Regional Symposium on Coastal Community Resilience

Book of Abstract

30-31 March 2014
Ruposhi Bangla Hotel, Dhaka

Programme of the
Regional Symposium on Coastal Community Resilience

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This Symposium is being organized by the MFF National Coordinating Body (NCB) of Bangladesh and the MFF Secretariat with the goal of promoting cross-learning among Bangladesh, Viet Nam and Indonesia on the topic of how they are applying ecosystem-based approaches to building coastal community resilience. The Symposium will also benefit from the expert input and support of Ecosystems for Life, an IUCN project focusing on regional transboundary water management.

Mangroves for the Future

Mangroves for the Future (MFF) is a unique partner-led initiative to promote investment in the conservation of coastal ecosystems for sustainable development. Co-chaired by IUCN and UNDP, MFF provides a collaborative platform among the many different agencies, sectors and countries which are addressing challenges to coastal ecosystem and livelihood issues with the goal of promoting an integrated ocean-wide approach to coastal management.

MFF builds on a history of coastal management interventions before and after the 2004 Indian Ocean tsunami, especially the call to continue the momentum and partnerships generated by the immediate post-tsunami response. It initially focused on countries worst affected by the tsunami -- India, Indonesia, Maldives, Seychelles, Sri Lanka, and Thailand -- and more recently has expanded to include Bangladesh, Cambodia, Pakistan and Viet Nam.

MFF has mangroves as its flagship ecosystem, but is inclusive of all coastal ecosystems including coral reefs, estuaries, lagoons, sandy beaches, sea grasses and wetlands.

The initiative seeks to achieve demonstrable results in influencing regional cooperation, national programme support, private sector engagement and community action. This is being realized through initiatives designed to generate and share knowledge more effectively, empower institutions and enhance governance of coastal ecosystems.

As MFF moves into its third phase, it is consolidating the experience and lessons learned over the past seven years to develop an approach moving forward which will focus on the development of resilience in coastal communities.

MFF is currently piloting this approach in Bangladesh, Indonesia and Viet Nam with a focus on building resilience of coastal communities by promoting ecosystem-based approaches and by showcasing the climate change adaptation and mitigation benefits that can be achieved with healthy mangrove forests and other types of coastal vegetation. MFF is also working to improve governance and management of coastal resources by promoting models of co-management, Payment for Ecosystem Services (PES) and similar resource-sharing mechanisms that will benefit traditional coastal communities in the three countries.

Ecosystems for Life

Ecosystems for Life: A Bangladesh-India Initiative project is a multi-stakeholder research and dialogue process led by IUCN which seeks to promote a better understanding of trans-boundary ecosystems between Bangladesh and India by providing a platform to discuss issues common to the region. The overall goal is to enhance integrated management of trans-boundary water regimes to achieve improvements in water, food, and livelihood security in South Asia. Ecosystems for Life joins NCB Bangladesh and the MFF Secretariat in organizing the Symposium and will contribute its experience of cross-country learning on common resource management.

Symposium Theme: Coastal Community Resilience

Over the past decade, resilience theory has evolved as a way to characterize the ability of social and ecological systems to prepare for change and to recover and renew themselves in the face of partially known or potentially surprising changes.

In the MFF context, coastal community resilience is a priority as many coastal communities are particularly vulnerable both to ongoing natural disasters, and to climate change. Improved resilience can help human communities adapt quicker and better to change. But ultimately this ability to change and adapt will be dependent on whether natural ecosystems are healthy and themselves resilient. The combined resilience of both natural and human communities will result in true sustainability.

Coastal communities in many parts of Asia are particularly vulnerable to the impacts of climate change, with increased severity of extreme weather events directly affecting their lives and the resources they rely on for everyday survival. Healthy coastal ecosystems, including healthy mangrove forests, will play a major part in helping coastal communities to adapt to climate change. Taking an ecosystem-based approach which includes healthy mangroves and other coastal ecosystems can make a major contribution to coastal community resilience. This is often considered as a triple-win solution to sustainable development of ecosystem-dependent coastal communities. Mangroves support biodiversity conservation and enable improvements in livelihoods and human well-being, while also providing cost-effective risk reduction against such threats as coastal erosion, storm surges and tsunamis. They also provide opportunities for climate change adaptation and mitigation.

The effectiveness of coastal governance and management mechanisms is a major factor in whether approaches like this will succeed. One problem is that mangrove conservation appears to have high opportunity costs associated with it because other uses of mangrove areas (notably aquaculture) are often more profitable in the short term and the externalities are often overlooked. Local communities, who are often the most affected by natural resource decision making, may not have a voice and lack of coordination among sectors also gives rise to conflicts in resource management.

Investing in mangrove rehabilitation has now reached the level of national policy interest, however, and there are a number of potential new approaches which may help, including opportunities to introduce co-management, Payment for Ecosystem Services (PES) and similar benefit-sharing schemes as tangible incentives for those who protect mangroves.

The potential of mangroves to mitigate climate change impacts through their high carbon storage capacity, and by contributing to reducing emissions from deforestation and degradation (REDD), are also being investigated by MFF and its core UN partners (FAO, UNDP and UNEP). Mangroves are now included within the forest types eligible for REDD funding. Despite the fact that there are still uncertainties regarding future funding for REDD, it deserves national awareness and capacity building to secure benefits from REDD processes.

The symposium aims to draw knowledge from other MFF countries in South and Southeast Asia and to share lessons and practical solutions for tackling complex coastal issues. It will provide a platform for multi-stakeholder and multi-country dialogue on the following topics.

Session 1: Ecosystem-based approaches to building coastal community resilience

The first session will focus on the vulnerability of coastal communities, in addition to the various policy and practical options available to help them adapt to changing conditions. A Bangladesh-specific case will be presented to set the scene for identifying principles for up-scaling ecosystem-based adaptation options. A second presentation will highlight how Community-Based Adaptation (CBA) has become a global movement, and will also provide an overview on policy challenges that developing countries face in mainstreaming CBA. The presentations will be followed by an open discussion guided by the Session Chair to develop a set of recommendations that MFF can incorporate into its future operations.

Session 2: : REDD+ and the way forward

The session will include a facilitated panel discussion on the latest developments in REDD+ and its potential for mangrove conservation. The session will focus mainly on national awareness and capacity-building opportunities to secure benefits from the REDD process.

Session 3: Coastal resource governance

The session will focus on ways to support better coastal resource governance at the local level. There will be an exchange of experiences around co-management systems under different governance regimes, and on how innovative policy instruments, like economic valuation and Payment for Ecosystem Services (PES), can further support better governance and conservation.

Session 4: Delta dynamics and adaptive management

Coastlines and coastal ecosystems such as mangroves are naturally dynamic and change over time. Compared to conventional coastal engineering, nature-based solutions including the protection and restoration of mangrove forests, provide an alternative, and potentially more effective way, to build resilience though adaptive management. This session will highlight the options available for adaptive management which can enable communities to cope with change.

Session 5: Symposium Summary

At the end of the symposium, chairs from each session will present major outcomes from their respective sessions. Dr. Don Macintosh will moderate the discussion to develop a set of recommendations that MFF can potentially incorporate into future operations.

For more information, please contact:

Mr Raquibul Amin, Project Manager, Mangroves for the Future Regional Secretariat
Email: raquibul.AMIN@iucn.org
Dr Anwara Begum, National Coordinator for Bangladesh, Mangroves for the Future
Email: anwara.BEGUM@iucn.org

Programme

Agenda		Presenter
March 30, Sunday		
1000	Registration	
1030	**Guests take seat** Brief Introduction to the workshop and international participants	MFF Secretariat
Inauguration		
1100	Welcome	**Md. Yunus Ali**, Chief Conservator of Forests, Bangladesh Forest Department and Member Secretary of National Coordinating Body of MFF Bangladesh
1110	MFF and coastal community resilience	**Dr. Steen Christensen**, MFF Coordinator
1125	Inaugural remarks	**Mr Anwar Hossain Manju** MP, Minister, Ministry of Environment and Forests, Govt. of the People's Republic of Bangladesh
1140	Address by Chair	**Mr. Md. Shafiqur Rahman Patwari**, Secretary, Ministry of Environment and Forests and Chair of National Coordinating Body of MFF Bangladesh
1155	Vote of Thanks	**Mr. Ishtiaq Uddin Ahmad**, Country Representative, IUCN Bangladesh
1200	Break	
Session 1: Ecosystem-based approaches to coastal community resilience Chair: **Dr. Asaduzzaman**, Former Research Director, BIDS		
1230	Introduction by Session Chair	
1240	Framing ecosystem-based adaptation to climate change: applicability in the coastal zone of bangladesh	**Mr. M. Mokhlesur Rahman**, Executive Director, Center for Natural Resource Studies (CNRS)
1300	Break	
1400	Community Based Adaptation (CBA): policy and institutional needs	**Dr. Atiq Rahman**, Executive Director, Bangladesh Centre for Advanced Studies (BCAS)
1420	Open discussion and summary of session 1	Chair
Session 2: REDD+ and way forward Chair: **Dr. David Ganz**, Chief of Party, USAID LEAF		
1500	Introduction by Chair	
1510	REDD+ experience in Viet Nam: tempered optimism	**Mr. Angus McEwin,** Monsoon Carbon
1535	REDD+ in Indonesia's mangrove: an avoiding business-as-usual mechanism	**Mr. Yus Rusila Noor**, Programme Manager, Wetlands International Indonesia
1600	Break	
1620	REDD+: Way forward for Bangladesh	**Mr. Alamgir Hossain**, Programme Analyst (Environment), UNDP Bangladesh
1640	Open discussion and summary of session 2	Chair
1730	Closure	

Agenda		Presenter
March 31, Monday		
Session 3: Coastal resource governance Chair: **Dr. Donald Macintosh**		
0900	Introduction by Session Chair	
0910	Co-management in Bangladesh: some reflections	**Dr. Niaz Ahmed Khan**, Chairman, Department of Development Studies, University of Dhaka
	Towards co-management in the Vietnamese context	**Dr. Andrew Wyatt**, Mekong Delta Programme Manager, IUCN Viet Nam
1000	How effective is economic valuation as a policy Instrument to change management decision?	**Dr. A.K. Enamul Haque**, Professor of Economics, United International University (UIU), Bangladesh
1030	Organic shrimp certification: a new approach to PES	**Mr. Jake Brunner**, Programme Coordinator, IUCN Vietnam, Cambodia and Myanmar
1100	Break	
1130	Mangrove and shrimp integared: A coastal livelihood and mangrove resillience model in the coastal of Viet Nam	**Dr. Nguyen Thi Bich Thuy**, Project Manager, Mangroves and Markets project
1200	Open discussion and summary of session 3	Chair
1300	Break	
Session 4: Delta dynamics and adaptive management Chair: **Professor Mohammad Monowar Hossain** PhD, Executive Director, Institute of Water Modeling		
1400	Introduction by Chair	
1410	Changing coast, embankments and tidal basin management	**Dr. Rezaur Rahman**, Professor, Institute of Water and Flood Management, Bangladesh University of Engineering and Technology
1440	Adaptation in a Dynamic Delta: Options for Indian Sundarban	**Prof. Dr. Sugata Hazra,** Director, School of Oceanographic Studies, Jadavpur University, Kolkata
1510	Transboundary cooperation for better coastal management: some lessons from ecosystems for life	**Dr. Brian Furze**, Project Director, Ecosystems for Life: A Bangladesh-India Initiative, IUCN
1530	Open discussion and summary of session 4	Chair
1600	Break	
Session 5: Symposium Summary Moderator: **Dr. Donald Macintosh**		
1640	Facilitated discussion on outcome mapping from each session of the symposium	All Session Chairs
1730	Symposium Closure and vote of thanks	**Mr. Raquibul Amin**, Project Manager, Mangroves for the Future Regional Secretariat

SESSION 1:
Ecosystem-based Approaches to Coastal Community Resilience

Chair: **Dr. Asaduzzaman**, Former Research Director, BIDS

FRAMING ECOSYSTEM-BASED ADAPTATION TO CLIMATE CHANGE: Applicability In The Coastal Zone Of Bangladesh

M. Mokhlesur Rahman

COMMUNITY BASED ADAPTATION (CBA): Policy and Institutional Needs

Dr. Atiq Rahman

FRAMING ECOSYSTEM-BASED ADAPTATION TO CLIMATE CHANGE: Applicability In The Coastal Zone Of Bangladesh

M. Mokhlesur Rahman
Executive Director
Centre for Natural Resource Studies (CNRS)

Abstract

Recent increase in exposure to natural hazards by the communities of Bangladesh happened to be linked with the new generation of threats posed due to anthropogenic climate variability and change. With a huge population and a rural based least developed country, adaptation is the priority option for Bangladesh to moderate the adverse impacts of climate change. One of the key reasons for higher exposure to climate induced threats is due to the higher reliance of its people on climate sensitive natural resources. Natural ecosystems (such as wetlands, coastal zone, forests, etc.) are highly sensitive to changes in climatic factors and get affected negatively with resultant reduced ability to deliver ecosystem services to support biodiversity and livelihoods. Although adaptation does not mean to be a completely new approach of development, it however faces various challenges in building resilience against climate induced threats. This document emphasizes adoption of ecosystems based adaptation (EbA) to climate change, meaning restoration, enhancement, conservation and wise use of natural resources (ecosystems) with active engagement of local communities so as to enable the ecosystems to function properly to deliver services for the benefits of nature and local livelihoods which in turn build societal resilience to the impacts of climate change. This paper describes six different types of EbA schemes that are currently in practice in the coastal zone of Bangladesh and an analysis is made in line of ecosystem services derived from such ecosystems based interventions including relevant policy and institutional aspects. Finally, the paper suggests approaches for effective planning, designing and implementing EbA schemes in the coastal zone of Bangladesh aiming at building social-ecological resilience in the face shocks and uncertainties associated with climate variability and change.

Mr. MokhlesurRahman is an environmentalist and community based natural resource management specialist who began his career in aquaculture while working for DANIDA, Caritas and FAO during 1983-1991 followed by work as a wetland ecologist/ fisheries biologist with the Bangladesh Flood Action Plan in 1991-1994 and in community-based natural resources management (wetlands, forests and coastal zone) with various donor supported projects since 1994. His recent work has been on disaster management and climate change adaptation planning and management with DFID, UNDP, JICA, SDC, Oxfam, IUCN and USAID.

COMMUNITY BASED ADAPTATION (CBA): Policy and Institutional Needs

Dr. Atiq Rahman
Executive Director
Bangladesh Centre for Advanced studies (BCAS)

There is an increasing interest from IPCC Authors, climate scientists and development practitioners in the CBA and its institutional processes. In terms of activities there are enormous spontaneous CBA measures being undertaken by the community. Even though many governments are supporting local level adaptation activities, there is little progress in the policy domain for CBA.

The policy frame for CBA in Bangladesh is emerging as a part of the National Adaptation Plan of Action (NAPA), Bangladesh Climate Change strategy and Action Plan (BCCSAP) and forthcoming National Adaptation Plan (NAP). Key elements of such a policy are that communities are initiating immediate and urgent solutions available within their own experiences and knowledge system with extremely limited resources. They need the guidance of the local government, NGOs, community leaders and environment-development practitioners to make most effective strategies for survival as well as reducing potential and future risks from climate variability and climate change. All these efforts and learning from them must be incorporated in the local level planning and subsequently in the national plans. Understanding of present and future climate events, their impacts in specific ecosystems and human systems need to be integrated, analyzed and response strategies developed. CBA must be mainstreamed into development planning.

There is a strong case for developing Local Adaptation Programme of action (LAPA) in vulnerable areas with highest participation of the communities. The local government will have a central role with support from NGOs and practitioners. Hence, strengthening local government will assist CBA significantly. The local government will need to be given specific and appropriate mandate to incorporate CBA into existing modalities and practices of local government structure. There should be allocation of responsibility and dedicated manpower and a network of support organization such as NGOs and community groups who would share their experiences and be partners in solutions oriented activities of climate risk reduction and adaptation. A LAPA developed by the communities will have to be supported for several years to be integrated in to local government process.

For CBA policies and programmes to function well a monitoring and evaluation framework for CBA is needed. ARCAB (2012) has initiated such a framework. The key elements include the development of appropriate indicators on (a) adaptive capacity (b) capacity building and mainstreaming of climate risk management in to local institution (c) understanding and assimilating evidence that people are adapting and also (d) behavior change.

The financing of CBA must be prioritized for any adaptation fund coming to the country to support the vulnerable poor communities adequately. Gradual and systematic institutional capacity building, training and experience sharing will introduce enabling conditions for institutionalization of CBA.

Dr Atiq Rahman, Executive Director of Bangladesh Centre for Advanced Studies (BCAS), is a leading climate scientist and visionary thinker on sustainable development from South Asia. He is widely known for his research and publications on climate justice, food security and human security. He got the highest UN award on Environment "The **Champion of the Earth 2008**" from the UNEP for the Asia Pacific Region. He also received the highest Environment Award of the Government of Bangladesh called - '**Paribesh Padak 2008**'. He was a lead author of the IPCC Fourth Assessment Report, which received **Nobel Peace Prize** in 2007.

SESSION 2:
REDD+ and Way Forward

Chair: **Dr. David Ganz**, Chief of Party, USAID LEAF

REDD+ EXPERIENCE IN VIETNAM:
Tempered Optimism

Angus McEwin

REDD+ IN INDONESIA'S MANGROVE:
an avoiding business-as-usual mechanism

Yus Rusila Noor

REDD+: Way Forward for Bangladesh

Alamgir Hossain

REDD+ EXPERIENCE IN VIETNAM:
Tempered Optimism

Angus McEwin
Monsoon Carbon

Abstract

Vietnam is ahead of many countries in the implementation of REDD+. Vietnam was one of the original UN-REDD "pilot" countries. Phase 1 of the Programme was focussed on REDD readiness including awareness raising and capacity building and was completed in October 2012. The UN-REDD Vietnam Phase II Programme, "Operationalizing REDD+ in Vietnam", was initiated in November 2012 with funding from Norway. The objective of Phase II is to enhance Vietnam's ability to benefit from future results-based payments for REDD+ and undertake transformational changes in the forestry sector.

The Government of Vietnam (GoV) has launched a range of initiatives and reforms in the forestry sector with the aim of increasing forest coverage and improving forest management. In June 2012, the GoV approved the National Action Programme on "Reducing Emissions from Deforestation and Forest Degradation, Sustainable Management of Forests, Conservation of Forests and Enhancement of Forest Carbon Stocks" in the period 2011-2020. The goal of this REDD+ Programme is to contribute to the successful implementation of the National Climate Change Strategy and the poverty reduction goals towards sustainable development. Main activities planned include:

- Development of Forest Reference Emission Levels (RELs) for application in forestry;
- Research to design an appropriate benefit distribution system (BDS) for REDD+;
- Development of a Measurement/Monitoring, Reporting and Verification (MRV) system; and
- Establishment of a national forest inventory and assessment process.

Along the way, Vietnam has learned many lessons about REDD+ and the challenges of implementing REDD+ at both the project and national level. The great optimism and expectations for REDD+ harboured by many different stakeholder groups several years ago has now been tempered and replaced with a better understanding of the limitations and implementation difficulties of REDD+. Difficulties and challenges include:

- Legal foundation – land rights, rights to carbon, protection of traditional forest users
- Reliance on existing institutions – capacity and effectiveness important
- Lack of consistent reliable data, on the ground as well as remote sensing data
- Inconsistent deforestation trends and REL
- Deforestation/ degradation drivers that are difficult to effectively addressed
- Need for appropriate benefit sharing mechanisms
- Economics – low credit prices, high transaction costs, donor funding

On its own, REDD+ does not offer a solution to deforestation and/or degradation of forests. Nevertheless, REDD+ still offers an exciting opportunity for developing countries where there is potential to reduce deforestation and degradation of forests, or enhance carbon stocks and improve forest management. In particular, there are significant opportunities for funding for the forestry sector from Official Development Assistance. Experience, lessons learned and examples from Vietnam may interest stakeholders of the forest sector in Bangladesh, particularly policy makers.

Angus is a senior consultant with over twelve years' experience working in environmental and economic analysis. He has an Honours Degree in Agricultural and Natural Resource Economics and a Masters of Environmental Science from Australian universities. For the last ten years, Angus has been living and working in South East Asia and during the last five years, Angus has focused on climate change, primarily carbon projects and programmes in South East Asia. In 2011, Angus established Monsoon Carbon, a small consulting firm focussed on climate change projects in Asia. Prior to establishing Monsoon Carbon, Angus was a senior consultant for Environmental Resources Management (ERM) in Vietnam and Indonesia. While working for ERM, Angus managed numerous environmental and socio-economic consulting projects for a range of mainly private sector clients. While working with ERM, Angus furthered his interest in environmental economics and market-based mechanisms and began to work on CDM projects. Most recently, Angus has worked on forest carbon and REDD+ projects, particularly related to mangroves.

REDD+ IN INDONESIA'S MANGROVE: an avoiding business-as-usual mechanism

Yus Rusila Noor
Programme Manager
Wetlands International Indonesia
yus.noor@gmail.com

The Indonesian commitment on reducing CO2 emission was pledged by President of Republic of Indonesia, through the voluntarily commitment to reduce 26% of CO2 emission against a business as usual scenario in 2020. The figure will be raised into 41% with the availability of international support. This commitment was warmly welcomed by Norway, who signed a Letter of Intent with the Government of Indonesia to establish a climate change partnership. Under this LoI, the partnership organized in three phases: 1) Preparation phase, as the main preparatory steps for the implementation of Indonesia's REDD+ strategy, 2) Transformation Phase, focused on national level capability building, policy development and implementation as well as legal reform and law enforcement, and one or more full scale province level REDD+ pilots; and 3) Contribution-for-Verified Emission Reduction phase, where a national contribution-for-verified emission reduction mechanism will be implemented. Subject to the establishment of a financial mechanism as well as adequate deliverables, Norway has the intention to contribute funds to Indonesia's REDD+ efforts in the order of magnitude of one billion USD.

The LOI, in combination with Indonesia's own strategy for sustainable development, has been a milestone for the implementation of REDD+ in Indonesia, including follow-up actions of agreed items on the LoI:

- Establishing National REDD+ Agency. The first REDD+ Task Force established in May 2010, following the sign of LoI. A new REDD+ Task Force formed in September 2011. Finally, the REDD+ Agency has been established in September 2013 through a presidential decree. The new REDD+ agency will report directly to the President.
- Moratorium of forest and peatland concessions. A moratorium on permits for new concessions in primary rainforests and peatlands signed by President of the Republic of Indonesia, 20 May 2011. A presidential instruction released on May 2013 to extend the moratorium for further two years.
- Designing an independent MRV institution. Indonesia is still working on strengthening its legal framework for policies and legislation on REDD+, including operationalization of MRV.
- Establishing a temporary financing mechanism. A Fund for REDD+ Indonesia (FREDDI) has been established in 2013 through a Presidential Regulation.
- Developing a National REDD+ strategy. Completed on September 2012 with it's 5 pillars: 1) institutionalization and processes; 2) legal framework and regulation; 3) strategic program on sustainable landscape management, utilization system of sustainable natural resources including its conservation and rehabilitation; 4) paradigm shift and work culture, and 5) stakeholders' engagement.
- Selection of the first pilot province. Central Kalimantan Province was selected as the first pilot province, which offers potentially-significant emission gains from peat protection, while also encapsulating many of the issues most relevant to the REDD+ process in Indonesia.

At mangrove ecosystem, REDD+ mechanism has a potential to reduce or halt deforestation and degradation of mangrove forest through various intervention, such as land use improvement, land tenure assurance, and law enforcement. A potential higher carbon gain will be obtained through the combination of REDD+ and ARR (Afforestation, Re-forestation and Re-vegetation) initiative, which will also improving supports for biodiversity, maintain ecosystem services and providing sustainable livelihood for local communities.

Yus is a wetland Ecologist specializing on waterbirds ecology and wetlands management. He has been working for Wetlands International Indonesia since 1987, with a 4-years leave to work with the Netherlands Institute for Sea Research (NIOZ) in Texel – the Netherlands, 1997 – 2001, on waterbirds and climate change topic. Yus spent his first 10-years professional assignment on field biodiversity and wetlands management research, mostly in mangrove areas, including assessment for the gazettal of new mangrove-dominated National Parks in Indonesia. Since 2000 he has broadened his interest to cover community development, poverty alleviation, climate change and wetlands resilience issues. He has led and participated on various project and international meetings, including member of Indonesia Delegates to UNFCCC CoPs, Project Manager of Climate Change, Forest and Peatlands in Indonesia (CCFPI); Wetlands Poverty Reduction Project (WPRP), Central Kalimantan Peatlands Project (CKPP). Yus has published various publications on wetland topics, including the Field Guide of Indonesia Mangrove and Shorebird Studies Manual. He is currently member of National Mangrove Task Force, National Coordinating Body of MFF, National Secretariat for Migratory Birds and Board of Indonesia Ornhitologist's Union. His works on migratory waterbirds, climate change and community development has taken him to assignments in Asia, Australasia, Western Europe, Southern America and East Africa.

REDD+: Way Forward for Bangladesh

Alamgir Hossain
Programme Analyst (Environment)
UNDP Bangladesh

Abstract

The baseline conditions to seize opportunities of REDD+ in Bangladesh is very much conducive. Bangladesh has pioneered in social forestry, participatory forest management through co-management, establishment of coastal green belt and made necessary policy reforms to change the forest management regime towards a "participatory conservation" approach from "revenue generation" approach. With its limited resources and despite our multi-dimensional challenges; these steps enabled us to showcase our country's intent to participate in protection of "global common resources".

GoB has taken major steps in moving the REDD+ agenda in Bangladesh since joined the UN-REDD programme in August 2010. Bangladesh have established required institutional arrangements to facilitate REDD+ preparedness in Bangladesh. The REDD+ Readiness Roadmap approved in December 2012 was a major milestone in this regard and outlines specific interventions for next couple of years which focuses on Phase 1 activities of UN-REDD. Bangladesh is now prepared to move forward in a coordinated and planned fashion through the three phases of REDD+ defined under the "Cancun Text" (UNFCCC Decision CP.16/1; paragraph 73). This would involve implementation of the REDD+ Readiness Roadmap, constituting "Phase 1" of REDD+ under the Cancun Text (Initial REDD+ Readiness). During the 11th UN-REDD Policy Board meeting in 9-10 December 2013 held in Geneva, Switzerland; Bangladesh REDD+ Readiness Preparation Proposal (R-PP) was approved to move ahead with the first phase of REDD+ Readiness. This paper will focus on Bangladesh's REDD+ readiness status to date and way forward to access potential financing from REDD+ mechanism.

Bangladesh's REDD+ Readiness preparation is designed under 4 basic components. Under Component 1, Bangladesh will establish the management structure to manage the REDD+ Readiness process and develop the National REDD+ Strategy. The National REDD+ Steering Committee will be enhanced to involve a comprehensive range of governmental and non-governmental stakeholders, supported by three Technical Working Groups providing guidance and coordination support, and by a REDD+ Cell to provide day-to-day operational support.

Under Component 2, Bangladesh will prepare its National REDD+ Strategy and establish the implementation framework for REDD+. Component 2 also includes the design and establishment of the Social and Environmental Safeguard Policy Framework.

Under Component 3, Bangladesh will establish its national forest Reference Emission Level and/or forest Reference Level (RELs/RL), with sub-national forest RELs/RLs as potential interim measures. The emphasis of this Component will be the collection of data on historical land use trends and the analysis of relevant national circumstances, as well as the development of specific capacities to further develop and implement these activities under a full National REDD+ Strategy.

Under Component 4, Bangladesh will develop a forest and activity monitoring system. This system will cover all MRV requirements, it will also cover monitoring of compliance with safeguards and monitoring of key co-benefits generated by REDD+ strategies.

Alamgir Hossain is an environment and climate change specialist with more than 10 years' experience in the development sector. Since April 2012, he has been leading the Environment portfolio at the United Nations Development Programme (UNDP)/Bangladesh which cut across areas of climate change adaptation, mitigation, natural resource management, environmental governance, energy and biodiversity conservation. During 2010-2012, he served at United States Agency for International Development (USAID) /Bangladesh as the Environment and Climate Change Specialist and was the principal designer of environmental program in Bangladesh covering low emission development, tropical forest co-management, climate change adaptation, food security and biodiversity conservation. Alamgir helped pioneer Reducing Emission from Deforestation and Forest Degradation (REDD) in Bangladesh. He has professional training in environmental management and development from Crawford School of Economics and Australian National University. He also completed his engineering studies at Shahjalal University of Science and Technology, Sylhet and cleaner production and energy management training at Maastricht School of Management and University of Twente, the Netherlands.

SESSION 3:
Coastal Resource Governance

Chair: **Dr. Donald Macintosh**

CO-MANAGEMENT IN BANGLADESH: SOME REFLECTIONS

Niaz Ahmed Khan, PhD

TOWARDS CO-MANAGEMENT IN THE VIETNAMESE CONTEXT

Andrew Wyatt

HOW EFFECTIVE IS ECONOMIC VALUATION AS A POLICY INSTRUMENT TO CHANGE MANAGEMENT DECISION?

Dr. A.K. Enamul Haque

ORGANIC SHRIMP CERTIFICATION: A NEW APPROACH TO PES

Jake Brunner

MANGROVE AND SHRIMP INTEGARED: A Coastal Livelihood and Mangrove Resillience Model in the Coastal of Viet Nam

Dr. Nguyen Thi Bich Thuy

CO-MANAGEMENT IN BANGLADESH: SOME REFLECTIONS

Dr. Niaz Ahmed Khan
Chairman
Department of Development Studies, University of Dhaka

Abstract

The recent years have seen something of an upsurge in the interest in the concept and application of 'co-management' in natural resource management – covering both the forests and wetlands sectors - in Bangladesh. The purpose of this presentation is to provide an overview of selected dynamics and aspects of the policy and practice of co-management in the country. After a brief recapitulation of the concept and associated connotations of 'co-management', the second section probes into the historical trends in the evolution of co-management practices in Bangladesh with a special focus on the forest and wetland-fisheries sectors. The discussion then focuses on the dominant models of co-management with examples of selected co-management practices from different parts of the country. Based on the overall experience of the MFF Study together with the personal insights and observations of the author (both as a practicing natural resource manager and an academic), the last section raises some lessons, issues, and challenges relating to the practice of co-management in the field. The issues include: the need for better clarification of the relations and understanding between 'social forestry' and 'co-management'; sorting out the tenurial complications regarding both land and institutions used in co-management; unequal awareness of the concept and varying level of engagement/participation of community co-management organizations; sustaining and scaling up some of the local examples of some positive impact (reduced incidences of illicit deer meat sale etc.); politics and politicization of co-management institutions; quantification and rationalization of harvest and procurement of the products generated through the co-management projects; accountability of the co-management institutions; 'revenue' versus 'conservation' priorities; the 'carrying capacity' issue; the 'ownership' issues; and the role of 'external' support and facilitation. Co-management as a concept and practice – albeit a relatively recent development – seems to be taking roots rapidly, and manifests the signs of gradual consolidation in this country. There has been considerable progress especially in terms of the required policy and legislative reforms, community level institution building, and a degree of change in the mindset of the relevant government agencies to accommodate and nurture co-management. There is, however, hardly any room for complacence; indeed the road ahead is long and a difficult one. Sustaining and further consolidating the achievements so far still pose a formidable challenge that can only be achieved by acting together.

Niaz Ahmed Khan PhD (niaz.khan@yahoo.com) is Chair and Professor at the Department of Development Studies, University of Dhaka, and Executive Director of the Centre for Resources and Development Research, Bangladesh. His career reflects a rich blend of academic and practicing development management experiences gained in Bangladesh, Thailand and the UK. Besides serving as Bangladesh Country Representative of IUCN (2009-2011), some of his other former positions include: Senior Programme Coordinator, UNDP-Bangladesh; Forest and Natural Resource Management Specialist (RETA 5900), Asian Development Bank (ADB), South Asian Fellow, Queen Elizabeth House, Oxford; Asia Research Fellow, Asian Institute of Technology; and Manager Operations, PKSF. Professor Khan received his higher education from the University of Wales, University of Oxford, and Asian Institute of Technology, and contributed some 140 articles to refereed national and international journals.

TOWARDS CO-MANAGEMENT IN THE VIETNAMESE CONTEXT

Andrew Wyatt
Mekong Delta Program Manager
IUCN Vietnam

Abstract

In the last decade and a half since the idea of co-management was introduced into Vietnam in the fisheries and forestry sectors through both ODA and NGO initiatives, the term and its implementation has often been misunderstood and abused, and led to some confusion in the Vietnamese context. In the forestry sector, these efforts coincided with social forestry experiments to share the benefits from sustainable-use of forests through the allocation of rights and responsibilities to protect and to sustainably use state-owned forests. With the historical failure of collectivized agriculture still a social and political sore point, the cornerstone of management efforts under Vietnam's social forestry efforts turned to the household allocation of rights and responsibilities to jointly manage forests classified as special use forests. While state managers have often pointed to these initiatives as evidence that Vietnam already had a form of co-management, critics have pointed out that these initiatives were very limited forms of joint-management that lacked a strong conceptual understanding of what co-management was about. Critics argued that the general conception of co-management included the idea of shared governance where governance, in contrast to management which is about what to do, is about who decides what to do. A 2010 national review of progress in co-management concluded that there is still a limited conceptual understanding of co-management in Vietnam, a tendency to adopt a technical-output rather than a process-oriented approach, and a dominant focus on product, rather than service-based benefit-sharing mechanisms (Swan, 2011). Key unaddressed process issues include the quality of dialogue, power sharing in negotiation and decision making, and dispute resolution. Lack of attention to these issues disempowers communities in any co-management system. A recent attempt to define a national 'style' of Vietnamese co-management by examining experience in special use forests concluded that on the spectrum between state management and community management, Vietnamese approaches remained close to the state management side of the spectrum (Dung et al, 2013). The style was labelled 'administrative' co-management, where final decision-making power on management remained strongly in the hands of the provincial government.

Practical challenges have also hindered progress with implementing co-management in certain contexts. While NGO attempts to introduce co-management focused on the development of detailed processes and steps to empower communities, once their projects finished and were handed over to government partners, these processes were streamlined into more practical steps that privileged bureaucratic efficiency over messy but emancipatory process. There is an over-reliance on formal regulation over community rules. Partly this reflects ingrained top-down cultures, which sometimes stem from the misplaced concerns of inexperienced managers that community rules may displace formal regulations. The allocation of rights and responsibilities for forest protection at the individual household level has also been problematic. It limits the ability to address problems at a community and ecosystem scale. In contexts where responsibility for forest protection and benefits are allocated to households, this leads to de-facto private rights over the natural resources within the forests that is difficult to reverse. This limits benefit-sharing opportunities to the wider community, and limits community incentive and action. Intra-community conflict also arises in contexts where some households in a community are vested with household protection rights, while others without rights continue to exploit the forest. In coastal contexts a further constraint in using co-management to address natural resource management problems at an ecosystem or landscape level are sectoral divisions, for example between the in-shore fishery, aquaculture and forestry.

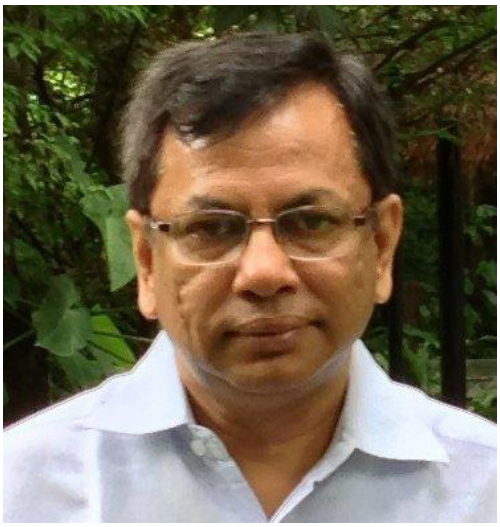
Andrew Wyatt is the Mekong Delta Program Manager for IUCN Vietnam. He is a natural resource management specialist with over 15 years experience in the Mekong region. He has worked in the field as both a researcher and practitioner. In Vietnam, he has been a project evaluator and advisor on a number of co-management initiatives in Vietnam including the first attempt to introduce co-management in the Mekong Delta at Tram Chim National Park. Andrew is now overseeing the MFF's co-management initiative in Ben Tre Province, Vietnam.

HOW EFFECTIVE IS ECONOMIC VALUATION AS A POLICY INSTRUMENT TO CHANGE MANAGEMENT DECISION?

Dr. A.K. Enamul Haque
Professor of Economics
United International University (UIU), Bangladesh

Abstract

Economic valuation of environmental goods and services is becoming an important tool for decision making for policy makers. Economic valuation refers to a process of assigning values to the goods and services produced in nature. Some of these values are market determined through understanding changes due to changes in the values state of environment (the stock) and the services (flow) produced from it. However, most of the goods and services of environment are not marketed or traded and so values are difficult to find. In absence of full understanding of the values, decision makers often face a dilemma about the uses of such resources. Mangrove is a perfect example where its non-use value of resources far outweighs the use value of the forests. In order to protect the forests for its rich biodiversity and its services like storm protection, waste assimilation and spawning ground against destructive or non-destructive use of forests, decision makers need a number that will show that conservation values are higher than non-conservation services of the forests. Economic valuation of environmental goods and services provide this value so that conservationists can strongly argue for limiting other uses of the forests. In absence of such valuation exercise, policy makers need to depend on their whims or their passion for environment. This paper travels us through the techniques and approaches to valuation and finally presents an exercise using benefit transfer approaches for valuation of the environmental goods and services of Sundarban forests of Bangladesh.



Professor Haque has over twenty five years of experience in teaching, research and organization development, globally. He is one of the foremost experts in Bangladesh and the South Asian region in the field of applied Environmental and Natural Resource Economics (ENRE). As a thought leader, his most notable works show a nonconforming insistence in finding solutions maintaining the professional and ethical integrities. This includes his deep solidarity with the global struggle to break free from poverty and injustice.

Prof. Haque received Bachelor and Master Degrees in Economics from the Chittagong University in Bangladesh and did his second Master followed by a PhD in ENRE from the University of Guelph, Ontario, Canada. Prof. Haque has developed many research ideas and authored in many top scientific journals, books and working papers. He has served as the Chair-person of the Department of Economics at the first private university in Bangladesh (North South University), taught undergraduate and postgraduate courses and supervised dissertations for PhD students of many universities in Bangladesh, India, USA and Canada. He is also the adjunct faculty for the University of Guelph, Canada.

As a development professional, He has been instrumental in the development of educational institutions and not-for-profit organizations in their overall planning and execution. At present, he is the Director (Academics) for the Insight School of Learning, based in Bangladesh and Faculty Advisor to the South Asian Network for Development and Environmental Economics (SANDEE) with the status of a Fellow along with leading authors in the area; namely Sir Partha Dasgupta of Cambridge University, UK.

ORGANIC SHRIMP CERTIFICATION: A NEW APPROACH TO PES

Jake Brunner
Programme Coordinator
IUCN Vietnam, Cambodia and Myanmar

Abstract

Ca Mau Province is home to half of Vietnam's mangroves. It is also home to half of its shrimp farming area and one-quarter of its shrimp production. One of its leading exports, shrimp earned Vietnam over US$2 billion in 2013. Shrimp farming is also the leading cause of mangrove loss in Vietnam, which has a long, low lying, densely populated coastline that is very vulnerable to tropical storms and sea level rise. The sustainability of the shrimp sector and the conservation of mangroves are therefore both national priorities.

To address these competing priorities, IUCN and SNV, the Netherlands Development Organization, are implementing a 4-year project in Ngoc Hien District, Ca Mau to help shrimp farmers become certified using an organic label. Farmers here use an integrated mangrove-shrimp model in which each household is allocated 3-5 hectares, of which 60% should be mangrove-covered according to a national regulation. The project is funded by the German Federal Ministry of the Environment, Nature Conservation, and Nuclear Safety (BMU).
To ensure compliance with national regulation, organic shrimp certification requires that at least 50% of the farm consist of mangroves and requires regular third-party audits to ensure compliance with this standard. Each year, IMO, the Switzerland-based Institute for Market Ecology, will audit the certified farms using the Naturland organic standard, and between audits the ICS team will monitor compliance. Ground inspections will be supplemented by satellite-based analysis.

This approach to mangrove conservation, which provides a direct financial incentive to farmers to conserve mangroves, differs in several ways from other PES schemes in Vietnam. These schemes fall under Decree 99, which was issued in 2010 and established a legal framework for PES including "the provision of spawning grounds, sources of feeds and natural seeds, and use of water from forest for aquaculture." Decree 99 established the Forest Protection and Development Fund (FPDF) at the central and provincial levels to channel PES payments from buyer to seller with the provincial FPDF retaining a 10% management fee.

A CIFOR-led review of PES experience in Vietnam raised questions about the effectiveness of this approach (Pham TT et al., 2013). Three concerns emerged: low willingness to pay on the part of the buyers; potentially low compliance because of the lack of independent monitoring; and doubts about the permanence of forest conservation. The IUCN/SNV project addresses these concerns as follows:

- In terms of willingness to pay, the ultimate buyer is the international consumer. Minh Phu is the intermediate buyer. It has identified certified organic shrimp as a strategic sector in its principal markets in Europe, Japan, South Korea, and US. Willingness to pay is therefore rated as high.
- In terms of compliance, there are multiple layers: IMO will inspect a random sample of farms to ensure compliance with the 50% mangrove cover standard; the ICS team will ensure that non-certified shrimp do not enter the supply chain; and ground inspections will be complemented by satellite-based analyses at the start and end of project. Compliance is therefore rated as high.
- In terms of permanence, organic certification requires significant up-front investments in documentation and infrastructure (e.g., mangrove planting, hygienic toilets). Once these are in place the additional cost of certification is modest. Assuming that farmers can sell all their shrimp (whether at a premium price or not), there will be an incentive to stay certified. Permanence is therefore rated as medium because of the inherent uncertainties in international consumer demand.

Pham TT, Bennet K, Vu TP, Brunner J, Le ND, and Nguyen DT (2013) ***Payments for Forest Environmental Services in Vietnam: from Policy to Practice.*** Occasional Paper 93. Bogor, Indonesia: CIFOR.

Jake Brunner has more than 25 years of experience working on matters related to environmental science and civil society engagement—almost 16 of which have been in Asia. Since 2008, he has worked for IUCN, the International Union for Conservation of Nature, based in Hanoi, where he manages a team of 15 staff running programs on water and wetlands conservation, business engagement, coastal and marine management, and policy analysis in Vietnam, Cambodia, and Myanmar. Prior to joining IUCN, Brunner established Indo-Myanmar Conservation (IMC), an NGO that supports species conservation projects in Myanmar focusing on the country's highly threatened endemic wildlife, and promotes broader civil society participation in biodiversity conservation. Previously, Brunner spent eight years running Conservation International's (CI) Indo-Burma Program from Washington, D.C., Hanoi and Phnom Penh, where he led the design, partner negotiations, fundraising, and monitoring of site and species projects in Vietnam, Cambodia, Laos, Southern China, and Myanmar. Prior to CI, Brunner spent eight years at World Resources Institute (WRI), an environmental policy research center based in Washington, DC Brunner holds a BA in Geography from Oxford University and an MSc in Remote Sensing/GIS from London University.

MANGROVE AND SHRIMP INTEGARED:
A Coastal Livelihood and Mangrove Resillience Model in the Coastal of Viet Nam

Dr. Nguyen Thi Bich Thuy
Project Manager
Mangroves and Markets project

Abstract

Ca Mau Provinceis the southern most of Vietnam's Provinces and has the largest remaining area of mangrove forests. It contains almost half of the remaining mangrove forest in Vietnam and 70 percent of remaining mangrove forest in the Mekong Delta. Shrimp is the leading provincial export (90% in 2013) and accounts for 40% ofthe country's shrimp exports. It's also a major cause of mangrove loss. Ecological health of near-shore coastal ecosystem has decreased and vulnerable to storms, sea level rises. To improve livelihoods of coastal community through integrated mangrove-shrimp (and other aquaculture sp.) farming system while supporting mangrove rehabilitation in the coastal areas is objective of an IUCN and SNV project that funded by BMU.

Improving coastal livelihood is an important solution for community in avoiding deforestation and sustaining mangrove conservation. Traditional way is policy enforcement with very limited financing supports from the provincial authority. An integrated option has been applied in Ca Mauis to reduce pressure of socio-economic burden to mangroves and encourage willingness of households in conservation. The project offers economic incentives through Shrimp Certification Standards, as a tool to promote mangrove conservation while opening market access and the premium for products. The Standards are not permitted to remove or damage mangrove forest and mangrove area of the farms shall be reforested to at least 50% during a period of maximum 5 years (Naturland Standards for Organic Aquaculture, 2012).

These project's supported activities have built capacity for more than thousands of participants from related stakeholders, processing company and local households during Certification process and replanting of mangrove in these shrimp farms. It's clearly improved of local community's awareness on mangrove importance in ecosystem services, organic standards, waste management (hygiene toilet usage on the wetland), technical practices, as well as, poly-culture productivity while sustaining livelihood of households. The project is also supporting mangrove replanting of 41 households that have not reached the minimum requirement of forest cover standard to pass Certification inspection. In addition, the project has the potential to create enabling conditions for additional financing for households through REDD+ and PES.

Initial results are promised on creating option for coastal resilience through enhancing economic incentives for local community. It's a pioneer project to establish stable links between traders – buyers to producers. In which, the project prioritizes stakeholders' capacity building, farmers' awareness and improving practices on mangrove and shrimp cultivation. In addition,a pre-increased farmers' incomes form project intervention will encourage the movement. Government authority, aquaculture – forestry sectors, private company and farmers willingly support and well developed collaboration. The pilot has demonstrated strong acceptance and promising replicated model from provincial authority.

THUY, NGUYEN (Ph.D) is currently Mangroves and Markets (MAM) project manager of a SNV's projects. The MAM aims to propose the options for promotion of climate change adaptation and mitigation the in coastal areas of Ca Mau, Viet Nam. The project is actively to improve coastal livelihood in increasing resilience of mangrove – aquaculture and enable finance sources for mangrove conservation (2012 – 2016).

Her former experiences was Manager of Conservation Finance for the Asia Regional Biodiversity Conservation Program (ARBCP), Winrock International that was sponsored by USAID. The project supported Viet Nam government established a national Policy on Payment for Forest Ecosystem Services. She was member of national PES writing group to establish PES policy in the country. She was resource person for 3 regional workshop on PES for VN (2008 – 2011).

She was also in charge for creating a REDD project in the Danhim watershed for Lam Dong province, under WI project and Forest Carbon Specialist for ADB – Core Environment Program and Biodiversity Conservation Corridors Initiative (CEP BCI) in Thua Thien – Hue, Quang Nam and Quang Tri provinces.

She's strongly supported by government and community levels through her efficient supports to these stakeholders.

SESSION 4:
Delta Dynamics and Adaptive Management

Chair: : Professor Mohammad Monowar Hossain PhD
Executive Director, Institute of Water Modeling

CHANGING COAST LINES, EMBANKMENTS AND TIDAL BASIN MANAGEMENT

Dr. Rezaur Rahman

ADAPTATION IN A DYNAMIC DELTA: Options for Indian Sundarban

Prof. Dr. Sugata Hazra

TRANSBOUNDARY COOPERATION FOR BETTER COASTAL MANAGEMENT:
Examples from Ecosystems for Life

Dr. Brian Furze

CHANGING COAST, EMBANKMENTS AND TIDAL BASIN MANAGEMENT

Dr. Rezaur Rahman
Professor
Institute of Water and Flood Management
Bangladesh University of Engineering and Technology

Abstract

In the south-west coast of Bangladesh, a number of polders were constructed in 1960s to protect the land from regular tidal inundation. These polders confined the flows to the rivers resulting in siltation of the rivers. Consequently, the polders started to suffer from severe drainage congestion. In Khulna-Jessore area, local people proposed tidal basin management (TBM) as a solution to the problem. After a thorough study, TBM was adopted as a semi-natural measure to solve the water logging problem on a sustainable basis. In their preference for TBM, local people considered all economic, social and environmental issues of sustainable development in the coast including the sustenance of nearby Sundarbans Mangrove Forest.

Under TBM, hydraulic link between low lands in a polder, called tidal basin, and the river is restored. Siltation takes place on the low lands rather than the river keeping the river functional. Land of the tidal basin is gradually raised mimicking the delta building process. Tidal basins are rotated among feasible sites every 3-4 years. TBM started operating in the south-west coast of Bangladesh since 2000 and so far, two rotations have been completed. The performance of TBM is very encouraging. However, during the TBM there were number of social and institutional issues which are needed to be resolved.

The resilience of the SW coast has been greatly compromised by the extensive polderization not only against tidal flooding but also against storm surges and future threats of sea level rises. Many of the polders could not be rehabilitated in time after the cyclone 'Aila' as new channels were formed by the storm surges due to inability of the existing silted-up channels to covey the hydraulic loads. TBM has the potential of restoring the natural resilience of the coast by keeping the rivers functional. TBM has also great potential in mitigating the threats of sea level rise by raising lands.

Dr. Rezaur Rahman is currently a Professor at Institute of Water and Flood Management (IWFM) of Bangladesh University of Engineering and Technology (BUET). Recently, he has worked as Environment and Climate Change Expert at the Planning Commission and in the past he has served as Environment Expert at the Center for Environmental and Geographical Information Services (CEGIS), Dhaka. He is a Civil Engineering graduate from BUET with post graduate degrees in Environmental Engineering from the Johns Hopkins University and University of Illinois, Urbana-Champaign. His field of interest includes water resources planning and management with a multidisciplinary focus especially on environmental issues.

ADAPTATION IN A DYNAMIC DELTA:
Options for Indian Sundarban

Prof. Dr. Sugata Hazra
Director
School of Oceanographic Studies, Jadavpur University, Kolkata

Abstract

The Indian Sundarban Delta (9630 km2) is the southern part of the deltaic West Bengal. It comprises of a human habitation area of 5367 km2 (divided into 19 blocks of South & North 24 Parganas districts) and a reserve forest area of 4263 km2. It includes a total of 100 islands, of which 52 are inhabited by humans. The area is bounded by the river Hugli on the west, Ichamati- Raimangal-Harinbhanga on the east, Dampier-Hodges line (which roughly coincides with the limit of daily saline tide intrusion) on the north, and the Bay of Bengal on the south. The Delta can be divided into - mature and a tidally active part. Shifting meander belts and anastomosing river channels have been a major factor in fashioning the delta. With time, all rivers except Bhagirathi-Hugli have lost their head water connections and the lower reaches exist as mere tidal channels. Scarcity of freshwater from upstream, salt water intrusion, salinization of soil makes it difficult for the people to secure their life and livelihood in this delta. This situation further worsens with Climate Change and Sea level rise.

The 4.6 million strong population live in Sundarban in spite of the high risk of floods, land loss, cyclones, water and energy scarcity. The relative mean sea level is observed to be rising at a rate of 12 mm per year inclusive of about 2-4 mm of land subsidence. Between 1969 and 2009, Indian Sundarban delta has lost 210.247 sq. km of land area, of which 44 sq. km has been lost during the current decade. Islands like Lohachara , Suparibhanga or New Moore (Purbasha) have already vanished from the map of the Sundarban. Frequent breaching of the 3638.182 km. long earthen / brick pitched embankment is a common hazard the people have to adapt to.

The present paper reviews the spontaneous adaptation strategies of the local people in coping with this continuous change. The strategies include forced retreat and migration, occasional cultivation of salinity tolerant crop, 'bund'(ridge and furrow) cultivation, rain water harvesting , improved brackish water aquaculture etc.

Additionally, planned adaptation options have also been suggested which include planned retreat from vulnerable areas and re-settlement in the safer hinterland coupled with mangrove afforestation of the vacated land ,developing innovative embankment design with toe line mangrove plantation, restoring river channels to increase fresh water availability, desalination of subsurface saline water, up- scaling the cultivation of indigenous salinity tolerant seeds and establishing seed banks, installing tidal and solar power stations, not to mention improvement of road connectivity and market network.
The delta dynamics has always been a challenge to the community and shall remain so under global environmental change. A well orchestrated adaptation policy alone shall be able to prepare the people for an uncertain future and allow them to grow with the challenge.

Dr. Hazra, Professor in Coastal Management, and Director, School of Oceanographic Studies, Jadavpur University, Kolkata, India, has been involved with researches on Oceanic Resources & Coastal Management. Some of the areas includeClimate Change and Populus Deltas, , Tsunamis & Coastal Disaster , Marine Fishing Zone Prediction & validation., Carbon Flux Estimation, and Bio Optical Studies for OCEAN SAT II data validation in the northern Bay of Bengal. He is the Deputy leader of muticountry ESPA Delta and DECCMA project on Deltas under Climate Change and Joint Co Ordinator of Jadavpur University EU funded project on Enhancement of quality of Undergraduate education in India.

He was a member of theXVIth.Indian Antarctic Expedition. He has done pioneering work related to vulnerability and impact of Climate Change in Sundarban, West Bengal. He has been working as Principal Investigator of various scientificprojects of the NationalGovernment and Non Govt. Organizations like WWF, IUCN etc. He established the full scale Remote Sensing and GIS Laboratory at the School of Oceanographic Studies, Jadavpur University in 2003.

He is a member of the national task force for Bay of Bengal Large Marine Ecosystem (BOBLME) in India. Member, West Bengal State Coastal Zone Management Authority and state fluoride task force, drafting committee of state climate action plan. He has several publications in National & International Journals and Monographs to his credit .

TRANSBOUNDARY COOPERATION FOR BETTER COASTAL MANAGEMENT:

Some lessons from Ecosystems for Life

Dr. Brian Furze
Project Director
Ecosystems for Life: A Bangladesh-India Initiative, IUCN

Abstract

Access to natural resources, in particular water, has been identified as a significant potential and real arena of conflict globally. These arenas have been identified as occurring in a range of spatial dimensions – highly localised, community, inter-community, nationally, intra-nationally and inter-nationally.

However, international interest has increasingly focused on the ways shared natural resources can be managed cooperatively. This represents an important shift in thinking from a focus on conflict and conflict resolution, to one of trans-boundary cooperation.

The values and assumptions we bring under each paradigm are different at a variety of levels (social, cultural, economic, political, for example) and therefore play important roles in how problems/issues/undertakings are understood and analysed. The movement from a conflict-focused paradigm to a cooperation-focused paradigm ultimately shapes the ways we look for mechanisms for the management of shared ecosystems.

Of course, shifts in thinking aren't enough. Shifts in actions, in frames of understanding, in forms of information and in political discourse, for example, will also be required to further enhance cooperation.

Ecosystems for Life: a Bangladesh-India Initiative is a multi-year project focused on facilitating cooperative approaches to managing the shared ecosystems of Bangladesh and India. It uses what is sometimes described as 'track 3 diplomacy', focusing on civil society channels to raise awareness, build trust and cooperation and facilitate some of these new cooperative-based approaches to understanding. In-built into the project is the assumption that not only is trans-boundary cooperation possible, it is essential.

The outcomes and lessons of the *Ecosystems for Life* project are increasingly coalescing around the following:

1. The importance of creating opportunities for trust building and collaboration across a range of actors and spatial scales.
2. Promoting evidence-based apolitical public discussions and understandings of issues, opportunities and collaborative management options within the region.
3. Using these to support evidence-based policy advocacy.
4. Setting up knowledge exchange mechanisms between Bangladesh and India.

This paper will reflect on these lessons within the *Ecosystems for Life* experience and consider their implications more generally.

Dr Brian Furze is Project Director of Ecosystems for Life: A Bangladesh-India Initiative, a project of IUCN.

He's a rural and natural resource social scientist (sociology, anthropology, political science) who has specialised in community based conservation and participatory rural/regional development in Australia, the Asian region and beyond.

He has worked across a range of sectors, including: river-basin management; adaptation and resilience to climate change; social and community forestry; protected area management (including participatory approaches to biosphere reserve and buffer zone management); implementation and evaluation of ecotourism as an integrated conservation/development/livelihood security strategy; and the drivers of socio-ecological change in nomadic and semi-nomadic pastoral societies and their implications.

Mangroves for the Future

Mangroves for the Future (MFF) is a unique partner-led initiative to promote investment in coastal ecosystem conservation for sustainable development. It provides a collaborative platform among the many different agencies, sectors and countries who are addressing challenges to coastal ecosystem and livelihood issues, to work towards a common goal.

MFF builds on a history of coastal management interventions before and after the 2004 tsunami, especially the call to continue the momentum and partnerships generated by the immediate post-tsunami response. It initially focused on the countries worst-affected by the tsunami; India, Indonesia, Maldives, Seychelles, Sri Lanka, and Thailand and expanded to include Bangladesh, Cambodia, Pakistan and Viet Nam. MFF will continue to reach out other countries of the region that face similar issues, with an overall aim to promote an integrated ocean wide approach to coastal zone management.

The initiative uses mangroves as a flagship ecosystem in recognition of the destruction caused to mangroves by the tsunami, but MFF is inclusive of all coastal ecosystems, including coral reefs, estuaries, lagoons, sandy beaches, sea grasses and wetlands. Its long-term management strategy is based on identified needs and priorities for long-term sustainable coastal ecosystem management. These priorities emerged from extensive consultations with over 200 individuals and 160 institutions involved in coastal management in the Indian Ocean Region.

MFF seeks to achieve demonstrable results in influencing regional cooperation, national programme support, private sector engagement and community action. This will be achieved using a strategy of generating knowledge, empowering institutions and individuals to promote good governance in coastal ecosystem management.

Learn more at: www.mangrovesforthefuture.org

Ecosystems for Life

Ecosystems for Life: A Bangladesh-India Initiative project is a multistakeholder research and dialogue process led by IUCN which seeks to promote a better understanding of trans-boundary ecosystems between Bangladesh and India by providing a platform to discuss issues common to the region. The overall goal is to enhance integrated management of trans-boundary water regimes to achieve improvements in water, food, and livelihood security in South Asia. Ecosystems for Life joins NCB Bangladesh and the MFF Secretariat in organizing the Symposium and will contribute its experience of cross-country learning on common resource management. www.iucn.org/e4l