe challenges.

Climate change also has social impacts on our people, particularly coastal community will be severely impacted due to global climate change. Climate change will cause huge internal and external migration of displaced communities from coastal areas. Such migration will uproot these migrants from their habitat as well as livelihoods. These displaced communities need intensive training to develop their capacity to meet the challenges of new situation. However, issues of vulnerability must be addressed to ensure proper protection lives and livelihoods of migrants.

The frequent and more severe onset of natural hazards of hydro-meteorological origins (cyclones, storm surges, floods) as impacts of climate change indicate that one of the most important challenges is going to be the reduction of risk of hazards turning into disasters. While structural measures are needed in preventing the impacts of such hazards, non-structural measures are equally important particularly the community-preparedness against disasters and post-disaster rehabilitation. The case of aftermath of Cyclones Sidr and Aila are pointers to the necessity of such community involvement.

The impact of climate change on the water supply, its form, sources, timing as well as consumption by sectors including households and communities become major developmental as well as environmental problems. Particularly in the context of disaster prevention, proper river basin development with river flow management is essential.

Bangladesh so far has been largely food secure and thanks to the efforts of farmers helped by the Government this year too we have seen good harvest. The output of main staple, rice, is now largely dependent on the cultivation of boro under irrigation with ground water. This has created two types of problems, of late. One is the menace of arsenic in ground water which has posed a major public health hazard. The other is that the land under irrigation has expanded mainly by replacing *aus* rice land which is completely rain-fed. The scope for the substitution is now extremely limited. More of output of rice for future food security must come from aman, the remaining major rice. *Aman*, however, is affected by both floods during the initial growing period and moisture stress at the flowering stage. These physical constraints are likely to be exacerbated by climate change. Future food security is thus under grave threat.

Given that climate change will pose a major threat to lives, livelihood, food security, economic growth, social development and poverty reduction due to its all pervading effects, Bangladesh has taken a two-pronged approach. It has vigorously taken part in the international negotiations for realisation of the goals under the Bali Action Plan while preparing itself at home for necessary domestic action.

Recent Steps Taken for Resolving the Issues

The four most important domestic actions that have been taken during the last one year (some of which are on-going) are the revision and approval of the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009, the replenishment of the Climate Change Trust fund from own resources and raising it to US\$ 100 mn, the call for proposals for projects under the BCCSAP 2009 from public and non-government agencies and the setting up of a climate Change Unit as well as climate change focal points in several ministries for coordination of all climate change activities.

From the long-term strategic point of view the most important, however, is the increasingly accepted idea within the government that climate change is more than an environmental problem and that its an issue of economic developmental, an issue which throws up many challenges but also opportunities. The Sixth Five Year Plan under preparation at present is expected to provide an integrated approach to economic and social development incorporating these challenges and opportunities. Accordingly, climate change has to be faced in an integrated and well-coordinated manner by all sectors.

As climate change is expected to exacerbate existing environmental problems and also give rise to new ones, the country has tried to manage over time and also emphasised many of them (old and new) over the last one year. Proper management of water resources including river flow management and implementation of the National Water Management Plan is a major programme. So is the rehabilitation of the coastal defence system through water regulation structures as has just been announced by the Government. Other major areas of intervention include community-based and co-managed forestry and coastal afforestation as well as co-management of bio-diversity and Protected Areas in 23 locations.

As indicated earlier, food security is a major challenge that the country faces now and will continue to face in future. Bangladesh has already developed salinity tolerant, flood tolerant and shorter maturity varieties of rice and these are already under the agricultural extension programmes. Capacity development at the operational level has also received a major attention for which the government will shortly open branch offices of the Department of Environment in 23 districts. Many other programmes and projects with environmental climate change management are on-going. But more challenging is how to take all these forward in future in a cohesive manner.

From Present to the Future:

The BCCSAP 2009 has already considered some of the above issues and concerns. All the programmes under it have been subsumed under six themes of which three relates directly to adaptation to climate change, one to low carbon development and the other two to research and knowledge management, and capacity-building. It should also be mentioned here that the BCCSAP 2009 is a vision, not something set in stone; it is a living document and may be revised depending upon development concerns and priorities of the country, scientific development and status and emphasis of international negotiations on climate change. Given this, one should also be clear about the prerequisites for implementation of the BCCSAP 2009.

First and foremost, the programmes and activities under each theme need to be prioritised. What would be the principles of prioritisation also have to be decided through a wide-ranging consultative process as such programmes and projects may irrevocably alter the choices to people.

Secondly, there are many policies of the country directly or indirectly related to natural resource management, environment and climate change. These need to be immediately harmonised for a coordinated climate change and environment management within a sustainable development framework which as stated in the BCCSAP 2009 rests on 4 operational and inviolate principles of ensuring security of food, livelihood (including health), water, and energy to all citizens of the country. Only a harmonised set of policies will help in proper integration of climate change and other environmental issues into the development process. One particular issue that

needs to be considered simultaneously with climate change is bio-diversity as this is going to be affected, sometime for worse, some time for better, because of the nature of climate change which alters the ecological niche of a particular plant or animal species which may be critical for human survival.

Climate change as well as other environmental issues is often complex and intertwining. Many of their manifestation are also location-specific. Without the continuous research, monitoring and knowledge management and simultaneous or subsequent development and transfer of technology, it will be extremely difficult to manage environmental degradation, climate change and their impacts. Bangladesh has already progressed somewhat in certain areas. But the scope perhaps has to expand many folds which demands human, institutional and financial capacity building.

One of the immediate needs is to lay down the foundation through a kind of multidisciplinary human resource development planning and implementation for climate and environmental management. But institutional development and harmonisation is the key for a well-coordinated human resource planning and their deployment. Hence this is an area where a substantial attention and resources, intellectual and financial, needs to be invested in the short to medium future.

It must be recognised that climate change not only affected Bangladesh, but other countries of the region will also be affected due to climate change. Effective water and ecosystem management in Bangladesh calls for strengthening of GBM regional cooperation in terms of basin-wide river management and joint water development and water sharing activities by the regional countries.

Finance and Fund Utilisation:

Three points arise on financial resources. One is how much resource, second is where to get the resource and third is the capacity to plan for and spend the resource (the so called absorption capacity). BCCSAP 2009 has given a preliminary ball park figure of US\$ 10 billion over 5 years subsequent to US\$ 1 billion each year for the first two years. While still preliminary, a report placed with the Planning Commission as background to the preparation of the Sixth Five Year Plan, has estimated the resource requirement to be US\$ 5.5 billion per year for implementation of adaptation activities

under Annual Development Programme of the Government, and private sector and NGO investment for development in a year. For mitigation and low carbon development, the estimated resource requirement is US\$ 4 bn (US\$ 2 bn under public and US\$ 2 bn under private programmes). The total requirement in the longer run is therefore huge although if one considers only the public sector, it comes to US\$ 3 bn per year for adaptation and mitigation. These therefore are additional to the normal resource requirements under the ADP in a year. *It should be noted that the fund for adaptation, if it is external, has to be on a purely grant basis.*

Generating such a level resource is going to be a gigantic task. Bangladesh has created a small fund of US \$ 100 mn its own and has been promised certain modest funds by development partners. But none are anywhere near the requirement.

Financing may come from several sources among the external ones. One idea is to create a 'Multi-donor Trust Fund' under a multilateral financial institution. While the UNFCCC articles called for use of these channels, there had been little to go by at that time. By this time, the general consensus has emerged that use of such multilateral organisations may not be the best option in all cases of financing climate change programmes. And adaptation projects probably fall in such a category of programme. In any case, there is a concern regarding the governance of a multi-donor trust fund. Unless the recipient country is fully in charge of the approval, designing (including technology to be used) and implementation of projects under such funds as well as deployment of personnel, there will be little to differentiate the projects from a so called 'normal' ones.

The country must create capacity from right now to manage funds on its own. This is all the more necessary because if the Copenhagen Accord gets a final nod in some shape in Mexico or later, very substantial funds are likely to flow. These must be managed by Bangladesh on its own. Furthermore at some stage Bangladesh will have to manage its green house gas emission. Funds for such purposes are going to be measured, reported and verified (MRV). Unless the requisite capacity is created and maintained as well as improved, Bangladesh may lose out as it has in case of CDM funding.

Fund utilisation: A pertinent issue here is even if the resources are available, the present utilisation of funds, whether domestic or externally provided development aid, is rather low. The human and institutional capacity to plan for and utilise funds therefore needs to be strengthened. This is an area where a lot of immediate re-examination of rules, procedures and transparency of process is necessary.

Simplified project planning, approval and implementation procedures are called for. Secondly, the project designs has to change based on most efficient technology wherever appropriate to incorporate climate change or other environmental concerns in a way that the cost of adaptation or low carbon development are minimised as far as possible. Thirdly, scope should be examined for public-private partnership to lower costs as far as possible.

When everything is said and done, it still leaves the issue of project implementation process on the ground. Climate change will more often than not adversely affect the poor and the marginalised section of society more because of their low capacity to adjust due to resource and other constraints. Climate change thus has the potential to make the poor poorer defeating the goal of equitable development and social justice. Also as noted earlier many of the manifestations of climate change are often location-specific. It is therefore only natural that any democratic society will try to democratise the process of adaptation to climate change through the participation of the people in general and the poor in particular, in adaptation planning, designing and implementation. MoEF is already trying to do so in several of its projects. Such initiatives will be further encouraged in future. However, this is also an area where a lot of working procedures has to change.

International Negotiations:

Finally, the importance of the issue of international negotiations should not be lost sight of. Bangladesh has been given support to the Copenhagen Accord by agreeing to work together with others to a legally binding outcome in Mexico. Unfortunately, at Davos, the President of Mexico has already stated along with Executive Secretary of UNFCCC that it might take longer than a year. Unless there is a legally binding agreement, prospects for immediate future fund is rather dim. That means that the development partners and the Government should have a kind of contingency plan for

supporting Bangladesh in managing climate change and other important environmental concerns. Preparing the country to do it on its own as far as feasible is thus the need of the hour.

Role of Development Partners :

What role does one foresee in such a situation for development partners. One way they can play a role is to contribute to the funds necessary and created for the purpose. The other is to help in specific programmes or projects. One of them is to help create a coordinating mechanism of adaptation and mitigation projects as described in the BCCSAP. A major issue is prioritisation. Assistance in doing that is a good start.

One needs also to examine the present projects, on-going or proposed, and develop a mechanism for their redesigning for incorporating climate change impact, if sp needed. Technical help in doing this will take Bangladesh far in mainstreaming climate change in development process.

Assistance in water resource development in general and river basin development in particular incorporating river flow management will be a major support. So will be help in developing a water use and consumption strategy for various sectors such as agriculture, sanitation and health.

Forestry development including programmes on REDD plus are most welcome. Bangladesh will make a major effort in this area.

Last, cooperation in technology development in general, and more particularly for agriculture, mitigation activities, long-range and short-range weather forecasting will be of great help.