

## EDITORIAL

*Poverty alleviation and sustainable natural resource conservation are two big challenges in developing countries including in Bangladesh. The efforts made by governments, NGOs and development agencies in these two fields often go separately, but these could be mutually complementary. Poor are often blamed for destruction of natural resources, but in reality they also conserve the resources base since these give them substantial support for subsistence and livelihoods. So, the poor use their traditional and local knowledge for both conservation and sustainable harvesting of the resources base. Sustainable natural resource management by involving poor and community people can also support poverty alleviation. The lead article of this Bangladesh Environmental Newsletter explores - how can the poor play a central role in nature resources conservation and poverty alleviation in Bangladesh?*

*The second main article of this newsletter focuses on existing and emerging impacts of climate change in developing world. The article also calls for equity, fairness and justice to stop dangerous climate change as well as to address its impacts at country and local levels. Another article highlights on Bali Climate Conference, which put the important basis for next climate conferences in Poznan and Copenhagen.*

*Bangladesh experienced various natural calamities in 2007 in the forms of prolonged flood and severe cyclone. There are two short reports on the devastations of both super cyclone Sidr and severe floods for the readers of BEN.*

## Poor's Contribution to Natural Resources Conservation and Management: *The Potentials in Bangladesh*

*The poor are often naively blamed for over exploitation and destruction of natural resources. This is not true; rather they conserve the natural resources. Millions of poor in Bangladesh take various livelihood supports in the forms of food and nutrition, employment and income generation, fodder, fuel and subsistence from natural resources. The natural resources also reduce various risks and vulnerability of the poor from both natural disasters and socio-economic shocks. But the unequal power relation in rural Bangladesh (which always favors the rich and disfavors the poor), the emerging market forces and institutional weakness create barriers towards the access of the poor to natural resources such as land, water, fisheries and biodiversity. Hence the livelihood security of the poor and marginal groups is affected due to degradation of natural resources bases. Better management and conservation of common property and natural resources by involving poor community and local people can help reduce poverty as well as improve local resources base and ecosystems. Poor are to be treated as important part and actors of the solution in resources management, conservation and poverty alleviation. Again natural resources management and conservation efforts must be integrated with poverty alleviation to achieve sustainable development at local level and national levels.*

Bangladesh was very rich in natural resources even in the recent past. The community people, particularly the poor and marginal groups used to get lots of livelihood supports (e.g., food and nutrition, water, fodders, fuel etc.) from their common property and natural resources base around them. But many

unwise human interventions in the recent decades backed by rapid population growth, growing demands for food and eco-systemic services, commercial interests of the rich and power elites, unequal and unjust

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## Unavoidable Climate Change Impacts in developing Countries: *Equity, Fairness and Justice in addressing Climate Change*

Global climate change has emerged as the greatest challenge facing humankind in the beginning of the twenty first century. This global problem has serious local impacts and poses major threats to human security and civilization. The poor in the developing countries would be worst affected by the devastating climate change impacts. Climate change problem was mainly created by the rich and industrialized countries, but the poor and developing countries are the main victims of climate change impacts. The various negative impacts of climate change are being felt severely, particularly in the developing countries. Climate change will increase global food insecurity, hunger, poverty, inequity as well as enhance migration and social conflicts in the developing countries. The

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## The Bali UN Climate Conference - a Roadmap to Copenhagen

The Parties at the COP-13 in Bali in December 2007 tried their best to come to a comprehensive agreement and prepared ground for wider commitment for the future to reduce GHG emission urgently to save the planet and the humanity from dangerous climate change. The UN Secretary-General termed the outcomes of the COP-13 and the Bali Action Plan for immediate and long term actions as “breakthrough” in climate change negotiations. It gave the basis for the COP-15 to be held in Copenhagen in 2009, which is expected to be the big landmark for global policy decisions toward the Second commitment period in the post 2012 climate regime.

The Bali UN Conference of the Parties (COP-13) on Climate Change under the UNFCCC was held from 3-15 December 2007 in Bali, Indonesia. The conference involved series of main events and side events by the UN bodies and many other accredited organizations. The events drew over ten thousand of participants including 3500 government officials, 5800 representatives from UN bodies and agencies, intergovernmental organizations and non-governmental organizations from across the world. The conference resulted in Bali Action Plan, COP/MOP decisions on mitigation, adaptation, capacity building, technology transfer and

funding for adaptation as well as the approval of a number of conclusions by the subsidiary bodies. However, the main focus of the Bali Climate Conference was on long-term cooperation for the post 2012 period, when the first commitment period of the Kyoto Protocol expires. The negotiation spent much of the time seeking to agree on a two years process to finalize a post 2012 climate regime by December in 2009 at COP-15. The following sections give the highlight of the key points of Bali Action Plan for the valued readers of BEN.

The Bali Action Plan reaffirms that the Conference of the Parties must be committed to right type of economic and social development and poverty eradication to promote sustainable development. The Conference of the Parties decided to launch a comprehensive process to enable the full, effective and sustained implementation of the UN Climate Convention through long-term cooperative action, now, up to and beyond 2012 in order to reach an agreed outcome and adopt decisions at its fifteenth session in Copenhagen on the following five key areas of negotiation and actions.

a) Shared vision for long-term cooperative actions, including the long-term global goal for GHG emission reduction to achieve the ultimate goal of the Climate

Convention through upholding the principle of common, but differentiated responsibilities and respective capacities of the parties;

- b) Enhancement of national/international action of mitigation of climate change through measurable, reportable and verifiable nationally appropriate mitigation measures to achieve their targets in time;
- c) Enhanced action on adaptation at national level and promote international cooperation to support urgent implementation of adaptation actions; climate disaster risks reduction and risks management strategies of the vulnerable countries as well economic diversification to build resilience;
- d) Enhanced action on technology development and transfer to support action on mitigation and adaptation through effective mechanisms and means for removal of obstacles to, provision of financial and other incentives for, scaling up of the development and transfer of technologies to developing country parties; and
- e) Enhanced action on provision of financial resources and investment to support actions on mitigation, adaptation and technology cooperation. ❄

## Floods in 2007: Global warming has intensified Floods in Bangladesh

Bangladesh experienced two times severe floods in the last year. The flood occurred in the monsoon during July in 2007 due to excessive rainfall, which not only affected the rural areas but also the city lives very badly. The second big flood came in late monsoon in September due to onrush of flood water from Northeastern parts of India, which was also created by heavy rainfall and snow melting in the Himalayan regions. Hence the climate scientists have apprehended that the recent frequent and prolonged flooding in Bangladesh has a strong link with global warming and climate change.

The prolonged flood started in July and continued till August. The second big flood came in September, which engulfed 250 upazilas of 39 districts along the three major river systems



Heavy rainfall and onrush of water from up streams caused the flood, 2007

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Source : BCAS



## Super Cyclone Sidr: A Dreadful Havoc in Bangladesh

A severe cyclone storm Sidr lashed coastal belt of Bangladesh on 15 November 2007. Vast areas in Khulna, Barisal and Chittagong divisions were battered by the cyclone Sidr with a wind speed reaching at 220 to 240 km/hour accompanied by rainfall and tidal surge. Sidr caused huge damage to properties including loss of over ten thousand of human lives, livestock and fisheries, village homes and other structures (bridge, culvert, educational institutions, village markets etc.). Thousands of trees were uprooted, standing rabi and amon crops over lacs of acres of land had been destroyed and a large number of trees along the both sides of roads and highways had been uprooted and caused disruption of road communications. Many national roads and highways remained snapped for few days. The pontoons and ferry boats at ferry terminals in Barisal- Kuakata and Barisal- Pirojpur routes had either been damaged or displaced due to strong wind and tidal waves.

Sidr killed thousands of people throughout the country including the worst affected coastal districts: Barguna, Bagerhat, Patuakhali,

Pirojpur and Jhalkathi and badly affected districts: Bhola, Barisal, Satkhira, Madaripur, Gopalganj, Shariatpur, Faridpur, Chandpur, Dhaka, Narayanganj, Narshingdi Laxmipur and Moulvibazar were also ravaged by the devastation of

Sidr. However, due to early warning and preparedness at community level, the human deaths were comparatively less in 2007.

### Cyclone Preparedness

The government of Bangladesh along with development partners and NGOs had undertaken comprehensive disaster preparedness programme



The cyclone affected people in coastal district are trying to rebuild their houses after Sidr. Source: BCAS

during Sidr 2007 which caused less damage to human lives and household resources and assets compared to cyclone of 1991. According to disaster management report, about 200000 people were evacuated and sheltered to about 600 government and private shelters in Cox's Bazar and asked

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## Unavoidable Climate Change Impacts ....

enormous, forceful and devastating cyclone Sidr that hit the coast of Bangladesh in November 2007, had not only killed over 10,000 people but also devastated the lives and livelihoods of over 30 million people. The recent devastating cyclone Nargis generated in the Bay of Bengal had spared Bangladesh coast but had severely hit Myanmar coast on 4 May 2008 killing more than one hundred thousands of people and injured millions. These have strong link with warmer weather and climate change.

### Climate change is a reality now

Climate change is already a reality now and is happening faster than the scientists predicted. The recent IPCC report predicts that the melting of polar ice and mountain glaciers may result in higher sea level rise. During the last decades, the uncertainty in the science of climate change has reduced progressively. The assertion and the global acknowledgement of the Fourth Assessment Report of the Intergovernmental Panel of Climate Change (IPCC) have empowered many of the policy makers to take climate change seriously and look for action.

Recently, the WHO has reported that

150,000 people die every year as a direct result of climate change and related events. Those who survive climate shocks are often driven deeper into poverty because of the impacts on their livelihoods, health and security. The challenge to end poverty is bigger than ever in the contexts of climate change as many of the achievements to reduce poverty will be undermined by the impacts of climate change.

The negative impacts of climate change are felt unevenly across the local and regional levels. The climate variability and extremes are affecting physical assets, natural resources bases, water, ecosystems, food, fibers, forest resources, agricultural productivity, food security and human health in developing countries. The developing countries in Asia, Africa, and Latin America as well as the small islands would be worst affected by climate impacts and climatic extreme events. The IPCC fourth assessment report suggests that the countries in temperate and tropical Asia are likely to have increased exposure to extreme events, including forest dying and increased fire risk, typhoons and tropical storms, cyclones, floods and landslides, and severe vector-borne diseases. The

stresses of climate change are likely to disrupt the ecology of mountain and highland systems in Asia. Glacial melt is also expected to increase under changed climate conditions. Sea level rise would cause large scale inundation along the vast Asian coastline and recession of flat sandy beaches. The ecological stability of mangroves and coral reefs around Asia would be put at risk.

### Climatic extreme, sea level rise and human displacement

The frequency, intensity and impacts of climatic and natural disasters have increased in the recent years. Climatic events such as flood, drought and cyclones first hit the poorest since they live in the fringe areas. Death casualty is high among the poor due to natural and climatic disasters. Women, children and elderly people are badly affected by climate extremes. The conventional disaster risk reduction (DRR) measures are will be undermined in the contexts of frequency and intensity of climatic disasters. The cost of DRR has increased globally. The poor countries need further resources and technology supports from the developed countries

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economic and social development, defective political system and institutional weakness have destructed the once rich natural resources base and ecosystems, which again puts tremendous stress on the livelihoods and well being of the vast majority poor and marginal people in rural Bangladesh.

Sustainable economic development (growth with equity and justice), social development, resources conservation and environmental protection are independent but mutually interlinked and reinforcing components of sustainable development. The natural resources and environment give the essential basis and elements for economic activities and livelihood options of the population of a society, who are often stratified in different social and wealth categories and compete for resources, wealth, well being and power. Hence, resources management and conservation should not be approached separately from social development, economic activities and poverty reduction processes of the society. Poverty reduction efforts must consider and address the poverty-environment and natural resources linkages simultaneously. The conventional development approach (dominated by elites and top-down process) very often undermined poor's capacity and potentials for their self-development and their valuable contribution to informal economy, society and resources conservation.

### Population and Natural Resources Linkages

The natural resources base and bio-resources make up the basic structures of the major ecosystems of the country and give essential living resources (such as food, water, nutrition, fodder, fuel etc.) and livelihood options (employment and income) for common people, particularly for the poor and marginal people. Good natural resources base also provides eco-systemic services and helps keep the environment sound for human habitation. However, there are manifolds inter-linkages between natural resources and the key actors and process of the society such as population, livelihood, poverty and development process. Population of a country at a period of time, has a number of quantitative (size, growth and spatial distribution) and qualitative

## Poor's Contribution to Natural Resources

characteristics including age-structure, health, education, values and practices, skills, income and consumption patterns that have both negative and positive impacts on natural resources, production systems and on environment. As the population grows, it put pressures on resources bases and there is smaller amount of per person natural resources.

### Poverty, Livelihood and Natural Resources

The inter-relationships between poverty and natural resources are very important in the development agenda. Often poverty is associated with a heavy dependence on natural resources, which causes to degrade resource base and ecosystems. But in Bangladesh, poor has limited access to the natural resources and they can take very little supports for their livelihood at present.

The rural livelihood mainly depends on land, water, wage earning and land based production systems including agriculture, horticulture, fisheries etc. The poor not only use these resources but also conserve the natural resources through their traditional knowledge and practices. In Bangladesh, the resources bases are degraded mainly by the un-coordinated planning and development of development activities and programme. A set of people mainly the rich and power elites take the most benefits by utilizing the political power and authority, bureaucracy and market mechanism.

### Many myths about poor

Poverty is often looked simplistically with only economic perspective. But it

is multi-dimensional, complex and multi faceted. It's social, cultural and power dimensions must be understood better. Poor often have weak protagonists, thus fail to enter policy domain. Involvement of the poor in the planning and decision making process is essential but very difficult. There are many myths and misconceptions about poor and poverty in Bangladesh. The following table shows few of the myths and tries to de-mystify of the myths.

We have to recognize that the poor through their self-development reduce poverty. But they need some facilitation, institutional supports, mobilization, empowerment and resources endowment. There are many instances across the world, particularly in South Asia and Africa that poor are effectively involved in income generation and enhancement of their livelihood options, once they are mobilized, organized and given opportunities to prove their creativity. NGOs and many government agencies played a key role in this process. For examples, NGOs such as BRAC, Grameen Bank and government agencies such Bangladesh Rural Development Board (BRDB) in Bangladesh have helped mobilize the poor for their self-development and poverty reduction.

### Deeper understanding about poor's capacity

A deeper understanding of the nature of poverty, poor's own capacity, role and potential in conservation and poverty alleviation is essential. This would only succeed when a set of pro-

**Table-1: Breaking the Myths of Poverty**

Many Myths of Poverty	De-mystification of Myths
1. Poor degrade the natural resource and environment	1. Poor can conserve natural resources and protect environment
2. Poor threaten sustainable development	2. Poor are essential actors of achieving Sustainable development
3. Poor have higher rates of reproduction	3. Population growth rate has decreased significantly in many poor developing countries
4. Shortage of resources causes poverty	4. Poor can live with scare resources
5. Poor don't save	5. Poor can save and they proved them credit worthy repaying their loan
6. Poor want relief and aid	6. Poor want to be self-sufficient with little external supports
7. Poor are bad managers of resources	7. Poor can manage resources efficiently if they are oriented and given some training
8. Non-literate people are incompetent	8. Poor have proved their capacity, when they are organized and get institutional supports.

poor and pro-conservation policy supported with enabling institutional arrangement and activism is initiated. There are multitude of emerging good examples and innovative practices in different regions of the world. The Sustainable Environment Management Programme (SEMP), Management of Aquatic Resources through Community Husbandry (MACH), Reducing Vulnerability to Climate Change (RVCC) and Community Based Fisheries Management (CBFM) are emerging good practices in Bangladesh. But these are often isolated and truncated and they fail to influence the mainstream policy and programmes. The poor need advocate for them. For achieving sustainable development, we must consider them as key actors and engage them in natural resources management and poverty alleviation. The poor can promote and uphold the social and ecological goals of sustainable development.

Figure-1: Objectives and Issues for Sustainable Development

Key Objectives	Issues and Concerns	Strategies for Interventions
ECOLOGICAL OBJECTIVES	Over exploitation of natural resources and ecosystems; commercial interest is prominent instead of subsistence and livelihoods	Facilitate communities to establish local institutions to develop and exercise code of conduct toward responsible management of natural resources and products
	Destruction of wildlife habitats due to conversion of wetlands and landscape, endangering the aquatic and terrestrial biodiversity	Facilitate communities to establish institutions to protect existing important habitats, and establish in-situ and ex-situ conservation sites, sanctuaries and other important habitats, nesting and breeding grounds
	Existing agriculture practices threaten population of important natural products	Facilitate communities practice low external input based sustainable agriculture & integrate biodiversity concerns
ECONOMIC OBJECTIVES	Low level of income and earning opportunities	Facilitate communities to enhance capacity and practice alternative livelihood strategies
	Limited income opportunities during wet season	Facilitate community and vulnerable group initiatives toward assessment, planning and management of livelihoods
	Absence of economic instruments, incentive structures and enabling community institutions	Facilitate communities develop and establish appropriate instruments, structures and institutions
	Absence of enabling customs, rules, regulations, and other institutions and their enforcement	Facilitate communities to enable a process that results in establishing norms, standards, other rules and regulations, etc. and appropriate organizations to enforce them
SOCIAL OBJECTIVES	Limited & declining access, control, ownership & use of natural resources by majority of vulnerable population	Facilitate consensus building and co-management of natural resources and products to ensure equitable access, control and sustainable use
	Lack of awareness, interest and cooperation among local actors and institutions	Facilitate shared learning and knowledge management and joint initiatives that support the development of cooperation among actors and institutions

Source : BCAS

### Taping the potential of the poor

There is a great possibility to realize the capacity and potentials of the poor in Bangladesh through: better understanding the linkages; sharing the authority and responsibilities (which relates largely to environmental governance); documenting and promoting good practices (like SEMP, CBFM and MACH); formation and strengthening local resources users groups in different ecosystems with poor and women; empowerment of the poor resources users; engagement of key actors in conservation and livelihood promotion of the poor; and advocacy and collective action by community with local government institutes (LGI), NGOs and researchers.

### Conclusion

The conservation of the natural resource is not a luxury. It is a necessity for the productive systems to function. The reduction of poverty is

not a benevolence that the rich of Bangladesh has to offer to the poor. Rather reduction of poverty is a necessary condition for the other components and sectors of Bangladesh society to be able to function smoothly and obtain the minimum security of life, property and institutions. Reduction of poverty means more purchasing power to the poor, which implies a larger market and greater choices and opportunities for all.

A new and integrated institutional framework is need for effective and meaningful participation of the poor in NRM and poverty alleviation. The framework for sustainable natural resources management and conservation as well as poverty reduction must consider the following issues:

- Access, control and ownership by the poor and marginal groups

- Entitlement and property right
- Conflicts resolution and consensus building
- Conservation, regeneration and productivity
- Better management, benefit sharing and livelihood promotion
- Supporting poor's participation and interests in NRM
- New institution, governance and implementation of good policies
- New approach with innovation, integration and technology support for NRs conservation and poverty reduction; and
- Building resilience of the poor through diversification of livelihoods options and linkages with different actors.

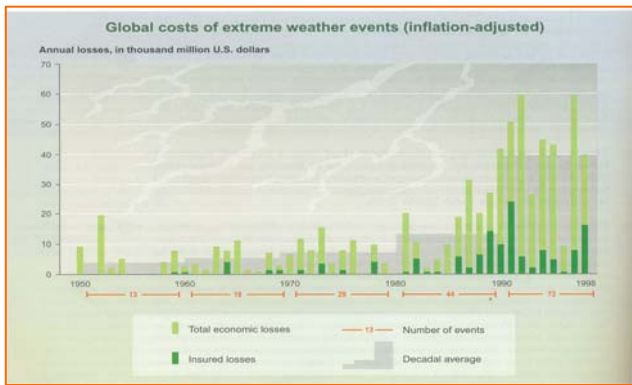
-Dr. A. Rahman and D. Mallick



## Unavoidable Climate Change Impacts ....

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in this regards. Otherwise climatic disasters will increase poverty in Asia and Africa.



The figure shows growing cost of disaster management in the recent decades  
Source: IPCC, 2001

The possible sea level rise will affect low lying and coastal countries. Millions of people would be displaced from their homes, occupations and livelihood. Many would be thrown into poverty by increasing salinity and sea level rise across the world. Bangladesh is already experiencing higher level of tidal inundation in the coastal districts. The country would be highly vulnerable to sea level rise. About 45cm sea level will affect the vast coastal ecosystems and water bodies which will hamper agricultural productivity and food security of the millions. This process will dislocate about 35 million people from 20 coastal districts by the year 2050. These may create severe problems in rural livelihood, regional and sectoral development as well as in sharing of scarce resources such as land, water, forest and fisheries. It will enhance rural to urban migration and generate social conflicts in the near future. The climate refugees and migration will spill over into the international arena. So the international communities including the UNHCR must take into consideration the huge influx of climate refugees and reformulate their strategies and action to address these problems.

### Equity, Fairness and Climate Justice

Climate change is a result of unequal development and consumption and it is enhancing inequity across the world. The impacts are also unequally distributed, where poor in developing countries are becoming the worst victims. The poor are in the forefront of climate disasters and they are hit the hardest. They suffer the most because they have least capacity to cope with and recover the loss. Climate change is also increasing inter-generational and intra-generational inequity.

According to the Declaration of the Global Forum on Environment and Poverty (GFEP), initiated by the global civil society at the UNCED in Rio in 1992, "All human beings are equal and we must have equal right to global commons including the atmosphere and the oceans". But the rich and people in developed countries are enjoying the highest amounts of global commons such as atmosphere and the oceans and at the same time polluting those through GHG emission. Considering the

the historical responsibility of the rich and developed countries, the UNFCCC has assigned the principle of "common, but differentiated responsibility" for the nations according to their respective capabilities. Unfortunately all the rich countries are not taking their greater responsibilities through mitigation and promoting adaptation for the poor. Early and rapid mitigation by the developed countries will help stop climate change, reduce impacts on poor and developing countries and reduce adaptation costs. A comprehensive and just solution of the global climate change problem requires fairness and equity in mitigation, technology generation and transfer, funding supports and adaptation measures for achieving equitable and sustainable world in post 2012 climate regime. We have to work collectively for that to save the world and civilization by establishing a fair and comprehensive regime with wider participation and greater commitment for GHG reduction beyond 2012. Simultaneously, the industrialized countries as well as the emerging economics must find ways to decarbonize the future development path.

### The Key Challenges

Mitigating climate change, eradicating poverty and promoting economic growth and political stability all demand the same solutions: we must kick the carbon habit. We must reduce GHG and carbon emission urgently and immediately to save the planet and human civilization as we know it. The good news is that technologies already exist or are under development to make the consumption of carbon-based fuel cleaner and more efficient and to harness the renewable power of sun, wind and waves. The challenge is to design a low carbon economy which

allows the poor of the world to a life dignity with securities for food, water, energy and social services.

We must stop climate change first through urgent mitigation measures now and create effective framework for post 2012 commitment with greater participation of both developed and developing countries to halt dangerous climate change. At the same time, we have to also explore how to live in a warmer climate which is now unavoidable; and most importantly the rich nationals have to promote low carbon economy and modify the life style of rich who do the most harm through luxuries and over consumption. A deeper cut of carbon emission will have an initial economic cost, but will give greater development benefit in the long run. This will need change in broader macro-economy and development models through technology generation and transfer, energy efficiency, competitiveness, equity and corporate responsibilities. Promoting adaptation for dealing with unavoidable impacts of climate change is very crucial to reduce risk and vulnerability particularly for the poor and developing countries. Further, strong and early actions on climate mitigation by the rich countries will outweigh costs and give enormous development benefit in the long run.

In is the future world, climate change justice must play a central role. There are enough indications that a huge number of climate refugees would need to find their new locations for settlement and livelihood in an increasingly globalized world. If the global policy actors of today do not focus their attention to these forthcoming issues, the global power will face conflicts and the large human displacement will be difficult to manage. However, attempts must be made so that such displacements are managed in away in where the displaced communities can add value to the communities in which they are going to settle in. The future world of the industrialized countries will need new work force to meet the challenges of depopulation of their societies. The new and emerging climate refugees may fill that void. But this needs long term and forward looking global planning. Narrow parochial national interests must give way to the larger interest of the global security.

The question of equity and fairness in a globalized world will remain central to the issue of allocation of the rights to global commons. A fairer world is a more sustainable world. A fairer and more equitable world will be a more secured world too.

- Dr. DL Mallick

## Floods in 2007: Global warming .....



Flood water engulfed the vast locality including village road and market place in Gopalganj district.  
Source : BCAS

(Jamuna, Padma and Meghna). Flood in late Monsoon also affected the Teesta river basin very badly. In fact, the

second time flood of last year was very bad for agriculture, food security and health of the common people besides destruction of infrastructures, trees and plants and living houses of the millions. Nilphamari, Lalmonirhat, Kurigram, Rangpur, Borga, Sirajganj, Jamalpur, Tangail, Mankiganj, Faridpur, Madaripur and Gopalganj were worst affected districts according to the report of news papers. Sylhet, Sunamganj and Maolavibazzaer districts were also severely affected by flood water in 2007. The lower riparian districts like

Faridpur, Manikganj, Munshiganj and Madaripur experienced river bank erosion and thousands of people were made landless and homeless. Many of them were forced to move to the embankments, highways, temporary shelters and finally to the nearby cities for living and livelihoods.

The government departments including the armed forces, NGOs and various social organizations undertook limited rescue, relief and rehabilitation activities for the affected people. But those were extremely inadequate compared to the enormous needs of the flood victims. The government and the concerned organizations and people must take both structural and non-structural measures and preparedness for recurring floods in Bangladesh. We must also seek effective regional cooperation with India and Nepal to tackle flood and address the impacts at local and community levels. ❀

## Super Cyclone Sidr: A Dreadful ....

others to move on their own and about 400000 more people were also evacuated from other coastal areas. Chittagong and Mongla ports suspended their operations and moved ships to safer areas. Chittagong airport suspended flights and moved planes away. All schools and colleges had been shut down in the coastal areas and fishing trawlers had been asked to return to port immediately. The meteorology department raised highest danger signal number 10 at Mongla and number 9 at Chittagong and Cox's Bazar. On the other hand, about 700 volunteers were engaged in 11 coastal districts to rescue and evacuate the people from sidr devastations. Imams of the local mosques were announcing the danger message from their mikes drawing attention of the local people to move themselves to safe places.

### Loss of Agriculture and Food Insecurity

More than 1.6 million acres of cropland was reportedly damaged. The main crop damaged was under cultivation during amon season. Unlike many other regions in Bangladesh, the area affected had a single harvest during the months of November to January. A quarter of ready-to-harvest crops had been destroyed. Many households lost their food stocks as a result of severe damage to housing. Large numbers of cattle, buffalos, goats and poultry had been

killed. The Government of Bangladesh estimates that nearly 3,82,000 livestock animals were killed. Livestock losses represent not only a loss of critical household assets, with an associated loss to wealth and income, but also a loss in milk production for own consumption of the effected families. Fish production from household ponds and shrimp fisheries also declined as many ponds and shrimp cultivation areas were badly damaged and littered with storm wreckage and debris, which caused huge losses of regional economy and livelihood.

### Housing Damage

The total number of household damaged was nearly 1.2 million according to GoB sources. Approximately 30% of these were reported as fully damaged, and the remaining 70% were partially damaged. In many upazilas, more than half of thatched-roof homes, primarily inhabited by the poor, were completely destroyed. More than 8,000 educational institutions were totally or partially damaged.

### Water and Sanitation

Damage to water sources, sanitation facilities and infrastructure was significant. For some of the worst affected areas, the percentage of slab latrines damaged or destroyed as high as 70%. The affected population were

than vulnerable to outbreaks of diarrhoea and other hygiene-related diseases. Drinking water sources in many communities had been contaminated by saline water and debris. People suffered the most from want of save drinking water immediately after the cyclone. Power outages have affected water supplies in areas with piped water.

### Loss of Livelihoods

Income generation of the poor and marginal groups had been severely affected. The fisheries and agricultural sectors were worst-affected. Destruction of fisheries and crops seriously affected income generation. Secondary sectors, including van and rickshaw pullers, market traders and day labourers were also badly affected. The forestry sector (Community, government and private) had suffered major losses, primarily because of the large number of trees uprooted.

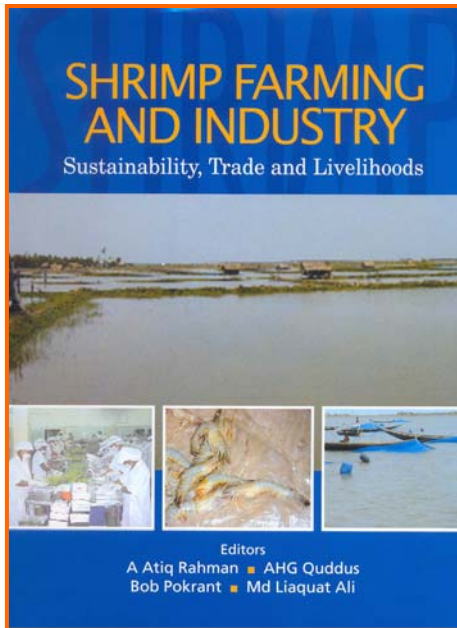
It is predicted that Bangladesh may face frequent cyclone in future due to its location on the top of the Bay of Bengal. The climate change and associated sea temperature rise may increase the number and intensity of cyclone in the Bay of Bengal. So the country has to take greater preparedness to address the impacts. ❀

Source: DMIC (partially)

- G. Jilani



# Publications



## **SHRIMP FARMING AND INDUSTRY: Sustainability, Trade and Livelihoods**

**Author/Editor:** A. Atiq Rahman, AHG Quddus, Bob Pokrant and Md. Liaquat Ali

**Published by:** BCAS and The University Press Limited (UPL) Dhaka, Bangladesh, 2006, Price Tk. 2000.00

The book “Shrimp Farming and Industry: Sustainability, Trade and Livelihoods” contains 26 chapters including one introductory chapter on global, regional and national (Bangladesh) issues of shrimp farming and industry. The Chapters were contributed by international and national scientists and experts with wide knowledge and expertise in the related fields. The chapters focus on shrimp farming technology, production trend, challenges and opportunities, sustainability, marketing and trade, diseases, quality control and socio-economic considerations of shrimp farming in local, regional and global perspectives.

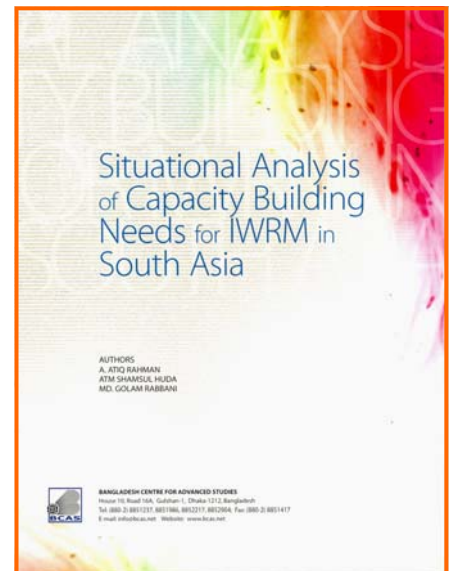
## **Situational Analysis of Capacity Building Needs for IWRM in South Asia,**

**Authors:** A. Atiq Rahman, ATM Samsul Huda and Md. Golam Rabbani.

**Published by:** Bangladesh Centre for Advanced Studies, 2007, Price Tk.500.

This document has been prepared based on the complete outputs of the study of Situational Analysis of Capacity Building Needs for IWRM in South Asia, with the financial support of United Nations Educational, Scientific and Cultural Organization (UNESCO) and CapNet (Capacity Building for Integrated Water Resources Management). The major objectives of publishing of this book is to address sustainable development and implementation of IWRM through dissemination of existing water management system, potential measures to be taken by involving local community, policy makers, implementing partners etc., for efficient management of water in South Asia including Bangladesh, India, Nepal and Sri Lanka.

This document deals with existing capacity of the water management system for implementing IWRM in South Asian countries, gaps in their capacity and possibilities towards implementation of IWRM. It also highlights on analysis of existing capacity building situation, resource elements for integration, instruments for intervention, basis for planning and prioritization and institutional base, assessment of capacity building needs for IWRM, capacity gaps and recommendation. This book will help students and professionals working in water and relevant sectors.



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