

CAPACITY BUILDING FOR PROMOTING AND IMPLEMENTING CO- MANAGEMENT OF PROTECTED AREAS IN BANGLADESH

FINAL REPORT

MAY 2009

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International Resources Group (IRG)

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PREFACE

Bangladesh is well known as a country which fully embraces and respects training, education, and professional capacity. The long traditions of professionalism among the foresters, fisheries specialists, and environmentalists and pride in one's cadre serve to reinforce a sense of purpose and mission. With these traditions, however, comes a certain conservatism towards changing the precepts and paradigms of the professions, here in Bangladesh and virtually everywhere. Even in the US Forest Service, the heart and soul of the profession and the organization is the professional forestry cadre, trained for and recognized as the leaders of their sector. The changing world in which we all live and work has forced these traditional organizations to expand their ranks and accept new ways of doing things and new skill sets as prerequisites for success in an increasingly democratized and globalized world.

The "Co-Management" paradigm, being introduced as part of the efforts supported by USAID with the Integrated Protected Areas Co-management (IPAC) Program and in conjunction with a now wider array of Government of Bangladesh ministries and departments, represents purposeful change based on a clear sense of what will be required to conserve the protected areas and their biodiversity assets and to continue to contribute to the well-being of the users and local communities that surround them. USAID and the IPAC Team have commissioned this consultancy in order to reiterate the fundamental importance of capacity building as essential to achieving more through the co-management approach. Although there are some who continue to resist the fundamental changes in governance and benefit-sharing that co-management implies and the need for new skill sets to address these needs and opportunities, many more colleagues and stakeholders are embracing the approach. In fact, it was almost surprising to the consultancy team that they were welcomed with enthusiasm and a wealth of ideas about capacity building as they went about their work.

The consultants are extremely grateful to the many individuals who took the time and effort to share their thoughts, hopes and aspirations for their country and the sector with them. This consultative wealth has underscored the importance of tackling the capacity building as an example of the principles of public administration development. This report is focused on capacity building for co-management of protected areas, but we have attempted to present it as an example or mini-case of how organizations adapt to the changing worlds in which they work. A number of individuals in leadership roles associated with IPAC – Mr. Isthiaq Uddin Ahmed, IPAC Project Director, Dr. Azharul Mazumder, USAID/Bangladesh, Mr. Bob Winterbottom, IRG Chief of Party, and Dr. Ram Sharma, IRG Deputy Chief of Party – deserve recognition and thanks for challenging the consultant team to explain their recommendations in terms of the prioritized and practical choices needed for capacity building at this critical juncture in the roll-out of co-management in Bangladesh. The consultant team sincerely hopes that this report will contribute to making wise choices about capacity building for co-management in the face of the many needs and opportunities.

ACRONYMS

ACF	Assistant Conservator of Forests
AIG	Alternative Income Generation
BFIDC	Bangladesh Forest Industries Development Corporation
BFRI	Bangladesh Forest Research Institute
BNH	Bangladesh National Herbarium
BRAC	Bangladesh Rural Advancement Committee
CBO	Community-based Organization
CCF	Chief Conservator of Forests
CCF	Chief Conservator of Forests
CF	Conservator of Forests
CMC	Co-Management Committee
CWBMP	Coastal and Wetland Biodiversity Management Project
DAE	Department of Agriculture Extension
DCCF	Deputy Chief Conservator of Forests
DCF	Deputy Conservator of Forests
DD	Deputy Director
DFO	District Fisheries Officer (Fisheries Department)
DFO	Divisional Forest Officer (Forest Department)
DG	Director General
DoE	Department of Environment
DoF	Department of Fisheries
DPP	Development Project Proposal
ECA	Ecologically Critical Area
ECAMU	ECA Management Unit
EPCC	Environment Pollution Control Cell
FD	Forest Department
FDTC	Forest Development and Training Centre (Kaptai)
FGD	Focus Group Discussion
FPP	Fourth Fisheries Project

FRMP	Forest Resource Management Project
FSMP	Forestry Sector Master Plan
FSP	Forestry Sector Project
FTA	Fisheries Training Academy
GEF	Global Environment Facility
GIS	Geographic Information System
GoB	Government of Bangladesh
GPS	Geographic Positioning System
IPAC	Integrated Protected Areas Co-management
IRG	International Resources Group, Washington, D.C., USA
IUCN	The World Conservation Union (formerly, International Union for the Conservation of Nature)
MACH	Managing Aquatic Systems through Community Husbandry, USAID
MoEF	Ministry of Environment and Forests
MoFL	Ministry of Fisheries and Livestock
NGOs	Non-Governmental Organizations
NP	Nishorgo Program, Forest Department
NRM	Natural resources management
NSP	Nishorgo Support Project
NTFP	Non-Timber Forest Products
PA	Protected Area
PD	Project Director
RMO	Resource Management Organization
RUG	Resource User Group
SBCP	Sundarbans Biodiversity Conservation Project
SEMP	Sustainable Environment Management Program
SF	Site Facilitator
SF	Social Forestry
SUFO	Senior Upazila Fisheries Officer
UFC	Union Fisheries Committee
UFO	Upazila Fisheries Officer

UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNO	Upazila Nirbahi Officer
UP	Union Parishad
USAID	United States Agency for International Development
WNCC	Wildlife & Nature Conservation Circle, Forest Department

EXECUTIVE SUMMARY

The USAID/Bangladesh-funded Integrated Protected Area Co-Management Program (IPAC) was specifically designed to further institutionalize and scale up from the pilot protected area co-management activities funded by USAID and others. It is now well recognized that the “co-management paradigm” will be an important part of the “way to go” in addressing the challenges of sustainable management and conservation of natural resources and protected areas in Bangladesh.

As such, however, it will require significant attention to capacity building so that the full array of stakeholders, in particular, the government agencies, NGOs, and community organizations that will implement co-management will be ready to respond to this paramount opportunity. The report that follows is the outcome of a consultancy fielded by IRG with the support of USAID to carry out an “assessment and preparation of an updated Capacity Building Strategy” for the program and its interested partners.

IPAC will specifically target: *strengthening of stakeholders* engaged in natural resources management (NRM) and conservation of Bangladesh’s protected areas while promoting equitable economic growth and stronger environmental governance systems; *empowerment of resource user groups and capacity building* to enable their central role in a participatory, multi-stakeholder transparent approach to protected area (PA) co-management and benefit sharing; and *widespread adoption of the co-management approach* with communities, local government bodies, and technical departments assuming joint responsibility for sustainable use and conservation of aquatic and terrestrial ecosystems.

The **methodology** for this consultancy utilized the same principal method employed as part of the “Co-Management Paradigm” itself – consultation with the stakeholders. The “stakeholders” in the co-management of protected areas in Bangladesh are the following:

- The leaders and staff of the two ministries: Ministry of Environment and Forests (MoEF) and the Ministry of Fisheries and Livestock (MoFL) and their three Government of Bangladesh (GoB) Departments: the Forest Department (FD), the Department of Environment (DoE), and the Department of Fisheries (DoF)
- Personnel employed by the local NGO partners engaged in promoting IPAC at the Cluster level
- Representatives of the private sector engaged in activities related to the PAs
- Most importantly, the “Communities” and their user groups living in and around the protected areas

The basic logic of these consultations with the stakeholders was the questions essential to any consideration of organizational change – “What’s new? and What does the organization need to meet these changes?” Applying this basic logic was viewed as a mini-case study in the adaptation of public administration, how an organization meets the challenges, and opportunities of the need for modernization and globalization.

Section II of this report, which will not be reiterated here for sake of brevity, examined the present institutional framework for the implementation of co-management of protected areas in Bangladesh. It is, however, important to note that IPAC, unlike the earlier projects, is working with a wider array of GoB ministries and departments. Indeed, there is a growing conviction that the scope for the application of co-management may possibly and eventually be widened further in the country to include khas lands and ungazetted State forest lands.

Section III of this report reviews the meaning of a capacity building strategy. It does so didactically and purposefully because the leaders of IPAC challenged the consultant team to assist them in making prioritized choices against a likely wide array of training needs and to recommend practical actions to continue the implementation of the capacity building begun under earlier programs.

The IPAC program has recognized that “capacity is pivotal” to a successful co-management approach and accordingly has elevated the efforts aimed at capacity building to the level of a full and important program component – Component 2 – Building Stakeholder and Institutional Capacity. On the one hand, capacity building will expand to include a much wider range of key groups of stakeholders and at the same time attempt to address a wider range of activities as foreseen as part of the investments under this component, including:

- Strengthening the capacity of existing training centers
- Developing an integrated foundation course on applied conservation biology
- Designing and implementing in-country and overseas short-term training programs
- Designing and implementing a method whereby experienced villagers/members of resource user groups can be trained to become extension agents for peer-to-peer training of other villagers participating in IPAC

The consultant team has made a specific effort to review the “meaning of capacity building” in its preliminary presentations, particularly those targeting senior GoB decision-makers. The Team recommends that the capacity building strategy should clearly be viewed and treated as a continuing and critical component of the larger national integrated protected area co-management strategy and action plan foreseen as the ultimate outcome of IPAC.

Elements of a Capacity Building Strategy

Identifying the skills and capabilities needed. The key questions mentioned above, in particular those about the new roles and responsibilities required of those implementing co-management of protected areas, were expected to reveal a list of skills and capabilities. Skill needs identified by the stakeholders during this consultation tended to fall into two broad categories, those related to dealing with people in a co-management setting – **people skills**, and those related to the actual technical management of a protected area and the conservation of its biodiversity assets – **technical skills**.

Much was made of the need for “**people skills**” reflecting a general conviction as well that “conservation is a social science” where the desired outcome is a modification of human behavior patterns to ensure sustainable use and/or protection of threatened biodiversity assets. The list of **people skills** mentioned included:

- Communications skills, because sharing views would be critical to sharing governance responsibilities
- Extension and outreach capabilities to facilitate interacting with potentially large numbers of community members
- Organizational development methods, since local users and stakeholders need to be organized into groups
- Program coordination capabilities, to facilitate the integrated approach among different government agencies and non-governmental, community and private partners

- Natural resources economics and business management skills, also considered important to ensure successful benefits sharing
- Conflict resolution skills and methodologies, important to deal with the inevitable conflict that can arise as communities try to use and share finite resources
- Visitor management capabilities as part of the new thrust to promote ecotourism and outdoor recreation

The other general area could be characterized as a range of “**technical skills**” which those officially mandated with the management of these areas expressed as necessary to enable them to do their jobs well. As might be expected, many stakeholders, both among the GOB agencies and the NGOs which are supporting co-management, voiced a need for specific and practical skills in the area of *protected area conservation and management*. Additionally, stakeholders listed the following as important future technical skills needed for co-management of protected areas:

- Natural forest management, restoration, and regeneration so as to be able to secure and safeguard the biodiversity assets and wildlife habitat
- Ecotourism and outdoor recreation (these are defined as two different end uses for protected areas) planning and implementation to better accommodate the growing visitor pressure on these areas
- Community-based natural resources management skills in areas such as fisheries, wetlands, and watersheds so as to be able to address the important wetland ecosystems of the country
- Familiarity with the basic opportunities for promoting innovative technology for bringing basic services to the co-management communities

Getting these new skills and capabilities: As the name IPAC name implies, “integration” will be part of the future institutional framework for co-management, bringing together a broad coalition of GoB agencies, NGOs, and the private sector in support of local community organizations. In the past, the Government agencies traditionally felt that they owned these protected areas and administered the natural resources there, allowing others to use them or to work with the user community. Things have changed radically and there is now broad recognition, at least in some quarters, that the State “cannot and should not do it all.”

The essence of this administrative change is the transition from a predominantly “command and control” approach to natural resources management to one of a “service orientation” that both regulates and facilitates the use of resources for the betterment of the citizens and their development needs. Obtaining the skills and capabilities to provide these services can be accomplished, as the basic design of the IPAC coalition underscores, in three different ways: *in-house* (GoB staff within the agencies), by *outsourcing* (contractual arrangements to provide specialized services), and through *partnerships* (intra-agency arrangements and public-private partnerships).

Using these new skills and capabilities: Both the Forest Department and Fisheries Department present a special situation for considering such issues of how to obtain and put to good use these new skills and capabilities because of their preference within the career ranks of professional cadre – foresters and fisheries specialists. The personnel system is almost exclusively organized to provide a career track for this type of individual, and staff with other skills and capabilities, no matter how much they are needed, have a secondary status within the hierarchy.

This is not an unusual situation for public forestry organizations worldwide and it need not continue to be a dilemma. Over the years, it has become evident that new demands on the forestry (and even fisheries) organizations bring demands for new skills and capabilities beyond those of a well-rounded forestry professional. To meet this demand, there have been two approaches. On the one hand, professionally trained cadres can be trained at the Master's or PhD level in a specialized field, such as biodiversity conservation or protected area management. The second choice is to bring in individuals already trained in these fields to widen the talent pool within the organization.

Focus Areas for Organizational Capacity Building under IPAC

- ✓ Leadership for change
- ✓ Internal Staff Training Curriculum
- ✓ Basics of Co-management – community organization and motivation – development sociology
- ✓ Communications, Outreach, Advocacy, and Extension

The Forest Department of Bangladesh has already adopted both approaches. It would be fair to say, however, that it has as yet to fully embrace the need for non-foresters within the career hierarchy of the Department or the need for maintaining an increasingly capable and experienced complement of staff within the Wildlife and Nature Conservation Circle and assigned to an enduring role within a “National Protected Area system.” Clearly reconciling this issue over time and finding ways to fund these new positions represent public administration challenges that can and should be addressed by the administrative cadre who professionally oversee the Departments of their ministry.

Some Final Thought about Capacity Building Strategy

In the course of this consultancy, knowledgeable leaders have recognized that having a capacity building strategy and a human resources development plan and system in place and being able to implement it is a key attribute of a progressive public administration able to adapt to the challenges and opportunities of the sector and country where it works. The consultant team would hope that one of the most important points about a co-management oriented capacity building strategy for Bangladesh will be a growing understanding that “capacity is grown, not created”.

The final section of this report, **Section IV**, summarizes the outcome of our consideration of these two primary steps mentioned above as part of a capacity building strategy – (1) What new roles and responsibilities have been identified? and (2) What do they mean in terms of the required skills and experience? It does so by presenting a set of focus areas and recommendations regarding the specific skills and capabilities that IPAC should pursue and implement with the resources and time available to the program. The modules which discuss the goal, target training audience, and training themes are organized

into two broad areas: (1) organizational capacity building needs and opportunities (see text box above) and (2) professional and technical skills and capabilities for the continued development and expansion of the “co- management – management approach to protected area management” (see text box at right) in Bangladesh. With the above in mind, the suggestions which follow here are intended to be complementary to the present IPAC capacity building component or constitute recommendations about the specific courses that IPAC could sponsor under the existing plan.

And as a final note, this Report offers a series of practical suggestions about the implementation of the capacity building strategy for co-management of protected areas in Bangladesh. These recommendations include:

Focus Areas for Professional & Technical Capacity Building under IPAC

- ✓ Natural Resources Economics
- ✓ Business Planning & Micro-Economic Analysis
- ✓ Biodiversity Conservation and Protected Area Management
- ✓ Applied Technology Innovations for Improved Village Livelihoods
- ✓ Natural Forest Management and Restoration
- ✓ Best Practices in Open Water Fisheries Management

Making Capacity Building Part of the Policy Agenda: It is vitally important that the secretarial level authorities within the subject ministries make achievement of the capacity building strategy part of their own goals for modernization of the public administrations they direct.

Go Beyond Talking to the Convinced: One of the first steps is to “take it to the next level,” moving beyond “the convinced talking to the convinced.” It is suggested that each of the departments in question ask their respective Establishment Units to use this capacity building strategy to formulate and implement their own plan for growing the internal capacity for co-management within the organization.

Learning Together Institutionally – Communications are Fundamental: Two GoB ministries and their three departments are already involved in co-management of protected areas. They work with a larger consortium of NGOs, community-based organizations, and the private sector. There are serious expectations about program coordination and learning among these partners but achieving this goal cannot be taken for granted. The communication that must underpin these exchanges takes real time and resources which should be built into the program. In fact, program coordination may prove elusive, but the key to learning and working together is communication leading to some cooperative efforts.

Choosing the Prioritized and Practical: The many engaged people with whom the Consultant Team has interacted have inevitably generated a long list of capacity building goals or training needs and actions. There is an abiding need to re-emphasize what needs to happen next. However, it is important to bear in mind that we are *not making a list but rather making choices, based on our common view of the priorities and practicalities* associated with capacity building for co-management of protected areas in Bangladesh.

I. INTRODUCTION TO THE CONSULTANCY

The USAID/Bangladesh-funded Integrated Protected Area Co-Management Program (IPAC) was specifically designed to further institutionalize and scale-up from the pilot protected area co-management activities funded by USAID and others. Since this “co-management paradigm” has been developed and piloted, it has become clear that it will be an important part of the “way to go” in addressing the challenges of sustainable management and conservation of natural resources and protected areas in Bangladesh. As such, however, it will require significant attention to capacity building so that the full array of stakeholders, in particular, the government agencies, NGOs, and community organizations that will implement will be ready to respond to this paramount opportunity.

Accordingly, 10 months into the implementation of IPAC, International Resources Group (IRG), with the support of USAID, decided to field a team of consultants to assist in carrying out an “assessment and preparation of an updated Capacity Building Strategy” for the program and its interested partners.

The consultancy was carried out by Mr. Thomas M. Catterson, a Senior Manager from IRG’s Environment and Natural Resources Division, who has worked extensively in Bangladesh on these and similar issues, and Dr. M. Khairul Alam, a very senior consultant on temporary leave from the Bangladesh Forest Research Institute, who has also worked on capacity building assessments related to co-management within the USAID environment portfolio in the past. Their work together in-country spanned the period April 16 to May 7, 2009. This Report is the outcome of that consultancy.

IPAC and the Context for this Consultancy

The design of IPAC is predicated on the recognition by the Government of Bangladesh and its departments, supported by USAID/Bangladesh, that natural forest cover (outside the Sundarbans Reserve Forest) is gradually declining and the nascent system of protected areas are under threat. These PAs are part of a mosaic of resources involving forests, farms, wetlands, and fisheries which, while protecting the country’s unique biodiversity assets, often play a vital role in providing sustenance and economic livelihood opportunities to the country’s rural households. Additionally, there is growing national demand for amenity, outdoor recreation, and exposure to nature as a relief from the densely populated urban areas of the country.

Previous projects undertaken that have helped to develop the “co-management paradigm” include both the USAID-funded Management of Aquatic Ecosystems through Community Husbandry (MACH) and the Nishorgo Support Program (NSP). Similar activities undertaken with the United Nations Development Programme (UNDP)/Global Environment Facility (GEF) support include the Coastal and Wetlands Biodiversity Management Project (CWBMP) and an IUCN-Bangladesh implemented project in Tanguor Haor. IPAC differs substantially from these earlier “pilot” activities in that it involves two GoB ministries (the Ministry of Environment and Forestry and the Ministry of Fisheries and Livestock) and their three departments (the Forest Department, the Department of Environment, and the Department of Fisheries). The *purpose of IPAC* can be summarized as follows:

- Support natural resources management and conservation of biological diversity
- Develop an integrated Protected Area Strategy for wetlands, forest ecosystems, and ecologically critical areas (ECAs)
- Build technical capacity for PA co-management
- Expand the area under co-management and ensure benefits to communities

- Address climate change mitigation and adaptation

Perhaps more significant are *the expected results* which revolve around the nature of the “co-management paradigm” and describe the most important changes in how the protected areas are to be managed in the future. IPAC will specifically target: *strengthening of stakeholders* engaged in NRM and conservation of Bangladesh’s protected areas while promoting equitable economic growth and stronger environmental governance systems; *empowerment of resource user groups and capacity building* to enable their central role in a participatory, multi-stakeholder transparent approach to PA co-management and benefit-sharing; and *widespread adoption of the co-management approach* with communities, local government bodies, and technical departments assuming joint responsibility for sustainable use and conservation of aquatic and terrestrial ecosystems.

Under IPAC *the following specific results* over the five-year life-of-project are anticipated:

- Formal policy recognition of a PA system and approval of a national integrated PA co-management strategy and action plan
- Institutionalization of co-management as the accepted approach for PA management and biodiversity conservation
- Pragmatic conservation financing mechanisms developed and approved by the GoB
- Climate change mitigation and adaptation through improved land-use and adaptation by communities
- Communication strategy in support of IPAC designed and implemented
- Strengthening of community-based natural resources management organizations involved in IPAC which are sustainable, transparent, pro-poor and equitable
- A cadre of professionals trained in PA management and co-management with the GoB institutions and community organizations
- Development and demonstration of ecological restoration plans to rehabilitate degraded critical ecosystems through co-management; and
- Public-private sector alliances for PA co-management established and successfully operating

Clearly then, these expected results are going to require new skills and capacities to be learned and operationalized to sustain the continuing spread of co-management as a key approach to protected area conservation in Bangladesh.

An Earlier Look at Capacity Building Needs for Co-Management

This consultancy is expected to build on the purposeful focus on capacity building that began under NSP in the form of a study carried out in 2004 titled “*Assessment of the Forest Department’s Institutional Organization and Capacity to Manage the Protected Area System of Bangladesh*” (Mitchell, Alam & Bari 2004). This consultancy report identified a series of what it termed “critical elements” as part of the institutional capacity required for protected area management at the time, to wit:

Elements Selected as Key Focal Areas for PA Strengthening (after Mitchell, Alam & Bari 2004):	
Organizational management	Wildlife Insurance
Information Management	Information, Education & Communication and Visitor Services
Spatial Data Management	Research
Financial Organization Systems	Monitoring & Evaluation
Management Planning & Implementation	Intersectoral Conservation Planning
Institutional Orientation to Co-Management	Public-Private Partnerships
Legal Support	Sustainable Financing
Law Enforcement	

Although this was a long and comprehensive list, leaving more than enough on which to focus capacity building efforts and investments, this new consultancy was deemed necessary for a number of reasons. For one thing, the Mitchell, Alam & Bari work is now five years old and at the time was only focused on the Forest Department, which was the principal GoB counterpart under NSP. With another Ministry (MoFL) in play and two more departments (DoE and DoF), and a great deal learned under the predecessor projects of NSP and MACH, it is essential to be sure that IPAC is consolidating the gains made in the past and embarking on a path of *prioritized and practical capacity building activities*.

While it is true that Mitchell, Alam & Bari provided a detailed blueprint or road map to the long-term creation of skills and capabilities required for PA management in Bangladesh, much of which is still valid and compelling, the present study will point again to important sign-posts along this road “now traveled” to enhanced capacity for the co-management of protected areas.

Methodology

The methodology for this consultancy utilized the same principal method employed as part of the “Co-Management Paradigm” itself – consultation with the stakeholders. The “stakeholders” in the co-management of protected areas in Bangladesh, as defined by IPAC and considered during this assessment, are the following:

- The leaders and staff of the two Ministries: Ministry of Environment and Forests and the Ministry of Fisheries and Livestock and their three GoB Departments: the Forest Department, the Department of Environment and the Department of Fisheries
- Personnel employed by the local NGO partners engaged in promoting IPAC at the Cluster level
- Representatives of the private sector engaged in activities related to the PA
- The “Communities” and their user groups living in and around the protected areas, for example, the Co-Management Committees (CMCs) developed under NSP and the Resource Management Organizations (RMOs) under MACH.

This consultation with the stakeholders was carried out using a semi-structured interview process focused on a series of “key questions” about their involvement in co-management. These basic questions were as follows:

- What is new about working in a co-management approach to protected area conservation and management?
- What new roles and responsibilities are you being asked to carry out?
- Do you have the required skills and capabilities (or experiences) to meet these requirements?

- What should be the highest priorities and practical suggestions for capacity building opportunities to be carried out under IPAC?

This may seem like a rather simplified approach to the important issues of institutional mandate and capacity building, for any kind of an organization. It does in fact embody the basic logic essential to any consideration of organizational change – “what’s new and what does the organization need to meet these changes?” It is the hope of the consultant team that those reading this report will *understand this basic logic and view it as a mini-case study in the adaptation of public administration* – how an organization meets the challenges and opportunities of the need for modernization and globalization. It is the first step of an important process of preparing a capacity building strategy and one that could be applied in other arenas as needs and opportunities dictate the need for change.

Finally, this consultancy was carried out under the aegis of a Scope of Work (SOW- see **Annex A**) and in close collaboration with the IPAC Chief of Party, Deputy Chief of Party, and with the Institutional Capacity Building Specialist member of the IPAC staff. In addition to the wide scale of consultation undertaken by the consultants (see **Annex B** for a list of persons consulted), additional activities were part of the assessment exercise. The consultant team compiled and reviewed the most pertinent and recent literature related to capacity building within the natural resources management sector in Bangladesh (see **Annex C** for the reference list). Two field trips, one to the Khulna-Sundarban area in conjunction with the launch of the Sundarbans IPAC cluster, and another to the Sylhet-Srimongal area were also undertaken and provided an opportunity to meet with and discuss matters with local staff and community members working on the protected areas there.

II. INSTITUTIONAL FRAMEWORK FOR CO-MANAGEMENT OF PROTECTED AREAS

The central premise of co-management of protected areas in Bangladesh is that the governmental agencies which have historically controlled terrestrial and aquatic resources will begin to share that control and the benefits flowing from these resources with other stakeholders, in particular the local communities living in and around these areas. The section which follows reviews the existing institutional framework for co-management and the nature of the institutions currently and officially responsible for the many kinds of protected areas in the country. The Integrated Protected Areas Co-management project and its work on co-management of protected areas currently falls under the purview of the Government of Bangladesh Ministry of Environment and Forests and the Ministry of Fisheries and Livestock.

Ministry of Environment and Forests

The Ministry of Environment and Forests is the nodal agency in the administrative structure of the Government of the People's Republic of Bangladesh for the planning, promotion, co-ordination, and overseeing the implementation of environmental and forestry programs. MoEF oversees all environmental matters in the country and is a permanent member of the Executive Committee of the National Economic Council.

Before partition of the Indian sub-continent in 1947, Bangladesh forests were administered under Forest Circles of the Bengal and Assam Forest Departments. From 1947 to 1962, the Provincial Forest Department was the authority with a Conservator of Forests (CF), and subsequently, until 1971, led by a Chief Conservator of Forests (CCF). With the formation of Bangladesh in 1971, reserved and proposed reserve forests passed to the Bangladesh Forest Department. From 1971 to 1989, the Forest Department fell under the Ministry of Agriculture and enjoyed varying degrees of interest in terms of attention from Government. During 1987-89, Forestry was a Division of the Agriculture Ministry, with a Secretary to Government in charge of the Forestry Division.

The Department of Environment, established in 1977 under the Environment Pollution Control Ordinance of 1977, still functions under the Environmental Conservation Act. With the formation of the new Ministry of Environment and Forests in 1989, both the departments were transferred to this new Ministry. The DoE has been placed under the MoEF as its technical wing and is statutorily responsible for the implementation of the Environment Conservation Act, 1995.

The Ministry also plays a pivotal role as participant of United Nations Environment Programme (UNEP). The principal activities undertaken by Ministry of Environment and Forests consist of conservation and survey of flora, fauna, forests, and wildlife, prevention and control of pollution, forestation and regeneration of degraded areas, and protection of environment, in the framework of legislations. The main tools utilized for this include surveys, impact assessment, control of pollution, regeneration programs, support to organizations, research to find solutions, and training to augment the requisite manpower, collection, and dissemination of environmental information and creation of environmental awareness among all sectors of the country's population.

The Forest Department and the Department of Environment are the two major departments under MoEF concerned with conservation of biodiversity and protection of environment.

Forest Department

The Forest Department, under the Ministry of Environment and Forests, Government of the People's Republic of Bangladesh, is mandated to take responsibility for the management and development of

government-managed forests. Historically, until partition of the subcontinent in 1947, the FD was part of the Forest Department of India. After partition in 1947, the FD continued to function within East Pakistan, with a CF as its head. The position of the CF was later elevated to Chief Conservator of Forests, heading the Forest Directorate of East Pakistan. Since Bangladesh independence in 1971, the FD continued to operate with the same structure until its reorganization was approved in 2001.

The administrative head of the FD is the Chief Conservator of Forest. The Forest Department is divided into four wings considering the magnitude of the works and line of jurisdiction (see **Annex D** which includes the organigrams of the GoB agencies under consideration here). Each wing is administered by a Deputy Chief Conservator of Forest (DCCF). Similarly, there are nine Circles in the FD. Each Circle is headed by a CF. Administrative categories under the Circles are Divisions. There are 44 Forest Divisions and each Division is headed by Divisional Forest Officer (DFO)/ Deputy Conservator of Forest (DCF). Each Division is divided into various working units designated as Ranges and ultimately into Beats, the lowest operational unit of management and administration.

Over the last three decades, the mandates of the FD have been shifted from “production forestry” to “people- oriented forestry” and thus the activities of the FD have expanded from the Reserved Forests to the village levels. Conservation of biodiversity through protected areas management only recently emerged as a major concern of the FD. Considering the changed scenario, the Government in 2001 instituted reforms of the organizational set-up of the FD (Ref.: MoEF/Sec.-2/For. [Adm. Reform]-22/98(6)296, dd. 24.6.01), during which wildlife concerns were addressed. During the reorganization of the FD institutional structure in 2001, total staff positions were increased from 5,224 to 8,681. This reorganization is a step forward for the FD with the creation of a new Circle, namely the “Wildlife and Nature Conservation Circle” (WNCC) for protected areas management. At the time of its establishment as a Circle there were no management plans for the notified protected areas. Co-management of protected areas by FD started with the initiation of USAID supported Nishorgo Support Project.

The Wildlife and Nature Conservation Circle (WNCC)

As part of this reorganization, the “Wildlife and Nature Conservation Circle” was established and headed by a CF with a total allocation of 378 staff under the direct control of the Chief Conservator of Forests. A table showing the staffing pattern of the WNCC can be found in **Annex D** of this report. The Wildlife and Nature Conservation Circle divisions are considered part of the permanent set-up of the Forest Department although no staff at the professional or at any level could be considered permanent. Staff members – from the Conservator of Forests to the Forest Guards – move regularly, every three years, on transfer, even to divisions under other Circles. Even staff members trained in conservation management are transferred, which is a weakness of the institutional setup.

FD personnel at all levels are mostly engaged in activities related to the traditional pursuit of production forestry. During the last one and a half decades they have become accustomed to and taken up a participatory forestry or social forestry approach. For the most part, however, the professionals of the Department at all levels are not conversant with the co-management of protected areas approach. Recently, the Nishorgo Support Project has provided an opportunity for some departmental staff, at both professional and sub-professional levels, to become accustomed to the co-management approach. In addition, recent overseas study programs have helped to promote the idea of co-management of PAs among many professionals but this has been difficult to sustain because of frequent staff transfers, a personnel management policy of the FD.

Most of the field staff currently working at Range and Beat levels have had very little exposure to PA management. Most of them were recruited as Foresters at least about two decades ago (due to a long extended hiring freeze) and received general forestry training from Sylhet Forestry School. Others have been absorbed from different development projects without any forestry training. Most of the staff

trained about two decades ago at Sylhet Forestry School think protected area management consists of checking game hunting and protecting game animals from out-of-season poaching. They need a thorough orientation training in PA management before being posted in a PA. This is currently a serious staffing problem within the FD.

Another major weakness of WNCC is that there is no position of ecologist, anthropologist or other professionals needed for PA co-management. Also there is no provision of career development if such personnel were to be recruited and the Department would have a difficult time nurturing their career development.

Under this Circle there are four Wildlife Management and Nature Conservation Divisions, and these field units are each headed by a Divisional Forest Officer. Four Wildlife and Nature Conservation Divisions currently exist, namely: (i) WNC Division, Dhaka, (ii) WNC Division, Chittagong, (iii) WNC Division, Khulna, and (iv) WNC Division, Sylhet. Each WNC Division has the mandate to manage the protected areas within the territory of the Division. Up until July 2004 only two WNC Divisions – namely, WNC Division Khulna and WNC Division Chittagong – were initiated (Mitchel et al. 2004). As of May 2009, all four divisions have become operational. In effect, the four divisions cover the whole country.

Protected Areas of Bangladesh under FD and Co-management

“Protected area” administered by FD covers an area of 2,43,677 ha, which accounts for 16 percent of the total area managed by the Forest Department and almost 2 percent of total area of Bangladesh. The types of protected areas include Wildlife Sanctuary, National Park, and Game Reserve. The protected area system, albeit not yet officially designated as such, currently includes eight National Parks, seven Wildlife Sanctuaries, one Game Reserve, and five other Conservation sites, namely, National Botanical Garden, Dhaka; Baldha Garden, Dhaka; Madhabkundo Eco-park, Moulvibazar; Sitakundo Eco-park, Chittagong; and Dulhazara Safari Park, Cox’s Bazar.

Their definitions in the Bangladesh Wildlife (Preservation) Order, 1973 (henceforth Wildlife Order) are as follows:

“*Wildlife Sanctuary* means an area closed to hunting, shooting or trapping of wild animals and declared as such under Article 23 by the government as undisturbed breeding ground primarily for the protection of wildlife inclusive of all natural resources such as vegetation, soil and water” (paragraph (p) of Article 2).

“*National Park* means comparatively large areas of outstanding scenic and natural beauty with the primary object of protection and preservation of scenery, flora and fauna in the natural state to which access for public recreation and education and research may be allowed” (paragraph (p) of Article 2).

“*Game Reserve* means an area declared by the government as such for the protection of wildlife and increase in the population of important species wherein capturing of wild animals shall be unlawful (paragraph (c) of Article 2)”.

Article 23 of the Wildlife Order has provisions for declaration of Protected Areas and also has regulations prohibiting activities in the Protected Areas. See Table 1 in **Annex E**, which includes a list of the Protected Areas of Bangladesh under the control of the Forest Department.

Co-Management of PAs by Forest Department-the Nishorgo Support Project

The Forest Department had developed experience from the 1980s in social forestry with benefit-sharing models in degraded forests adjacent to the Protected Areas and was looking in 2002 for ways of expanding participatory models to the more complex challenge of the PA management. USAID supported the program for “Co-Management of Tropical Forest Resources in Bangladesh” in the name

of Nishorgo Support Project over six years (2003-2008). The Nishorgo Support Project, along with the MACH Project (discussed below) were the principal precursors to the IPAC program, which has continued with the development and expansion of the co-management approach to protected area management and under which this capacity building assessment exercise is being undertaken.

NSP worked closely with the FD and key conservation stakeholders to develop and implement a co-management approach to help conserve the country's Protected Areas, where partnerships for conservation are essential. The Project worked at five initial pilot PA sites, namely: (i) Lawachara National Park, (ii) Rema-Kalenga Wildlife Sanctuary (iii) Satchari Reserve Forest, (iv) Teknaf Game Reserve, and (v) Chunati Wildlife Sanctuary. NSP has achieved a good deal in developing a co-management model through empowerment of local communities in the PA management planning and implementation process (for details, visit www.nishorgo.org).

Forest Department Training Facilities

Although somewhat beyond the scope of the current consultancy, it is also important to recall that the training objectives and curricula of some of the other training facilities administered by the Forest Department represent opportunities for expanding capacity for co-management. For example, the **Bangladesh Forest Academy** (former Forest College), situated at Chittagong is an in-service training facility for the forestry professionals FD. It is under the Education and Training Wing, one of the four wings of FD at second tier of the organigram. Headed by a Director (a position equivalent to that of Conservator of Forests), it has two positions of Professors in the rank of DCFs and other regular positions. It has a campus with residential and in-house training facilities but at present does not have an ongoing regular training program, mainly because of a shortage of operational resources. It can and has provided an orientation course for newly recruited professionals (six months), a professional course for selected senior Forest Rangers (three months), and refresher officer course (three months) albeit rather irregularly in recent years. Budget allocation is claimed as a major constraint for running courses! Most of the courses conducted are not based on any long-term need assessment but are derived from arbitrary decisions or possibly project-driven. Courses conducted from 1999 to 2004 were mostly project-driven and financed by the Forestry Sector Project and NSP.

In the opinion of this consultancy team, the Forest Academy presents a good opportunity to present quality trainings in different aspects of forest management including co-management of protected areas. Since it is located in Chittagong, there is also the option for partnerships with other institutions like the Bangladesh Forestry Research Institute and the Institute of Forestry and Environmental Sciences of Chittagong University.

Other than the training facilities for forestry professionals at the Forest Academy, the Forest Department has three Forest Schools, located at Sylhet, Rajshahi, and Chittagong. Sylhet Forest School and Rajshahi Forest School conduct a two-year diploma course for in-service sub-professionals. Chittagong Forest School is conducting a three-year diploma course in Forestry where admission is open.

The Kaptai Forest Development and Training Centre (FDTC) provides vocational-level training to workers, with a yearly output of 300 trainees in basic logging, timber harvesting and road construction, equipment and maintenance, saw doctoring and sawmilling maintenance, and extension forestry for rural development.

Other MoEF Departments Concerned with Conservation Activities

Apart from these two major departments, i.e., Department of Environment and Forest Department, working under this Ministry, there are three other organizations under MoEF. These are Bangladesh

Forest Research Institute (BFRI), Bangladesh National Herbarium (BNH), and Bangladesh Forest Industries Development Corporation (BFIDC).

Bangladesh Forest Research Institute was established in 1955 and mandated to provide research support to the Forestry sub-sector of the country, including Forest Department, Bangladesh Forest Industries Development Corporation, NGOs, and other private enterprises. BFRI's research activities aim to develop appropriate technologies to maintain sustainable productivity of forest land and of forest industries without resource depletion. It conducts research in 17 broad disciplines under two broad categories namely, the Forest Management Branch and the Forest Products Branch. BFRI's current major research programs areas are:

- Production of quality planting materials
- Plantation technique and forest management
- Breeding and tree improvement
- Bamboo and non-timber economic crops
- Biodiversity and conservation
- Forest inventory growth and yield
- Social forestry and farming system research
- Forest pest and diseases management
- Post harvest utilization: physical processing
- Post harvest utilization: chemical processing
- Training and transfer of technology

BFRI does not have any direct co-management type action research project, but it does have studies on inventory and documentation of biodiversity, indigenous ecological knowledge and natural resource management, community-managed common village forest, production and management of non-timber forest products including bamboo and rattans, development of mixed plantation models with indigenous species under different program areas like bamboo and non-timber economic crops, biodiversity and conservation, social forestry, and farming system research. BFRI has developed more than 50 technologies out of which more than 20 are being used at field and village levels by FD and farmers. The Institute collaborated with NSP by imparting training on bamboo production, management, and preservation. It also helped NSP in preparing a carbon project proposal through analytical work in the laboratory.

BFRI has technical capacities to some extent in implementing many PA co-management activities and also is a key partner in capacity development. As a national level institute its capacity is sustainable and a close collaborative linkage could be established in capacity building.

Bangladesh National Herbarium is a plant survey, collection, identification, and conservation organization. It documents the biological diversity of the plant kingdom in the country and its collections are accessible samples of natural population. The Herbarium is located at Mirpur, Dhaka, adjacent to the National Botanical Garden, Dhaka. It is staffed by professional plant taxonomists and headed by a Director. It is directly under the administrative control of MoEF. The published accounts

of the “Flora of Bangladesh” are being published by the BNH and to date it has revised more than 50 angiosperm families and published facsimile editions of the Flora family wise, though a slow process.

Both these organizations – the BFRI and the BNH – can provide technical support in developing PA management plans through technical know-how, and capacity back-stopping.

Department of Environment

The present Department of Environment emerged as the Environment Pollution Control Cell (EPCC) headed by a Director as a constituent body of the Environment Pollution Control Board under the Chairmanship of a Member of the Planning Commission in 1977 under the Environment Pollution Control Ordinance, 1977. The DoE still functions under the Environmental Conservation Act. With the formation of the new Ministry of Environment and Forests, in 1989, the DoE has been placed under the MoEF as its technical wing and is statutorily responsible for the implementation of the Environment Conservation Act, 1995.

It is headed by the Director General (DG) and discharges its responsibilities through the headquarters in Dhaka, along with six Divisional Offices located at Dhaka, Chittagong, Khulna, Bogra, Barisal, and Sylhet (see the organigram in **Annex D**). In the headquarters in Dhaka it has three major structures headed by Directors, including the Director (Administration), the Director (Environmental Management), and the Director (Planning). Under the Director (Environmental Management) there is a position of Deputy Director (Natural Resource Management).

The DoE’s mission is to help secure a clean and healthy environment for the benefit of present and future generations:

- Through the fair and consistent application of environmental rules and regulations
- Through guiding, training, and promoting awareness of environmental issues
- Through sustainable action on critical environmental problems that demonstrate practical solutions, and that galvanize public support and involvement

The key words point to an active role of DoE in solving environmental problems with public participation and support through enforcement of environmental laws and regulations and other compliance with the necessary permitting and governmental sanctions for development activities. The Department has expanded its activities towards the management of green sector through the declaration of and administrative responsibility for the new Ecologically Critical Areas (ECAs).

The Bangladesh Environment Conservation Act 1995 (Act I of 1995) deals exclusively with environmental issues. When the ecosystem of any area has reached a critical state due to degradation of environment, the Government by notification may declare the same as “ecologically critical area” under the provision of this act, where restrictions on economic activities are imposed. There are eight Ecologically Critical Areas in the country (see Table 2 in **Annex E** for a list of the ECAs). Though it has extended its mandate towards natural resource management through ECA, this activity is mostly project-driven. The DoE has embarked on ECA management under the aegis of the Coastal and Wetlands Biodiversity Management Project (CWBMP) with support from GEF and UNDP as stated below. The institutional framework of ECA management in DoE is very weak; at present there are only two ECA Management Officers posted at two CWBMP sites.

Coastal and Wetland Biodiversity Management Project

The project is being funded by the Global Environment Facility through the UNDP and is being implemented in Cox’s Bazaar and Hakaluki Haor. Its main objective is to establish an innovative system

for management of ECAs in Bangladesh that will have a significant and positive impact on the long-term viability of the country's biodiversity resources. The project is supporting DoE efforts to operationalize the ECA concept at the two project sites. One includes three ECAs – Cox's Bazar-Teknaf sea beach, Sonadia Island, and St. Martin Islands – and is located within the country's biodiversity-rich and long coastal zone. The second one at Hakaluki Haor involves the largest and most important of the country's many inland freshwater wetlands. The demonstration shall create important opportunities for replication in coastal and freshwater wetlands and other ecosystems throughout the country including additional sites recently declared nominated as ECAs.

The Project is working closely with ECA Committees at local level, under the coordination of a national level ECA Committee. Local level ECA Committees (at union, upazila, and district level) have been established in both the ECA sites to implement the project activities. The ECA Management Units (ECAMU) were operationalized in the vicinity of the project sites. The ECAMU is responsible, *inter alia*, to coordinate the implementation of conservation activities as well as the implementation of the management plans. It is expected that the units ultimately will become part of DoE's district level offices. Although the present phase of the CWBMP was expected to be completed in mid-2009, they are currently negotiating a 15 month no-cost extension with UNDP, and there is a strong likelihood of a second phase to the project.

Ministry of Fisheries and Livestock

The role of the Fisheries and Livestock sectors in the development of agro-based economy of Bangladesh is very important and promising. They contribute approximately 8% to the national income and also about 32% of the total agricultural income. Fisheries resources are the source of a disproportionate amount of the protein in the diets of the average Bangladeshi.

The main functions of the Ministry of Fisheries and Livestock are to preserve fisheries resources, fulfill the requirement of animal protein through proper management and planned development, increase socio-economic conditions of fishermen, create employment opportunities for rural unemployed and landless people, expand foreign exchange earnings by exporting fish and fishery products, and to innovate new technologies through research for fisheries development and preservation. The MoFL is one of the direct actors concerned with biodiversity and natural resources conservation. But its past activities were mostly centered on extension and development activities. So, an enhanced sense of conservation as part of its mission and sufficient capacity in this regard, particularly in co-management of open water bodies, would be a very crucial need in the near-term.

The Department of Fisheries and Department of Livestock are the two major departments under MoFL. In addition, the Ministry also oversees the Bangladesh Fisheries Research Institute, the Bangladesh Fisheries Development Corporation, and the Bangladesh Livestock Research Institute (see **Annex D** for an organogram of the MoFL and its Departments).

Department of Fisheries

Department of Fisheries was first established in the undivided Bengal of the British India in 1908. In 1910, the DoF was abolished through merging with the Department of Agriculture. Again as per recommendation of Mr. T. Southwell, the DoF became an independent organization in 1917. The DoF was abolished again in 1923. After a long gap, following the recommendation of Dr. M. Ramswami Naidu, the DoF was revived in May 1942. Since the inception of the then-East Pakistan (now Bangladesh), the DoF had been continued. After the independence of Bangladesh in 1971, the Central Fisheries Department of the then-Pakistan merged with the DoF of Bangladesh in April 1975. Later on, in 1984, the Central Marine Fisheries Department merged with the DoF as a Marine Fisheries Wing.

The principal mandates of the DoF are:

- To disseminate improved aquaculture technologies through training and demonstration and to extend extension advisory services to the local stakeholders
- To enhance fisheries resources through enacting conservation and management measures
- Assist the administrative ministry to formulate policies, acts, etc.
- To enforce quality control measures and issuance of health certificates for exportable fish and fish products
- To conduct fisheries resources survey and assessment of stock to develop fisheries database for proper planning
- To facilitate arrangement for institutional credit for fish and shrimp farmers, fishers, and fish traders
- To formulate and implement development projects towards sustainable utilization of fisheries resources to ensure food security
- To facilitate alternative income-generating activities for rural poor and unemployed people towards poverty alleviation

A review of the mandate of the DoF indicates that it is mostly a service-oriented department with some regulatory functions of ensuring of quality control of fish and fisheries products for export. DoF staff at upazila level work with farmers for promoting aquaculture. Experience of DoF on open water fisheries is very recent. Community-based open water fisheries management of DoF is project-driven, something that began under the Fourth Fisheries Project. During a meeting with the DG, DoF, and his colleagues on May 26, 2009, the DG informed that MoFL has sent a proposal to the Ministry of Land for leasing of open water bodies to local communities, and this proposal is under consideration of Ministry of Land. If this happens, the DoF will need to develop more capacities in co-management.

The DoF is under the administrative control of the Ministry of Fisheries and Livestock. It is headed by a Director General, who is assisted by three Directors and two Principal Scientific Officers (equivalent to Director). There are 845 technical officers of different hierarchy and 3,278 supporting staff in the DoF under the revenue budget who accomplish the routine activities of the Department. At the sub-national level there is an administrative framework set-up at the division, district, and upazila levels headed by Deputy Director, District Fisheries Officer, and Upazila Fisheries Officer respectively. Besides these, there are three Fish Inspection and Quality Control Stations, Marine Fisheries Station, Fisheries Training Academy and four Fisheries Training Centres, and many Fisheries Farms and Hatcheries (See www.fisheries.gov.bd).

Consultation with DoF officials stated a need for sociologists, communication specialist, and IT specialists. Unfortunately, however, there is no scope for career development of such personnel in the existing organigram as the mainstream professionals are all under Bangladesh Civil Service (Fisheries Cadre), a great hindrance to capacity development.

Community-Based Open Water Fisheries Management: Experiences on community-based open water fisheries management dates back to late 1990s and were implemented in conjunction with different NGOs. “Open Water Fisheries Management” and “Aquatic Development Management and Conservation” were the two major components of the Fourth Fisheries Project that concerned community-based management. Lessons learned from the MACH project have been encouraging in initiating IPAC project.

Management of Aquatic Ecosystems through Community Husbandry Project

The MACH Project employs a collaborative community approach to natural resources management in wetland ecosystems. Funded by USAID, MACH began in 1999 and continued to 2006 and still has a follow-up is going on at the Hail Haor site. The project was implemented in three sites, namely: Hail Haor in Moulvibazar district, Turang Bangshi in Gazipur district, and Kangsha Malijhee site in Sherpur district. The project's main purpose was to demonstrate to communities, local governments, and policy makers the viability of a community approach to natural resource management and habitat conservation in Bangladesh that involves entire floodplains and surrounding watersheds. The selected "communities" have included all people in a given area who depend either economically or nutritionally on the flood plain and its products. The program has emphasized and worked with poorer groups, particularly fishers, and with particular attention directed toward women's involvement. To make the program truly sustainable, MACH has also included representatives from union-level of local government as well the local elites who are primarily involved in decision-making (Winrock International 2006).

MACH has supported local communities to form their own organizations for overall management of physical and biological components of selected wetland ecosystems. The project has emphasized conservation and rehabilitation of degraded aquatic habitats. Major habitat restoration activities have included reestablishment of dry season refuges for fish and other resources dependent on an aquatic habitat. The project has also included work with local industries to reduce pollution, reestablishment of watershed functions through re-vegetation and reforestation, and reduction of soil erosion by introducing appropriate and environmentally friendly wetland agriculture and aquaculture systems.

MACH has also made significant progress in catalyzing a community-based response to the issues affecting sustainability of open water resources. The project's natural resources management accomplishments have included: (i) reduction in fishing pressure through community-imposed and enforced regulations; (ii) establishment of fish sanctuaries in dry season water bodies; (iii) excavation of silted-up canals and portions of rivers to restore ecosystem connectivity; (iv) enhancement of fish species diversity; (v) re-introduction of important missing fish species through stocking; and (vi) re-vegetation in both riparian and swamp forest areas. It has also developed greater resource-use awareness, health care, and literacy rates in an integrated program for the project areas.

The achievements of the MACH project indicate the importance of appropriate community participation based on trust and economic incentives as well as the success of institutionalizing community-based management of natural resources. As such, the lessons from MACH are of great relevance to PA management programs that involve eliciting participation, designing community co-management arrangements, and facilitating income-generating activities for PA communities.

Bangladesh Fisheries Research Institute: An autonomous organization under the Ministry of Fisheries and Livestock, this Institute had been established in 1984. Under this Institute, there are five stations located at Mymensingh, Chandpur, Rangamati, Cox's Bazar, and Paikgacha (Khulna) and three substations at Santahar, Jessore, and Barisal. These stations conduct basic and applied research on freshwater aquaculture, inland fisheries management, lake management, fish diseases, marine fisheries, brackish water aquaculture, fish breeding genetics, etc. Some of the technologies like, fish-cum-duck culture, fish-cum-poultry culture, and polyculture of carps, developed by this Institute are being extended to the field.

Fisheries Training Academy: The Department of Fisheries has a Fisheries Training Academy (FTA) at Savar near Dhaka and four Fisheries Training Centers in different parts of the country. It is headed by a Director and in the organization pattern of DoF, it is directly under the Director General. It has accommodation and other training facilities. The FTA imparts training to DoF professionals. Trainings at sub-professional level and for fishers and community-based organizations are conducted at different

training centers. Training activities are both on production and quality control measures. Some of the production and extension-oriented trainings are as follows:

- Basic Extension Skilled Course (12 days)
- Aquaculture Extension Course (7 days)
- Environment Friendly Shrimp Culture (7 days)
- Fish Farm Designing and Hatchery Management Course (10 days)
- Carp Polyculture Training Course (7 days)
- Integrated Fish Farming (Duck-cum-Fish Farming)
- Community-Based Open Water Fisheries Management (12 days)

Trainings at FTA and other Centers are mostly project driven. For example, IPAC will be sponsoring a Conservation Biology certificate course with the Independent University of Bangladesh and Jahangirnagar University for partner GoB and NGO staff at FTA, Savar. Therefore, FTA will have an important role in capacity development under IPAC. Recently, DoF authorities report that budgetary support for training of its staff has been minimal and many staff have not been receiving training in recent years. This coincides with a general lack of budgetary support for field operations which has hampered the extension activities of the Department.

During the implementation of Fourth Fisheries Project (FFP), the DoF developed extension materials in Bangla on different subjects such as a Training Manual on Environment Friendly Shrimp Culture, Quality Control, etc. The DoF also produced a Training Course and its attendant manual on "*Community Based Open Water Fisheries Management Training Course*" in Bangla under FFP. It is designed as a 12-day course with target groups comprising of Upazila Fisheries Officers (UFO), Senior Upazila Fisheries Officers (SUFO), Biologists, Survey Officers, Assistant Fisheries Officers, Field Assistants from DoF and associated NGO staff. The course outline and training manual is a 331-page document with daily session plans. Training methods adopted are class lectures, question and answers, group works and field exercise having some fishers in the group during the exercise. Like many project-driven activities, this training course only continued during the life of the FFP. But the DoF has developed a group of trainers and can offer them as resource persons when needed by the departments or by other agencies

Perusing the 331-page manual suggests that indeed the Department intends this course as the basic foundation course for DoF officials. However, it appears to be more academic than practical. Although the title of the course focuses on "Community-Based Fisheries Management," the IPAC Assessment team could not help but note that there was little emphasis given to community empowerment, sense of conservation, organization or institutional development, leadership development, and other aspects of socio-economic sciences. The course would benefit from a critical review in line with growing experience of community based natural resource and fisheries management and the lessons learned under CWBMP and MACH.

The DoF also organizes training courses for sub-professionals, farmers, and community members on the following topics which might have applicability or resonance for a co-management approach to open water fisheries management: Fish Diseases Management, Risk Management, Local Resource Mobilization for Farmers, and Fish Sanctuaries Identification and Development.

Local Level Governance and the Co-management Approach

Upazilas: The districts of Bangladesh are divided into subdistricts known as upazilas. There are 482 upazilas in Bangladesh. Upazilas are the lowest administrative unit of Bangladesh and most of the service provision departments – such as Fisheries, Agriculture, and Livestock departments – are represented by responsible officials at upazila level. The Upazila Nirbahi Officer or UNO (Upazila Executive Officer) is the key coordinator for development activities. Most of the rural or village development programs are implemented through upazilas. All the development committees at upazila level are chaired by the UNO and include all Union Parishad chairpersons under the upazila and nearly all main upazila officials from different departments. If fisheries development is considered, then Upazila Fisheries Officers/ Senior Upazila Fisheries Officers typically act as the Member-Secretary of the Upazila Fisheries Conservation and Development Committee. The MACH program had upazila level committees and the CWBMP also has upazila level committees for its implementation. For local level planning, conflict resolution, and transparency, the upazila level of governance will play an important role in co-management of natural resources, particularly in case of open water resources where the owner of the water bodies is the Ministry of Land.

Union Parishad (UP): Union is the lowest administrative unit in the rural areas and the Union Parishad (Union Council) is the first step of the Local Government System in Bangladesh. The council is comprised of one Chairperson, nine members, and three women members who are elected by the voters of the union. Each Union is divided into nine wards. The nine members are the representatives of the nine wards. Most of the development activities at village level are implemented in collaboration with UP members. All activities of the government including those for safety net, food security, and disaster management are implemented through UPs. As mentioned above, the UP chairpersons were members of Committees at upazila level for the MACH program. Also, in the case of NSP, UP members are also members of Co-management Councils. The CWBMP has Union level resource management committees. Thus the Union Parishads are very important for local level governance of natural resources.

III. THE MEANING OF CAPACITY BUILDING

Training efforts undertaken as part of the Nishorgo Support Project were a very proactive aspect of the activities and investments to establish capacity for the co-management of protected areas. Most of the training was short-term in nature, typically less than 7 days in duration and often much shorter, and was provided to both the Forest Department staff engaged in the targeted areas and for the local stakeholders living in and around them. Despite all the efforts, it is generally acknowledged that this training fell short of expectations related to capacity building for a number of reasons, to wit.

“For the FD, the value of training was compromised by internal transfers of staff soon after training and by the lack of a separate wildlife cadre in which capacity could accumulate. For local stakeholders, training was most effective for those lower income participants in targeted training programs for nurseries, eco-guiding, eco-cottage management and least effective when aiming to stimulate empowerment and active governance by CMC (co-management committee) members” (NSP Summary Analysis brochure 2008).

The Existing IPAC Capacity Building Component

The IPAC program has recognized that “capacity is pivotal” to a successful co-management approach and accordingly has elevated the efforts aimed at capacity building to the level of a full and important program component—Component 2—Building Stakeholder and Institutional Capacity. On the one hand, capacity building will expand to include a much wider range of key groups of stakeholders:

- Government decision makers at the ministerial level (MoEF & MoFL) responsible for policy/legislation;
- Government technical departments (Forest and Fisheries) responsible for Protected Areas (national and local staff);
- Co-management institutions being established (CMC, RMO, UFC, CWBMP groups);
- Community based organizations, resource user groups engaged in co-management (CBO / RUG); and
- Supporting partners (NGO, private sectors, universities)

Similarly, a wider range of activities is foreseen as part of the investments under this component:

- Strengthening the capacity of existing training centers;
- Developing an integrated foundation course on applied conservation biology;
- Designing and implementing in-country and overseas short-term training programs; and
- Designing and implementing a method whereby experienced villagers/members of resource user groups can be trained to become extension agents for peer-to-peer training of other villagers participating in IPAC.

Finally, it is worth recalling that this particular consultancy was fielded with the specific intent, *inter alia*, of ensuring that the planned IPAC investments and activities in capacity building would be the most effective and efficient choices. It has become clear during the course of the consultancy, and in particular in discussions with the IPAC principals, including the Project Director, the Chief of Party and

the Deputy Chief of Party, that they view “capacity building” as a topic wider than just a training needs assessment.

The consultant team shares that view and has made a specific effort to review the “meaning of capacity building” in its preliminary presentations, particularly those targeting senior GOB decision-makers. The capacity building strategy which is the subject of this consultancy and report should clearly be viewed and treated as a continuing and critical component of the larger national integrated protected area co-management strategy and action plan foreseen as the ultimate outcome of IPAC.

Training and training opportunities are things that are routinely highly appreciated and sought after in Bangladesh. Perhaps this ready acceptance of training opportunities undermines the need for a clear and compelling capacity building strategy in the full sense of that phrase which is and will continue to be required to advance the co-management paradigm and its implementation. The consultant team believes that there are different elements to capacity building and that all concerned, and in particular the policy-makers need to have them all in mind from the outset if we are to succeed in enhancing both individual and institutional capacity for co-management of protected areas.

Elements of a Capacity Building Strategy

Identifying the Skills and Capabilities Needed¹: The key questions mentioned above, in particular those about the new roles and responsibilities required of those implementing co-management of protected areas, were expected to reveal a list of skills and capabilities. Overall the stakeholders were very affirmative in their conviction that “co-management” was the “way to go” for protected area management under the very high pressure situations that typify Bangladesh and most of its rural areas (with some exceptions in the Sundarbans and the Chittagong Hill Tracts). Skill needs tended to fall into two broad categories, those related to dealing with people in a co-management setting, and those related to the actual management of a protected area and the conservation of its biodiversity assets.

Much was made of the need for “**people skills**” reflecting a general conviction as well that “conservation is a social science” where the desired outcome is a modification of human behavior patterns to ensure sustainable use and/or protection of threatened biodiversity assets. There was a general validation of the high place accorded to *a communications strategy* in the IPAC design because most concerned recognized that an ability to share views would be critical to sharing governance responsibilities. Yet others emphasized the need for *extension and outreach capabilities* to facilitate interacting with potentially large numbers of community members living in and around the protected areas. Similarly, the implied need for local users and stakeholders to be organized into groups highlighted the need for *organizational development methods and skills*. Given the legal status of some of these protected areas as well as the emerging applicability of co-management within GOB structures, both multiple agencies and at various levels of government suggested a need for *program coordination capabilities*.

Other people-related skill sets, somewhat related to the technical skills mentioned below, were often mentioned. Since one of the premises of co-management is that local people benefit tangibly from the positive outcomes of conservation, there would be a need for *natural resources economic analysis and business management skills* to ensure that in fact the benefits exceeded the costs of participation in these programs for local people. There was also a growing recognition about the finite nature of the resources within these areas and the fact that they cannot be all things to all people, and thus, conflict was probably inevitable as part of community-based co-management. Therefore, *conflict resolution skills and methodologies* is yet another area of the skill set needed by good co-managers. Finally, the demand by visitors and

¹ These “skill areas” will be discussed in further detail in the following chapters which deal more explicitly with the findings related to capacity needs and opportunities and how to implement them.

others seeking the amenity values of protected areas, and their very evident impact on some of these areas, reiterated the need for *visitor management* as part of ecotourism and outdoor recreation abilities.

The other general area could be characterized as a range of “**technical skills**” which those officially mandated with the management of these areas expressed as needed to enable them to do their jobs well. As might be expected, many stakeholders both among the GOB agencies and the NGOs which are supporting co-management voiced a need for specific and practical skills in the area of *protected area conservation and management*. Although a great deal is known about plantation technology, including mangrove reforestation, future efforts at protected area management will need to emphasize *natural forest management, restoration and regeneration* to further safeguard biodiversity assets and wildlife habitat.

Bangladesh is still discovering the meaning of its protected areas and their appeal to the general public which often creates pressures beyond what was expected. Accordingly, broader understandings and capabilities for *ecotourism and outdoor recreation* (and these are two different things) *planning and implementation* are frequently mentioned as needs. The decision to expand the activities to promote co-management on the wetland ecosystem areas of the country, including the Sundarbans Mangrove Forests, adds a need for *community-based natural resources management skills in areas such as fisheries and watersheds*. And finally, protected areas should become “poles of development” and therefore some of the opportunities for improving village life may occur in *innovative technologies* for bringing basic services to the community, for water, power, transport and school and clinical services.

How to get the new Skills and Capabilities: The Integrated Protected Area Co-Management Program (IPAC) is already suggesting how the future institutional framework for co-management might work, by bringing together a broad coalition of GOB agencies, NGOs, and the private sector in support of local community organizations. In the past, the Government agencies traditionally felt that they owned these protected areas (and other designated “national” areas) on behalf of the State and Society and were in charge of and the principal actors of everything that went on there. They administered the natural resources and allowed others, sometimes reluctantly, to use them or to work with the user community.

Things have changed radically and there is now broad recognition, at least in some quarters, that the State “cannot and should not do it all” nor should it be the default development actor and employer of choice across the rural landscape of Bangladesh². The essence of this administrative change is the transition from a predominantly “command and control” approach to natural resources management to one of a “service orientation” that both regulates and facilitates the use of resources for the betterment of the citizens and their development needs. Obtaining the skills and capabilities to provide these services can be accomplished, as the basic design of the IPAC coalition underscores, in three different ways: *in-house* (GOB staff within the agencies), by *outsourcing* (contractual arrangements to provide specialized services) and through *partnerships* (intra-agency arrangements and public-private partnerships). It may be too early to say definitively how different types of services will be obtained over the long-run but clearly a real capacity building strategy will be considering these both the types of services needed and the arrangements for obtaining them.

How to use these new Skills and Capabilities: Both the Forest Department and Fisheries Department present a special situation for considering these issues of how to obtain and put to good use these new skills and capabilities because of their preference within the career ranks of professional cadre....foresters and fisheries specialists. The personnel system is almost exclusively organized to

² See the World Bank publication: “Government That Works” for a fulsome discussion of the transformation of the Government of the People’s Republic of Bangladesh (add citation information here!!)

provide a career track for this type of individuals and staff with other skills and capabilities, no matter how much they are needed, have a secondary status within the hierarchy.

For example, as mentioned above, only about 375 of the staff positions among the 8500+ personnel of the Forest Department are assigned to the Wildlife and Nature Conservation Circle. Similarly, there are only four divisions under the WNCC whereas the territorial staff serves in forty-four such divisions. Transfers into and out of the Wildlife and Nature Conservation Circle are the rule rather than the exception. This makes it very difficult, as noted above, to accumulate seasoned staff, whether cadre or not, as the protected area management specialists that the Forest Department will ultimately require to do its job well.

This is not an unusual situation for public forestry organizations worldwide and it need not continue to be a dilemma, for example, for the Forest Department of Bangladesh. In most cases, these organizations were started by and organized around the career professionals who studied forestry and who belong to the national cadre—the foresters themselves. In most countries, in fact, it is the professional foresters who make up the heart and soul of the public forestry administration and who are responsible for the primary institutional mandate of protecting and managing the national forest estate. Over the years, however, it has become evident that new demands on the forestry (and even fisheries) organizations bring demands for new skills and capabilities beyond those of a well rounded forestry professional.

To meet this demand, there have been two approaches. On the one hand, professionally trained foresters can be trained at the Master's or PhD level in a specialized field, such as biodiversity conservation or protected area management. The second choice is to bring in individuals already trained in these fields to widen the talent pool within the organization. Typically, an organization like a national forest service begins with the former approach but finds over time, as programs grow and become more sophisticated, that it must recruit more highly trained and skilled specialists to ensure that its programs are on the cutting edge and increasingly effective.

The Forest Department of Bangladesh has already adopted both approaches. It would be fair to say, however, that it has as yet to fully embrace the need for non-foresters within the career hierarchy of the Department or the need for maintaining an increasingly capable and experienced complement of staff within the Wildlife and Nature Conservation Circle and assigned to an enduring role within a “National Protected Area system” (itself another goal along the path to greater capability for biodiversity conservation in Bangladesh...see discussion below). Furthermore, because of the policies about staff transfers, even foresters or other staff with an affinity and interest in protected area management, may not be able to stay in their posts and apply their talents to this growing area of the institutional mandate for the Forest Department in Bangladesh³.

Above and beyond the policy issue of how these skills and capabilities will be absorbed into the Departments, there is also the issue of how they will be funded. Clearly, the whole matter should be part of an internal strategy, as mentioned above, about these posts and their establishment. There is nothing wrong with “piloting” new positions or mandates under a projectized approach and this can even go on for some time while larger issues are being sorted out. This is likely, for example, to be the case of the staffing within the DOE for the ECA Cell which is now limited to two internal positions; all the rest of the staff function within projects. Given the present economic pressures, both nationally and globally, it

³³ It is worth noting that although the essence of this report is about “co-management of protected areas”, the needs for adoption and adaptation of other skills and experiences within a public forestry administration, or even the public fisheries administration, is generally much wider as the organization evolves to meet the modern challenges of the day. For example, in the U.S. Forest Service, a Forest Supervisor may be the person in charge of hundreds of staff across a very large territorial expanse....millions of acres of national forest land...he may not be the final authority for certain issues. Personnel safety and security practices often override standard operating practices in forest management and/or wildlife management operations.

is unlikely that the Government of Bangladesh is going to or should create an entire new cadre of protected area managers within the DOE to take responsibility for the ECAs. Here again, however, action by the Establishment unit within the Ministry or Department, and the need for an eventual corollary revenue budget allocation should be something being considered from the outset.

Some Final Comments on a Capacity Building Strategy

As was mentioned above, the consultants have attempted to present this matter of the meaning of a capacity building strategy in simple and clear terms so that it can be understood as a “mini-case study” in enhancing the capabilities of public administrations in general. In the course of this work, knowledgeable leaders have recognized that having a capacity building strategy and a human resources development plan and system in place and being able to implement it is a key attribute of a progressive public administration able to adapt to the challenges and opportunities of the sector and country where it works. Doubtless, the same applies as well for the NGO community involved in these programs; they are not automatically up-to-date in the skills and capabilities they bring to the table. Many will have heard what has become a cliché...“learning is an important characteristic of a successful organization”! The consultant team would hope that one of the most important points about a co-management oriented capacity building strategy for Bangladesh will be another cliché in the making– “capacity is grown, not created”.

IV. FINDINGS RELATED TO CAPACITY NEEDS AND OPPORTUNITIES

This chapter will summarize the outcome of our consideration of these two primary steps mentioned above as part of a capacity building strategy – (1) What new roles and responsibilities have been identified? and (2) What do they mean in terms of the required skills and experience? Since IPAC is only just getting underway, with barely nine months of implementation, much of what is known about these new roles and responsibilities was learned under past projects – e.g., MACH and NSP. For example, the Vision 2010 paper written in 2004 highlighted what at the time were being considered as *a series of new focus areas* associated with the implications of protected area management, including the following:

- More coordination with local populations
- Sustainable local development, production systems, and livelihoods improvements
- Sustainable management and value generation
- Natural regeneration of ecosystems and biodiversity

At the time, it was understood that these new focus areas would require some adaptation in terms of the roles and responsibilities on the part of those responsible for protected area management and conservation under a “co-management approach.” These *new roles and responsibilities* remain valid and vibrant today, five years down the road, and include:

- Expertise in forest and ecosystem management and eco-restoration
- An understanding and use of participatory management processes
- Maintaining regular dialogue with all key stakeholders in and around protected areas
- Cultural sensitivity towards diverse ethnic groups
- Pro-active establishment of a platform for dialogue and negotiation with local stakeholders
- Able and willing to manage legal challenges and issues concerning the PA system

Recommendations regarding Specific Skills and Capabilities Needed for Co-Management

These recommendations about training needs and opportunities have been categorized into two broad areas: (1) Organizational capacity building needs and opportunities and (2) Professional and technical skills and capabilities for the continued development and expansion of the “co-management management approach to protected area management” in Bangladesh. With the above in mind, the suggestions which follow are intended to be complementary to the present IPAC capacity building component or constitute recommendations about the specific courses that IPAC could sponsor under the existing plan.

It is also important to bear in mind that in the view of the

Focus Areas for Professional & Technical Capacity Building under IPAC:

- ✓ Natural Resources Economics
- ✓ Business Planning & Micro-Economic Analysis
- ✓ Biodiversity Conservation and Protected Area Management
- ✓ Applied Technology Innovations for Improved Village Livelihoods
- ✓ Natural Forest Management and Restoration
- ✓ Best Practices in Open Water Fisheries Management

Focus Areas for Organizational Capacity Building under IPAC

- ✓ Leadership for change
- ✓ Internal Staff Training Curriculum
- ✓ Basics of Co-management – community organization and motivation – development sociology.
- ✓ Communications, Outreach, Advocacy, and Extension

consultants, and of the majority of the stakeholders, there is general consensus that while there is a lot to do to continue to promote and develop the “co-management paradigm” as it relates to protected areas, the present IPAC design constitutes an extremely logical and compelling choice of options. It builds on the lessons learned under MACH, NSP, and CWBMP and includes three components: (1) Policy and Strategy and (3) Site Specific Interventions, with (2) Capacity Building, right in the middle, feeding off of and into the other two.

Accordingly, the recommendations which follow, presented **earlier** as preliminary findings in a Power Point presentation, are repeated here in the same format as “targets of opportunity” or action modules for IPAC and others to consider and address.

Proposed Organizational Development Training Needs and Opportunities – Some Modules:

LEADERSHIP FOR CHANGE

(a short course or a path of study?)

Goal: Nothing succeeds like leadership! We need to ensure that the senior staff involved in this program emerge from it with the skills and experiences to continue to take the program forward.

Target Audience: Senior members of the staff of the GOB agencies (DFOs, ACFs, others at this level), site coordinators & supervisors of NGOs, CMC, or RMO leaders.

Training Themes: Collaboration and coordination, motivational leadership, managing change, program advocacy, teamwork, developing a service orientation.

AN INTERNAL STAFF TRAINING CURRICULUM

(a series of short courses or refresher courses)

Goal: Making sure the IPAC staff and partners have understood the co-management paradigm and their part in promoting and developing it... “the basics...”

Target Audience: All the staff, including both IPAC organizations, GoB partner agencies, and the NGO partners.

Training Themes: TBD...an internal training program which all staff complete over the course of their first few months of engagement in the program, with ample follow-up and a staff manual (something all successful organizations should have).

COMMUNICATIONS, OUTREACH, ADVOCACY, AND EXTENSION

(a series of short courses and/or refresher courses)

Goal: Conservation is a social science and empowering local people as agents of change and conservation requires these skills and capabilities – communications, outreach, advocacy, and extension.

Target Audience: GoB Departmental staff, particularly those assigned at the PA level and their NGO partners' staff.

Training Themes: ...both the importance of two-way communications for co-management as well as practical methodologies to make that possible (to be keyed to the Communications Strategy being developed elsewhere by IPAC).

BASICS OF CO-MANAGEMENT – COMMUNITY ORGANIZATION, MOTIVATION, AND DEVELOPMENT SOCIOLOGY

Goals: Understanding and respecting the communities we work with is essential for making the transition to a service-oriented public administration.

Target Audience: GoB Departmental staff, particularly those assigned at the PA level and their NGO partners' staff, in a Training of Trainers mode so that they can pass this critical learning on to others.

Training Themes: TBD...empowering the community, forming cohesive groups, promoting action for change, conflict resolution, etc.

Professional and Technical Skills and Capacities for Advancing Co-Management of Protected Areas – Some Modules

NATURAL RESOURCES ECONOMICS

(formal training and also short course)

Goal: Build a better understanding and ability to analyze the real values of protected areas, their biodiversity and production assets, and the services they provide.

Target Audience: Post-graduate training to Master's level for one/two officers from each GoB Department. Also, a short-course to be developed for senior staff of the Departments and partner NGOs.

Training Themes: Resource valuation, environmental services, the macro- and micro-economics of natural resources management, financing conservation, and possibly forestry-related carbon trading.

BUSINESS PLANNING & MICRO-ECONOMIC ANALYSIS FOR VALUE CHAIN MARKET DEVELOPMENT AND ALTERNATIVE INCOME GENERATION SCHEMES

(short course)

Goal: Ensuring that proposed AIG schemes make sense and that local people will benefit from participating in them.

Target Audience: Both NGO and GoB staff who are working to develop AIG activities with local users communities.

Training Themes: Cost/benefit analysis, business plan development, market linkages, understanding how to compete in the marketplace.

BIODIVERSITY CONSERVATION & PROTECTED AREA MANAGEMENT...BEYOND WILDLIFE MANAGEMENT

(formal training and conservation biology certificate course)

Goal: Enabling the development of a cadre of competent biodiversity conservation and protected area management specialists within the GoB agencies.

Target Audience: Post-graduate training to Master's level for one/two officers from each GoB Department. Also planned "conservation biology" certificate course currently under preparation.

Training Themes: TBD... to mirror the course content of the conservation biology short course currently being designed with special emphasis on field based experiences from countries in the region on biodiversity conservation and protected area management.

NATURAL FOREST MANAGEMENT & RESTORATION

(short course or certificate course in a neighboring country?)

Goal: Continuing to develop Forest Department skills and capabilities for regenerating and managing the natural forests of the country.

Target Audience: ACFs and above, delivered as a Training of Trainers course so that they can pass it on to Rangers and Beat Officers.

Training Themes: Natural forest management, promoting natural regeneration and revegetation of degraded natural forests and shrublands, silvicultural prescriptions for natural forests, exclosure area approach, community forestry or social forestry approaches to natural forest management, promotion and management of non-wood forest products, and the role of natural forest management for carbon sequestration.

BRINGING CO-MANAGEMENT APPROACHES TO THE TRAINING PROGRAMS OF THE FISHERIES DEPARTMENT

(a curriculum review and enhancement process)

Goal: Ensure that the lessons learned in CWBMP and MACH have been incorporated into the Training Program of the Fisheries Department, in particular as concerns co-management approaches and inland and open water fisheries.

Target Audience: Fisheries Department staff.

Training Themes:TBD based on a closer examination of their training curriculum...

BEST PRACTICES FOR WETLANDS AND OPEN WATER FISHERIES MANAGEMENT

(short course or refresher course)

Goal: Continue to expand the understanding and knowledge of the potential importance of the wetland ecosystems and open water fisheries management so as to be able to bring more such areas under protection and conservation.

Target Audience: SUFOs and NGO personnel, taught in a Training of Trainers mode so it can be repeated.

Training Themes: ...TBD...information from MACH and WFC review of same subject.

ECO-TOURISM DEVELOPMENT AND PROMOTION

(short course and/or internships with private entrepreneurs)

Goals: Training designed to ensure that the personnel implementing protected area co-management programs recognize the opportunities for tourism and outdoor recreation associated with these areas and make the right choices to promote them.

Target Audience: GoB field staff in charge of Protected Areas, and NGO partner field staff working with them.

Training Themes: The development of community-based ecotourism and outdoor recreation opportunities, eco-tourism facilities and Government's role, managing the changes to protected areas from tourism influx, working with the private sector, etc.

APPLIED TECHNOLOGY INNOVATIONS FOR IMPROVED VILLAGE LIFE

(short course at AIT Bangkok?)

Goals: Introduce IPAC personnel to ideas and innovations that could also make a difference in the lives of communities participating in co-management... beyond typical AIG and resource management-based interventions.

Target Audience: NGO and GoB staff who work with community user groups.

Training Themes: Rural development, solar power development, rainwater harvesting, rural road networks, improved water supply, village schools and clinics.. some new ideas about how to contribute to communities involved in co-management.

Implementing a Capacity Building Strategy for Co-Management – Some Practical Steps

During the course of this consultancy, a number of those contacted, in particular the IPAC Project Director, stressed the need for understanding *the practical significance of a capacity building strategy* for their concerned institutions. The Consultant Team applauds this expressed need. It is clear that making progress in terms of building capacity requires more than having a list of training needs and carrying out the necessary training programs. As has been mentioned several times in this report, there is a need for conscious and purposeful effort to “grow capacity.” Typically, it cannot simply be created, although in many cases good experiences are as satisfactory a means to building capacity as more formal training courses.

The section which follows provides some practical suggestions for the implementation of the capacity building strategy contained in this report.⁴ Where possible, it is specifically directed at different organizational levels within the institutional framework for co-management of protected areas as it currently functions in Bangladesh; in yet other cases, it is of a more general nature.

Making Capacity Building part of the Policy Agenda. It is vitally important that the secretarial level authorities within the subject ministries make achievement of the capacity building strategy part of their own goals for modernization of the public administrations they direct. In fact, the Consultant Team believes that this may well be a more appropriate and important role for the authorities at this level... the secretaries and their secretariat colleagues... to play than attempting to deal with the more technical aspects of the mandate of the ministries they lead. Building strategic capabilities is a *prima facie* example of good public administration and one that will be essential to replicating the growing success with co-management of protected areas in Bangladesh. As one of the more specific points made above stresses – “nothing succeeds like leadership.” These leaders must emphasize that capacity building not a means to an end; it is rather part of the intended outcome itself... the critical building block for implementing co-management of protected areas!

Beyond Talking to the Convinced. In many countries, capacity building for biodiversity conservation has been so well understood as important that it is taken for granted! Clearly, that won’t work and a purposeful and strategic approach is needed. One of the first steps is to “take it to the next level,” moving “beyond the convinced talking to the convinced.” It is suggested that each of the departments in question ask their respective Establishment Units to use this capacity building strategy to formulate and implement their own plan for growing the internal capacity for co-management within the organization. As part of that strategy, there should be a human resources development plan which tracks those working in biodiversity conservation and protected area management and ensures that they have a defined career path and the building blocks (a defined set of training courses leading to a specialization in their respective fields) which allows them to prosper within the organization in return for their commitment to good work.

Learning Together Institutionally: Communications are Fundamental. Two GoB ministries and their three departments are already involved in co-management of protected areas. They work with a larger consortium of NGOs, community-based organizations, and the private sector. There are serious expectations about program coordination and learning among these partners but achieving this goal cannot be taken for granted. The communication that must underpin these exchanges takes real time and resources which should be built into the program. In fact, program coordination may prove elusive but the key to learning and working together is communication leading to some cooperative efforts. If

⁴ It is worth reiterating that the recommendations related to the implementation of the capacity building strategy are indeed just that... about implementing the capacity building strategy. They do not address the larger policy issues nor make recommendations about field-based actions, as this would be beyond the scope of the present consultancy.

we do not know what the others are doing because we are not communicating, it is unlikely that program cooperation or coordination will succeed. It is also worth noting that training courses and programs are good opportunities for engendering the sense of common purpose that will by definition promote the cooperation and learning that is required. It would seem that a co-management newsletter published regularly and to which any and all can contribute would make sense at this point, particularly if its basic goal was to disseminate information about national experiences.

Choosing the Prioritized and Practical. The many engaged people with whom the Consultant Team has interacted have inevitably generated a long list of capacity building goals or training needs and actions. There is an abiding need to re-emphasize what needs to happen next. However, it is important to bear in mind that we are *not making a list but rather making choices, based on our common view of the priorities and practicalities* associated with capacity building for co-management of protected areas in Bangladesh.

Pending Matters of a Capacity Building Nature. During the earlier efforts on capacity building under NSP and in the discussions which followed them, a number of very pertinent implementation-type recommendations were made, some of which continue to merit support and/or need follow-through. Those considered worth reiterating here, along with some additional discussion, include the following:

- Overall, many of the existing protected areas are relatively small and there has been a recommendation pending for some time to strategically add adjacent areas still considered as “forest reserves” *to increase the overall area under protection* and widen the scope of Forest Department support for biodiversity conservation. This remains the single most important opportunity for building more capacity for conservation, in particular given the new understandings and emphasis on landscape level approaches which also apply very well in the wetlands/freshwater floodplains areas being brought under co-management. Taking this step strategically will also mean bringing the staff assigned in these forest reserve areas up-to-speed on the co-management approach, thereby almost certainly expanding the capacity within the Forest Department.
- It has also been suggested that *specific budget codes be included in the Revenue Budget for protected area management*, and that a designated staff member be named at FD Headquarters to plan and monitor for PA system finances. Recent agreements about shared entrance fee revenues are a good start. However, this dilemma of sustainable financing for protected areas is one most countries have to face. A multi-faceted solution has been the most common response, including strong support and regular budgets from the national budget (as a result of a collective social agreement for important conservation imperatives and a recognition of the inherent values for present and future generations), many kinds of public-private partnerships – some as part of the social compact of successful companies and others because the protected area system acts as a “pole of development” and generates contributions to the local economy around it.
- There was a recommendation to add “information, extension and communication” to the standard FD training curriculum, at the FD schools and Academy. This should be reiterated and widened in scope; *protected area management, co-management, biodiversity conservation should all be part of the standardized training curriculum* for staff joining the Department or doing refresher courses.
- That the Forest Department continues to *proactively raise the profile of its commitment and support for protected area management*. For example, it was suggested that the FD organize a “Protected Areas Day” similar to what it does for “Tree Planting Day,” as a way of increasing the national constituency for a protected area system and mustering more support for its own programs. Under IPAC, the thrust of a “Protected Areas Day” should also include the areas where the DoE and the DoF are working.

ANNEX A. TERMS OF REFERENCE OF THE CONSULTANT TEAM

Continuing the Development of Institutional and Human Resources Capacity for Promoting and Implementing Co-Management of Natural Resources and Protected Areas in Bangladesh – An Assessment-cum-Planning Exercise.

Scope of Work for Thomas Catterson IRG Environmental Institutions Specialist (revised April 6, 2009)

Background

As part of USAID/Bangladesh's on-going support for the development of the co-management paradigm and its practice as a key strategy to the sustainable management and conservation of natural resources and protected areas in the country, there has been ample attention given to the need to develop corresponding institutional and human resources capacities. Indeed, an analysis of these needs was part of the package of design studies carried out in preparing the Nishorgo program. During the implementation of Nishorgo, a study specific to the needs of the Forest Department and its readiness to manage the protected areas under its jurisdiction was also undertaken (Mitchell & Alum 2004). Additional capacity building assessments and interventions were carried out with Dept of Fisheries through assistance from MACH and other projects, and with the Dept of Environment through CWBMP and other CIDA and UNDP funded projects.

It is now very clear that the co-management paradigm, as a key strategy to the sustainable management of natural resources, the protected areas and the environment in general has broader applicability beyond the mandate of the Forest Department or even the forestry sector. For example, the present thinking is that a co-management approach would make sense for the Ecologically Critical Areas (ECAs) managed by the Department of the Environment (DOE) or, building on the MACH Project experience, as part of a new approach to fisheries management and co-management of protected wetlands. There is even thought to be scope for applying co-management to the undifferentiated state lands (khas lands) typically administered by the District Commissioners.

Over the next four years, the Forest Department, Environment Dept and Dept of Fisheries will need to each assume an important role in the formal establishment, institutionalization, sustainable financing and scaling up of an integrated national system of co-managed Protected Areas. The long term success of this integrated Protected Area co-management system while depend on the capacity of these agencies to overcome their institutional weaknesses and to evolve and transform themselves so as to fully embrace the internationally proven modes and methods of supporting and sustaining participatory, collaborative management of declared Protected Areas along with the adjacent buffer zones in the PA landscape.

Objectives

USAID/Bangladesh has now asked the IPAC Team to assess priority needs and to plan further interventions to be supported by IPAC with the aim of building institutional and human resources capacity for the sustainable development and scaling up of co-management.

Specifically, USAID is requesting:

- a) A rapid assessment of the achievements to-date in building capacity with the Forest Dept, Fisheries Dept and Dept of Environment, along with an updated analysis of the key institutional weaknesses to be overcome to achieve the long term objectives of IPAC
- b) an identification of the needs and opportunities to continue this capacity development with the three technical departments and partners primarily engaged in implementing IPAC, with particular attention to the scope for “modernizing” each Department to support the latest approaches in participatory, collaborative management of Protected Areas and the surrounding landscapes
- c) a plan for IPAC and other potential development assistance partners to address these institutional capacity building needs and opportunities.

Accordingly, IPAC will field an international consultant who will visit Bangladesh for a period of approximately three weeks to carry out this assessment cum planning exercise. It is foreseen that he will do this work in association with a senior and very experienced Bangladeshi specialist consultant, during the months of April and May 2009.

Proposed Tasks

More specifically and under the direction of and in close consultation with the Chief of Party of IPAC and the GOB Project Director, the consultant team will carry out the following more detailed activities:

- Upon arrival, work with the IPAC Institutional Capacity building specialist, team leaders, GoB and NGO partners to develop a schedule and plan of work to carry out the assessment and preparation of an updated Capacity Building Strategy.
- Carry out a series of consultations with the full range of stakeholders involved in co-management to develop a sense of existing capacity, institutional weaknesses, and their views on the needs and opportunities related to institutional and human resources capacity, along with some indications of both achievements and constraints of this nature.
- Identify the primary modes and approaches that need to be institutionalized so as to effectively lead and support the participatory co-management of protected areas and surrounding landscapes, including the development of increased capacities to use such tools as certification and branding, new modes of conservation financing, expanded strategies for development outreach, communication and extension, more effective approaches to support social mobilization and community participation, and institutional reforms designed to reinforce incentives and provide for more equitable benefit sharing at the local level.
- Identify and examine the wider range of potential institutional and individual actors who can and should play a role in promoting the co-management paradigm, including government institutions, community based organizations, the NGOs active in this area, academia and the private sector, with a view to further projecting the future development of the institutional framework for the implementation of co-management as a key sustainable natural resources, biodiversity and protected area management strategy for the country.
- Work with the IPAC Capacity Building specialist, IPAC team leaders and GoB and NGO partners to develop an institutional capacity building strategy and work plan for priority interventions to address the needs and opportunities identified by this assessment.
- Prior to departing from Bangladesh, the consultant will prepare a brief trip report describing the work completed. The Consultants will also prepare a preliminary presentation of their findings, ideally in power point format, and present it to a workshop convened by IPAC for that purpose.

The comments and recommendations of the workshop will be incorporated into a final report of the consultancy, to be presented within two weeks of the return of the international consultant to IRG HQ.

Proposed Location: Dhaka, with possible field visits to meet stakeholders at the field level including District Commissioner staff.

Duration and LOE: Three person-weeks in-country in April / May 2009 (six day work week for the international consultant). A total LOE of 26 person-days is proposed for the international consultant and 20 person-days for the national consultant.

Deliverables:

Trip Report and preliminary summary of main findings and recommendations, to be presented at the conclusion of the field work.

Final report, including results of the Institutional Assessment, and recommendations for a Co-Management Capacity Building Strategy, and priorities for IPAC capacity building interventions.

ANNEX B. PERSONS INTERVIEWED

1. Mr. Md. Abdul Motaleb, Chief Conservator of Forests, Ban Bhaban, Dhaka
2. Mr. Md. Altaf Hossain Khan, Deputy Chief Conservator of Forests (DCCF), Ban Bhaban, Dhaka
3. Mr. Md. Ishtiaq U. Ahmed, Conservator of Forests (CF), Wildlife and Nature Conservation Circle and Project Director, IPAC Project, Ban Bhaban, Dhaka
4. Mr. Haradhan Banik, Deputy Chief Conservator of Forests (DCCF), Social Forestry Wing, Ban Bhaban, Dhaka
5. Mr. Md. Yunus Ali, Conservator of Forests (CF), Central Circle, Ban Bhaban, Dhaka
6. Mr. Sheikh Mizanur Rahman, CF (Establishment), Ban Bhaban, Dhaka
7. Mr. Abu Naser Khan, ACCF, Ban Bhaban, Dhaka
8. Mr. Md. Tariqul Islam, ACCF, Ban Bhaban, Dhaka
9. Mr. Md. Mahbubur Rahman, DFO, Wildlife and Nature Conservation Division, Moulvibazar Division, Moulvibazar
10. Mr. Mollah Rezaul Karim, ACF, Wildlife and Nature Conservation Division, Moulvibazar Division, Moulvibazar
11. Mr. Md. Liaquat Ali, Forest Ranger, Divisional Office, Wildlife and Nature Conservation Division, Moulvibazar Division, Moulvibazar
12. Mr. A. K. M. Azharul Islam, Range Officer, Sreemangal Range, Wildlife and Nature Conservation Division, Moulvibazar Division, Moulvibazar
13. Mr. Narayan Chandra Das, Forester, ACF's Office, Sreemangal, Wildlife and Nature Conservation Division
14. Mr. Md. Shajahan Ali, Forester, Lawachara Beat, Sreemangal
15. Mr. Md. Najibur Rahman, Director General (DG), Department of Environment, Paribesh Bhaban, Dhaka
16. Dr. Fazle Rabbi Sadeque Ahmed, Director (Technical), Department of Environment, Paribesh Bhaban, Dhaka
17. Mr. Md. Jafar Siddique, National Project Director, Coastal and Wetland Biodiversity Management Project, Department of Environment, Paribesh Bhaban, Agargaon, Dhaka
18. Mr. Md. Mahbubur Rahman, Project Manager, Coastal and Wetland Biodiversity Management Project, Department of Environment, Paribesh Bhaban, Agargaon, Dhaka
19. Mr. M. A. Malek, Horticulture/ Plant Biodiversity Specialist, Coastal and Wetland Biodiversity Management Project, Department of Environment, Kulaura Site Office, Kulaura, Moulvibazar
20. Mr. Anwar Hossain, Eco-tourism Development Officer, Coastal and Wetland Biodiversity Management Project, Department of Environment, Kulaura Site Office, Kulaura, Moulvibazar

21. Mr. Md. Jahangir, Agriculture Specialist, Coastal and Wetland Biodiversity Management Project, Department of Environment, Kulaura Site Office, Kulaura, Moulvibazar
22. Mr. Bashir Ahmed, Wildlife Specialist, Coastal and Wetland Biodiversity Management Project, Department of Environment, Kulaura Site Office, Kulaura, Moulvibazar
23. Mr. Joynal Abedin, Community Development Officer, Coastal and Wetland Biodiversity Management Project, Department of Environment, Kulaura Site Office, Kulaura, Moulvibazar
24. Mr. Md. Rafiqul Islam, Director General, Department of Fisheries, Matshya Bhaban, Dhaka
25. Syed Ali Azhar, Assistant Director, Department of Fisheries, Matshya Bhaban, Dhaka
26. Mr. Md. Nazrul Islam, Assistant Director, Department of Fisheries, Matshya Bhaban, Dhaka
27. Mr. Arif Tarafdar, Assistant Director, Department of Fisheries, Matshya Bhaban, Dhaka
28. Chowdhury Md. Abul Farah, District Fisheries Officer, Moulvibaazar District, Moulvibazar
29. Mr. Shahidul Islam Bhuiya, Upazila Fisheries Officer, Sreemangal, Moulvibazar
30. Mr. Farid Uddin Ahmed, Executive Director, Arannayk Foundation, Dhaka
31. Dr. Md. Abdul Quddus, Senior Program Officer, Arannayk Foundation, Dhaka
32. Mr. Mohammad Reazuddin, Chief Operating Officer, WWR Bio Fertilizer, Bangladesh Ltd., Dhaka
33. Mr. Robert Winterbottom, Chief of Party, Integrated Protected Area Co-management Project (IPAC), Dhaka Office, Dhaka
34. Dr. Ram A. Sharma, Deputy- Chief of Party, Integrated Protected Area Co-management Project (IPAC), Dhaka Office, Dhaka
35. Kazi M. A. Hashem, Institutional Capacity Building Specialist, Integrated Protected Area Co-management Project (IPAC), Dhaka Office, Dhaka
36. Mr. Nasim Aziz, Performance-Monitoring Specialist, Integrated Protected Area Co-management Project (IPAC), Dhaka Office, Dhaka
37. Dr. Md. Giasuddin Khan, Senior Fisheries Scientist, WorldFish, Banani, Dhaka
38. Dr. M. G. Mustafa, Biophysical Advisor, IPAC- WorldFish, Integrated Protected Area Co-management Project (IPAC), Dhaka Office, Dhaka
39. Ms. Nadira Khanam, Communication Specialist, Integrated Protected Area Co-management Project (IPAC), Dhaka Office, Dhaka
40. Mr. Utpal Dutta, Governance Specialist, IPAC, Dhaka Office, Dhaka
41. Mr. Goutam Biswas, Project Coordinator, Southern Cluster and Sunderban Cluster, Integrated Protected Area Co-management Project (IPAC)
42. Mr. Raqibul Ameen, Program Coordinator, IUCN Bangladesh Country Office, Dhaka
43. Mr. Masud Siddique, IPAC-WorldFish, Integrated Protected Area Co-management Project (IPAC), Dhaka Office, Dhaka

44. Mr. Md. Azizur Rahman, Site Facilitator (SF), SNP& RKWS, IPAC, Sreemangal, Moulvibazar
45. Mr. Abu Sayeed Md. Sharif, Site Coordinator, IPAC, Sreemangal, Moulvibazar
46. Mr. Abdul Kader, SF, Khadimnagar National Park, Sylhet, IPAC Office, Sreemangal, Moulvibazar
47. Mr. Amal Kumar Promanik, SF, Hail Haor, IPAC Office, Sreemangal, Moulvibazar
48. Mr. Abdullah Al Mamun, SF, LNP, IPAC Office, Sreemangal, Moulvibazar
49. Mr. Md. Amirul Islam, Site Coordinator, IPAC, Sylhet Site
50. Mr. Md. Abdur Rahman, SF, Tanguar Haor, IPAC
51. Mr. Tapash Chandra Das, PMARA, IPAC- NE Cluster
52. Mr. Md. Nazrul Islam, CSPC, IPAC-NE Cluster, Sreemangal Office, Moulvibazar
53. Ms. Shaila Shultana, COGF, IPAC-NE Cluster, Sreemangal Office, Moulvibazar
54. Mr. Jewel Ahmed, SF, IPAC, Kulaura, Moulvibazar
55. Mr. Md. Kamrul Islam, FC, MACH-CARITAS, Sreemangal, Moulvibazar
56. Mr. Md. Alauddin, Sr. FO, MACH-CNRS, Sreemangal, Moulvibazar
57. Mr. Moniruzzaman, FO, MACH-CNRS, Sreemangal, Moulvibazar
58. Mr. Md. Mooklesur Rahman, CNRS, Banani, Dhaka
59. Mr. Rafiqur Rahman, Chairman, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
60. Mr. G. P. Shuchin, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
61. Mr. Ananda Mohan Sinha, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
62. Mr. Gopal Dev Chowdhury, Vice-Chairman, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
63. Mr. Md. Mushahid, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
64. Mr. Md. Siddique Ali, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
65. Ms. Rano Bibi, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
66. Ms. Ayesha Begum, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
67. Mr. Ahad Ali, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
68. Mr. Ab. Rashid, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
69. Kazi Shamsul Hoque, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar
70. Syed Saleh Ahmed, Member, CMC, Lawachara National Park (LNP), Kamalgonj, Moulvibazar

71. Mr. M. A. Wazid, Chairman, Balla Unnayan Samngatan, Vimshi, Bhonovir, Moulvibazar
72. Mr. Dipankar Das, Secretary, Balla Unnayan Samngatan, Vimshi, Bhonovir, Moulvibazar
73. Mr. Bhidhu Bhushan Baiddya, Treasurer, Balla Unnayan Samngatan, Vimshi, Bhonovir, Moulvibazar
74. Mr. Bijoy Krishna Das Gupta, Member, Balla Unnayan Samngatan, Vimshi, Bhonovir, Moulvibazar
75. Ms. Priya Rani Sarker, Member, Balla Unnayan Samngatan, Vimshi, Bhonovir, Moulvibazar
76. Mr. Taranga Das, Member, Balla Unnayan Samngatan, Vimshi, Bhonovir, Moulvibazar
77. Mr. Haricharan Das, Member, Balla Unnayan Samngatan, Vimshi, Bhonovir, Moulvibazar
78. Mr. Stephen Gibbons, Canadian Field Project Manager, Bangladesh Environmental Institutional Strengthening Project, Poribesh Bhaban, Dhaka

ANNEX C. REFERENCE MATERIALS CONSULTED

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ANNEX D. ORGANIGRAMS OF THE GOVERNMENT OF BANGLADESH DEPARTMENTS CURRENTLY INVOLVED IN CO-MANAGEMENT OF PROTECTED AREAS

Structure of the Forest Department, Showing the Current Placement of the Wildlife & Nature Conservation Circle (WNCC)

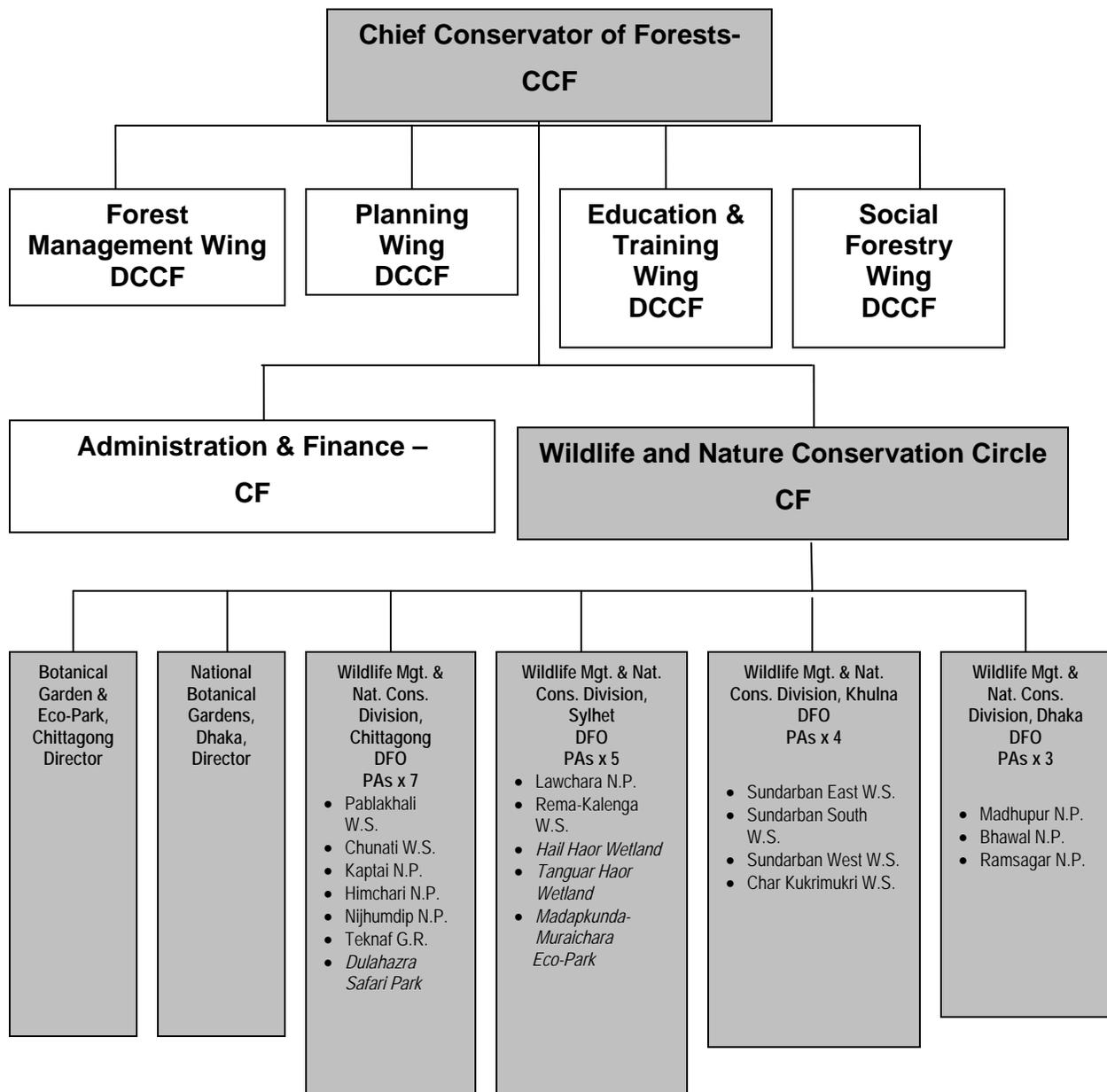
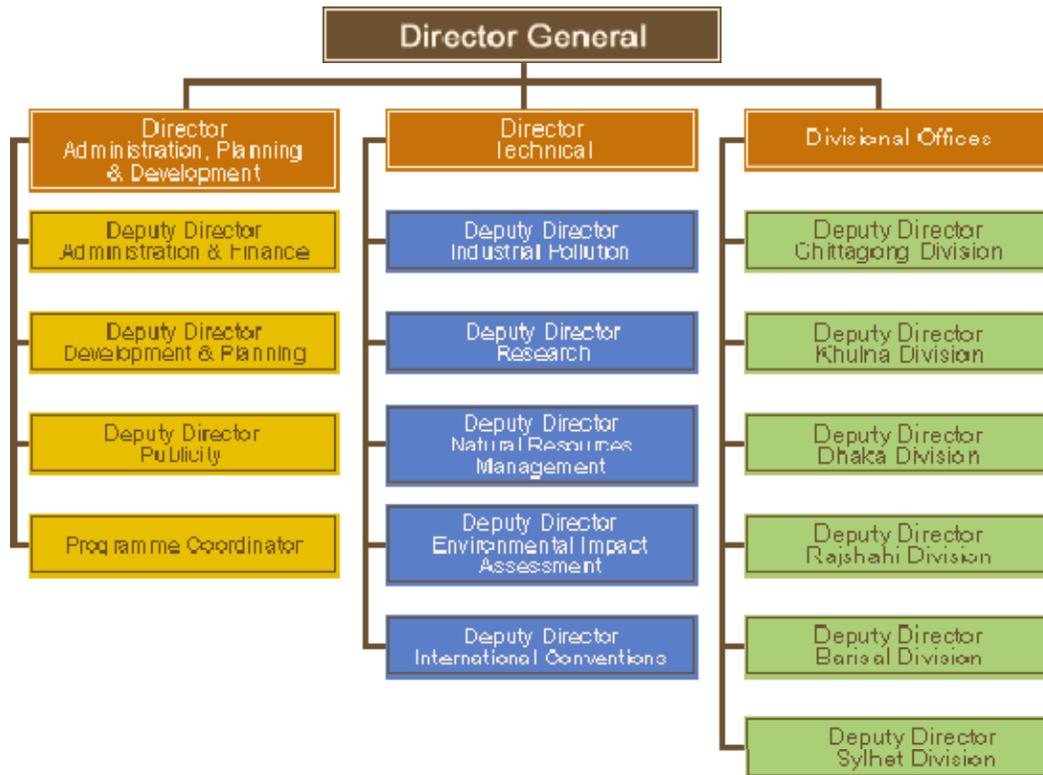


Table No. D-I- Sanctioned, Allocated Positions of the Wildlife & Nature Conservation Circle (WNCC) according to the approved 2001 Forest Department Organigram

WNCC POSTS	CF Wildlife and Nature Conservation	National Botanical Garden, Dhaka	Botanical Garden and Eco-Park, Chittagong	WNCC Division, Dhaka	WNCC Division, Chittagong	WNCC Division, Sylhet	WNCC Division, Khulna
Conservator of Forest (CF)	1						
D C F / D F O	1	1	1	1	1	1	1
Curator		1					
Senior Research Officer	1						
Research Office/Botanist	2	1	1				
Asst. Conservator of Forest		1	1	3	5	3	4
Head Assistant		1		1			
Accountant		1	1		1	1	1
UD Assistant		1	1				
Office Assistant	3	3	2	2	2	2	2
Steno-typist	1						
Forest Ranger/ Field Investigator		2	2	5	6	3	5
Deputy Ranger		3		2	3	2	4
Forester		4	3	6	8	8	8
Cash Sharker		1					
Despatch Rider		1					
MLSS / Peon / Etc.	3	3	2	2	2	2	2
Wildlife Warden	1			1			
Forest Guard/Junior Scout / S. Guard	1	8	3	15	15	10	15
Night Guard	1	2	1	1	1	1	1
Sweeper (<i>Jharudai</i>)	1	2	1	1	1	1	1
Boatman				2	2	2	10
Sweeper				1	1		
Driver	1	1	1	1	1	1	1
Head <i>Mali / Mali</i> (Gardener, Laborer)		75	25	5	5	5	5
TOTAL (378)	17	112	45	49	53	42	60

Organizational Chart – GoB Department of Environment



ANNEX E. LIST OF PROTECTED AREAS IN BANGLADESH

Table I: Notified Protected Areas of the Country are as follows:

A	NATIONAL PARKS	Location	Area (ha.)	Established
1	Bhawal National Park	Gazipur	5,022	1974/1982
2	Modhupur National Park	Tangail/Mymensingh	8,436	1962/1982
3	Ramsagar National Park	Dinajpur	27.75	2001
4	Himchari National Park	Cox' Bazar	1,729	1980
5	Lawachara National Park	Moulavibazar	1,250	1996
6	Kaptai National Park	Chittagong Hill Tracts	5,464	1999
7	Nijhum Dweep National Park	Noakhali	16352.23	2001
8	Medha Kassapia National Park	Cox's Bazar	395.92	2004
9	Satchari National Park	Hobigonj	242.91	2005
B	WILD LIFE SANCTUARIES	Location	Area (ha.)	Established
10	Rema-Kelenga Wildlife Sanctuary	Hobigonj	1795.54	1996
11	Char Kukri-Mukri Wildlife Sanctuary	Bhola	40	1981
12	Sundarban (East) Wildlife Sanctuary	Bagerhat	31226.94	1960/1996
13	Sundarban (West) Wildlife Sanctuary	Satkhira	71502.10	1996
14	Sundarban (South) Wildlife Sanctuary	Khulna	36970.45	1996
15	Pablakhali Wildlife Sanctuary	Chittagong Hill Tracts	42087	1962/1983
16	Chunati Wildlife Sanctuary	Chittagong	7761	1986
	GAME RESERVE	Location	Area (ha.)	Established
C 17	Teknaf Game Reserve	Cox's Bazar	11615	1983

Other Conservation Sites

D	Name	Location	Area (ha.)	Established
1	National Botanical Garden	Dhaka	84.21	1961
2	Baldha Garden	Dhaka	1.37	1909
3	Madhabkunda Eco-Park	Moulavibazar	265.68	2001
4	Sitakunda Botanical Garden and Eco-park	Chittagong	808	1998
5	Dulahazara Safari Parks	Cox's Bazar	600	1999

Table 2: List of Ecologically Critical Areas Declared under the Bangladesh Environment Conservation Act, 1995

No.	Name of Wetland	District	Area (ha)
1	Strip of 10 km. outside the Sundarbans Reserved Forest	Khulna, Bagerhat, Satkhira	762, 034
2	Sea Front of Cox's Bazar and Teknaf	Cox's Bazar	10465
3	St Martin's Island	Cox's Bazar	590
4	Sonadia Island	Cox's Bazar	4916
5	Hakaluki Haor	Moulvibazar	18383
6	Tanguar Haor	Sunamganj	9727
7	Marjat Baor	Jhenaidaha	200
8	Gulshan Lake	Dhaka city	20

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