



## **Assessment of the Forest Department's Institutional Organization and Capacity to Manage the Protected Area System of Bangladesh**





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USAID /Bangladesh

August 2004



Implemented by IRG  
With partners: CODEC, NACOM & RDRS



# ASSESSMENT OF THE FOREST DEPARTMENT'S INSTITUTIONAL ORGANIZATION AND CAPACITY TO MANAGE THE PROTECTED AREA SYSTEM OF BANGLADESH

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## **Acronyms & Bangla Terms**

ACF	Assistant Conservator of Forests
ADAB	Association of Development Agencies in Bangladesh
ADB	Asian Development Bank
APM	Advanced Participation Methods
ARCBC	ASEAN Regional Center for Biodiversity Conservation, Los Baños, Philippines
BARC	Bangladesh Agricultural Research Council
BCCP	Bangladesh Center for Communication Programs
BCCS	Bangladesh Country Case Study
BFIDC	Bangladesh Forest Industries Development Corporation
BFRI	Bangladesh Forest Research Institute
BRAC	Bangladesh Rural Advancement Committee
BRDB	Bangladesh Rural Development Board
CBO	Community-based Organization
CCF	Chief Conservator of Forests
CEGIS	Center for Environmental and Geographic Information Services
CF	Conservator of Forests
CFs	Community Facilitators
CHT	Chittagong Hill Tracts
CHTDB	Chittagong Hill Tracts Development Board
CI	Conservation International
CODEC	Community Development Center, Chittagong
CTO	Cognizant Technical Officer, USAID
DAE	Department of Agriculture Extension
DCC	District Coordination Committee
DCCF	Deputy Chief Conservator of Forests
DCF	Deputy Conservator of Forests
DCFP	Development of Community Forestry Project, ADB
DFID	Development Funds for International Development
DFO	Divisional Forest Officer
EA	Executing Agency
FAO	Food and Agriculture Organization
FC	Field Coordinator
FD	Forest Department
FGD	Focus Group Discussion
FMP	Forestry Master Plan
FNTC	Forest Nursery and Training Center
FRMP	Forest Resource Management Project
FSMP	Forestry Sector Master Plan
FSP	Forestry Sector Project, ADB
GIS	Geographic Information System
GoB	Government of Bangladesh
GPS	Geographic Positioning System
Ha	Hectare
HF	High Frequency (Radio)
HQ	Head Quarters
HH	Household
ICDP	Integrated Conservation and Development Project
IDF	Institutional Development Framework
IEC	Information, Education & Communication (Strategy)
IFESCU	Institute of Forestry and Environmental Sciences, Chittagong University
IMT	Information Management Technology

IRG	International Resources Group, Washington, D.C., USA
IUCN	The World Conservation Union (formerly, International Union for the Conservation of Nature)
IUCNB	IUCN Bangladesh Country Office
JFM	Joint Forestry Management
JPAP	Joint PA Patrolling (between community members and PA staff)
<i>Lakh</i>	100,000
LCO	Local Community Organization or Consultative Group
M&E	Monitoring and Evaluation
MACH	Managing Aquatic Systems through Community Husbandry, USAID
<i>Madrassa</i>	Islamic religious education institute
<i>Malik</i>	Owner
<i>Matobbar</i>	Patron, local elite/leader
MIS	Management Information System
MoEF	Ministry of Environment and Forests
MOU	Memoranda(um) of Understanding
Mouza	Group of villages regarded as an administrative unit for land administration
MPA	Marine Protected Area
MPPT	Management Plan Preparation Team
<i>Murubbi</i>	Elderly, respected person, guardian
<i>Mushawarah</i>	Consensus-building community meeting or forum to decide on a plan of action
NACOM	Nature Conservation Management (NGO)
NEMAP	National Environmental Management Action Plan
NFP	National Forest Policy (1994)
NGOs	Non-Governmental Organizations
NP	Nishorgo Program, Forest Department
NSP	Nishorgo Support Project, USAID
NTFP	Non-Timber Forest Products
PA	Protected Area
PABAB	Protected Areas and Biodiversity Advisory Board
PABMW	Protected Areas and Biodiversity Management Wing
PAMS	Protected Area Management System
PAS	Protected Areas System
PCP	Project Concept Paper
PFD	Participatory Forestry Development
PD	Project Director
PKSF	<i>Palli Karma Shahayak</i> Foundation
PO	Program Organizer
PRA	Participatory Rural Appraisal
RDRS	<i>Rangpur Dinajpur</i> Rural Services
RECOFTC	Regional Community Forestry Training Center
RIMS	Resource Information Management (Monitoring) System, Forest Department
RRA	Rapid Rural Appraisal
<i>Samity</i>	Cooperative, collective enterprise
<i>Sanchay</i>	Savings
SBCP	Sundarbans Biodiversity Conservation Project
SEMP	Sustainable Environment Management Program, UNDP
SF	Site Facilitator
SF	Social Forestry
<i>Shawnirvar</i>	Self-reliance
SMU	Sundarbans Management Unit
SO	Strategic Objective, USAID
SOGA	Strategic Objective Grant Agreement, USAID
SRF	Sundarbans Reserved Forest

TA	Technical Assistance
<i>Thana</i>	Local government level between Union and District (currently renamed <i>Upazila</i> ), Police Station
TK	<i>Taka</i> (Bangladesh Currency)
TOR	Terms of Reference
UANDP	<i>Upazila</i> Afforestation and Nursery Development Project
UHF	Ultra High Frequency (Radio)
UP	Union <i>Parishad</i>
<i>Upazila</i>	Local government level between Union and District (formerly <i>Thana</i> ), Sub-District
USAID	United States Agency for International Development
USD	United States Dollars
USF	Un-classed State Forests
USP	Upland Settlement Project
VDC	Village Development Committee
VM	Village Motivators
VO	Village Organization
WAB	Wildlife Advisory Board
WB	World Bank
WMNC	Wildlife Management & Nature Conservation <u>Division</u> , Forest Department
WNCC	Wildlife & Nature Conservation <u>Circle</u> , Forest Department
WPC	World Parks Congress

Currency Exchange Rate (July 2004): 1 USD = approx 59 <i>Taka</i> (Bangladesh Currency)
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## **Acknowledgements**

The members of the Assessment Team would like to express their gratitude and sincere thanks for the generous help, support and cooperation rendered by a large number of individuals and institutions in the course of this study. Although it is not possible to name them individually, the Team remains most grateful to all concerned. The Team sincerely appreciates the time devoted by stakeholders and prospective participants at Chunati in particular, for making time available for the meeting, forgoing their earning opportunities. Our particular appreciation is for Mr. M. Anwarul Islam, Chief Conservator of Forests and sincere thanks for Mr. Md. Osman Gani, Mr. Rezaul Karim and Mr. AKM Shamsuddin, DCCFs for the interest shown and assistance rendered during the course of this work.

We also take this opportunity to thank Mr. Md. Iklil Mondol, Dr. Saiful Islam and Mr. Zawaer Hossain, Project Directors and Mr. Shamsur Rahman CF, Wildlife and Nature Conservation Circle, for their wholehearted cooperation. Sincere thanks are due to Mr. Sheikh Mizanur Rahman, Mr. Md. Younus Ali and Mr. Mazharul Islam, ACCFs for their ungrudging help. Thanks also to Ms. Raihana Siddique and Ms. Shirina Khatun for their kind help and cooperation.

The team wishes to record a special word of gratitude to Mr. Monoj Kanti Roy, CF and co-coordinator NSP; Mr. Philip J. DeCosse, Chief of Party, NSP; Dr. Ram Sharma, Protected Area Management Specialist, NSP; and Ms. Anne Lewandowski, IRG, Washington, D.C., for their guidance and support. Sincere thanks also to the NSP Office Staff for their support.

Our additional sincere thanks go to Mr. Noor Mohammad Bhuiyan, Senior Research Officer and other staff of Forest Department Headquarters for their generous cooperation and painstaking job of making relevant records, reports and documents available for this assessment. The Team also takes great pleasure in thanking USAID-Bangladesh and its officers especially Mr. Mamunul H. Khan and Dr. Azharul H. Mazumder of USAID for their keen interest, support and suggestions during this study.

The Team also wishes to thank the Chief of Party and Advisor of the USAID-funded MACH Project (operated by Winrock International), who showed interest in our work and explained to the team their participatory approach model, which is very similar to that of NSP.

It is worthwhile to mention the painstaking interest and generous help of Mr. Tapan Kumar Dey, DFO Wildlife and Nature Conservation Division, Chittagong, in making the fieldwork of the Team successful. Special thanks from the Team are for officers of the Bangladesh Forest Research Institute, Chittagong; Director and staff members of the Forest Academy and Forest School, Chittagong; Director and Staff members of the Institute of Forestry and Environmental Sciences, Chittagong University; the Department of Environmental Studies, North South University, Dhaka; and Dr. Khurshid Alam, Executive Director of CODEC, Chittagong and his field staff for sparing their valuable time and interaction with the Team in this effort.

During this assessment, Bangladesh was struck by the worst flooding in over fifteen years with about two-thirds of the country under water. The people's resilience in the face of great adversity will always be remembered with amazement and great respect.

## **Executive Summary**

An assessment of the Bangladesh Forest Department's institutional organization and capacity to manage the protected area system was implemented by one international and two national consultants for the Nishorgo Support Project (NSP). NSP is funded by the United States Agency for International Development (USAID-Bangladesh) and provides lead technical assistance from International Resources Group (IRG) of Washington, D.C., to the Forestry Department's (FD) Nishorgo Program. The main purpose was to make a general institutional and capacity assessment of the Bangladesh forestry sector with respect to protected area management.

Facing new challenges and opportunities will require the FD and its relatively young Wildlife and Nature Conservation Circle (WNCC) to broaden its functions and responsibilities beyond those it has traditionally assumed. Although there is not yet full consensus within the FD on the ways or to what extent this should be done, the analysis identified twenty elements considered as relevant key focal areas for strengthening within two general categories (see **Box**). The consultants conducted a basic institutional gap analysis for each institutional strengthening or management element by reviewing the current status for each element, followed by recommendations and delivery mechanisms for each element. A draft Gap Analysis Position Paper was prepared in the form of a Matrix with follow-up actions.

### **20 Elements Selected as Key Focal Areas for PA Strengthening:**

#### **1. Institutional Organization: Management Support Systems (15)**

- a. Organizational Management
- b. Information Management Technology
- c. Spatial Data Management
- d. Financial Organizational Systems
- e. Management Planning and Implementation
- f. Institutional Orientation to Co-management
- g. Legal Support
- h. Law Enforcement
- i. Wildlife Insurance
- j. Information, Education & Communication (IEC) and Visitor Services
- k. Research
- l. Monitoring and Evaluation
- m. Intersectoral Conservation Planning
- n. Public-Private Partnerships
- o. Sustainable Financing

#### **2. Training and Capacity Building: Human Resource Development (5)**

- a. Staffing Pattern
- b. Training Facilities and Capacity
- c. Training for Professional Specialist Skills
- d. Integrated Training for On-site Protected Area Field Staff
- e. Integrated Training for Local Communities and Other Stakeholder

Two FD workshops were held in support of this assessment; the second workshop reviewed and revised the draft Position Paper Matrix with FD senior staff. Based on the outcome of the workshop and other consultations, the final Gap Analysis Matrix was prepared and is found in this report. For each element, the following three logical steps were used:

1. *Current Situation Analysis*: Where are we now?  
Assessing the current situation: findings and issues
2. *Recommendations*: Where do we want to be?  
Recommending strategic priorities in support of improved biodiversity conservation and sustainable protected area management system
3. *Delivery Mechanisms*: What will it take to get there? Identifying some possible mechanisms for delivering the recommendations

The report is organized into three chapters. After the first background chapter, the second chapter presents an overview of the elements required to manage a protected area system to international standards. The third chapter examines the results and recommendations from the institutional gap analysis.

This first chapter presents several background issues of relevance to the assessment; namely:

- Consultants' Scope of Work (objectives, output, approach and methodology, itinerary, people met and organizations visited, and a description of the FD assessment workshops)
- The Nishorgo Program and Nishorgo Support Project (descriptions)
- The Bangladesh Forest Department (overview of the FD, the country's protected area system and "Vision 2010")
- Supportive National Initiatives (including discussion of the National Biodiversity Strategy and Action Plan and the Forestry Sector Project)
- Lessons Learned for Protected Area Management (including international, national and FD lessons, with particularly emphasis on lessons from community participatory protected area and natural resource management)

The second chapter first focuses on issues that a PA system managed to international standards must address, and the consultants chose three main issues; namely, (i.) approaches to PA management, (ii.) stakeholder participation for PA collaborative management planning and implementation, and (iii.) institutional strengthening for multi-stakeholder PA management.

The characteristic elements of a well-functioning PA system are then presented in Chapter Two according to: (i.) institutional organization with a focus on management support systems, and (ii.) training and capacity building or human resource development.

In Chapter Three, the results of the institutional gap analysis for each institutional strengthening or management element are presented according to: (i.) a review of the current status, (ii.) recommended strategic priorities, many of which came from the FD workshops and (iii.) delivery mechanisms that could be used to implement the recommendations. The concluding section summarizes findings and recommendations for each of the institutional strengthening elements under the two general categories. The final section, "Moving Protected Area Management Forward to 2010", also addresses some of the major challenges faced by the Forest Department and its Wildlife and Nature Conservation Circle.

Several important Annexes supplement the assessment report; namely: (i.) scope of work; (ii.) consultants' itinerary: consultations, workshops and field visits; (iii.) FD assessment workshops, (iv.) matrix: summary of institutional organization and capacity building elements for improved and sustainable protected area management in Bangladesh (current conditions, recommendations and delivery mechanisms), (v.) strategic planning: using advanced participatory methods and preparing a forest department institutional development framework for protected area management, (vi.) program components: preliminary cost tables, (vii.) World Parks Congress (WPC) recommendations on co-management, strengthening individual and group capacities, and strengthening institutional and societal capacities for protected area management in the 21st century.

In short, the FD and its WNCC are very weak in most all elements of institutional organization and capacity used in the assessment. However, the Team found many opportunities for improvements within the agency. Most significant was the FD's willingness to change its methods, approach and priorities towards greater environmental protection, including strengthening PA and biodiversity management throughout the country. The FD has had considerable experience with participatory natural resource management through its social forestry program. Such relevant experience can be exploited and applied towards a new approach to PA management: collaborative or co-management between PA staff and local stakeholders, particularly the PA communities that are major users of the PA resources. There is also great enthusiasm for developing more public-private partnerships that can lead towards sustainable financing of PA and biodiversity management.

### *Summary of Recommendations*

#### a. Organizational Management

1. Strategic planning for FD / WNCC/PA institutional development, done in a facilitated participatory manner, is required to develop an "Institutional Development Framework" (IDF) in support of organizational management, and M&E at various management levels, from HQ to PA level.
2. Organograms need to be reconsidered, revised and approved for the WNC Circle level as well at the PA level (initially a standard PA staffing organogram will be designed which can later be tailored to each PA and its specific needs) – *See sample organograms at HQ and PA levels*
3. Strengthen WNCC in its current organizational position within FD as a Circle and only later, when capacity has increased, decide if its position within FD should be changed / elevated.
4. Recommend a name change from "Wildlife & Nature Conservation Circle (WNCC)" to "Protected Areas & Biodiversity Management Circle (PABMC)" to better reflect a more modern and comprehensive terminology for the Circle, and elevate the position from Circle to Wing with greater authority and responsibility.
5. Need to also operationalize and staff the Division offices at Sylhet and Dhaka
6. All protected areas should be handed over to WNCC with full responsibility for management under the CF-WNCC
7. Each PA should be an autonomous operational unit with greater decentralized authority for decision-making with an assigned ACF
8. Need to operationalize and staff the PAs, beginning with placing ACF's in each PA in stages, beginning with the 5 priority pilot PA's of the NSP

#### b. Information Management Technology

1. A detailed assessment of FD / WNCC / PA data management needs is required to recommend an appropriate MIS structure
2. The existing RIMS Unit (now, only for GIS) should be converted and expanded to a full MIS Unit, and the name should remain as “RIMS” but with wider data management responsibilities that include, but are not limited to, GIS
3. Need to improve the storage and management mechanisms and increase hardware capability (e.g., computers in HQ and in DistrictsDivisions)
4. Need to institutionalize the MIS (perhaps as a new MIS Unit) and orient staff to its capabilities at all levels:
5. RIMs (GIS & MIS) must be networked to support and coordinate data management at Central and Division levels up to DFO level and ultimately up to the field level for all PAs
6. Ensure that the MIS is linked with the existing RIMS system
7. Ensure that information is readily accessible for decision-making at local levels and for networking of information both with the FD and with other agencies.

#### c. Spatial Data Management

1. The RIMS Unit needs to be upgraded in terms of staffing levels, capabilities, equipment and maintenance
2. Need to integrate RIMS with an overall MIS system
3. RIMS needs to devote more focus towards PA and wildlife management and this will require staff dedicated to that focus
4. RIMS usefulness must be seen as more than a map making tool but with wider applications for planning and data management
5. The existing RIMS Unit (now, only for GIS) should be converted and expanded to a full MIS Unit (above, 1.bc.), and the name should remain as “RIMS” but with wider data management responsibilities that include, but are not limited to, GIS

#### d. Financial Organizational Systems

1. The current financial organization systems appear to be adequate and appropriate in most areas but should be reviewed in greater detail to identify specific inadequate areas for improvement.
2. Special allocation for operational funds dedicated to the WNCC is required to ensure at least a certain adequate level of financial stability annually, including Incorporation of a specific budget code for PA management
3. Special consideration should be made by the FD to consider increasing WNCC budget to strengthen and speed its growth
4. Greater revenue must be allocated to *in situ* conservation, i.e. with PAs, rather than *ex situ* conservation (e.g., breeding programs, zoological Safari Parks and botanical gardens)
5. Special consideration should be given to allocating a portion (e.g., 20% or more) of total PA-generated revenues (e.g., gate fees) to remain with the PA for management expenses and co-management (e.g., community benefits), i.e. the greater the revenue income the greater the PA and community revenue retention and therefore greater the incentives)
6. There should be a staff member at HQ in charge of financial management of the PA system

#### e. Management Planning and Implementation

1. Management Plans need to be prepared for all PAs, and all Management Plans (especially those prepared under the FSP) will require review and revision as needed followed by approval, and the approval process needs to be much faster
2. Management guidelines for the other PAs need to be developed into full Management Plans
3. Management Plans need to take a “landscape approach” that addresses management around the PA (e.g., “buffer zones”) and identify the specific partners required for management of those external PA zones as well as the limits of a “buffer zone”
4. Developments within a designated “buffer zone”, external to a PA, require an EIA prior to commencement of the development
5. The term “buffer zone”, which has a negative connotation of “buffering” something “good” from something “bad”, should be renamed “Support Zone”, i.e. this external area supports the protection of the PA while the PA can support/enable sustainable development in the surrounding area.
6. Management plans require local stakeholder participation during the planning process
7. A clear and consistent management planning process, with follow-up, is urgently required and which gives due attention to the participatory planning process, i.e. a process for stakeholder involvement with clear steps and required milestones
8. The mechanism for participatory planning must be developed, approved and put in place with special consideration towards co-management as a participatory management tool
9. Need to establish PA Management Units for greater decentralized management and decision-making
10. It must be stressed that even in the absence of an approved management plan, each PA must still be adaptively managed through a proposed management plan, if one exists, and in response to particular urgent needs and issues
11. PAs must be staffed, and staff will require appropriate training (see *Staffing and Training*)
12. Clear staff roles and responsibilities (job descriptions) are required for PA management
13. Budget must be allocated towards management of PAs on the basis of management plans

f. Institutional Orientation to Co-management

1. Special consideration towards co-management and other participatory management tools must be included within the management plan
2. The mechanism, step-by-step process for co-management must be clearly developed and socialized both within the FD and within the target communities.
3. The legal basis for co-management must be established.
4. However, PA co-management activities can be initiated within existing legal framework and does not have to wait for full legal basis before beginning PA co-management activities. For example, FD has implemented social forestry for more than 20 years, but the legal backing for SF was only established in 2000 under the amended Forestry Act.
5. An institutional orientation towards co-management must become universally accepted as part of the WNCC (e.g., establish a Co-management Unit to oversee this management approach)
6. Review the experience with participatory natural resource management through social forestry and to what extent the capacity within the FD can be re-oriented towards PA co-management.

7. Participatory planning towards co-management must be developed, approved and put in place at the very beginning of PA management planning
8. Stakeholder participation should be included during the boundary demarcation process, and the steps to follow to achieve consensus over boundary location must be put into place, including a legal basis for the participatory boundary identification and field demarcation process
9. Institutional arrangements for co-management must be developed and made clear from the very beginning
10. Strengthen the existing Wildlife Advisory Board but reorient its focus in line with a name change (e.g., “Protected Areas and Biodiversity Management Advisory Board”)
11. Stakeholders engaged in co-management must be able to see direct benefits from their involvement, thus special consideration should be given to allocating a portion of PA-generated revenues (e.g., 20% of gate fees) to remain with the PA for co-management (e.g., community benefits), i.e. the greater the revenue income the greater the PA and community revenue retention and the greater the incentives for co-management.
12. Implementers from both FD and the community stakeholder groups must include both men and women to address gender issues of management and decision-making

#### g. Legal Support

1. Wildlife (Preservation) (amendment) Act, 1974 contains provision for the establishment of Wildlife Advisory Board, the composition, procedure and functions all of which should be modified to make it more efficient, effective and participatory.
2. Enabling policies in support of co-management need to be translated into law that will establish the legal basis for PA co-management arrangements (among FD, community groups and other stakeholders), including issues of rights and responsibilities, land tenure rights, social justice, etc.
3. The schedules of the Wildlife Act have to be revisited and modified regularly given the degree of vulnerability of animal and plant species depending on many unforeseeable factors and on ever changing market demands. The Act should also be reviewed to bring about more conformity with the provisions of CITES and to encourage sustainable export of protected flora and fauna species.
4. The revised Wildlife Preservation Act must take into consideration and be in line with the Forest Act, draft Social Forestry Rule, proposed Biodiversity Act and the international and regional international obligations (e.g., CBD, CITES, Ramsar)
5. Section 36 of the Order allows compounding of first time offences by payment of a nominal amount of compensation (between 1000 and 2000 taka) to the Conservator of Forests (Wildlife). Otherwise offences under this Act would be tried by a 1<sup>st</sup> Class Magistrate. In view of the ever increasing threats to the survival of various wildlife, the penal provisions should be made more stringent and offences under this order could also be made subject to trials in the courts.
6. The Wildlife Advisory Board should be renamed the “Protected Areas & Biodiversity Advisory Board”.

#### h. Law Enforcement

1. Need to increase public awareness of the laws and publicize prosecutions under the laws
2. Need improved training of forest field staff to better understand the Wildlife Act and its enforcement (see *Training*)
3. Need more allocation of forest guard staff to the positions at PA level

4. PA guard staff need to understand their role more as collaborator with local stakeholders for PA management rather than as strict law enforcers.
5. All allocated WNCC field positions need to be filled
6. Initial priority should be given to the 5 pilot PAs under the NSP
7. A mechanism must be in place for greater cooperation between FD law enforcement officers and other relevant sectors (e.g., police, military)
8. A Wildlife CITES Enforcement Officer with the rank of DFOACF or higher, supported by staff, should be posted at Dhaka and Chittagong Airports

i. Wildlife Insurance

1. FD should review and assess the feasibility of a wildlife insurance or compensation scheme in Bangladesh to cover claims (granted under strict criteria) for damages due to human-animal conflict (e.g., injury, death, crop and property damage)
2. If a wildlife scheme is instituted, then this provision must be made in revised Wildlife Act, including strict criteria for claims

j. Information, Education and Communication (IEC) and Visitor Services

1. An IEC Strategy needs to be prepared as an integrated strategy that increases public awareness of environmental issues, biodiversity conservation, the importance of protected areas, etc.
2. The IEC Strategy must form the basis to develop improved environmental governance (EcoGov) and advocacy as well as an informed “environmental constituency” among the citizens of the country
3. Need to increase public awareness of the laws and publicize prosecutions under the laws
4. Visitor services and nature interpretation/education programs and centers at the PAs need to be appropriately designed by experts
5. Improve relations and communication between FD and the media to publicize environmental issues
6. Must view the potential of high visitation areas (e.g., zoological and botanical gardens, Safari-Park) as focal areas for intensive environmental education and establishing nature interpretation centers
7. Implementers and participants / targets of the IEC and its Strategy must be comprised of both men and women to address gender issues of IEC



k. Research

1. Develop an Action Plan for appropriate prioritized multi-disciplinary and integrated research programs in support of management within and around the PAs
2. Develop clear collaborative efforts with lead agencies within specialized fields with clearly identified responsibilities for PA management research

l. Monitoring and Evaluation

1. Monitoring and evaluation requires much greater attention and resources than currently allocated by FD, therefore a M&E Circle will be added to the PA and Biodiversity Management Wing organizational structure, headed by a CF
2. Strategic planning for FD / WNCC/PA institutional development, done at regular intervals in a participatory manner and facilitated, is required to develop an “Institutional Development Framework” (IDF) in support of assessing institutional development progress through regular monitoring & evaluation at various management levels, from HQ to PA level.
3. Biodiversity monitoring tools need to be applied and standardized by the FD (or in collaboration with research institutions) through regular monitoring of PAs and biodiversity.
4. A program of monitoring impacts and changes on biodiversity and the PAs needs to be developed
5. A program of S socio-economic impacts on resource conservation through livelihood enhancement and the PAs needs to be developed
6. Biodiversity mMonitoring of biodiversity, for example, could be conducted an independent organization outside the FD (e.g., IUCN, other national institutes)

m. Intersectoral Conservation Planning

1. The FD needs to establish a clear program or strategy for collaborative conservation planning with other agencies and institutions both within and outside the country
2. A Forest Department “Collaborative Conservation Strategy” needs to provide the mechanisms for improving intersectoral coordination and sharing of information to maximize conservation efforts in the country
3. Develop institutional capacity within FD and other agencies and organizations for Collaborative Conservation Planning

n. Public-Private Partnerships

1. A clear program or strategy should be developed on Public – Private Partnerships in and around PAs.
2. Alternative income generating activities for local communities within and adjacent to PA’s (particularly those engaged in co-management agreements with FD) are required and best accomplished through business partnerships for skills training and improved access to markets.

o. Sustainable Financing of Protected Areas

1. A sustainable PA financing strategy (strategies) should be developed for 1) the overall PA system and 2) for individual PAs to promote the sustainability of both Protected Area Management and Building Stakeholder Partnerships

p. Staffing Pattern

1. Immediately fill the empty allocated positions in PAs and all levels under the WCNCC.
2. A detailed staff needs assessment focusing on PA management (e.g., issues of staff levels, recruitment procedures, promotions, pay scales, incentives, performance evaluations) is required.
3. Special consideration should be given to the feasibility of research staffing needs or collaboration with research institutions to provide the expertise
4. It is recommended to increase the number of technical positions within the WNCCC to reflect specialized field requirements (e.g., sociologists, ecologists, legal specialists, wildlife management specialists/zoologists, botanists).
5. Staff assessment should also consider the career opportunities for the non-cadre positions as mentioned under recommendation 4, above.
6. More FD staff positions should be filled by women, particularly at the field level; constraints to implementing greater recruitment and postings of women should be overcome.

q. Training Facilities and Capacity

1. Strengthen the capacity of the existing training facilities within the FD
2. Develop linked FD programs for capacity building with BFRI and IFESCU
3. Budget allocation for conducting training and improving facilities (e.g., maintenance) needs to be secured.
4. Develop linked FD programs for capacity building with BFRI, IFESCU and universities.
5. Develop an integrated course on conservation biology (e.g., nature conservation, biodiversity, sociology and PA management) in a suitable institution

r. Training for Professional Specialist Skills

1. A detailed list or set of skills needed to effectively manage the WNCC and the PAs is required, including central and field levels
2. Ensure that the trained professionals are deployed in the correct places / positions that focus of improving the management of PAs
3. Some professionals within the RIMS Units and the proposed MIS Unit should be trained to improve their understanding of PA requirements and data collection and management requirements
4. FD should review previous “Participatory PA Management Training Requirements” studies accomplished during the Forestry Sector Project (FSP) and other studies and revise as necessary.
5. Special emphasis should be given to habitat restoration technical capacity for PA management
6. Need to develop institutional and financial arrangements for training abroad for professional and sub-professional staff
7. Greater professional training opportunities should be made available to women in the FD at all levels

s. Integrated Training for On-site Protected Area Field Staff

1. The FD needs to design and implement a program in support of job orientation courses on PA management and provide regular refresher courses on PA and wildlife management.

2. Greater training opportunities should be made available to women in the FD, especially at the PA field level.

t. Integrated Training for Local Communities and Other Stakeholders

1. The FD, perhaps in cooperation with universities or NGOs, needs to design and implement a program in support of community involvement (e.g., co-management, alternative livelihood development, micro-finance) that supports PA management.
2. A program needs to be designed to socialize concepts of protected areas and co-management to PA communities.
3. Programs for co-management must involve women at all levels of management planning and decision-making in each PA, and must also include recruitment of women as well as men as community facilitators, organizers and motivators.

Finally, the recognition of short-comings and the will to make changes is present among the FD staff. A major constraint to accomplish the FD's reorientation towards environmental protection, PA management and biodiversity conservation is, as one would expect, financial. Thus, this constraint will need to be addressed so that the FD will receive the support it needs to develop a sustainable PA system managed to international standards. **Annex F** of the report presents a variety of component sub-projects that could be funded by donors who are committed to assisting Bangladesh with improving the country's biodiversity conservation and management of the protected area system.

# 1. BACKGROUND

## 1.1. Introduction

An assessment of the Bangladesh Forest Department's institutional organization and capacity to manage the protected area system was implemented by the Nishorgo Support Project and funded by the United States Agency for International Development (USAID-Bangladesh). The main purpose was to make a general assessment of the Bangladesh forestry sector with respect to protected area management. The consultants conducted a basic institutional gap analysis by reviewing the current status for each selected institutional strengthening or management element, followed by recommendations and delivery mechanisms for each element.

The report is organized into three chapters. After this background chapter, the second chapter presents an overview of the elements required to manage a protected area system to international standards. The third chapter examines the results and recommendations from the institutional gap analysis.

This first chapter presents several background issues of relevance to the assessment:

- Consultants' Scope of Work (objectives, output, approach and methodology, itinerary, people met and organizations visited, and a description of the FD assessment workshops)
- The Nishorgo Program and Nishorgo Support Project (descriptions)
- The Bangladesh Forest Department (overview of the FD, the country's protected area system and "Vision 2010")
- Supportive National Initiatives (including discussion of the National Biodiversity Strategy and Action Plan and the Forestry Sector Project)
- Lessons Learned for Protected Area Management (including international, national and FD lessons, with particularly emphasis on lessons from community participatory protected area and natural resource management)

## 1.2. Consultants' Scope of Work, Approach and Methodology

Three Consultants (one international and two national) were contracted to implement the assessment over a period of three weeks in Bangladesh (15 July – 4 August 2004). For the international consultant, an additional one week in the USA was allocated to complete the Final Report. **Annex A** presents the detailed Scope of Work for the consultants.

### *Objective of the Assessment*

The objective of the assessment was "to identify and propose institutional priorities and recommendations that will allow the Forest Department to develop and put in place an institutional framework capable of managing a protected areas system". The intention of the consultancy was not to complete detailed training, infrastructure or staff needs assessments; rather, the focus was to conduct a broader, comprehensive and strategic assessment for FD management of the protected area system. Subsequent detailed studies by NSP will focus on

needs assessments of training, staffing and infrastructure as well as policy reform required to enable improved management.

### *Output of the Assessment*

The primary tangible output from this assessment is this Consultants' Final Report. Above all, the assessment report provides an initial roadmap (See *Chapter 3*) for long-term improvements for PA management with regard to FD human capacity and institutional or organizational makeup. Twenty recommended priority focus areas for achieving these improvements are identified, and estimated financial resource needs, in support of proposed delivery mechanisms, are identified to achieve medium and long-term targets.

### *Approach & Methodology Used for the Assessment*

The Consultants implemented a basic institutional gap analysis by identifying important FD institutional strengthening or management elements and reviewing the current status for each element. A Gap Analysis Position Paper was prepared in the form of a matrix with follow-up actions. A workshop was held to discuss and review the Matrix Position Paper with FD senior staff. Based on the outcome of the workshop and other consultations, the final Gap Analysis Matrix was prepared. This formed the basis of Chapter Three of this report.

To assess each element, the following three logical steps were used:

4. *Current Situation Analysis*: Where are we now?  
Assessing the current situation: findings and issues
5. *Recommendations*: Where do we want to be?  
Recommending strategic priorities in support of improved biodiversity conservation and sustainable protected area management system
6. *Delivery Mechanisms*: What will it take to get there?  
Identifying some possible mechanisms for delivering the recommendations

Focusing on the needs of (i.) trained professional capacity and (ii.) institutional organization (**Annex A**); the analysis first identified twenty elements considered as relevant key focal areas for strengthening. Options were proposed for an enabling institutional organization sufficient to manage the country's PA system. An assessment was then made of the existing FD PA management structure and capacity, and discussions were prepared regarding the gap between current organizational status and the proposed configuration. The assessment then identified the strategic priorities (recommendations) that need to be addressed, as well as their probable delivery mechanisms, so as to enable the FD to meet increased and improved PA management demands.

To gather information and to promote a participatory approach to the assessment, to the extent possible, the Consultants held meetings, interviews, informal consultations, two workshops, literature reviews, and field visits (Chittagong training and research institutions, Chunar Wildlife Sanctuary, Dulahazra Safari Park at Cox's Bazaar) to guide the institutional gap analysis. Additional field visits were not possible during this period due to the massive flooding throughout the country. Coordination was established with the FD senior staff, especially its Nishorgo Program, USAID and other key organizations. **Annex B** describes the Consultants' itinerary, list of consultations and informants, workshops and field visits.

Particularly significant were two Forest Department Assessment Workshops, detailed in **Annex C**. The first workshop (26 July 2004) was attended by senior FD staff and held at *Ban Bhaban*, Forest Department, Dhaka. One presentation was made of the current situation for the twenty and several key issues that should be addressed or stressed by the Consultants were identified.

Subsequent to the first workshop, a draft matrix was prepared that clearly shows the twenty institutional strengthening elements, their current situation, recommendations and delivery mechanisms. The second workshop (31 July 2004) was attended by senior FD staff and held in the meeting room of the Nishorgo Support Project, Banani, Dhaka. After three presentations, the draft matrix was used as the basis for three focal group discussions resulting in further modifications and improvements to the matrix, which was the major workshop output. FD suggestions were incorporated in the final version of the matrix in **Annex D**. A preliminary costing of proposed component programs was then prepared for FD and donor consideration (**Annex F**).

The next step in line with the consultants' participatory approach will be translating the matrix into *Bangla* so as to receive a wider input from foresters and other key stakeholders outside of Dhaka. This matrix of present conditions, recommendations and delivery mechanisms will then be modified further in response to requirements from the field.

### **1.3. The Nishorgo Program and Nishorgo Support Project**

*The Nishorgo Program ("Saving Bangladesh's Forests for Future Generations")*

The Nishorgo Program of the Forest Department (FD), Ministry of Environment & Forests (MoEF), of the Government of Bangladesh (GoB) is a comprehensive Government program that aims to improve biodiversity conservation and protected areas (PA) management throughout the country. The name "Nishorgo", proposed by a student from Jhinaidah District in response to a national competition, evokes the beauty of nature within Bangladesh. The

Nishorgo Program receives financial support for PA Management from the United States Agency for International Development (USAID) and the Asian Development Bank (ADB).

The foundation of Nishorgo is its focus on building partnerships between the FD and key local and national stakeholders that will assist in conservation and PA management efforts. Expected activities of the Nishorgo Program include, but are not limited to, the following:

- Developing formal co-management agreements for specific protected areas between the Department and stakeholders
- Sharing economic benefits from protected areas with local participating stakeholders
- Formalizing processes for reducing local conflicts over protected areas
- Installing visitor amenities in protected areas
- Improving FD facilities within protected areas
- Refining the policy framework for protected areas management
- Facilitating eco-friendly private sector investment that can provide key services to protected areas
- Supporting applied, management-oriented research on protected areas and selected biodiversity (e.g., habitats, flora and fauna species) that can improve future planning

The steady loss of Bangladesh's remaining protected forest areas can be stopped, and the Nishorgo Program aims to build the capacity and partnerships necessary to make that happen. The Nishorgo Program activities have been designed to promote the following results:

- A marked slowing of biodiversity loss in targeted protected areas
- Active and formalized participation of local communities dependent on forest resources
- An increase in the number of protected area sites and the capacity to receive visitors
- A formalized protected area management system
- Improved hydrological and other environmental services from forests
- Improved income and livelihoods of people living in and around protected areas
- Job creation and enterprise development associated with protected areas and nature
- More active and vibrant partnerships for nature conservation between citizens and the FD

Achieving these results requires a well organized protected area management capacity program and institutional structure within the FD. At present, protected area management responsibilities are shared by members of the Wildlife and Nature Conservation Circle and by forest officers from other divisions of the Department.

Internally, the FD has developed a vision of its future protected area management. This process and document entitled "Vision 2010" (see *Section 1.4.3*) states that the FD will require a diversity of trained personnel and organizational characteristics. At present, the capacity to manage a PA system within the FD is well below what is required. It is widely accepted that a well organized effort will need to be undertaken if the FD is, in the medium-term, to have the institutional capacity and organizational makeup to manage a full protected area system that meets international standards.

#### *The Nishorgo Support Project (NSP)*

Under its partnership with the GoB, USAID is providing targeted technical support to aspects of the Nishorgo Program. The USAID-FD Project Concept Paper (PCP) for the Nishorgo

Support Project provides for implementation of the Strategic Objective Grant Agreement (SOGA) between the two countries in line with USAID's SO6: "Improved Management of Open Water and Tropical Forest Resources". The Program Design for "Co-management of Tropical Forest Resources in Bangladesh" describes the Nishorgo Support Project (NSP). This document substantially reflects what the FD envisions as the future of the Nishorgo Program. NSP aims to support this vision through specific targeted activities arranged within five implementation components over six years (2003-2008). Where the FD has already identified needs for capacity building growth in the draft PCP, these needs have been considered and included in this capacity assessment.

The NSP works closely with the Forest Department 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 is working at five initial pilot sites to begin adapting a Protected Area co-management approach for Bangladesh. The five initial pilot PA sites are: (i.) Lawachara National Park, (ii) Rema-Kalenga Wildlife Sanctuary (iii) Satchari Reserve Forest (proposed as a new National Park), (iv) Teknaf Game Reserve, and (v) Chunati Wildlife Sanctuary. The NSP is implemented by International Resources Group (IRG) of Washington DC, USA in association with its partners; namely, Community Development Center (CODEC), Chittagong, Nature Conservation & Management (NACOM) and Rangpur Dinajpur Rural Services (RDRS).

## **1.4. Bangladesh Forest Department**

### **1.4.1. Overview**

The Forest Department, Ministry of Environment & Forests, manages the PAs in Bangladesh. The FD is one of the oldest public agencies in South Asia, founded in 1862 during the colonial period. Khan *et al.* (2004) have prepared an historical review and synthesized the institutional capacity of the FD in the context of Social Forestry implementation.

The *National Strategy for Economic Growth, Poverty Reduction and Social Development* states: "The development vision in the present strategy embraces"... "poverty reduction and accelerating the pace of social development with particular emphasis on empowering the poor and achieving gender equality have been made the overarching strategic goals". The Forestry Sector Master Plan (FSMP) and the National Forest Policy (NFP) of 1994 extend this national vision to the forestry sector for poverty reduction and also emphasize the importance of social forestry.

The forestry sector currently contributes approximately 3% of the nation's GDP; yet this is not an accurate reflection of the importance of the sector. For example, Bangladesh's major source of energy, rural house and furniture construction materials are still derived from forests. It must also be stressed that forests provide unquantified benefits from environmental protection that extends to other sectors of the economy. Also, during 2001-02, 2% of the country's total manpower was engaged by the forestry sector. However, state land forests have been devastated by organized illegal commercial logging, unplanned and inappropriate conversion to agriculture and other uses, fire, grazing and other influences. The annual deforestation rate is estimated to be 3.3% (Khan *et al.* 2004). Such forest loss can have devastating effects, including pervasive flooding and tremendous economic and human losses. During this assessment, the worst floods in over fifteen years covered more than two-thirds of the country and had killed more than 600 people with billions of dollars in property



damages. The environmental issues, particularly concerning forest cover and watershed protection, are now being seen as the foremost concerns of the nation's economic health.

Yet, there is a general dearth of reliable systematic information on Bangladesh forestry (Khan *et al.* 2004). Two systems of production forestry occur in Bangladesh; namely, government forests managed by the Forest Department (FD) and privately owned home gardens. Khan *et al.* (2004) have described and discussed these parallel production systems:

“The designated classified government forestland (some 1.49 million [m] hectare [ha]) covers both natural and plantation forests, which are primarily under the purview of the FD. About 0.72 m ha of land is designated as ‘un-classed state forests’ (USF) under the control of the Ministry of Land. Home gardens or Village Forest Groves constitute 0.27 m ha and are scattered all over the country. The public forest land, un-classed state forests and home gardens together make up about 17% (2.46 million hectares) of the potential tree growing area of the country -- the lowest figure of any South Asian country. The more striking reality is that much of the country's designated ‘forestland’ is devoid of trees, and the actual tree cover is one m ha or about 6% of the total land area. On the basis of geographical location, climate, topography and management principles, the forests of Bangladesh can broadly be classified into: Hill forests, Un-classed state forests, Plain land Sal forests, Mangrove forests, Coastal forests and Home gardens”. . . . “In view of the above problems, limitations and challenges of the Bangladesh forestry sector, community based participatory afforestation practices, commonly coined SF, have been increasingly felt to be the most feasible strategy for the long-term sustainability of the 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 (CCF) heading the Forest Directorate of East Pakistan. Since Bangladesh independence in 1971, the FD continued to operate with the same structure until reorganization was approved in 2001.

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 GoB 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).

#### *The Wildlife and Nature Conservation Circle (WNCC)*

During the reorganization of the FD institutional structure in 2001, total staff positions were increased from 5224 to 8681. As part of this reorganization, a new FD Circle; namely, the “Wildlife and Nature Conservation Circle” (WNCC) was established and headed by a CF with a total allocation of 378 staff under the direct control of the Chief Conservator of Forests (CCF),

Under this Circle there are four Wildlife Management and Nature Conservation Divisions, field units each headed by a Divisional Forest Officer (DFO) covering the country. The respective DFOs manage protected areas located in their Divisions. However, due to the lack

of manpower these divisions are not functioning well (Dey 2003). The distribution of allocated staff positions, existing and proposed organograms and many other WNCC issues are presented in Chapter Three; thus, more details of the WNCC are not provided here.

### 1.4.2. Protected Area System of Bangladesh

As of 2004, the total area of Bangladesh's PA system (including relatively small proposed areas) is approximately 243,723 ha (**Table 1-1**). "Protected Areas" (distinct from gazetted forest reserves), as the term is used by the Forest Department, include such areas as National Parks Wildlife Sanctuaries, Game Reserves and Safari Parks. Perhaps with the exception of the latter designation, these PA categories make little sense in reality and may best all be termed as "biodiversity conservation areas". How these PAs are distributed throughout the country is presented in **Figure 1-1**, which also shows the locations of the five NSP supported pilot PAs. Currently, the total area within the PA system is approximately 243,723 hectares. By comparison with most countries in the world, Bangladesh has an extremely low percentage of surface area devoted to protected areas (approximately 1.65 % of the country's total land area and approximately 9.3% of the forest land under FD management. The FD's "Vision 2010" (See *Section 1.4.3*) proposes that the total PA system area should increase by 2010.

Approximately 84,000 hectares of the total PA system are relatively intact upland forests in the northeast and along the ridges of the eastern hills (the Chittagong Hill Tracts, or CHT). The remainder of the PA system is found in the lowland coastal areas, primarily within the internationally-recognized Sundarbans. Further surveys may indicate other areas of remaining natural forest, both within the current FD Reserved Forest system or as ungazetted state forest lands, where new conservation areas could be designated. There will be increasing demands for skills in wetlands management as a priority for the current and expanded PA system.

Bangladesh is high in biodiversity but of course this biodiversity is increasingly threatened with local extinctions likely to have occurred in the recent past. The PA system, if well designed and managed, is intended to protect the majority of the country's biodiversity. Earth Trends Country Profiles (2002) prepared a list of the number and status of species in Bangladesh:

<i>Higher Plants</i>		
Total known species (number), 1992-2002		5,000
Number of threatened species, 2002		12
<i>Mammals</i>		
Total known species (number), 1992-2002		125
Number of threatened species, 2002		23
<i>Breeding Birds</i>		
Total known species (number), 1992-2002		166
Number of threatened species, 2002		23
<i>Reptiles</i>		
Number of Total Known Species, 1992-2003	112	
Number of threatened species, 2002		20
<i>Amphibians</i>		
Number of Total Known Species, 1992-2003	23	
Number of threatened species, 2002		X?
<i>Fish</i>		
Number of Total Known Species, 1992-2003	81	
Number of threatened species, 1992-2002		X?

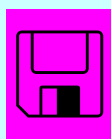
**Table 1-1. Summary Information on Protected Areas in Bangladesh, July 2004**

No.	Name of the Protected Area	Declared Status	Area (ha)	Year of Notification
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				(Year of establishment in parenthesis)
1.	Sundarbans East	Wildlife Sanctuary	31227	1996
2.	Sundarbans South	Wildlife Sanctuary	36970	1996
3.	Sundarbans West	Wildlife Sanctuary	71502	1996
* 4.	Chunati	Wildlife Sanctuary	7761	1986
5.	Pabla khali	Wildlife Sanctuary	42087	1983
* 6.	Rema-Kalenga	Wildlife Sanctuary	1795	1981
7.	Char Kukri Mukri	Wildlife Sanctuary	40	1981
8.	Bhawal	National Park	5022	1982
9.	Madhupur	National Park	8436	1982
10.	Himchari	National Park	1729	1980
11.	Ramsagar	National Park	28	2001
12.	Nijhum Dweep	National Park	16352	2001
13.	Kaptai	National Park	5464	1999
* 14.	Lawachara	National Park	1250	1996
15.	Medhakachchapia (proposed ?)	National Park	396	2004
* 16.	Satchari (R.F. proposed as N.P.)	National Park	240	proposed
* 17.	Teknaf	Game Reserve	11615	1983
18.	Dulhazara	Safari Park	600	(1999)
19.	Bashkali	Eco-Park	--	(2003)
20.	Madhupkunda	Eco-Park	125	(2001)
21.	Sitakunda	Botanical Garden & Eco-Park	1000	(2000)
22.	Mirpur	Bot. Garden	84	(1961)
	TOTAL AREA (incl. proposed)		<b>243,723</b>	
*	= Five NSP-supported pilot PAs			

**Figure 1-1. The Protected Areas of Bangladesh, showing the five PAs assisted by the Nishorgo Support Project (NSP).**

**Insert Figure 1-1 >> A-4 Map of Bangladesh showing all Protected Areas and indicating the Five NSP Priority Pilot PAs**



### 1.4.3. "Vision 2010"

The FD has worked to develop an important effort by defining an internal vision of its future for protected area management. This process and document, facilitated by NSP, is entitled "Vision 2010" and states that the FD will require a diversity of trained personnel and organizational characteristics. At present, the capacity to manage a PA system within the FD is inadequate. "Vision 2010" is intended to identify the major challenges to improving protected area management and identify the medium to long term priority focus areas of the Nishorgo Program if it is going to meet those challenges. The assessment presented in this report is intended to be supportive of the required targets as outlined by the FD in its "Vision 2010".

According to the "Vision 2010" document, the major trends that can be expected to affect PA management in Bangladesh include:

- The number of tourists visiting protected areas and other nature sites will continue to increase
- NGOs, academics and the international community will put steadily increasing pressure on the FD to manage protected areas in a more sustainable way
- It will be increasingly difficult to adhere to the international Conventions that the country is bound to uphold
- At the local level, the demands on protected areas will increase
- Forest Department will need to manage protected areas in a more sustainable way
- Protected Areas will see increasingly intractable social conflicts
- The economics of land prices and competing development plans, based on increasing demand for land, will put an extra pressure on the protected area system

As a response to these coming challenges and trends, the FD will need to master a new approach to PA conservation, as called for under the Nishorgo Program. Nishorgo must find ways to get "buy-in" or consensus from local stakeholders who can serve as a counterweight to special interests far away from PAs and adjacent lands. "Vision 2010" states that FD will need new approaches for PA management, including several issues:

- PA managers will need to continue to focus on and master forest and ecosystem management
- The Wildlife and Nature Conservation Circle, and its mandate and processes, should be modified to be in line with the overall goals of Nishorgo. In effect, the Circle will need to be strengthened and its processes reviewed
- A co-management approach should be adopted
- To extend the reach and effectiveness of the PA managers, an active local PA management committee, composed of an appropriate but small number of local stakeholders, will be essential
- The role of the DFO/Wildlife, in particular, needs to be examined and clarified
- PA Managers can no longer manage their areas as islands cut off from the rest of society
- The FD must continue to improve its ability to manage the legal dimensions of land and resource conflicts

"Vision 2010" recognizes that PAs represent important economic opportunities and each PA will need to take appropriate steps to move toward financial self-sufficiency. To reach its

goals, the FD will also build its institutional, human and material capacity to meet these challenges. Formal structural changes must be made to the PA capacity-building efforts for PAs to become functional and operational. The movement towards a separate PA management system should be made slowly, allowing the national PA management institutions to gain ability in the process. The five pilot PAs that are the focus of NSP will produce models for PA management that can be extended to other PAs as a networked PA system.

It is expected that this Assessment will assist the FD to develop its draft “Vision 2010” Statement even further to achieve its required targets.

## **1.5. Supportive National Initiatives**

### ***1.5.1. The National Biodiversity Strategy and Action Plan***

To fulfill the Government’s commitment as a Member of the Convention on Biological Diversity (CBD), the Ministry of Environment and Forests has taken the initiative to develop a *National Biodiversity Strategy and Action Plan* (NBSAP) for Bangladesh. The draft NBSAP is being prepared by the IUCN Bangladesh Country Office. It is evident that the NBSAP has given priority attention to more effective management of the PAs of the country.

Several issues on management of the PAs have been addressed in the NBSAP. The draft NBSAP has identified no fewer than sixteen (16) Strategies for improving the country’s biodiversity conservation and sustainable management. A specific strategy has been identified under *Strategy 9*; namely, “Enhance Protected Area Management, Recognizing the Benefits of Collaboration with Local Communities in their Management”. Under this *Strategy 9* there is a recommendation to reorganize the structural organization of the Forest Department and to strengthen the capacity of the Forest Department for PA management.

The NBSAP has also stressed the essential role of development partners in implementing this Strategy. Development partners have opportunities to contribute in many priority action areas (e.g., capacity building, co-management of PAs, communication and awareness raising, developing an information base, and networking). The NBSAP emphasizes that partnerships should be strengthened between FD and NGOs or LCOs to secure livelihoods improvement and poverty alleviation through integrating biodiversity and environmental conservation for communities living within and adjacent to the PAs..

### ***1.5.2. The Forestry Sector Project***

The Government of Bangladesh promulgated Forest Policy in 1994 that placed emphasis on people-oriented programs to manage environment, preserve existing values, conserve plants and animals and maximize benefits to local people. The government approved the 20-year Forestry Sector Master Plan (FSMP) in 1995.

The ADB-funded Forestry Sector Project (FSP) approved in 1997 was the first step towards achieving the goals of the FSMP. The objectives of the FSP were to enhance conservation of forests in selected protected areas, increase overall wood production and institute sustainable management of forest resources through local community participation, institutional capacity building and policy reform.

For proper coordination and implementation of FSP activities, The Government formed an Apex Body at the national level and chaired by the Principal Secretary to the Prime Minister. The Apex Body coordinates the many inter-departmental issues. There are also District Coordination Committees and *Thana* Coordination Committees at district and *thana* (now known as *upazila*) levels respectively for proper coordination and implementation of FSP activities. The plantations that were established under a Community Forestry Project and the *Thana* Afforestation and Nursery Development Project are now being harvested under FSP.

As of 2004, FSP used a participatory approach to involve about 35,000 families, mostly poor and landless. These families have been integrated into the tree plantation schemes as both participants and beneficiaries (FD 2004). Some of the lessons learned from the FSP may be found in *Section 1.6.3*.

## **1.6. Lessons Learned for Protected Area Management**

### ***1.6.1. International Lessons***

This section provides international experiences or lessons learned from implementing community development and livelihood improvement initiatives *vis-à-vis* protected area management and biodiversity conservation. The most relevant international lessons for Bangladesh's protected area system focus on stakeholder participation and collaborative management or "co-management".

An extensive literature review was made of relevant Integrated Rural Development Projects (IRDP), Integrated Conservation and Development Projects (ICDP), Integrated Coastal Zone Management Projects (ICZP) and other protected area management lessons learned from projects internationally. Only a few of these are cited, and it is not the intention of this section to add to the confusion and repetition of intuitive "lessons learned". Rather, the intention is to reinforce the most relevant lessons and highlight particular experiences and specific questions that may be instructive for planning and managing Bangladesh's protected areas. It must be stressed, however, that some lessons are site-specific and may not be applicable to other sites or conditions. The reader should be careful not to assume that these lessons are "general truths" or that they are of relevance to all future initiatives in the country's protected area system.

Lessons learned thus comprise more a body of observations from international planning and implementation experiences (e.g., ICDP, IRDP, ICZP) at a particular time and place and under particular conditions. Typical project implementation was often constrained by management problems, both internal and external to a project, and by frequent *ad hoc* changes to project design. Nevertheless, these "lessons learned" or "results observed" through international experience have relevance, and must be considered for planning and implementing protected area, rural development and natural resources management initiatives arising from the plans and initiatives of the WNCC.

The issues confronted are similar to those found in many community-based development programs that have been linked to efforts to conserve high biodiversity resources adjacent to and within protected areas. For the past ten to fifteen years the international "conservation community" has promoted the ICDP concept and practice. For example, from the WWF experience of monitoring and evaluating over forty ICDPs worldwide, the organization



learned that successful community-based conservation usually entails the negotiation of a complex set of agreements among multiple stakeholders (Freudenberger 1997). WWF field staff facilitated negotiations for both informal and formal legal arrangements to determine access and use of natural resources located in buffer zones, core areas, and on lands held privately or in common by rural communities.

A summary of some of the more useful lessons from Integrated Conservation and Development Projects (ICDPs) of relevance to the Bangladesh protected area system include:

- Strengthening PA protection through law enforcement only is not sufficient without addressing the underlying socio-economic reasons for encroachment
- It is important to identify all stakeholders, particularly at the local level, and they must be involved in the planning and implementation process from project inception. Creating awareness and interest among the stakeholders is of paramount importance.
- Linkages between community development projects and natural resource protection and conservation must be made explicit.
- The commonly accepted, in theory if not in practice, bottom-up participatory approach should not be the only focus. National institutions must be involved for policy improvements. The protected area and wildlife conservation policies are most important. However, national policies and laws will have very little effect at the local level unless there are both local awareness and strict law enforcement.
- Community participation and empowerment is a time-consuming process. Without the investment of time, local people can only be passive observers and not active collaborators.
- Adaptive and innovative management designs should be well prepared and then implemented, and through successful demonstration spread to other areas as other communities see the benefits.
- A process must be developed to identify key management issues in each protected area. The process must be very participatory, building community involvement and ownership into all decisions, using a public consultation process to ensure that the interests of as many local people as possible are considered.
- A process must be developed to analyze and describe all laws and regulations relevant to protected area management, wildlife conservation and overall environmental protection. These should be distributed in simple lay language to guide the people responsible for planning and implementing, as well as for grassroots organizations and local entrepreneurs.
- Public awareness of protection and management issues, which are of relevance to the livelihoods of local people, must be performed through an appropriate, adaptive and understandable approach. The approach must recognize and address the different needs and levels of understanding among the different target groups.
- Successful natural resource management projects must involve not only the local communities and NGOs, but also local government officials and national authorities that have interests in the area. Private entrepreneurs are very important stakeholders, and while they have a high potential for disrupting developments that they oppose, entrepreneurs and businesses also have great potential for stimulating local economic development (e.g., economic partnership arrangements with community groups).
- Research can be an important part of institution building. Institutional arrangements must be found for training researchers and for carrying out research leading toward effective collaborative management.

- The learning that has taken place needs to move from the small sites up through the system by means of a monitoring and evaluation system that can effectively communicate problems and progress. A main purpose of the Nishorgo Support Project, for example, is to encourage other areas to adopt sustainable protected area and natural resource management, within and outside the NSP pilot sites. Moving beyond the designed pilot demonstration sites to a wider area is a crucial step requiring care planning that is appropriate to new PA sites.
- Environmental impact methodologies need to be developed, tested, and disseminated so that they can be implemented easily and locally. Local institutions must be able to assess the impact of development.
- Several ICDPs have shown the importance of appropriate phasing of activities and the deleterious consequences of delays, which seriously affected planning and full community participation at the project sites.
- Finally, the important role of grassroots organization involvement for community participation in planning must be stressed and cannot be neglected, and their involvement must begin very soon after a project commences.

Institutional strengthening and innovation for the WNCC to manage Bangladesh's protected areas and adjacent inhabited "support zones" must draw from several additional particularly relevant lessons learned:

- Institutional strengthening requires wide support to fill institutional capacity gaps, including redefinition of existing institutions and processes to support multi-stakeholder involvement. There is little theoretical or experiential evidence to demonstrate that current institutions, which were designed to support economic growth based on natural resources exploitation, will support sustainable development. Sustainable development requires new skills, innovative approaches, and support for institutional restructuring.
- If counterparts and PA stakeholders are to be provided with the skills necessary to implement innovations, access to training must be more flexible. Increasing the provision of informal training, such as applied research programs, cross-visits and study tours should be stressed.
- Competitive financial resource allocation processes, using transparent decision-making criteria, provide a cost-effective means to encourage wider participation in natural resource and PA management.

Chapter Two provides more information on sound PA management that draws on these and other international lessons learned as well as issues that must be addressed relevant to improving Bangladesh's PA system and management capacity..

### *1.6.2. National Bangladesh Lessons*

There is a growing base of on-the-ground implementation experience, both from FD and other agencies and organizations from which WNCC can draw. This experience has provided practical tools and lessons learned for PA management. In some cases, it has involved enabling private institutions to become more involved in biodiversity issues. Nonetheless, as habitats and wildlife ranges extend beyond the PA boundaries, and therefore involve more people, further experience in applying specific mechanisms (e.g., conflict resolution) must also be developed. In addition, easements and covenants could provide opportunities for improving biodiversity conservation on adjacent and associated private lands, and this too should be addressed.

Although there have been many natural resource conservation and rural development projects with lessons learned in Bangladesh, three projects are selected here due to their particular relevance, albeit indirect in some cases, to PA management; namely:

- Management of Aquatic Ecosystems through Community Husbandry (MACH)
- Sustainable Environment Management Program (SEMP)
- IUCN Bangladesh's Initiative in Chittagong Hill Tracts (CHT)

#### *Management of Aquatic Ecosystems through Community Husbandry (MACH) Project*

The MACH Project employs a collaborative community approach to natural resources management in wetland ecosystems. Funded by USAID, MACH began in 1999 and will continued at least to 2006. The project is being 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 is 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 local government as well the local elites who are primarily involved in decision-making.

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 include: (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 rate 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.

#### *Sustainable Environment Management Program (SEMP)*

The Sustainable Environment Management Program (SEMP) is a follow up to the completion of a National Environmental Management Action Plan (NEMAP). The MoEF has been implementing the SEMP since 1998 with financial support from UNDP. SEMP has no fewer than twenty-six (26) components dedicated to addressing different aspects of critical environmental issues. Successful implementation of all the components will establish a useful model for sustainable development. One of the SEMP sub-programs is sustainable ecosystem management under which a model for sustainable utilization of ecosystem based resources, emphasizing biodiversity conservation, is also being tested and developed.

Activities under SEMP are being implemented in five main areas related to policy and institutions; namely (i.) participatory ecosystem management at the grassroots level, (ii.) community-based environmental sanitation, (iii.) awareness and advocacy, (iv.) training and (v.) education. The five broad themes with their 26 components are being implemented through twenty sub-implementing agencies. This requires a tremendous effort to succeed with intersectoral cooperation for planning and implementation; not an easy task. Under community-based ecosystem management, IUCN Bangladesh is promoting community-based wetland management in the *haor* and floodplains of Bangladesh with emphasis on natural resource management. This is accomplished through: (i.) establishing community managed micro-sanctuaries for flora and fauna, (ii.) promoting integrated pest management, (iii.)

promoting growth and use of medicinal plants, (iv.) promoting environment-friendly energy sources, and (v.) providing alternative livelihood to reduce pressure on natural wealth, among other activities.

As with the MACH Project, the lessons from SEMP are of great relevance to PA management programs that involve eliciting participation, designing community co-management arrangements of natural resources and PAs and facilitating income generating activities for PA communities.

### *IUCN Bangladesh's Initiative in Chittagong Hill Tracts (CHT)*

The IUCN Bangladesh Country Office (IUCNB) initiated a program in 2000 to link people with nature conservation in the hilly areas of southeast Bangladesh. The goal of the program is to develop a socially acceptable, economically viable and “biodiversity friendly” development model for a given landscape in which the ethnic people of the CHT can live “in harmony with nature”. The expected outputs of the program include: (i.) awareness raising of local people on sustainable use of natural resources, (ii.) building capacity at local level for conservation and sustainable development, (iii.) development and implementation of sustainable land use plans, (iv.) ecological regeneration of depleted tropical forests, (v.) support to rural livelihoods by increasing productivity of their farming systems, and (vi.) making provision for alternative income generating activities (IUCNB 2003).

Krykhong Para, one of the villages of *Mouza* Hafaikhong in the Banderban Hill District, was selected as the pilot area. A Village Development Committee (VDC) was established to manage all activities of the program with technical support from IUCNB. The participatory and capacity building approaches of the pilot initiatives have been well accepted by the community as well as the district council and district administration. Ethnic people from other villages of the same *Mouza* as well as nearby areas approached the project for assistance with undertaking similar programs in their villages (IUCNB 2003).

Again, the lessons from IUCN's CHT Initiative are of great relevance to PA management programs that must focus on eliciting participation, designing community co-management arrangements and facilitating income generating activities for PA communities.

### *1.6.3. Forest Department Lessons*

The FD's experience over the last twenty years with Social Forestry (SF) and its associated community participatory natural resource management approaches is of great relevance for designing appropriate PA co-management design, arrangements and implementation. Thus, it is very important that foresters realize the importance of these experiences by making the link between the participatory elements of social forestry and the participatory efforts to initiate PA co-management. Khan *et al.* (2004), in a recent review of the forestry sector with emphasis on social forestry, have reviewed social forestry's contribution to poverty reduction including a detailed analysis of economic and social development, good governance, institutional capacity building, reform measures and SF activities by NGOs and other quarters. They have also reviewed progress and noted the challenges, needs and issues as well as recommended interventions.

The first community forestry program in Bangladesh was started at Betagi in 1979 within the Rugunia *upazila* under the Chittagong District in a *khas* (under district administration), and the site consisted of denuded, hilly scrubby “forest” land (Huq and Alim 1995). The program began with 101 families or households (HH), and ultimately 83 families remained at the conclusion. Approximately four acres of land were allocated to each HH. A silvi-horticultural module was introduced in all the plots, and mainly fruit and timber trees were planted because of the hilly, erodable terrain. The program was in the line with the *shawnirvar* (self-reliance) working mode. The Krishi Bank agreed to give credit, and Grameen Bank workers supervised the credit. Thus initial capital required by the participants was made available. The Betagi project was considered a success. Encouraged by the success of Betagi, the FD extended the program to the adjoining Pamora *mouza*, which was part of a “protected status

forest” but in a denuded condition (Huq and Alim1995). The Betagi model was a good beginning for participatory forestry with an approach towards community involvement in Bangladesh forestry.

Participatory forestry actually started in Bangladesh in 1981 with the commencement of the “Development of Community Forestry Project” (DCFP) with ADB financial support. The project was implemented in the north and northwestern part of the country and covered twenty-three (23) districts. Subsequently, two more participatory projects were implemented; namely the *Thana* Afforestation and Nursery Development Project and the Coastal Greenbelt Project under ADB loans. A participatory forestry project (Bridge Project) captioned “Extended Social Forestry Project” was also implemented by the GoB from 1995 to1997.

The Forestry Sector Project (FSP) was described in *Section 1.5.2*. The objectives of the FSP are to enhance conservation of forests in selected protected areas, increase overall wood production and institute sustainable management of forest resources through local community participation, institutional capacity building and policy reform. From a review of the performance and experiences of the social forestry (SF) programs under FSP and related completed and on-going projects, several observations and lessons of relevance to PA co-management may be highlighted (Khan *et al.* 2004):

- “Considerable progress has so far been made in initiating reform of the institutions and policies, plantation establishment, creating opportunities of income generation and employment, and raising some degree of public awareness and interest about SF.
- The physical and quantifiable targets have often fared better than the social goals.
- Social and participatory goals are regulated and conditioned by the particular realities of the surrounding context and environment. These contextual regulators (e.g., patronage, social stratification, institutional biases) and their possible impact need to be carefully assessed and understood before launching any project.
- Land tenure status has major implications for participants’ morale and thus, the issue needs to be addressed. However, land management involves securing cooperation from an array of complex governmental regulations and institutions, which may pose a particularly difficult challenge for project authorities.
- In some cases, participants’ preference and perception of project benefits and utilities are not in conformity with those of the project authorities. This may be responded to by a more rigorous process of interaction and field-level exploration.
- Research, especially on the dynamics of social regulators and implications on forestry projects, has been inadequate. Systematic and problem-solving research should continue to illuminate the process of project formulation and performance appraisal.
- The present and potential role of forestry in poverty reduction has neither been made sufficiently clear, nor been explored in depth”.

### *Sundarban Biodiversity Conservation Project (SBCP) (1999 -2006)*

The development objectives of the Sundarban Biodiversity Conservation Project (SBCP), funded by ADB, include development of a sustainable management and biodiversity conservation model for the Sundarbans Reserve Forest resources in a classic sort of Integrated Conservation and Development Project (ICDP) approach. As an ICDP, the SBCP also aims to reduce poverty of approximately 3.5 million people living in the “impact zone”, which is defined as being within a 20 km strip along the boundary of the Sundarbans. These people are widely spread over 17 *upazila* under Khulna, Bagerhat, Sarkhira, Pirojpur and Barguna districts. The participation of stakeholders is not an objective on itself; it is a critical tool to regulate sustainable extraction of natural resources (e.g., timber, fish, NTFPs). In the SBCP many community development activities (apart from raising awareness) are undertaken but which have no direct relation to regulating extraction or the provision of income for those extractors. The ambitious activities planned for poverty reduction in the impact zone include expanding economic opportunities, improving social infrastructure, improving organization for resource users and facilitating stakeholder participation in natural resource management. The *Pally Karma Shahayak* Foundation, an NGO, arranges the micro-finance facilities with communities in the impact zone to create opportunities for income generating activities. In fact, neither a true co-management concept or PA management nor community-based natural resource management are prominent in this project.

The SBCP is currently suspended but under review by the GoB and ADB. Nevertheless, by both good and bad examples, there are lessons from SBCP that can be studied for other PA management programs (e.g., eliciting participation, designing community co-management arrangements, establishing micro-finance schemes, facilitating income generating activities) designed to assist PA communities.



## 2. ELEMENTS OF A SUSTAINABLE PROTECTED AREA SYSTEM

### 2.1. Introduction

This chapter focuses on PA management issues and elements required for a sustainable PA system. The issues and elements are based on current standard international best practices concerning the minimum set of systems/capacities which needs to exist in any PA system worthy of the name. This image of a well-functioning PA Management System of international standard may be used to compare with existing and future projections for the Bangladesh PA system.

The chapter first focuses on issues that all PA systems must address, and we have chosen the following issues; namely, (i.) approaches to PA management, (ii.) stakeholder participation for PA collaborative management planning and implementation, and (iii.) institutional strengthening for multi-stakeholder PA management. The characteristic elements of a well-functioning PA system are then presented according to: (i.) institutional organization with a focus on management support systems, and (ii.) training and capacity building or human resource development.

The elements of a well-functioning PA Management System include the following, divided between two main categories:

#### *Institutional Organization : Management Support Systems*

- Organizational Management
- Information Management Technology
- Spatial Data Management
- Financial Organizational Systems
- Management Planning and Implementation
- Institutional Orientation to Co-management
- Legal Support
- Law Enforcement
- Information, Education and Communication (IEC) and Visitor Services
- Research
- Monitoring and Evaluation
- Collaborative Conservation Planning
- Public-Private Partnerships
- Sustainable Financing

#### *Training and Capacity Building : Human Resource Development*

- Staffing
- Training Facilities and Capacity
- Training for Professional Specialist Skills
- Integrated Training for On-site Protected Area Field Staff
- Integrated Training for Local Communities and other Stakeholders

### 2.2. Approaches to PA Management: Key Issues

Miller (1995) has compared a variety of approaches to protected area management, including the “Bioregional Movement” and ICDP approaches. The bioregional movement grew out of a geographic focus on conservation, as found in the writings of Carl O. Sauer, Paul Sears, and Raymond Dasmann. Their writings revolved around three themes.

- “*Bioregions*: People and ecological communities are arranged in geographically localized units. Culturally, these are fuzzy, but are defined by personal attachments to a place or a homeland, which extends to the area where the customs of others are strange and unfamiliar. Physically, they are often defined by watersheds and other landscape features.”
- “*Governance*: People should be self-sufficient, organized around local markets and political control. Bioregions should be export-limited, exchanging only industrial goods unavailable in a local region. Often, this exchange takes the form of ‘development poles’ based on comparative advantage - specialization of different bioregions in the production of particular industrial goods. Generally, economic systems should be compatible with local resource availability.”
- “*Ecosystem Preservation and Restoration*: Bioregionalists emphasize the need for preserving and restoring regional ecosystems. Decisions are made after systematic and detailed information gathering, and an evaluation of interdependent processes key to the functioning of the ecosystem.”

The bioregional approach (Miller 1995) is characterized by devolution of power to local and regional institutions, constructing governance around restricted places (e.g., Parks and wildlife sanctuaries), and detailed information gathering and evaluation. “Bioregional approaches are not typically methodological or synthetically analytic. They focus on the unique and resist analysis. Techniques are often traded orally at meetings, rather than published.”

Alternatively, the ICDP planning approach (Miller 1995) is a policy tool focusing on developing goals to provide improved livelihoods for local people as a means towards biodiversity conservation. It has been typically characterized by the following principles:

- “Conservation is a byproduct of social and economic benefits of people living near to a conservation area.
- Goods and services provided by natural areas are closely tied to the present and future of PAs.
- Rich tenure regimes, which make distinctions among access rights, stewardship responsibilities, and ownership rights, are established.
- Development goals are integrated into conservation planning.”

The Integrated Conservation and Development Program (ICDP) approach is typically driven by government development needs, which in turn respond to local government demands for products and benefits from conservation areas. The approach is often market driven, and there is some experience that identifies and links critical problems with market approaches and other economic incentives ostensibly in return for protected area and biodiversity protection. Furthermore, the ICDP approach originated with international NGOs that focused on biodiversity conservation. To enable them to tap into considerable funding from multilateral donors in particular (e.g., World Bank, ADB), proposals were required to show strong linkages to rural development and poverty alleviation that included economic incentives for rural communities. Hence the ICDP concept was born and funded, but with the

primary objective on biodiversity conservation through economic development (e.g., Wells and Brandon 1992), an approach that has shown to continually fail and at great expense virtually everywhere that large ICDPs have been attempted.

Returning to Miller (1995), these two methods have several features in common, but they differ in their emphasis on planning as well as “the rigor of the definitions, measurement, and analytical methods used in their application”. Some of the common characteristics are quoted here because of their direct relevance to the Bangladesh protected area system:

- *Scale*: Both “suggest that management approaches need to expand to a landscape scale in order to include the ecological diversity and environmental amenities to sustain human activities in the face of land use, climate change, and natural disturbances. The scale also needs to be large enough to maintain the institutions (e.g., marketing, monitoring, research, and participatory institutions) required for social and ecological sustainability.”
- *Ecological Sustainability*: “Policy and management analysis should concentrate on biological values first, in order to determine the range of ecologically sustainable options that will later be evaluated politically by local communities working with local, regional, and national planning agencies.” Both “approaches recognize that political sustainability cannot be achieved in the long-run without ecological sustainability.”
- *Protected Areas/Human Use Matrix*: “Planning for sustainable livelihoods and biodiversity protection require integrated planning that includes a large-scale matrix of protected areas and connected elements (e.g., corridors), transition zones with limits on human use, and intensive use zones. The intensive use zones should be made an integral part of an overall biodiversity conservation strategy, because these zones have a great potential for providing wildlife habitats in addition to protected areas both for conservation and human use.”
- *Monitoring and Extension*: “Biodiversity conservation requires an intensive process of acquiring high-quality and current information on the state of natural resources. The involvement of local communities implies responsibilities to extend technical and managerial support for biodiversity monitoring and for co-management of resource use. Management plans should provide details of how this process will be maintained, to enable the collection of consistent long-term data necessary for sustainable management, and for on-going extension and collaboration needed to manage resource harvesting.”
- *Economic and Social Sustainability*: “Planning should involve local communities in determining the mix of values that will be used for development decisions. Minority and majority interests should be balanced, and a diversity of values included that are biocentric (e.g., ecosystem processes) and anthropocentric (e.g., spiritual, economic, cultural values).”
- *Institutions*: “Institutions for community involvement should be strengthened and extended to enable them to co-manage and participate in development. Institutions for creating partnerships among local community, private, and public (or government) interests should also be included. These institutions should be made democratic and involve a balance of powers at all levels in order to circumvent political and/or economic domination by any particular set of interests. They should develop a mix of incentives, and particularly reward cooperative approaches (for example, through co-financing cooperative projects). Intermediary organizations (NGOs) should be given an expanded role in coordinating integrated planning and management, from conflict management and arbitration, information exchange, and coordination, to project management.”

In 2000, UNDP organized a workshop on “Integrated Conservation and Development Projects: Lessons Learned”, in Hanoi, Vietnam. The evolution of the ICDP approach, including underlying assumptions, related activities and lessons learned was discussed (**Table 2-1**). Current critical thinking regarding the ICDP approach typically stresses the need to reflect on issues related to long-term development and conservation and how successful the ICDP approach has been. For example, lessons learned included the experience that developing effective negotiated agreements among key stakeholders at different levels and scales, i.e. a participatory multi-stakeholder approach, is critical.

**Table 2-1. Evolution of the ICDP Approach:**  
**Underlying Assumptions, Related Activities and Lessons Learned**

<b>Overall Assumptions</b>	<b>“Typical” Activities</b>	<b>Lessons Learned</b>
<i>When the ICDP approach was in its early stage of development, the prevalent idea was that...</i> unless the basic needs of people living in and around biodiversity-rich areas can be met, they will not support (or will be hostile to) conservation efforts.	“Social development” activities such as building roads, water supply, schools, health centers, etc.	<ul style="list-style-type: none"> <li>▪ Passive beneficiaries</li> <li>▪ Lack of ownership</li> <li>▪ Input intensive</li> <li>▪ Unsustainable</li> <li>▪ Conservation links unclear or non-existent</li> </ul>
<i>However, ICDP projects designed accordingly were not working well, so new ideas emerged that...</i> impacts of local communities on biodiversity can be mitigated by providing them with alternatives to natural resources-dependent lifestyles.	“Alternative livelihood” development such as agroforestry, weaving, bee-keeping, mushroom, vegetable farming, etc.	<ul style="list-style-type: none"> <li>▪ Conservation-development links weak/not clearly addressed</li> <li>▪ Loss of traditional knowledge/management</li> <li>▪ De-linking from resources weakens interest</li> <li>▪ Failures- limited experience</li> </ul>
<i>Thus further ideas were developed that...</i> local communities can use natural resources “wisely” if the “link” between conservation of biodiversity and improved livelihoods is “clear”.	“Value added” to natural resources that are harvested sustainably such as forest bee-keeping, NTFP collection, marketing & eco-tourism	<ul style="list-style-type: none"> <li>▪ Policy/legal impediments (access/tenure)</li> <li>▪ Inadequate information on biodiversity/impacts</li> <li>▪ Benefits-sharing mechanism not adequate</li> <li>▪ Internal conflicts</li> </ul>
<i>Later on the ownership aspect became more explicit that...</i> communities will act to conserve resources if they have a “stake” in decision-making about the use and management of the resources.	Access and benefits sharing, multiple use zones, participatory planning and management (usually limited to specific areas/resources)	<ul style="list-style-type: none"> <li>▪ Policy/legal impediments (access/tenure)</li> <li>▪ Weak processes/limited experience</li> <li>▪ External forces/threats not addressed</li> <li>▪ “Stake” too limited to be of long-term interest</li> </ul>

Source: Worah (2000)

It was also stressed that a broader framework is needed. Long-term conservation is dependent on developing, implementing, monitoring and adapting negotiated agreements among stakeholders. The ICDP lessons learned workshop (UNDP 2000) noted several important points:

- *Policy/Legislation*. “We need to figure out how we can work if the policies are inconsistent or not right. Also, ICDP projects have several dimensions crossing many sectors. Again, we need the bigger picture.”
- *Conflict Management*. “We have to recognize that there are many different actors taking an interest in conservation and development issues. Therefore, conflict management becomes real and a very important issue to deal with.”
- *Larger Vested Interests*. “We cannot oversee this important aspect. All the different vested interests need to be brought to the negotiation table when designing and implementing ICDP projects.”
- *Trade-offs*. This is a “very important issue. We need to find the right balance. What does one actor want? What do other people want? One has to find an agreement and one has to give and take in the process.”
- *Timeframes*. “There is no quick way to ICDP success. It takes a long time, and too often an ICDP project has too short a time frame.”
- *Institutional Development*. This is “currently a weak point. For example, one may have ten years of project implementation. But after the project closes down, the activities collapse. Institutional development is a very big and important issue.”

A key lesson learned from many projects, underpinning all others, is the need to involve multiple key stakeholders at both local and national levels in policy dialogue. Using a multi-stakeholder and decentralized policy process (Mitchell & Saunders 1999) should be the most fundamental requirement to achieve wise and appropriate policy decisions. Sound policy decisions may then be translated into sound natural resources management practices and sustainability. Subsequent decisions made at the appropriate scale and jurisdictional level ensure that relevant information on natural resources management problems and policy consequences could encourage appropriate behaviors to overcome the problems. Multi-stakeholder processes also enable other considerations (e.g., distribution of policy costs and benefits) to be better utilized for decision-making at local and national levels.

The primary constraints encountered by most ICDPs have largely centered around one general category: impediments to community institutional and economic empowerment in support of sustainable PA management. This issue concerns the question of how effective community participation was in planning and implementing village conservation and development activities.

Several questions need to be asked when considering ICDP constraints and then approaching a new methodology and management design that will promote community institutional and economic empowerment in support of sustainable protected area management linked to village resource management:

- What worked well (strengths and achievements) during the ICDPs? Why?
- What did not work (failures and weaknesses)? Why?
- In what ways did the ICDP consultants, facilitating-NGOs, PA authorities, local and central Government contribute to those activities that did or did not work well?

- Were failures due primarily to an inappropriate concept design, implementation deficiencies or to uncontrollable negative external factors?
- What needs to be done to improve performance of ICDPs so that project activities may be sustainable or further reinforced in the future?
- Can external illegal activities be controlled or eliminated through local government support or are levels of corruption and disinterest in PA values too high and too entrenched in the fabric of society where most ICDPs have been implemented?
- Who specifically from among the multiple stakeholders were in need of greatest attention and assistance so that impacts on PAs could be reduced?
- How can the lessons learned be evaluated and incorporated into future adaptive management planning, i.e. to maintain both a protected area's integrity and the local communities' access to resources and economic sustainability?

## 2.3. Stakeholder Participation for PA Collaborative Management Planning and Implementation

One of the primary objectives of the ICDP approach is to identify how local communities, on the one hand, and staff from the PA protection and development agencies, on the other, can cooperatively clarify and manage the boundary and zones of a PA. The term “co-management” is used here for collaborative management arrangements, including all aspects of boundary and zone maintenance, regulation enforcement and protection of the PA's biological diversity at the village level. The term adheres to the definition used by NSP, whereby the term collaborative management - or “co-management” - is defined as: “a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources” (Borrini-Feyerbund, et al: 2000), in this case for a particular PA management.

This definition thus requires sharing of power among PA staff, local governments and affected communities (Metcalf 1995). In this case the sharing of power and responsibilities lies primarily between PA protection staff and villagers adjacent to and utilizing land and forest resources within the PA zones. While the objective implies increased local involvement in PA management, it must be stressed that involvement here is not “a process of token participation in which community leaders have been coerced into agreeing to developments” (Claridge and O’Callaghan 1997) but rather power sharing through cooperative or collaborative decision-making.

Community empowerment involves multi-stakeholder participation. Involvement of the public, local communities, or “stakeholders” in decision-making is called participation. Since the 1960's, methods for involving the public in decision-making, especially in environmental and natural resource management, have continued to evolve. Unfortunately, the concept of public participation is frequently misused and underlying processes are poorly understood. As a result, anything that involves consultation with the public has come to be referred to as public participation. However, effective participation is rare. What does effective participation require and how this may be developed appropriately for protected area management?

An early attempt to understand public participation in decision-making was summarized by Arnstein (1969) who raised the question, “What is citizen participation and what is its

relationship to the social imperatives of our time?" These two questions remain relevant to the challenges of public involvement facing a PA's natural resources and both the conservation management and rural development sectors. Arnstein recognized that a typical response to the public participation definition is "self-help" or "citizen involvement", which is reflective of the loose manner in which the concept has often been applied. Arnstein stated that the critical problem "is simply that citizen participation is a categorical term for citizen power. It is the redistribution of power that enables the have-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future. It is the strategy that the have-nots use to join in determining how information is shared, goals and policies are set, tax resources are allocated, programs are operated, and benefits, like contracts and patronage, are parceled out. In short, it is the means by which they can induce significant social reform, which enables them to share in the benefits of the affluent society".

The implication here is that real or full participation is linked to authority and power redistribution. Other observers have subsequently presented the categorical nature of participation as a continuum ranging from limited consultation to self-empowerment (Donaldson 1994). Greater understanding of this continuum will help overcome the vagueness and ambiguity attached to the concept of public participation. There are several distinctive types of involvement, which fall under the umbrella of participation. These types are not interchangeable, and they do not use, require or generate the same data sets, power relationships, participants and decisions; nor do they require the same process or skills. Effective participation requires appropriate design, human and financial resources, social justice and authority.

At low levels of involvement, the public does not share in responsibility or ownership of a project because the need for the project and its design were not determined by them. Ongoing project implementation may also be totally out of their control. Several stages of public involvement in project decision-making have been identified by Donaldson (1994). The first three stages are typically adversarial and require lengthy periods to reach consensus outcomes.

*Stage 1. Public Information and Education:* Decisions have already been made. The public information and education process can be considered a notification process that neither seeks nor requires feedback from the public.

*Stage 2. Public Information Feedback / Public Comment:* A decision is made and comments are requested.

*Stage 3. Public Consultation:* The public are notified of a proposal and are asked for comments. The consultation process is confrontational by nature (e.g., proponents versus objectors). The public does not share responsibility or ownership of the project, and there is often little incentive for the public to seek creative or alternative solutions.

*Stage 4. Joint Planning (Multi-stakeholder):* The level of public involvement increases and is more inclusive, recognizing the rights of all interested and affected parties. The benefit of multi-stakeholder processes is increasing accessibility to information and decision-making, and promoting consensus and alternative conflict resolution. Multi-stakeholder processes are an educational process of informed decision-making to facilitate development of long-term beneficial relationships among

stakeholders. Most proponents of this approach believe they are conducting multi-stakeholder participation when they are, in fact, only carrying out Stage 2 and 3 consultative processes.

*Stage 5. Delegated Authority*: Delegation of decision-making authority and the right to implement decisions is a natural progression from multi-stakeholder processes. Ultimately, delegated authority has immense potential, but requires true and ongoing partnerships based on trust, cooperation, and responsibility. Stage 5 is inextricably linked to the rights of participants and thus the possession of power and authority for local decision-making.

*Stage 6. Self-Determination (and Empowerment)*: In public participation terms, self-determination is the equivalent of true community-based planning and project implementation, ostensibly free from political influence or outside determination.

Poorly conceived participation often results in unnecessary conflict and continual confrontation. An important lesson to be learned from this process is that not all systems of participation are the same. Consequently, this requires proponents of participation to be very specific about what will be required of participants. The correct process for participation is situation and context specific; there is no one right or wrong way for all situations. In some circumstances, participation approaches based exclusively on information gathering will be appropriate, while in other instances, multi-stakeholder processes may be required. To date, most public participation processes for many protected area ICDP projects have been applied in the form of Stage 2 or 3 consultative participation, which in Arnstein's (1969) terms, only serves the purpose of tokenism, merely paying lip service to the requirement of participation.

Multi-stakeholder processes are a "... vehicle for involving ordinary people in the stewardship of natural resources, and for promoting attitude and behavior change in all sectors" (Donaldson 1994). A multi-sectoral approach to natural resources management requires a multi-stakeholder process or institutional framework within which to work. Without these processes, there is no mechanism for cultivating effective involvement and ownership of the issues.

Most multi-lateral and bi-lateral donors typically require participatory processes as part of their project designs, but there have been no clear examples of management plans that were formulated to provide the necessary skills to implement these processes by conservation organizations. Some management plans have, however, identified some steps to be taken and have addressed the importance of this issue by setting the preliminary design stage for a second-phase management plan revision to be made during implementation with local stakeholders. The current stage for management of many protected areas and their adjacent impact or "buffer zones" is somewhere in-between, and there now is the opportunity in Bangladesh to implement revised "second-phase" management plans that sincerely incorporate community empowerment in design, decision-making and management.

However, multi-stakeholder processes will require management and understanding of a wider range of issues and skills than currently utilized by most proponents of public consultation. These skills include:

- An understanding of the process of group formation among stakeholders and group dynamics to avoid collapse of groups as they struggle to define their purpose



- An extraordinary level of communication skills, including non-verbal communication and active listening skills
- Knowledge of how to use information to alleviate frustration that can arise from dealing with complex issues
- Knowledge of how to avoid the “seven deadly sins” of “ignorance, control, fear of failure, comparison, attachment, neutrality, and rights/equality” (Donaldson 1994).

Multiple stakeholder processes require that the process be locally empowered. That is, the process must have the power to access information and resources to make decisions that will be enacted and respected by all stakeholders, including the bureaucracies at all levels, from village group to central government. Most importantly, if multi-stakeholder processes are to positively contribute to improved outcomes for Bangladesh’s PAs, a change to underlying power relationships is required. The nature of this change is fundamental to decentralization, which requires power sharing among different levels of government agencies and between these agencies and non-government stakeholders, including most importantly - the local village communities most affected by PA management interventions.

In this sense, multiple stakeholder processes are implicit within decentralization initiatives, which aim to place decision-making at the level where information is available and stakeholders have a direct interest in outcomes. These processes require "a willingness of the decision-makers to change their existing actions and ways of thinking. Decentralization does not only press for its own implementation, but also represents a requirement for de-bureaucratization and deregulation" (Amal and Nasikun 1988). The concept of power sharing provides the necessary rights to proceed with the process, but also carries with it the requirement of accepting responsibility for decisions.

An example of collaborative management planning and implementation, although not in the form envisioned for Bangladesh, is through a “multi-stakeholder partnerships approach” used by the U.S. National Park Service for the Appalachian National Scenic Trail in 14 states in the eastern part of the United States. Under this concept, local volunteer trail clubs are officially delegated certain management responsibility for designated portions of this 250,000 acre national park. Governmental management functions (e.g., law enforcement, fighting wildfires) are delegated by the United States Park Service through partnerships to other federal agencies and state local governments, which have similar responsibilities on lands adjacent to the national park.

## 2.4. Institutional Strengthening for Multi-Stakeholder Protected Areas Management

Nature conservation is a social and political process that must focus on human organization and collective action (Brechtin *et al.*, unpublished). Sustainable economic and institutional development in support of PA management will require some new approaches to the process of dealing with local communities. Five key concepts of this process (*Ibid.*) are: (i.) human dignity (establishing a strong moral foundation for the social process), (ii.) legitimacy (constructing authority or legitimate power), (iii.) governance (establishing ways for decision-making and power-sharing), (iv.) accountability (guaranteeing responsibility and performance), and (v.) adaptation and learning (institutionalizing reflection and self-correction). If these concepts are utilized in future plans for PA management, then greater success for the dual goals of biodiversity conservation and social justice might be achieved.

A new approach, rather than “conservation and development”, may be through nature conservation and social justice. We need to find ways to show how nature protection can and should occur in ways that are ecologically sound, culturally feasible, politically supported and socially (and morally) just. Successful nature conservation will rest on the ability to negotiate legitimate and enforceable management agreements. This will require strengthening existing institutional and organization arrangements. A first step towards appropriate PA management is to ask how local groups are organized and why these groups may or may not respect PA management restrictions.

One of the many lessons learned from implementing the USAID-funded Natural Resources Management Program in Indonesia (Mitchell & Saunders 1999) includes: “Managing national parks is about managing and empowering people. The NRMP experience demonstrates the need to recognize the many stakeholders associated with a national park and to develop a multi-stakeholder planning process that actively and equitably involves them in decision-making. The stakeholders represent a park’s community, comprised of diverse groups often with competing interests.”

In this case, the stakeholders of greatest concern for PA co-management are the PA field staff and village groups. However, if villagers are to become active management partners, then they need to have the authority to act on behalf of the PA staff. Local government support will also be required as additional key stakeholders for sustainability of the PA co-management objectives.

One basic assumption, which many consider to be invalid, of the way in which most ICDP managed PAs have approached protection is that “conservation through economic development” should be the main focus. For example, in Kerinci Seblat National Park, Indonesia, giving Village Development Grants to a limited number of villages, in return for Village Conservation Agreements to “protect” and “support” the Park did not stop agricultural and other encroachment to the level required. Typically, the villagers viewed this process as a means (the agreement) to achieve an end (the grant), and sustainability of these agreements is very questionable unless modifications are made. The reasons for this included external factors typically outside the project’s control (e.g., illegal logging, poaching and other resource extraction, inability to stop encroachers from outside the village) and internal factors (e.g., limited benefits to only limited members of a village, inadequate understanding and serious commitments to Park conservation, inadequate participation by Park staff, confused local policies).

When considering effective institutional arrangements for management, one must consider the following question: Who is the community or group of stakeholders to whom these participation processes refer? The definition of community is widely open to interpretation. The common use of the term refers to an administrative region or a geographic zone within which people co-ordinate their public administration. Communities may also be viewed as organizational arrangements that enable effective cooperation. While an administratively zoned system provides for interdependence on issues of governance, it does not represent the cooperative inter-relations that underpin most community activities (e.g., farming, fishing, hunting, religion, family structure).

When it comes to the “who” in community resources or PA management and institutional arrangements, the appropriate community is comprised of those who make decisions about resources or systems that need to be managed. They are not all the individuals who are collectively considered a community due to their residence in a village or other administrative region. They are those who deal with the issue at hand on a daily basis and share their experiences, difficulties and successes through coordinating their activities to achieve management objectives.

Quite often, stakeholders can be obstinate, unfriendly, and abusive to the proponents of rural development and conservation projects. Their reluctance to participate in community meetings is understandable; community meetings often provide a social forum where inappropriate or illegal behaviors must be discussed. This environment can alienate and discourage the very participants targeted for attendance. The establishment of a less threatening institutional setting to gain access to targeted audiences and participants is necessary to develop local skills and tools to change behavior.

Thus, managers and public policy-makers need to impartially target those people with the greatest need for behavior change, and not merely focus on those who have been cooperative in the past and regularly attended public meetings. An efficient community-based management plan is one that is targeted at different resource users who have been identified as having undesirable impacts on a resource or a PA. There is no model, no blueprint, and no pilot project that can be applied universally to the range of issues that must be addressed in a site-specific development of institutional arrangements for natural resources or PA management plan.

Institutional strengthening and innovation to manage Bangladesh’s protected areas and their adjacent inhabited zones must draw from several relevant lessons learned:

- Institutional strengthening requires wide support to fill institutional capacity gaps, including redefinition of existing institutions and processes to support multi-stakeholder involvement. There is little theoretical or experiential evidence to demonstrate that current institutions, which were designed to support economic growth based on natural resources exploitation, will support sustainable development. Sustainable development requires new skills, innovative approaches, and support for institutional restructuring.
- If counterparts and Project stakeholders are to be provided with the skills necessary to implement Project innovations, access to training must be more flexible. Increasing the provision of informal training, such as applied research programs, cross-visits and study tours should be stressed.

- Competitive financial resource allocation processes, using transparent decision-making criteria, provide a cost-effective means to encourage wider participation in natural resource and PA management.

It is important to consider how to move from a traditional “integrated conservation and development” approach to one that integrates biodiversity conservation and social justice. Improving PA management with local communities must build on past experiences from other ICDPs, negotiate ecologically sound and socially just agreements, as well as institutional arrangements and economic assistance programs that are politically feasible and socially just. These programs will need to be adapted to specific village conditions, based on legitimate enforcement through strong agreements with all affected stakeholders. Those stakeholders who are particularly affected are the resource-dependent communities whose livelihoods and sometimes survival depend upon maintaining the ecological benefits derived from ensuring the continuation of a PA’s ecological functions and its biodiversity.

## **2.5. Characteristic Elements of Sustainable PA Management**

### ***2.5.1. Institutional Organization: Management Support Systems***

This section focuses on PA management issues and elements of institutional organization, i.e. management support systems, required for a sustainable PA system. While certainly not all characteristics are listed here, at least those of major relevance to Bangladesh are addressed. The elements of a well-functioning PA Management System include the following.

#### *Organizational Management*

- Acceptance of change and taking new approaches to management or strengthening existing approaches
- Central HQ management adequately serves the PA field operations through an appropriate organizational structure
- PA field management has greater autonomy for decision-making
- Vision and regular strategic planning, including monitoring & evaluation of institutional development or progress, is in place

#### *Information Management Technology*

- Data are collected, stored and managed effectively
- Information becomes readily available to users as required and users know how to access the information they need
- Networks and linkages are developed within the Department and with other agencies and organizations (information sharing)

### *Spatial Data Management*

- Geographic Information System (GIS) is coordinated within HQ and among HQ, Districts and PAs
- Adequate equipment and trained staff are available at all levels
- GIS is used to its full potential to address and solve management issues
- FD GIS (RIMS) is networked with other relevant organizations and agencies to maximize effectiveness and collaborative conservation planning

### *Financial Organizational Systems*

- FD annual budget cycles are synchronized to respond to field planning and requirements for operational funds
- Discretionary funds are available for management emergencies
- Fund allocation is transparent and equitable
- Appropriate and efficient systems (e.g., bookkeeping) are in place at the PAs
- Some income derived by a PA is allowed to remain at the PA for management, particularly if community co-management partners are involved in revenue generation

### *Management Planning & Implementation*

- Management plans are prepared through participatory planning with major stakeholders
- Management plans, once prepared at the local level, are then quickly reviewed, revised if necessary and approved through a clear and swift process
- Management responsibilities are clearly identified and capacity is sufficient in all specialized areas
- Regular monitoring and evaluation of management success and constraints is a part of each PA management program
- Implementation of many activities is done with appropriate local stakeholders (e.g., through co-management arrangements, inter-agency coordination at District)

### *Institutional Orientation to Co-management*

- Collaborative management - or “co-management” - is defined as : "a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources” (Borrini-Feyerbund, etal: 2000).
- Co-management is institutionalized through established committees comprised of the “power-sharing” participants
- Co-management is being used as a participatory PA management tool under certain circumstances
- The mechanism (clear step-by-step process with milestones) is developed and transparent to achieve co-management agreements, with shared economic benefits from PAs
- Full involvement of both the FD PA management authorities and other local stakeholders is progressing with mutual respect
- Social justice, human dignity, rights, responsibilities and accountability for actions are part of the process

### *Legal Support*

- Enabling national policies have been translated into a supporting legal framework that enables adaptive and flexible management
- There is a legal basis for co-management arrangements at all levels
- Staff understand the laws and their responsibilities with respect to the laws

### *Law Enforcement*

- Law enforcement staff understand the laws as well as the responsibilities and rights with respect to the laws
- Through co-management, participatory law enforcement can become a reality
- The public are made aware of relevant PA management and biodiversity protection laws

### *Information, Education & Communication (IEC) and Visitor Services*

- An IEC Strategy is well prepared through assistance from appropriate technical expertise
- The IEC Strategy aims to create an influential environmental constituency within the country at all levels in the private and public sectors that promotes the concept that sound long-term environmental management makes sound long-term economic sense
- Linkages with media have been established as part of a national campaign to promote biodiversity conservation
- The IEC Strategy includes IEC activities at each PA and at those public areas that attract great crowds (e.g., botanical and zoological gardens)

### *Research*

- A clear Research Strategy has been prepared in support of PA and biodiversity research
- Priority is placed on applied research, i.e. research that is management-oriented to improve biodiversity conservation or PA management
- Research is conducted through a network of institutions, organizations and universities
- Research findings are made public and accessible to PA managers

### *Monitoring and Evaluation*

- A Monitoring and Evaluation Program is prepared to address:
  - Institutional Development (progress and constraints)
  - Biodiversity (abundance, threats)
  - Indicator species
  - Land-use in and around PAs
- Monitoring and Evaluation is supported by trained and coordinated staff

### *Intersectoral Conservation Planning*

- An ICP Strategy is prepared to enable high-level collaboration and cooperation among agencies and organizations to plan and sometimes collaboratively implement national or regional scale conservation programs (e.g., a national biodiversity assessment, a national review of the PA system, a review of land-use capabilities and development priorities).
- The FD has the willingness and capacity to engage in nation- or region-wide collaborative planning exercises with other agencies and organizations

### *Public-Private Partnerships*

- A Public – Private Partnerships program Strategy has been prepared between the FD and private sector companies or individuals
- Clear guidelines and criteria are provided for partner selection and required and acceptable types of partnerships for PA management and biodiversity conservation
- PAs are benefiting from partnerships supporting management and financial sustainability

### *Sustainable Financing*

- A strategy for sustainable financing has been developed to supporting Protected Area management and to build stakeholder partnerships at national and local levels
- The strategy identifies potential mechanisms to achieve the goal of sustainability

- Success is seen as PAs begin to “pay for themselves” and the community co-management partners are deriving long-term economic benefits
- ecosystem management
- The Wildlife and Nature Conservation Circle, and its mandate and processes, should be modified to be in line with the overall goals of Nishorgo. In effect, the Circle will need to be strengthened and its processes reviewed
- A co-management approach should be adopted
- To extend the reach and effectiveness of the PA managers, an active local PA management committee, composed of an appropriate but small number of local stakeholders, will be essential
- The role of the DFO/Wildlife, in particular, needs to be examined and clarified
- PA Managers can no longer manage their areas as islands cut off from the rest of society
- The FD must continue to improve its ability to manage the legal dimensions of land and resource conflicts

“Vision 2010” recognizes that PAs represent important economic opportunities and each PA will need to take appropriate steps to move toward financial self-sufficiency. To reach its goals, the FD will also build its institutional, human and material capacity to meet these challenges. Formal structural changes must be made to the PA capacity-building efforts for PAs to become functional and operational. The movement towards a separate PA management system should be made slowly, allowing the national PA management institutions to gain ability in the process. The five pilot PAs that are the focus of NSP will produce models for PA management that can be extended to other PAs as a networked PA system.

It is expected that this Assessment will assist the FD to develop its draft “Vision 2010” Statement even further to achieve its required targets.

### 3. ELEMENTS ASSESSED FOR A SUSTAINABLE PROTECTED AREA MANAGEMENT SYSTEM

#### 3.1. Introduction

Facing new challenges and opportunities will require the Forest Department (FD) and its relatively young Wildlife and Nature Conservation Circle (WNCC) to broaden its functions and responsibilities beyond those it has traditionally assumed. Although there is not yet full consensus within the FD on the ways or to what extent this should be done, the analysis has identified **twenty elements** considered as relevant key focal areas for strengthening. These are discussed in this chapter under two general categories:

1. *Institutional Organization: Management Support Systems (15)*
  - a. Organizational Management
  - b. Information Management Technology
  - c. Spatial Data Management
  - d. Financial Organizational Systems
  - e. Management Planning and Implementation
  - f. Institutional Orientation to Co-management
  - g. Legal Support
  - h. Law Enforcement
  - i. Wildlife Insurance
  - j. Information, Education & Communication (IEC) and Visitor Services
  - k. Research
  - l. Monitoring and Evaluation
  - m. Intersectoral Conservation Planning
  - n. Public-Private Partnerships
  - o. Sustainable Financing
2. *Training and Capacity Building: Human Resource Development (5)*
  - a. Staffing Pattern
  - b. Training Facilities and Capacity
  - c. Training for Professional Specialist Skills
  - d. Integrated Training for On-site Protected Area Field Staff
  - e. Integrated Training for Local Communities and Other Stakeholder

The consultants conducted a basic institutional gap analysis by reviewing the current status for each institutional strengthening or management element listed above. The Consultants implemented a basic institutional gap analysis by identifying important FD institutional strengthening or management elements and reviewing the current status for each element, listed above. A draft Gap Analysis Position Paper was prepared in the form of a matrix with follow-up actions. A workshop was held to discuss and review the Matrix Position Paper with FD senior staff. Based on the out come of the workshop and other consultations, the final Gap Analysis Matrix (**Annex D**) was prepared. This matrix forms the basic summary of this chapter.

For each element discussed in this chapter, the following three logical steps were used:

7. *Current Situation Analysis: Where are we now?*  
Assessing the current situation: findings and issues
8. *Recommendations: Where do we want to be?*  
Recommending strategic priorities in support of improved biodiversity conservation and sustainable protected area management system
9. *Delivery Mechanisms: What will it take to get there?*  
Identifying some possible mechanisms for delivering the recommendations

The concluding section of this chapter summarizes findings and recommendations for each of the institutional strengthening elements under the two general categories. The final section, “Moving Protected Area Management Forward to 2010”, also addresses some of the major challenges faced by the Forest Department and its Wildlife and Nature Conservation Circle.



## 3.2. Institutional Organization: Management Support Systems

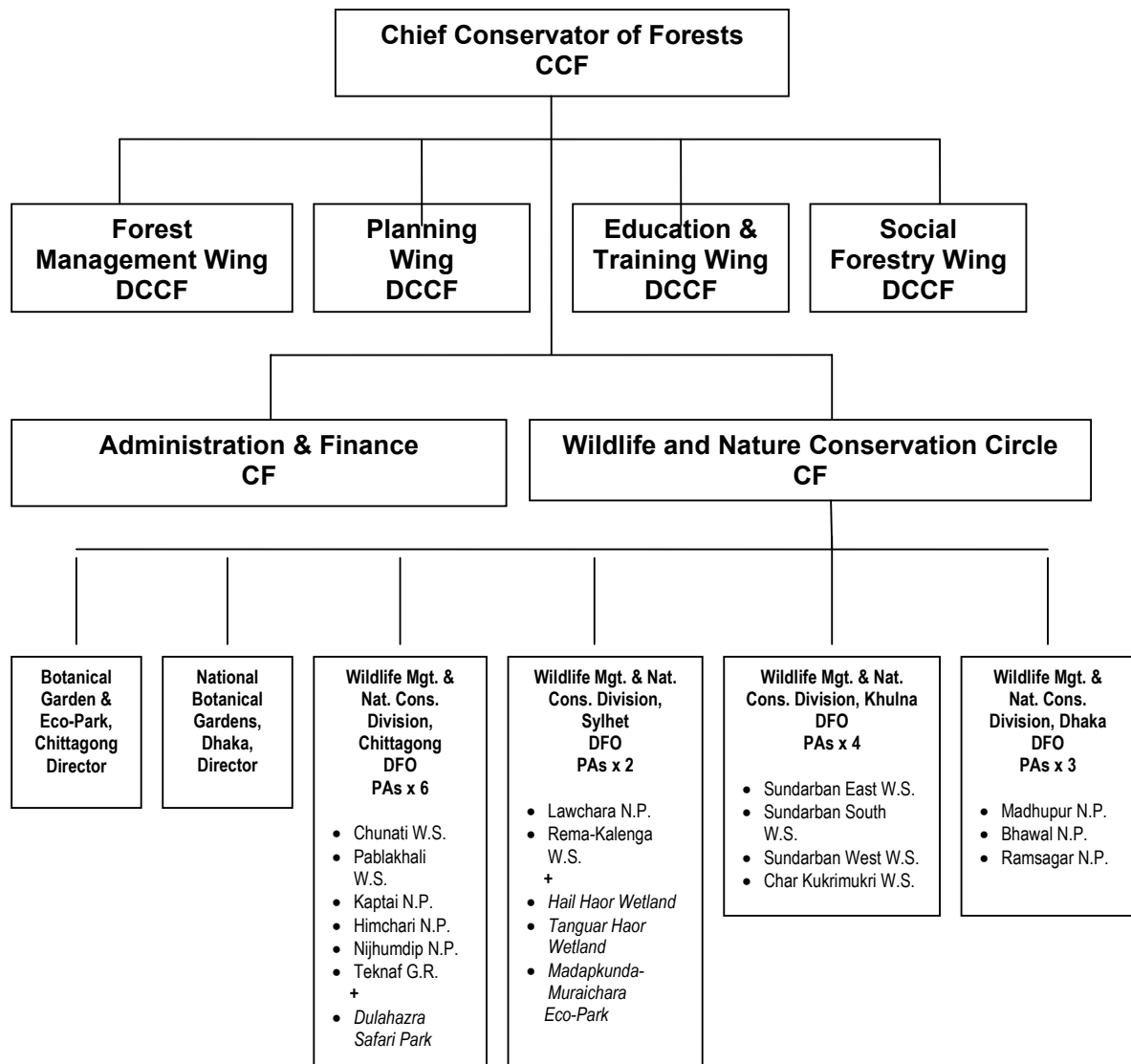
### 3.2.1. Organizational Management

The purpose of strengthening management systems is to enable WNCC to operate as a credible, effective and decentralized organization fully able to manage its policy development and operational responsibilities to achieve desired results. The following discussion is on strengthening the organizational management of WNCC, and a bit more space is taken to develop its analysis due to the over-riding importance of this management element. The discussion is based on the consultants' reviews, interviews and analysis to develop some appropriate organizational management strategies with a view towards initial development over a five-year period to 2010.

A brief historical perspective of the Bangladesh Forest Department (FD) was presented in Chapter One. Conservation of biodiversity through protected areas management emerged as a major concern of the FD only recently. Considering a new secondary focus on biodiversity conservation, the Government instituted a reform in the organizational set up of the Forest Department (FD) in 2001 (*Ref.: MoEF/Sec. -2/For. (Adm. Reform) - 22/98(6)296, dd. 24.6.01*). In support of this reorganization of the FD institutional structure, total staff positions were increased from 5224 to 8681. As part of this reorganization, a new Circle was established; namely, the "Wildlife and Nature Conservation Circle (WNCC)" headed by a Conservator of Forests (CF) with a total allocation of 378 staff under the direct control of the Chief Conservator of Forests (CCF), shown as an organogram (**Fig. 3-1**). The distribution of allocated staff positions is shown in *Sec. 3.3.1*.

According to the FD reorganization of 2001, management of the PAs along with two Botanical Gardens fell under the administrative control of the CF, WNCC. Prior to this reorganization, management of all protected areas were under the Territorial Forest Divisions. 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 PAs within a Division. However, as of July 2004 only two WNC Divisions have been made operational at Khulna and Chittagong. The WNC Division, Khulna, is in effective state. But operational sections and their activities have not been fully commissioned.

**Figure 3-1. Structure of the Forest Department, showing the current (July 2004) placement of the Wildlife & Nature Conservation Circle (WNCC).**



Furthermore, although there are clear instructions in the 2001 government order for FD reorganization that all PAs should be transferred along with their existing infrastructure and manpower to the WNC Divisions, only the Chunati Wildlife Sanctuary has been transferred to a WNC Division (Chittagong). The remaining PAs are still administered by the FD Territorial Forest Divisions. Summary information on the protected areas in Bangladesh is provided in *Table 1.1, Section 1.4.2*.

There are a number of important current opportunities and initiatives aimed at achieving WNCC's improved efficiency and performance to achieve its mission. Some important current processes that enhance the FD/WNCC organizational environment are:

- WNCC was recently formed in 2001 and is placed within the FD, which is within the Ministry of Environment and Forests (MoEF). This position improves the alignment of the WNCC and facilitates its ability to meet its mission, particularly because it results in improved access to technical resources. This permits WNCC's various policy, regulatory, and implementation roles to be better defined and supported. It is anticipated that this alignment will also ensure greater consistency while implementing PA and biodiversity management processes across the Forestry sector.
- The FD participated in preparation of the *National Biodiversity Strategy and Action Plan* (NBSAP) of Bangladesh, prepared by IUCN (see *Sec. 1.5.1*). The draft NBSAP of Bangladesh has identified 16 strategies for biodiversity conservation and sustainable management. Strategy 9, especially calls for co-management and structural pattern of FD to strengthen its capacity for PA management. FD is supportive of the NBSAP but requires assistance to implement its recommendations.
- The FD is placing greater emphasis on PA management and biodiversity conservation, greater recognition and willingness for institutional change, involvement of local people in PA management, and promoting cooperation among stakeholders. These enabling policies, largely developed through the FD's more than twenty years of experience with social forestry and participatory processes, create an environment for change in line with the FD's vision and objectives for PA management.
- There are opportunities for management changes within WNCC and more support for strengthening processes and procedures. FD and WNCC leadership will be better able to facilitate communication among field and central office staff, in part to empower senior field staff to implement adaptive management and devolved decision-making responsibilities. This streamlining of processes should result in more effective results-oriented management and greater control over WNCC resources.
- However, WNCC's current institutional and management presence in nearly all of the PAs is very weak. Although in some PAs the FD has begun to engage key stakeholder groups in a participatory process, little has been accomplished so far in terms of viable PA management.
- The five "pilot PAs" of the Nishorgo Program, assisted by the Nishorgo Support Project (NSP), provide an excellent opportunity to develop "learning laboratories" for developing protocols and methodologies to engage a wide range of community stakeholders within and around PAs in management that is both adaptive and cooperative, i.e. co-management.
- The "Wildlife Advisory Board" has been established as a federal body to coordinate inter-agency efforts related to PA management and biodiversity conservation. This Board offers the potential to serve as an institutional entry point for more far-reaching changes and for a stronger base of alliances and collaboration for FD to engage in conservation planning.

As a result of discussions with senior staff in FD/WNCC and particularly from the FD Workshop conducted by the consultants with senior staff on 31 July 2004 (**Annex C**), two new organograms were developed. One organogram (**Fig. 3-2**) recommends a new organizational structure for strengthening the Central and Divisional levels to more effectively manage the country's protected areas and its biodiversity. The recommendation is also that the current Circle be elevated to that of a Wing. Furthermore, the current Wildlife & Nature Conservation Circle will undergo a name change to become the **Protected Areas and Biodiversity Management Wing (PABMW)**, to be headed by a DCCF.

The new Wing will be comprised of three Circles, each headed by a CF; namely: 1) PA Management, (ii.) Monitoring and Evaluation, and (iii.) Biodiversity Conservation and Technical Support. Two additional PA and Biodiversity Management Divisions were recommended, i.e. at Cox's Bazaar and at Bogra / Dinajpur / Rajshahi, for a total of six as shown in the organogram. Technical assistance is required to help new PABMW fulfill its mandate of adequately implementing the many aspects of PA management and biodiversity conservation. These five technical areas or sections, each to be headed by a DCF, are: (i.) Participatory Management & Community Outreach; (ii.) Information, Education and Communication (IEC); (iii.) Law Enforcement; (iv.) Biodiversity (Flora, Fauna and Habitat) Management; and (v.) Training and Research.

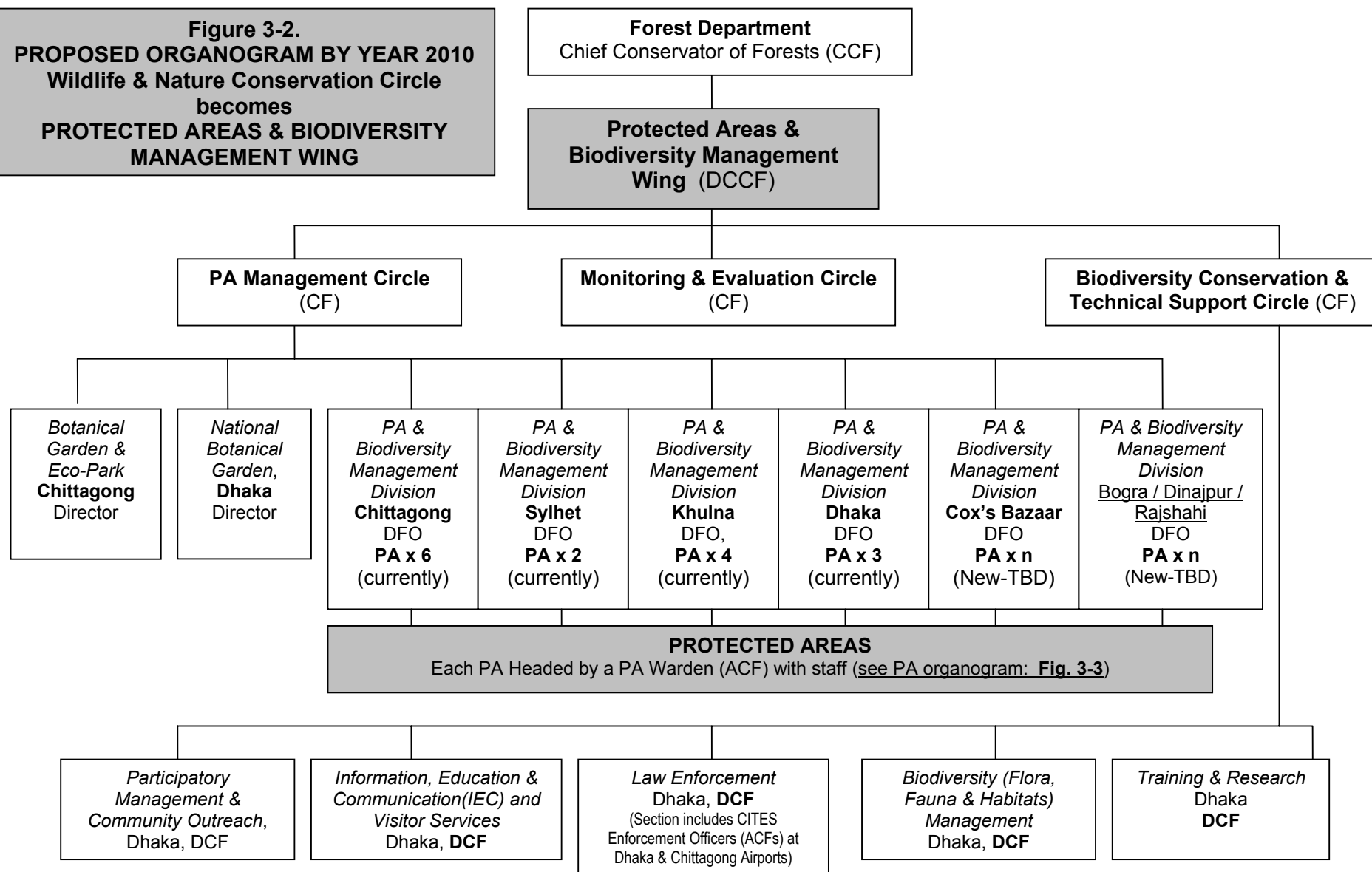
Also recommended as a result of the FD Workshop, is a PA level organogram (**Fig. 3-3**) to cover the basic needs of a typical PA. Positions and staffing would be expected to vary depending on the requirements and issues of greatest importance in each PA. Each PA will be headed by a Park (PA) Warden at the ACF level, who is responsible to the Divisional Forest Officer (DFO) of the respective Wildlife Division in which the PA is located. In addition to administration, accounting, and maintenance support, the Park Warden will be assisted by the heads (Forest Rangers) of at least four proposed PA sections or units; namely: (i.) Participatory Management & Community Outreach; (ii.) Information, Education &

Communication (including Visitor Services); (iii.) Law Enforcement; and Biodiversity Management.

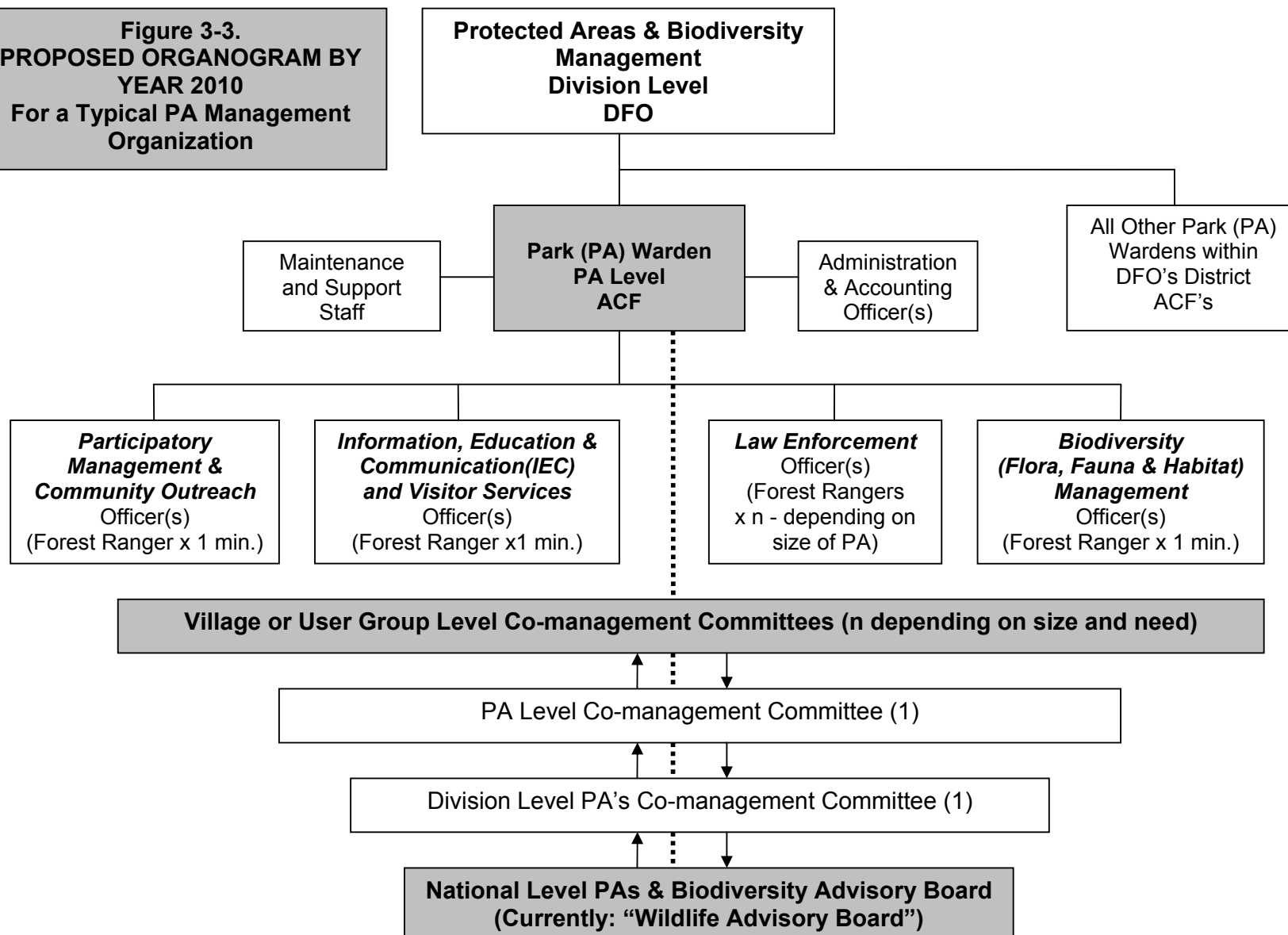
An ultimate goal for most PAs is to develop co-management arrangements and agreements among the FD/PABMW and local stakeholders (see *Sec. 3.2.6*). To accomplish co-management planning and implementation, several committees (**Fig. 3-3**) are required at the following levels; namely: (i.) village or user-group level committees (the number depending on PA and community requirements); (ii.) one coordinating PA level committee for each PA; (iii.) a Division level PA committee (dealing all the PAs in one Division and under the jurisdiction of one DFO), and finally a National level co-management committee, which is recommended to be the current Wildlife Advisory Board (WAB). Furthermore, it has been recommended that the WAB be renamed as the “**Protected Areas and Biodiversity Advisory Board**” (PABAB) to better reflect its responsibilities.

**Table 3-2** summarizes available information on protected areas in Bangladesh with regard to status, area, staffing, budgeting issues and management plan status.

**Figure 3-2.  
PROPOSED ORGANOGRAM BY YEAR 2010  
Wildlife & Nature Conservation Circle  
becomes  
PROTECTED AREAS & BIODIVERSITY  
MANAGEMENT WING**



**Figure 3-3.  
PROPOSED ORGANOGRAM BY  
YEAR 2010  
For a Typical PA Management  
Organization**



**Table 3-2. Detailed Information on Protected Areas in Bangladesh**

No.	Name of the Protected Area	Declared Status	Area (Ha)	Year of Notification (Year of establishment in parenthesis)	ACF position allocated in organogram ? (Y/N)	If ACF position filled, by Wildlife staff? (Y/N)	Funding in annual budget? (Revenue)	Overseen by full Wildlife DFO? (Y/N)	Mgmt Plan proposed? (Y/N)	Remarks
1.	Sundarbans East	Wildlife Sanc.	31227	1996	Y	N	N	Y	Y	M P approved under FRMP
2.	Sundarbans South	Wildlife Sanc.	36970	1996	Y	N	N	Y	Y	M P approved under FRMP
3.	Sundarbans West	Wildlife Sanc.	71502	1996	Y	N	N	Y	Y	M P approved under FRMP
4.	Chunati	Wildlife Sanc.	7761	1986	Y	N	Y	Y	Y	
5.	Pablakhali	Wildlife Sanc.	42087	1983	Y	N	Y	N	N	
6.	Rema-Kalenga	Wildlife Sanc.	1795	1981	Y	N	Y	N	Y	
7.	Char Kukri Mukri	Wildlife Sanc.	40	1981	Y	N	N	N	N	
8.	Bhawal	National Park	5022	1982	Y	N	Y	N	N	
9.	Madhupur	National Park	8436	1982	Y	N	Y	N	N	
10.	Himchari	National Park	1729	1980	Y	N	Y	N	N	
11.	Ramsagar	National Park	28	2001	N	N	Y	N	N	
12.	Nijhum Dweep	National Park	16352	2001	Y	N	N	N	N	
13.	Kaptai	National Park	5464	1999	Y	N	N	N	N	
14.	Lawachara	National Park	1250	1996	Y	N	Y	N	Y	
15.	Medhakachchapia (proposed)	National Park	396	2004	N	N	N	N	N	
16.	Satchari (proposed)	National Park	240	proposed	N	N	N	N	N	Not yet notified
17.	Teknaf	Game Reserve	11615	1983	Y	N	Y	N	N	
18.	Dulhazara	Safari Park	600	(1999)	N	N	Y	Y	N	
19.	Bashkali	Eco-Park	--	(2003)	N	N	N	Y	N	
20.	Madhupkunda	Eco-Park	125	(2001)	N	N	N	N	N	
21.	Sitakunda	Botanical Garden & Eco-Park	1000	(2000)	Y	Y	Y	Y	N	
22.	Mirpur	Bot. Garden	84	(1961)	Y	Y	Y	Y	N	



The foundation of FD/WNCC opportunities, information, technical experience and anticipated changes in its institutional structure and environment has the potential to benefit PA and biodiversity management both within and outside the PAs. Realizing this potential, however, will require a number of fundamental organizational responses from FD/WNCC and other related institutions:

- FD/WNCC can assume greater leadership and engage an increasingly wider array of stakeholders at multiple levels (from the pilot PAs to the national system) by providing institutional leadership and vision. A key challenge will be to help develop among both WNCC staff and stakeholders an increasingly clear and more common vision for conservation in Bangladesh and the roles each can play. Another challenge is to nurture staff and motivate stakeholders to make the needed and appropriate contributions.
- FD/WNCC leadership will require responsive organizational systems that permit consistent focus and enable outcomes to be clearly identified and evaluated. Facilitating decentralization will require emphasis on both managerial and administrative functions. Decentralization will also require a simple and streamlined organizational structure so as to make field implementation more successful in dealing with a wide range of PA management issues.
- WNCC will need to assume a broader and more effective set of roles and develop new and appropriate skills during a process of change. WNCC's contribution to more sustainable management of PAs and biodiversity conservation will require it to respond effectively to an increasingly complex set of threats and related management issues, including PA management, managing human–wildlife conflict (especially elephants), participatory planning and management at several levels, and wildlife health and management, among others.

To fulfill its mandate within a more sustainable framework, FD/WNCC must urgently develop a conservation and development vision and strategy. Progress in this direction has been made with drafting the Nishorgo “Vision 2010” (see *Sec. 1.4.3*) with assistance from NSP. Now, a “change management strategy” must be built on consensus among all stakeholders regarding the issues and the shared vision of what the future should be. The strategy will need to develop capacity and resources, both financial and human, and provide an outline of actions to implement a long-term strategy with clear adaptive management mechanisms.

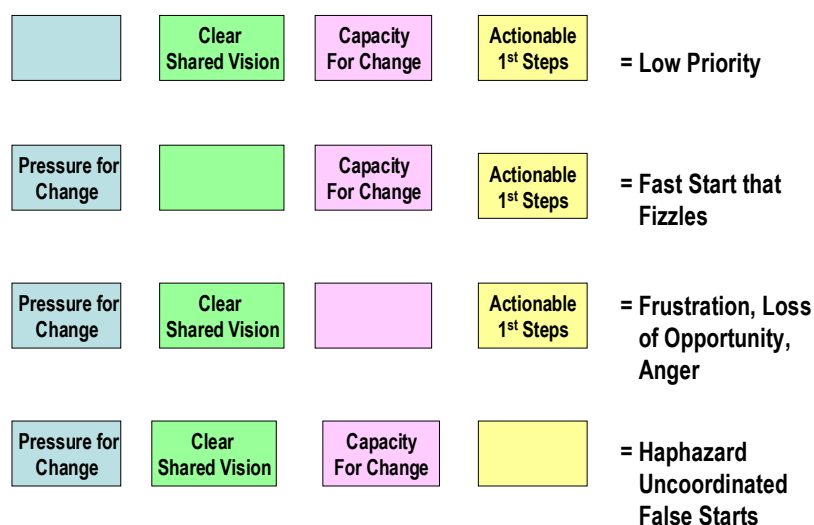
Four factors will condition WNCC's success in meeting the challenges of institutional strengthening and change posed by the Project. WNCC must:

- Clearly see and agree on the need for change
- Develop a common vision, among staff at all levels, of the objectives of specific changes and a broad strategy for reaching those objectives
- Develop the capacity to change
- Define actionable first steps.

One of the main challenges facing the FD/WNCC will be to develop all four of these factors.

**Figure 3-4** presents a simple sketch that points out four undesirable outcomes that will follow if, on the one hand, any one of these keys elements is lacking and, on the other, the strong foundation that will be established when all four are present. The envisaged approach to change, i.e. to address all success factors, will avoid programs of low priority that suffer from false or haphazard starts and ineffective outcomes.

**Figure 3-4. Success Factors Required for Effective Management to Create Appropriate Change.**



To strengthen organizational management, with an emphasis on decentralization, the WNCC will need technical and financial support for activities in two main areas; namely: (i.) establishing and supporting a management team approach, and (ii.) establishing organizational systems and an effective organizational structure. Other supportive sector activities, and their approaches, are discussed in the remainder of this chapter.

### *Establishing and Supporting a Management Team Approach*

The purpose of a management team approach is to enhance effectiveness and efficiency, particularly in two fundamental areas: to enable decentralization and to support the broadening of WNCC's operational roles. The WNCC's CF will need to carefully select the team charged with developing a strategy in these two areas. The process could begin through a strategic planning progress.

This process should first include, for example, a strategic framework-setting workshop at FD/WNCC. Ideally, this would include as broad a range of inputs as possible and feasible from WNCC staff. The strategic management team would address and propose approaches for dealing with several critical issues as:

- Operationalizing the national wildlife and protected areas policies and laws
- The organizational management structure of WNCC (building on the current proposed organograms, **Figs. 3-2 and 3-3**)
- Decentralization implications and responsibilities
- Clear job descriptions
- Training and staff development
- Monitoring and reporting
- An additional range of concerns related to approach and roles (e.g., participatory approaches, co-management arrangements, visitor services, private-sector partnerships).

Although the process of establishing a team approach will begin at WNCC headquarters in Dhaka, the team training must also include field staff (e.g., DFOs and Park Wardens as they are recruited). This will help lay the foundation for improved relationships between key field staff and other stakeholders with HQ staff with whom they will be working. This could begin by including field staff (again, once they are recruited) from the five pilot “Nishorgo PAs” assisted under NSP.

### *Establishing Organizational Systems and an Effective Organizational Structure*

The purpose of establishing organizational systems is to operationalize and enable decentralization, or devolution, of management responsibility to PA level staff and, ultimately, to a sharing of power with local communities through co-management arrangements. Sound organizational systems will provide WNCC’s central office with

disciplined tools for managing decentralization effectively and thus to confidently support decentralization.

Developing good systems and putting them in place takes time. Developing the skills for managing new procedures and systems requires training, particularly if a new decentralized approach to management is the focus. The FD/WNCC will need technical and financial assistance to develop and carry out an appropriate training program early while the systems are being developed (*Section 3.3.3*).

Initially, decentralization will be focused on the five Nishorgo pilot sites, and the new organizational systems will enable these sites to be decentralized. The systems will provide WNCC's CF and his staff with the information they need to monitor and guide management at the pilot sites. To gain maximum benefit from pilot-site innovations, direct reporting is clearly beneficial. However, a number of functions are not PA based. For example, wildlife management outside the PAs is also WNCC's responsibility. Furthermore, given the current staff vacancies and gaps in most key specialized technical areas, it may make sense to post new additional staff regionally, i.e. in the Divisions, to provide support to more than one PA.

Key tasks to make the WNCC organizational systems operational are to be determined, but might include:

- Identify and clarify roles and responsibilities in the context of what needs to get done and who needs to do it. This will lead to agreed job descriptions and will also help identify the capacities needed to fill these roles
- Develop work planning procedures and formats
- Review staffing needs and link these to a proposed decentralized structure, which would then fall into a new personnel policy system

- Develop a Management Information System (MIS) out of the existing RIMS at FD to coordinate and network data (see *Section 3.2.2*)
- Develop financial organizational (or management) systems (see *Section 3.2.4*)
- Prepare a WNCC operational policy manual (covering management support systems and human resources)

Developing an appropriate “integrated management development toolkit” will be useful for WNCC institutional capacity-building and strategic planning as well as to strengthen participation mechanisms as a core activity within WNCC itself. Participatory approaches need to be incorporated into programming to build capacity, enhance performance, expand partnerships and promote accountability. “Forest Department Strategic Planning: Advanced Participatory Methods and Developing an Institutional Development Framework for Protected Area Management” (**Annex E**) provides supplementary information to be considered for structured institutional capacity building.

A set of methodological tools known as Advanced Participation Methods (APM) have been developed and employed in a variety of institutional settings around the world. As a series of tools, APMs can be tailored to an extremely broad array of participatory challenges. APMs are founded on seven distinct yet interrelated principles: participation, teamwork, creativity, consensus, reflection, action and empowerment. The methods can be applied in a variety of settings and have been very effective in bringing diverse groups of people together to solve mutual problems and enhance their performance. APM includes strategic action planning workshops, participatory event design, quality service improvement, facilitated group discussion, rapid field appraisal and participatory rural appraisal. Creative combinations of these methods can serve as powerful and productive tools.

Another method that should be used is the Institutional Development Framework (IDF) developed by Management Systems International (MSI) of Washington, D.C. IDF systematically employs process as an institutional strengthening tool. The IDF, developed through short 2-day workshops at both HQ and PA levels, can help WNCC see its role more clearly by fostering a common language and understanding of their vision, purpose and identity. It provides a “roadmap” for the next stage in WNCC’s and individual PA’s institutional development, and, most importantly, helps groups to quickly and systematically identify the specific areas that require priority attention for planning purposes. These exercises are intended to take the development of the FD’s “Vision 2010” (see *Section 1.4.3*) to the next level of acceptance and understanding.

To deliver the recommendations presented here, a program of participatory training for senior FD / WNCC staff, using APM and IDF, would be useful. This would be best accomplished by hiring facilitators trained in Advanced Participatory Methods and Institutional Development Framework (priority-setting) workshops. The preliminary TOR for these consultants is also presented in **Annex E**. Steps to be taken by the consultants could include the following steps:

*Develop a program for “change management”, team building and leadership training*

1. Establish change management vision and mission with WNCC management team for mid- to long-term (5-10 years), i.e. to further develop the “Vision 2010” prepared with the FD by NSP
2. Develop training materials for change management, team building and leadership using Advanced Participatory Methods (APM)

3. Implement training program with WNCC management team

Carry out strategic planning workshops

1. Develop materials for monitoring performance (“change management”) at WNCC HQ level
2. Implement regular (2-day) Institutional Development Framework (IDF) workshops at WNCC HQ to establish benchmarks for future monitoring and evaluating change management (bi-annual) - followed by analysis reports
3. Develop materials for monitoring work plan performance and decentralization at pilot PA level (once staff are in place in the PAs)
4. Implement regular (2-day) Institutional Development Framework (IDF) workshops at each of the 5 NSP pilot PAs (again, assuming that these PAs are staffed) for monitoring and evaluating work plan performance and change due to decentralization (annual)- followed by analysis reports
5. Assist WNCC to develop a program to implement institutional stakeholder workshops (organized by WNCC) for inter-sectoral management coordination in each of the 5 NSP pilot PAs
6. Awareness workshops for conceptual clarity of the process and follow-up on “What needs to be done” at HQ and pilot PAs
7. Workshop with WNCC staff and the 5 PA Park Wardens (if in place) to prepare strategy

Recommend a strategy for effective decentralized management as part of the existing draft FD “Vision 2010” document

1. Prepare results of WNCC strategic planning workshop
2. Finalize decentralized management strategy for WNCC review
3. Assist to establish and operationalize new decentralized management systems
4. Ensure that the process for regular follow up is in place for monitoring and evaluating the effectiveness of change resulting from the strategic priority setting workshops.

### ***3.2.2. Information Management Technology***

The FD/WNCC is an organization with great potential for expanding and using modern information management technology (IMT) to provide efficient and satisfactory service to its current and future users. Data types are quite varied and have to be collected, stored, assembled and presented in a variety of forms to suit the needs of each individual or PA management purpose. Processing data is a large task that is unwieldy to handle manually. Therefore adopting improved computer technology to process, access and present required information is inevitable to facilitate data management. The FD/WNCC currently has a very modest computerized environment to meet only minimum information needs, but it requires vast improvements to meet these requirements.

Information management technology, in the form of a proper Management Information Systems (MIS) is a must for WNCC to enrich its information base and enhance decision-making capability. The present computer system does not in any way cater for a proper MIS. The computer system at FD/WNCC head office is not linked to the field sites or training centers thus making it impossible to transfer information back and forth on an on-line basis. There is no proper communication architecture to connect the field sites to head office. Therefore, even if information is captured at sites they cannot be transferred to head office.

Furthermore, due to the lack of an adequate MIS there is no e-governance (e-Gov) in place in the FD to promote greater transparency and networking efficiency.

Information or data collection, recording, analyzing, sorting and decision oriented presentation is an integral part of any MIS. FD/WNCC at present does not have the right information technology architecture to provide the necessary base for the management to obtain the right information in the right manner. The ability of the management to analyze and compile information will augment their capacity for management and sharpen their decision-making ability to provide a wider range of services. Thus a properly designed MIS is of utmost importance to FD/WNCC and immediate implementation of an MIS will greatly help to protect and manage the natural resources and PAs of Bangladesh.

It is noteworthy that the FD has established a Resource Information Management System (RIMS) Unit at HQ in Dhaka for natural forest management and plantation forestry assistance in particular. Although RIMS is inadequately staffed and equipped to handle the entire Forest Department it does show great potential for growth. While this unit deals with an aspect of MIS; namely, spatial data management through its Geographic Information System (GIS), RIMS does not currently expand beyond that realm and cannot be considered a MIS that serves all needs of the FD/WNCC.

It is recommended that the current RIMS Unit be expanded and strengthened with a broader scope to enable it to serve the full MIS requirements of the FD including the many activities within the FD that require data management, including WNCC requirements to improve PA management and biodiversity conservation. The ultimate goals of MIS include:

- Data are collected, stored and managed effectively
- Information becomes readily available to users as required and users know how to access the information they need
- E-governance (e-Gov) is in place in the FD to promote greater communication, transparency and networking efficiency
- Networks and linkages are developed within the Department and with other agencies and organizations (information sharing)

General recommendations in support of information management technology include:

- Conduct a detailed MIS needs assessment of FD / WNCC / PA data management and user needs is required to recommend an appropriate MIS structure
- Improve the storage and management mechanisms and increase hardware capability (e.g., computers in HQ, Districts Divisions and ultimately at the PAs)
- Ensure that the MIS is linked with the existing RIMS system
- Institutionalize the MIS (e.g., as an expanded RIMS Unit) and orient staff to its capabilities at all levels
- Support and coordinate data management at Central and Division levels up to DFO level and ultimately up to the field level for all PAs by networking the RIMs (GIS & MIS)
- Ensure that information is readily accessible for decision-making at local levels and for networking of information both with the FD and with other agencies

To deliver these recommendations, mechanisms will include: (i.) a FD-initiated MIS needs assessment that identifies priorities and phasing of equipment and trained staff (earlier MIS



needs assessments will also be reviewed and considered), and (ii.) FD funding allocation for staff and equipment to develop the RIMS Unit with full MIS capability.

Conducting a detailed MIS needs assessment for FD/WNCC will include determining the data management and user requirements and recommending an appropriate MIS structure. This assessment is considered a priority recommendation to improve the efficiency of the FD on many levels. The main objective of the MIS needs assessment study is to investigate the present strengths of the computer facilities available at FD/WNCC and to recommend how to improve the existing IT architecture and its configuration to ensure the availability of good quality, up-to-date information for its users, especially in the areas of accessibility, and faster retrieval of information. This would enhance the quality of services provided by FD/WNCC for their users, both internally and externally. In addition, top-level management would be able to make faster decisions in a more appropriate manner at FD/WNCC with the availability of modern IT infrastructure developments.

The study would address and review the management controls, practices and policies as well as associated technical issues at FD/WNCC. This would identify potential problems and would permit more cost-effective, appropriate remedies to be included in any proposed MIS computerization project. In particular, the possibility of setting up of integrated network architecture has to be studied with the intention of introducing Internet and Intranet facilities to FD/WNCC. Communication among remote sites such as the PAs, Division Offices and HQ is vital to introducing a fully integrated, distributed application system for FD/WNCC. Also, improving the web portal with secure access to field offices at various locations should be studied in depth. Implementation schedules for the MIS study and its follow-up, including appropriate staff training programs, will need to be prepared with FD/WNCC staff.

The general scope of the the MIS assessment study is to provide support to FD/WNCC to implement a new MIS. Specific areas to be covered should include:

- Assess the present functionalities of the application system, including web-based systems
- Investigate the hardware architecture at FD/WNCC
- Identify the drawbacks of the present systems and new user requirements
- Assess the availability and accuracy of available information
- Design an MIS and communications architecture to connect all the remote sites covered by the FD/WNCC
- Prepare technical specifications for replacement of the present application system with state-of-the-art technology
- Prepare procurement specifications for the hardware and software systems
- Liaise closely with the RIMS Unit staff to formulate specifications for an integrated MIS package
- Propose short-term, intermediate and long-term implementation plans to establish MIS
- Identify the necessary skills for a training development program for FD/WNCC staff and map out the staff training programs for MIS technology transfer
- Introduce integrated application systems and the remote accessibility via Internet and Intranet facilities
- Evaluate areas of information required in the Internet and the degree of accessibility
- Investigate the FD organizational structure and responsibilities of each staff member and determine how the MIS will best serve their present and future needs
- Determine the hardware and application software maintenance requirements

- Delineate available data security controls and backup facilities and recommend required improvements, including a potential data loss “disaster recovery plan”
- Clearly identify the interaction with other systems within the MIS (e.g., GIS and hardware communications)
- Organize a computer awareness program for the FD/WNCC staff. Existing machines available at the FD HQ could be used for this program. An Instructor from a reputed training institute could be selected for the program.
- Determine the usefulness of the MIS for e-governance of the FD and make this available to staff through an awareness program or workshop
- Possibly, assist the FD to make draft evaluation reports of vendor proposals
- Monitor systems development with FD/WNCC staff to ensure successful installation and implementation of the system

### *Communications Hardware*

In connection with information management technology, it is also important to address issues of communications hardware within the FD. The Communications Network (e.g., radios, walky-talkies, phones) in the FD for PA management is not sufficient. Currently, the FD does have telephone networks with all Division level offices and also with some depots and rest houses where a telephonic network is available. The FD also has an internal radio communication network among the CCF office, Coastal Circle, Khulna Circle and Coastal divisions. The radio network of Khulna covers the Range headquarters of PAs situated in the Sundarbans. Radio walky-talkies of Sylhet and Chittagong territorial divisions cover some of the PAs. However, there is no radio communication network specifically for the PAs and also there are no walky-talkies for the staff working within the protected areas.

Preliminary elements of a strategy to enhance the FD communications hardware network include:

- Review the entire communications network needs of FD
- Facilities should be extended to interconnect all communications media (public telephones, HF & VHF radio systems)
- Plan to keep recurrent expenditure as low as possible for sustainability but without sacrificing the needs of equipment maintenance and replacement
- Explore redeployment of existing equipment where feasible
- The communications network must be functional on a 24-hour basis (voice, mobile, data)
- Discontinue any HF radio communications as early as possible and opt for more modern technology
- Examine the possibility of outsourcing some of the network components
- Recruitment of a Communications Officer in the FD to manage the communications network as part of the over MIS

### *3.2.3. Spatial Data Management*

32. Geographic Information Systems (GIS) provides abilities for spatial data capture, management, manipulation and analysis, and for presenting results in both graphic and report form, with a particular emphasis on preserving and utilizing inherent characteristics of spatial data. The ability to incorporate spatial data, manage it, analyze it, and answer spatial

questions is the distinctive characteristic of GIS. Overall, GIS should be viewed as a technology, not simply as a computer system or a map generator.

Careful consideration must be given to three issues when developing GIS as well as communications hardware (discussed in previous section); namely:

- Equipment depreciation and replacement or up-grading
- Maintaining new, improved systems and sustainability, including the most important ingredient of trained staff
- Provision of adequate funding for on-going maintenance and replacement of hardware and software

As stated in the previous section, it is noteworthy that the FD has established a Resource Information Management System (RIMS) Unit at HQ in Dhaka. Although RIMS is inadequately staffed and equipped to handle the entire Forest Department it does have trained staff and does show great potential for growth. The Unit handles spatial data management through its Geographic Information System (GIS). As stated in the previous section, it is recommended that the current RIMS Unit be expanded and strengthened with a broader scope to enable it to serve the full MIS requirements of the FD including those of the WNCC and the PAs. The RIMS Unit does maintain maps and some other cartographic facilities available for the PAs. However, its inadequate staffing and equipment means that it can typically handle no more than basic map production. Also, GIS is only available in the FD HQ with no facilities or staff in the Districts Divisions. Finally, RIMS focuses primarily on plantation forestry and is not well conversant with the data system requirements of PA and biodiversity management.

Currently, the RIMS Unit provides a functional two-way information system. The raw data regarding new interventions of forest plantations are supplied to the RIMS Unit. The processed information containing activities (e.g., afforestation, intermediate cutting, tending operations, regeneration cutting) are sent back to the field Divisions from the RIMS Unit. After performing operations, RIMS feeds the data on new situations to the computer for updating the database through prescribed formats. The RIMS Unit, at present, does not work very much with database management for the PAs; rather its utmost concern is the Forest Division level data. RIMS activities include:

- Regular updating of vegetation database
- Updating and printing maps for field management and planning
- Planning forest inventories and natural resource surveys
- Managing PSPs data
- Training field personnel
- Assisting to develop a “Project based MIS”
- Preparing and updating Management Plans
- Maintaining earlier project based endeavors that generated vegetation status from air photos, high resolution satellite imagery and field inventories
- Making documents available, such as:
  - Protected Area Management Plans by FRMP,
  - Manuals for developing Protected Area Plans
  - Participatory Protected Area Management Plans by FSP
- Extending the Natural Resources Survey of the FRMP

It is recommended that the current RIMS Unit be expanded and strengthened with a broader scope to enable it to serve the full MIS requirements of the FD including the many activities within the FD that require data management, including WNCC requirements to improve PA management and biodiversity conservation. The ultimate goals of MIS were described in the previous section. Specific goals for GIS development include:

- GIS is coordinated within HQ and among HQ, Divisions and PAs
- Adequate equipment and trained staff are available at all levels
- GIS is used to its full potential to address and solve management issues
- FD GIS (RIMS) is networked with other relevant organizations and agencies to maximize effectiveness and collaborative conservation planning

In support of PA and biodiversity management GIS data requirements include:

- Obtaining Protected Area boundary maps
- Investigating available data with other state agencies
- Establishing links with other agencies to share spatial data
- Assessing land use data of the PA and if required produce land use maps in-house, or outsource
- Collecting and managing spatial data that would be useful in PA management
- Introduce hand-held Geographic Positioning System (GPS) units to the PA staff and provide training on GPS use and data collection to be fed into the GIS at HQ

Preliminary recommendations for a GIS strategy as part of an enhanced FD MIS network include:

- FD allocation of staff and equipment for the RIMS Unit needs to be increased
- The RIMS Unit needs to be upgraded in terms of staffing levels, capabilities, equipment and maintenance
- The existing RIMS Unit (now, only for GIS) should be converted and expanded to a full MIS Unit (see *Section 3.2.2*), and the name should remain as “RIMS” but with wider data management responsibilities that include, but are not limited to, GIS
- RIMS needs to devote more focus towards PA and biodiversity management and this will require staff dedicated for that focus
- RIMS usefulness must be seen as more than a map making tool that has wider applications for planning and data management

### *3.2.4. Financial Organizational Systems*

Reforms in 1998 in the FD’s Budgeting and Expenditure Control replaced Capital and Conservancy budgets, and a uniform code has been adopted for the Public Expenditure. Currently, the FD maintains a traditional age-old system dealing with its financial aspects. In this system the FD officers including the DFOs, are empowered to hold an account with the government, i.e. with the Bangladesh Bank, and to draw the money from the government exchequers through issuing cheques. The relevant account holder maintains a cash book and remains personally liable for the money drawn. At the end of each month each officer submits the account statements to the office of the Accountant General, Bangladesh. The FD officials holding such accounts also functions as “treasury officers” and their traditional system as “post audit accounts”.

The general or “revenue” budget is allocated centrally in FD head quarters of the budget under different account heads or broad budget line items like, salary and allowances; fuel and oil; raising of plantations; maintenance of plantations etc. Other than salary and allowances most of the budget lines are for operational purposes. After receiving the annual budget allocation from the Ministry of Finance through the Ministry of Environment and Forests, the CCF allocates the budget to the respective circles as required. The normal budgets, however, are not always up to the requirements. During the 2003-2004 fiscal year the operational budget from Revenue Head was only Tk.40.03 *lakh* for the Wildlife and Nature Conservation Circle.

On the positive side, salary and allowances of revenue staff are secured. The GoB provides funding for FD activities but GoB support is rarely for *in situ* conservation, i.e. within PAs. The existing financial organizational system enables FD officials at particular levels to work as Treasury Officers. On the negative side, there is no special allocation for the WNCC, therefore, the operational fund is limited and uncertain. All PA-generated revenues (e.g., gate fees) must be submitted to the FD and then to the Treasury with no percentage allocated to the PA. Furthermore, the annual budget allocation for each PA is not related to its income-generating success or potential, i.e. equal allocations for each PA regardless of special needs.

Another main drawback of this system is that there is little objectivity in setting financial priorities and allocations. Priority is typically given to traditional management systems (e.g., weeding, thinning, other maintenance of plantations). In this traditional financial system, allocation for conservation or protected area management is not of a high priority. Also, there is no standardization of the FD financial organization system, i.e. there is a variety of financial systems in operation such as reimbursable accounts and replenishable accounts for different donor assisted programs.

Key recommended tasks to improve the FD/WNCC financial organizational systems are to be determined, but might include:

- Develop expenditure delegation systems linked to work plans and job descriptions
- Establish a financial reporting system linked to the RIMS as an expanded MIS (see *Section 3.2.2*) that provides monthly data at the level of programs and cost centers
- Establish a financial management system at the cost center level and above, linked to the monthly reporting system, i.e. again as part of MIS
- Develop a revenue management system that ensures transparency
- Improve delegation of financial management responsibility and reallocation of functions
- Draft and review new Financial management guidelines and accounting formats
- Develop an improved procedure for planning, budgeting, implementation and monitoring of funds allocation and expenditure
- Special allocation for operational funds dedicated to the WNCC is required to ensure at least a certain adequate level of financial stability annually, including Incorporation of a specific budget code for PA management
- Special consideration should be made by the FD to consider increasing WNCC budget to strengthen and speed its growth
- Greater revenue must be allocated to *in situ* conservation, i.e. with PAs, rather than *ex situ* conservation (e.g., breeding programs, zoological Safari Parks and botanical gardens)
- Assess the current PA gate fees collection procedures and allocations to PAs with special consideration given to allocating a portion (e.g., 20% or more) of total PA-generated

revenues (e.g., gate fees) to remain with the PA for management expenses and co-management (e.g., community benefits), i.e. the greater the revenue income the greater the PA and community revenue retention and therefore greater the incentives)

- There should be an officer at HQ in charge of financial management of the entire PA system

To critically review the present FD financial management systems in support of PA and biodiversity management, several issues must be considered that were beyond the scope of this preliminary assessment; namely:

- Organizational structure regarding budgeting, flow of funds and accounting
- Planning, budgeting implementation and monitoring system
- Allocation of functions to various units
- Distribution of work among the accountants and other staff
- Delegation of financial authority and responsibility
- System of internal control in operation
- Flow of financial information to management to make informed and economical decisions

Therefore it is recommended that a feasibility study be made on ways to improve the current FD financial organizational systems in support of PA and biodiversity management. The tasks of the study should include:

- Review the existing WNCC revenue stream and audit procedures
  - Review the present organization structure and the level of delegation of authority and responsibility.
  - Allocation of functions to various units in the head-office
  - Authority to charge fees, expenditure item and the authority to incur them
  - Collection of fees at the PAs and their reporting to head office
  - Preparation of annual accounts and their audits
- Recommend approaches to streamline FD and WNCC financial management
  - Identify the present level of delegation of authority to Divisional offices
  - Upon the outcome of the above review and after identification of the lapses and weaknesses, prepare draft recommendations to overcome those lapses and weaknesses
  - Discuss the proposed recommendations with the CCF and DCCF's and CF-MNCC to get their feed back
  - Redraft the proposed recommendations incorporating the views expressed by the senior management
  - Prepare a report and submit the same to the management recommending the financial organizational system to be implemented by the WNCC
- Recommend appropriate levels of financial management responsibility
  - Examine the present level of responsibility and authority delegated to Division offices
  - Identify the problems faced by the DFOs under the present operating system
  - Discuss with the CCF and identify the level of delegation of authority and responsibility and their limits and prepare a report on the subject
- Prepare financial management guidelines and standard accounting formats
  - Prepare draft guidelines and accounting formats for each level of management for head office and the Divisions
  - Redraft the guidelines incorporating the comments of senior management

- Organize a workshop for the relevant staff both in the head office and in the Districts and explain how to implement new guidelines and accounting formats once approved

The feasibility study could be implemented in three phases

Phase 1:

- Review the existing revenue stream and audit procedures
- Recommend appropriate levels of financial management responsibility and delegation of authority to central, region and PA levels

Phase 2:

- Prepare financial management guidelines and standard accounting formats for each level of management and to assist the FD to implement the recommendations
- Develop a procedure for channeling the appropriate amount as WNCC's share of revenue from the "gate-takes" and develop audit procedures

Phase 3:

- Provide training inputs to implement the recommendations
- Evaluate the new system and recommend corrective measures

### ***3.2.5. Management Planning and Implementation***

At present all the protected areas in Bangladesh except Chunati Wildlife Sanctuary and three wildlife sanctuaries within the Sundarbans are managed by the territorial Divisions of the FD. Thus, in reality and in spite of organograms to the contrary, the WNCC currently has jurisdiction only over Chunati and the three Sundarbans PAs. Yet the situation is more complicated than that and responsibilities and jurisdictions are muddled or "in transition".

Only one PA management plan has been approved (a consolidated 5-year MP covering 3 PAs within the Sundarbans) but this was approved by GoB long after submission making some management prescriptions out-dated. "Integrated Management Plans" for Sundarbans, Chittagong, Cox's Bazar, Sylhet and all four coastal Divisions have also been approved by the government. The PAs that are administered by the WMNC Divisions (through the DFO's) are managed under the territorial systems of the FD (ACCF, Management Planning, FD, July 2004, pers. comm.).

Management Plans for Lawachara National Park and Rema- Kalenga Wildlife Sanctuary were prepared under FRMP and FSP. Management Plan Guidelines were also prepared for Madhupur National Park, Chunati Wildlife Sanctuary, Hazrikhil Wildlife Sanctuary, Himchari National Park and Teknaf Game Reserve under FSP. However, so far no management plans have been approved and no guidelines have been reviewed, revised or taken to the next level. At present there are no management plans for other protected areas. Apart from the Sundarbans where there has been considerable external funding from ADB, minimal implementation of plans and guidelines in the PAs is sporadic and *ad hoc* for the most part. This should not be seen so much as a criticism of the WNCC as it is a reflection of the low priority given to PAs within the FD and the resulting low budget allocations. In spite of this, some prescribed management operations have been implemented in some of the PAs (e.g., habitat restoration, replanting, wildlife translocation) in limited areas and with limited success.

Other weaknesses of the current management planning process include:

- The process of moving from PA management plan submission to approval is too slow and lacks a clear and speedy mechanism
- With some notable exceptions, there is very little active management or protection activities in the PAs
- Very little zonation of PAs in management plans other than “core area” and “buffer zone”, which is something inside and sometimes outside the PA – zoning concepts and identification are unclear.
- PA or wildlife management has been on an *ad hoc* (emergency response) basis and not in line with any clear integrated long-term management plan either for a PA or for an endangered species (e.g., species recovery plan)
- No clear and consistent management planning process, with follow-up, is in place, although guidelines have been prepared
- The participatory process essential to management planning from the very beginning is unclear and haphazard

The NSP focuses on participatory, adaptive and cooperative management of five pilot protected areas. New innovative institutional arrangements and mechanisms in support of management planning and implementation, a focus of this assessment, are intended to enable WNCC and communities to apply resources and skillful means in response to issues and opportunities at the PAs, especially to manage conflict and develop economic opportunities in line with conservation objectives. It is important to consolidate and revise existing management plans into operational work plans that are implemented through an adaptive and cooperative management program that mitigates threats and develops opportunities. Operationally, the revised management plans will establish the framework for each PA investment program, which would include the required material or financial support to manage the area. Also more staff with new skills need to be allocated and trained for each PA, in line with a new PA organogram (see *Section 3.2.1*).

A new and clear PA management planning process will need to be developed within FD that could include the following:

- Establish “Regional” or Divisional PA MPPTs (Management Plan Preparation Teams) that oversees planning in each PA; membership must be carefully selected to represent all key stakeholder groups, including those communities living within and around the PA as well as local government and WNCC staff
- Conduct PA Action Plan Workshops with the MPPTs at the 5 pilot protected areas in support of Management Plan revisions and development of co-management guidelines and arrangements
- During the workshops, identify a Management Plan Implementation Framework as an initial mechanism to guide PA management planning

In short, a well functioning and institutionalized management planning process will possess several key characteristics, including:

- Management plans are prepared through participatory planning with major stakeholders
- Management plans, once prepared at the local level, are then quickly reviewed, revised if necessary and approved through a clear and swift process
- Management responsibilities are clearly identified and capacity is sufficient in all specialized areas



- Regular monitoring and evaluation of management success and constraints is a part of each PA management program
- Implementation of many activities is done with appropriate local stakeholders (e.g., through co-management arrangements, inter-agency coordination at District level)

Recommendations and delivery mechanisms for improving management planning and implementation can be briefly summarized:

- Define the tools to improve management effectiveness, find new legal arrangements, and bring new constituencies into the management planning and implementation process. Actively engage a wide range of stakeholders from local governments, the private sector, NGOs, universities and local communities to form cooperative partnerships to co-manage the PAs and adjacent “support zones”.
  - Focus on new and innovative institutional arrangements and mechanisms in support of local PA management planning and implementation
  - Management Plans need to be prepared for all PAs, and all Management Plans (especially those prepared under the FSP) will require review and revision as needed followed by approval, and the approval process needs to be much faster
  - Management guidelines for the other PAs need to be developed into full Management Plans
  - The term “buffer zone”, which has a negative connotation of “buffering” something “good” from something “bad”, should be renamed “Support Zone”, i.e. this external area supports the protection of the PA while the PA can support/enable sustainable development in the surrounding area.
  - Management Plans need to take a “landscape approach” that addresses management around the PA (e.g., “support zones”) and identify the specific partners required for management of those external PA zones and well as the limits of a “support zone”
  - Developments within a designated “support zone”, external to a PA, require an EIA prior to commencement of the development
  - Management plans require local stakeholder participation during the planning process
  - A clear and consistent management planning process, with follow-up, is urgently required and which gives due attention to the participatory planning process, i.e. a process for stakeholder involvement with clear steps and required milestones
  - The mechanism for participatory planning must be developed, approved and put in place with special consideration towards co-management as a participatory management tool (see *Section 3.2.6*)
  - Need to establish PA Management Units for greater decentralized management and decision-making
  - It must be stressed that even in the absence of an approved management plan, each PA must still be adaptively managed through a proposed management plan or guideline, if one exists, and in response to particular urgent needs and issues
164. • Field PA managers are in the best position to determine when threats and issues have the potential and the tendency to become critical, to identify threats and issues that have already become critical, and often to take management action to ameliorate the threat; thus, they should be given greater authority to take action
- PAs must be staffed, and staff will require appropriate training (see *Staffing and Training*)
  - Clear staff roles and responsibilities (job descriptions) are required for PA management
  - Budget must be allocated towards management of PAs on the basis of prescribed management plan requirements

Delivery mechanisms to implement these recommendations will require that the FD finalize management planning guidelines that take into consideration a wider “landscape approach” together with co-management and other mechanisms for improved and sustainable PA management. NSP will continue to provide stakeholder co-management process development, threats analysis and other studies in the five pilot PAs. The FD will finalize a more speedy review process of management plans for approval and more rapid follow-up to enable full implementation. The FD will also need to secure greater fund allocation to management plan implementation and other programs (e.g., species recovery plans, human-animal conflict resolutions, stakeholder conflict and dispute resolutions, co-management arrangements). Finally, the FD must ensure that elements of social justice and human rights are incorporated into management planning, i.e. through a co-management approach that is designed on mutual trust and respect.

### *3.2.6. Institutional Orientation to Co-management*

Because the rationale for the NSP is largely to develop successful models of co-management arrangements and processes, we will not go into much detail in this assessment. If fact, there is the danger that any major proposals or recommendations may be somewhat at odds with those that have been well thought out by NSP, and that would only cause unnecessary confusion for the Project and within the FD. However, it must be stressed that co-management is one of many tools used for PA management. In some areas, co-management will be very suitable while in others it would become a “recipe for disaster” or ineffective. The choice must be made by the PA managers during a thorough assessment of management approaches that are feasible for a particular PA.

What is "Co-management"? Collaborative management, or co-management, is often misunderstood but the definition used to guide the NSP states that co-management is "a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources" (Borrini-Feyerbund, et al), in this case the PAs and surrounding “support zones”. In Bangladesh, co-management "actors" will include the Forest Department, as legal custodian of protected forest areas, and the local and national stakeholders that have a role in conservation management. The co-management approach has been a fundamental recommendation of the past two World Parks Congresses (**Annex G**), and is actively advocated by recognized international conservation organizations such as the IUCN.

A participatory conservation management planning concept was adopted during development of the PA management plans prepared under FSP. However, PA co-management or collaborative protected area management remains a relatively new concept for PA management in Bangladesh. A participatory management approach towards local communities has been adopted in social forestry programs. It has been mentioned in the previous section that at present PAs are being managed in territorial FD management system without following any management plan. Thus, the FD has experience with some levels of community-based or participatory natural resource management under the social forestry program, and this experience can be applied towards PA co-management with process and goal modifications

Currently there are no co-management arrangements in Bangladesh's PAs. The basic weaknesses to institutionalizing co-management within the FD include: (i.) the FD has no experience with collaborative management (co-management) of PAs, (ii.) no PA co-management institutional frameworks (e.g., local community bodies, coordination committees) are in place, (iii.) an institutional orientation towards PA co-management is not a universally accepted part of the WNCC, and (iv.) there are few opportunities in place to begin with co-management in the PAs without effective FD commitment and staffing.

NGOs are the most likely institution to initiate entry into communities, gain their trust, publicize the purpose and goals of the program and develop the process towards co-management. However, as with the Social Forestry experience (Khan *et al.* 2004), systematic information on the extent and experience of NGO involvement in PA co-management is limited and patchy. The major limiting factors on effective NGO involvement in PAs may be expected to include low institutional capacity and technical expertise, inadequate coordination and collaboration with the FD/government, insufficient funds and logistics to maintain staff exclusively for PA community activities and extension, and political influence on decisions and operations. One notable area of successful intervention by NGOs is promoting public awareness of environmental degradation through community education and motivational campaigns.

Ultimately, a well functioning PA system will realize the following elements:

- A common definition of co-management is understood
- Co-management is institutionalized through established committees comprised of the "power-sharing" participants
- Co-management is being used as a participatory PA management tool under certain circumstances
- Co-management is used selectively
- The mechanism (clear step-by-step process with milestones) is clearly developed and transparent to achieve co-management agreements, with shared economic benefits from PAs
- Full involvement of both the FD PA management authorities and other local stakeholders is progressing with mutual respect
- Social justice, human dignity, rights, responsibilities and accountability for actions as well as gender considerations are given serious attention as part of the process
- Religion-based organizations often provide the most suitable entry point to gain the trust of participants as a step towards co-management
- Co-management enlists the cooperation of local leaders, institutions and local governments but must not neglect those members of the communities, often the poorest and marginalized, who are forced to using the resources within a PA for their subsistence or livelihood. In Bangladesh, some of these are:

<i>Madrassa</i>	Religious seminaries
<i>Malik</i>	Owner
<i>Malik Samity</i>	Head of a cooperative, collective enterprise
<i>Matobbar</i>	Patron, local elite/leader
<i>Murubbi</i>	Elderly, respected person, guardian
<i>Mushawarah</i>	Consensus-building meeting
<i>Samity</i>	Cooperative, collective enterprise
<i>Sanchay</i>	Savings (in connection with micro-finance schemes)
<i>shawmirvar</i>	Self-reliance (organizations)

*Upazila*                      Local government level between Union and District (formerly *Thana*),  
Sub- District

Recommendations for improving the FD's institutional orientation towards co-management include:

- Special consideration towards co-management and other participatory management tools must be included within the management plan
- The mechanism, step-by-step process for co-management must be clearly developed and socialized both within the FD and within the target communities.
- The legal basis for co-management must be established.
- However, PA co-management activities can be initiated within existing legal framework and does not have to wait for full legal basis before beginning PA co-management activities. For example, FD has implemented social forestry for more than 20 years, but the legal backing for SF was only established in 2000 under the amended Forestry Act.
- An institutional orientation towards co-management must become universally accepted as part of the WNCC (e.g., establish a Co-management Unit to oversee this management approach)
- Review the experience with participatory natural resource management through social forestry and to what extent the capacity within the FD can be re-oriented towards PA co-management.
- Participatory planning towards co-management must be developed, approved and put in place at the very beginning of PA management planning
- Stakeholder participation should be included during the boundary demarcation process, and the steps to follow to achieve consensus over boundary location must be put into place, including a legal basis for the participatory boundary identification and field demarcation process
- Institutional arrangements for co-management must be developed and made clear from the very beginning
- Strengthen the existing Wildlife Advisory Board but reorient its focus in line with a name change (e.g., "Protected Areas and Biodiversity Management Advisory Board")
- Stakeholders engaged in co-management must be able to see direct benefits from their involvement, thus special consideration should be given to allocating a portion of PA-generated revenues (e.g., 20% of gate fees) to remain with the PA for co-management (e.g., community benefits), i.e. the greater the revenue income the greater the PA and community revenue retention and the greater the incentives for co-management.
- Implementers from both FD and the community stakeholder groups must include both men and women to address gender issues of management and decision-making

Delivery mechanisms to implement these recommendations will require that the FD ensures that institutional arrangements for co-management are developed and made clear from the very beginning thorough Co-management Committees. The co-management process, including approach, criteria and steps can be developed with assistance from NSP and its five pilot PAs. The FD should initiate Co-mManagement Committees (FD and communities) to develop annual work plans and budgets approved at a regional or DFODivision Llevel PA Co-management Advisory Committees. Annually, the full set of PA annual work plans and reviews should then be presented by the FD to the existing "Wildlife Advisory Board" or to an alternative and acceptable National Level "Co-management" Board that will either be

renamed or reformed later (e.g., suggested under the new name, the “Protected Areas and Biodiversity Advisory Board”).

### *3.2.7. Legal Support*

The Wildlife (Preservation) Order, 1973, Wildlife Preservation (Amendment) Act 1974 and subsequent Notifications provides the legal basis for protection of wildlife and habitats. The Wildlife Order defines various protected areas as game reserve, national park and wildlife sanctuary and aims to preserve the wildlife within those protected areas. The wildlife sanctuary regime also requires undisturbed breeding grounds for protection of wildlife and all natural resources within the sanctuary.

The Act classifies wild animals as game and protected animals and listed them in the annexed schedules. While game animals can be killed or hunted with permits, protected animals are fully protected except in defense of life, crops or livestock. However, by an executive order dated 18 June 1998, the PM’s office prohibited hunting of all types of wild animals for the following five years. For according meaningfulness to this provision, this order should be renewed until wildlife populations in question can be proven, through credible survey and mapping, to have reached a viable and safe level.

#### *Limitations*

- The Wildlife (Preservation) (amendment) Act, 1974 contains provision for establishment of the Wildlife Advisory Board, the composition, procedure and functions of which should be modified to make it more efficient, effective and participatory.
- The schedules of the Act have to be revisited and modified regularly given the fact that the degree of vulnerability of animal species depends on many unforeseeable factors and on ever changing market demands. The Act should also be reviewed to bring about more conformity with the provisions of CITES and to encourage sustainable export of species.
- Section 36 of the Order allows compounding of first time offences under this Order by payment of a nominal amount of compensation (between 1000 and 2000 taka) to the Conservator of Forest (WNCC). Otherwise, offences under this Act would be tried by a First Class Magistrate. In view of the ever increasing threats to the survival of wildlife, the penal provisions should be made more stringent and offences under this Order should also be tried in the courts.
- The Act, its Amendment and the Order did not take community management into consideration.

The Bangladesh Wildlife (Protection) Act, 2003, is now in draft form, and the third draft was prepared in November 2003. It has addressed the issues raised in the previous ones. But one issue is lacking; namely, the designation of protected areas. In the definitions, entrance or cultivation bans have been included much like the previous definitions. However, there is no mention about those people who are already within the PAs and may have lived there for generations. This draft Act has taken into account the declaration of “buffer” (support) zones

in consultation with local communities (Section – 23 of the draft Act). Section 24 of the draft Act indicates that management of these external PA zones should be done by “buffer zone management committees”. There is no clear reference that indicates co-management. The Act (2003) also again has not considered the question of existing settlements within the PAs.

Elements of a well functioning PA system with regard to institutional legal support include:

- Enabling national policies have been translated into a supporting legal framework that enables adaptive and flexible management
- There is a legal basis for co-management arrangements at all levels
- Staff understand the laws and their responsibilities with respect to the laws

Recommendations for improving FD’s institutional legal support can be briefly summarized:

- Wildlife (Preservation) (amendment) Act, 1974 contains provision for the establishment of Wildlife Advisory Board, the composition, procedure and functions all of which should be modified to make it more efficient, effective and participatory
- Enabling policies in support of co-management need to be translated into law that will establish the legal basis for PA co-management arrangements (among FD, community groups and other stakeholders), including issues of rights and responsibilities, land tenure rights, social justice, gender considerations, etc.
- The schedules of the Wildlife Act have to be revisited and modified regularly given the degree of vulnerability of animal and plant species depending on many unforeseeable factors and on ever changing market demands. The Act should also be reviewed to bring about more conformity with the provisions of CITES and to encourage sustainable export of protected flora and fauna species
- The revised Wildlife Preservation Act must take into consideration and be in line with the Forest Act, draft Social Forestry Rule, proposed Biodiversity Act and the international and regional international obligations (e.g., CBD, CITES, Ramsar)
- Section 36 of the Order allows compounding of first time offences by payment of a nominal amount of compensation (between 1000 and 2000 taka) to the Conservator of Forests (Wildlife). Otherwise offences under this Act would be tried by a First Class Magistrate. In view of the ever increasing threats to the survival of various wildlife, the penal provisions should be made more stringent and offences under this order could also be made subject to trials in the courts
- The Wildlife Advisory Board should be renamed the “Protected Areas & Biodiversity Advisory Board”

Delivery mechanisms in support of these recommendations require that the FD ensure the recommendations that address current weaknesses are considered for approval in support of more effective PA and wildlife management. The FD must ensure greater utilization of technical support available from environmental legal specialists, and environmental legal support may also be received from outside partnerships (e.g., IUCN, BELA).

### ***3.2.8. Law Enforcement***

176. With regard to law enforcement, intercepting violators requires knowing if violations are occurring on PA land to which the provisions apply. The boundary of a PA is important to both the alleged transgressor and the law enforcement officer. However, often the boundary is unclear or not existing on the ground. Lack of designation of PA boundaries, lack of boundary signs, and lack of signs in local languages make it difficult for potential violators to know where and what acts that may adversely affect the PA resources, and that are illegal, and are proscribed. This situation also makes it difficult for law enforcement personnel to know if proscribed acts have occurred inside or outside PA boundaries. Furthermore, lack of personnel, transportation and equipment reduce the effectiveness of preventative patrols and enforcement actions.

177. To enhance enforcement capacity and compliance it is necessary to increase the success rate of prosecutions with appropriate sanctions. A main concern is how to strengthen sanctions and enhance penalties. Due to deficiencies in the basic activity of proper reporting and evidence, most prosecutions fail.

179. On the positive side, the FD has established a forest protection enforcement force, and the FD has the authority to enforce the laws (Forest Act, Wildlife Act). Also, the FD has a forest protection and enforcement mechanism, and FD has the authority to enforce the laws. However, there are several major issues and constraints pertaining to law enforcement within the PAs:

- Lack of or inadequately trained field staff and number of staff for effective PA and wildlife law enforcement
- The lack of adequate training and procedural support has resulted in failed prosecutions.
- Inability (or hesitancy) to enforce laws in the field by forest guards due to political pressure and other social influences or delays in the court prosecution process
- Lack of awareness, work pressure and influence can delay the prosecution process
- Lack of incentives for and protection of informers
- Inadequate recognition of human issues within and adjacent to PAs (e.g., *de-facto* versus *de-jure* status of land tenure, access to the forest by local people, Forest villagers and land use agreements, conflict resolution and negotiation with FD staff, land encroachment/recovery, appropriate and humane law enforcement mechanisms in the PA and illegal tree felling and NTFP extractions from PAs)

Sharing income from protected areas is another strategy to obtain the support PA boundary communities. A successful example of joint patrolling by both community members and PA staff is found at Bunaken National Park in Indonesia. Erdmann *et al.* (2003) have addressed this issue in one of their book chapters, “Joint Patrol System / Multi-stakeholder Enforcement Initiative for Bunaken National Park”. It is useful to include some lessons learned here from the Bunaken marine park experience that is of relevance to the PAs of Bangladesh once co-management arrangements are in place. The importance of this opportunity for more effective law enforcement of PAs in Bangladesh warrants the following rather extensive quote regarding Bunaken joint patrolling / law enforcement lessons from Erdman *et al.* (2003):

- “Involvement of villagers in a **joint patrol system** has associated costs and benefits, but benefits far outweigh the costs.
  - Costs include:

- Village patrol members require significant initial training
- Village patrol members have no authority to arrest or carry weapons
- Social jealousies can arise from villagers not involved in patrol system
- Benefits include:
  - Villagers are on the scene 24 hours/day, and have a vested interest in protecting ‘their’ reefs for the future use of their children and grandchildren
  - Village patrol members have intimate knowledge of local reefs and the people exploiting them (both sustainably and in a destructive manner) – allowing them to quickly and effectively target those activities/user groups that cause most damage to the reefs, and allowing them to resolve resource use conflicts in a more consensual manner than rangers or police might.
  - Alternative employment for fishers who would otherwise depend on reef resources
  - Extraordinarily effective socialization of the conservation and sustainable use goals of the park – village patrol team members ‘socialize’ the park even during their free time when interacting with other villagers on a social basis”
- “Involvement of a range of stakeholders (e.g., rangers, police, and villagers from several villages) in joint patrol teams can greatly decrease the likelihood of corruption, collusion and or conflicts of interest dealing with violations committed by friends and family members.”
- “When developing a Marine Protected Area (MPA) multi-stakeholder patrol system that involves local community members, equal representation of all villages (and cultures/religions) within the MPA is an important precursor to acceptance and success of the patrols.”
- “Most MPA stakeholders (villagers, tourism operators, and others) support rules and regulations as long as they are clear and equitably enforced.”
- “Community stakeholders support patrol and enforcement programs, as they are directly linked to increased livelihoods. Many illegal activities within protected areas come from outsiders.”
- “Park managers and the rangers tasked with field management of the park commonly lack the community facilitation skills critical to ensuring broad stakeholder support and understanding of park management objectives. Training in facilitation skills for these park management personnel is an essential capacity-building measure before co-management can be effectively implemented.”
- “When building a multistakeholder patrol system, it is imperative to appoint a strong leader who respects the other stakeholder groups but maintains a clear vision for the overall patrol team.”
- “It is extremely important to declare and treat marine resource crimes as serious offenses, and to apply enforcement evenly across all levels of society (including villagers, tourists, outside military/police/government officials, etc).”
- “Indonesian courts typically treat destructive fishing and other marine resource crimes as light offences. Education of all levels of the enforcement/prosecution system is required to provide understanding that marine resource crimes rob future generations of their livelihoods and must be punished severely.”
- “Enforcement is a continuous, ongoing need – there will always be individuals ready to engage in illegal (and profitable) activities if enforcement activities are decreased below effective levels.”

Elements of a well functioning PA system with regard to law enforcement include:



- Law enforcement staff understand the laws as well as the responsibilities and rights with respect to the laws
- Through co-management, participatory law enforcement can become a reality
- The public are made aware of relevant laws governing PA management and biodiversity protection
- Communities and PA staff are involved in joint patrolling with clear rights and responsibilities set among community members and PA staff

Recommendations for improving PA and biodiversity law enforcement can be briefly summarized:

- Need to increase public awareness of the laws and publicize prosecutions under the laws
- Need improved training of forest field staff to better understand the Wildlife Act and its enforcement (see *Training*)
- Need more allocation of forest guard staff to the positions at PA level
- PA guard staff need to understand their role more as collaborator with local stakeholders for PA management rather than as strict law enforcers.
- All allocated WNCC field positions need to be filled
- Initial priority should be given to the 5 pilot PAs under the NSP
- A mechanism must be in place for greater cooperation between FD law enforcement officers and other relevant sectors (e.g., police, military)
- A Wildlife CITES Enforcement Officer with the rank of DFOACF or higher, supported by staff, should be posted at Dhaka and Chittagong Airports
- Joint patrols for effective law enforcement, comprised of community members and PA staff, need to be established as part of PA co-management arrangements

Delivery mechanisms in support of these recommendations require that the FD ensure that FD law enforcement officers have the support they need to enforce laws. The FD must be able to ensure that there will be improved cooperation and coordination with other law enforcement agencies (e.g., police, military). The FD needs to promote and institutionalize joint PA forest protection (law) enforcement patrols along with the stakeholders/participants within and around each PA and in conjunction with co-management.

### 3.2.9. *Wildlife Insurance*

Currently no Wildlife Insurance Schemes for human-animal conflict (e.g., injury, death, property damage, crop damage) exist under the FD in Bangladesh. Like many other parts of the world human-animal conflict also prevails in Bangladesh. Human - elephant conflict, in particular is common in Sherpur, Chittagong, Banderban and Cox's Bazaar districts. Well publicized tiger-human conflicts abound in the Sundarbans. There is no provision of compensation for damages caused by wildlife, which is a major concern in PA management. In many countries compensation schemes through wildlife insurance have developed as a mechanism to compensate the loss caused by the wildlife. There is no such provision in Bangladesh.

Recently a multi stakeholders' consultation on "Elephant Conservation and Local People's Safety" was held in Sherpur on 27 April 2004 (IUCN Bangladesh 2004). The consultation was organized by the IUCN Bangladesh Country Office and the Sherpur district administration. Participants from local communities, local government representatives,

district administration, FD personnel, IUCN staff members, and victims of elephant damage attended the consultation meeting. One of the suggestions also came out from this consultation that an insurance scheme to include wildlife insurance policies should be taken into consideration. The questions of course are concerned with “how”, “by whom” and “for whom”?

Recommendations for considering the application of a FD wildlife insurance scheme can be briefly summarized:

- Conduct a private sector and government consultation process to establish a new “public-private partnership” insurance scheme
- FD should review and assess the feasibility of a wildlife insurance or compensation scheme in Bangladesh to cover claims (granted under strict criteria) for damages due to human-animal conflict (e.g., injury, death, crop and property damage)
- If a wildlife scheme is instituted, then this provision must be made in the revised Wildlife Act, including strict criteria for claims

Delivery mechanisms in support of these recommendations require that the FD conduct a feasibility study on a wildlife insurance or compensation scheme in Bangladesh, in collaboration with IUCN and NSP. The FD should also assess the feasibility of making a wildlife insurance scheme part of the revised Wildlife Act once acceptable arrangements have been made with the private sector.

### ***3.2.10. Information, Education and Communication (IEC) and Visitor Services***

Wildlife education is imparted in Bangladesh at undergraduate and graduate levels in the department of Zoology in public universities, in undergraduate forestry courses in the University of Chittagong, University of Khulna and Shajalal Science and Technology University in Sylhet. This is also taught both in three years and two years diploma courses in forest schools.

Currently, there is one existing position, “Mass Communication Officer” at the FD head quarters but responsibilities and job description are unclear. Some limited visitor services and information centers for nature interpretation are found in a few PAs (e.g., Sundarbans) and Safari-Park. Some posters and other information materials have been prepared on an *ad hoc* basis, usually through donor-funded projects. Guidelines for developing PA visitor services and facilities were prepared under FSP but there has been no implementation. IEC, including some FD small-scale public relations and outreach activities and campaigns are *ad hoc* and not part of a coherent strategy. There is a lack of trained FD staff to design or manage an IEC program and there are no public relations technical specialties within FD. There is a structural hindrance within FD that prohibits prompt response to media reports. In addition, no visitor services or nature interpretation/education programs or centers at the PAs (only in Bio-Safari Parks).

No overall integrated IEC Strategy has been prepared or implemented by the FD in support of wildlife and protected areas, i.e. environmental conservation, at multiple levels (e.g., national campaigns, media coordination, school programs, PA promotion, network of nature interpretation/education centers). However, it is very notable that an overall Communications

(IEC) Strategy has recently been drafted with assistance from the NSP in cooperation with the FD.

The Communication (IEC) Strategy of the FD Nishorgo Program, prepared with NSP assistance, forms the beginning of a coherent and integrated strategy in support of PA and biodiversity conservation. Thus the Nishorgo Program has devised a comprehensive communication strategy to motivate and convince people to take part in sustainable forest management and to shift the pressure away from forest resources. The following is taken from the draft Nishorgo Program Communication Strategy (NSP 2004) to best explain the objective:

“The main objective of the communication strategy of Nishorgo Program is to promote and foster sustainable behavior to conserve our remaining natural forestry and biodiversity. The intended result is to change behavioral pattern of the group of people critical for conserving the protected area. The aim is to conserve the Protected Areas through wide spread public awareness and to motivate local stakeholders to participate in co-management at the community level. This enhanced and widespread awareness is expected to generate both public support and additional funding from international agencies for forest conservation and biodiversity protection of Bangladesh. The sub-objectives are as follows:

- “To help to comprehend the importance of the collaborative approach of the sustainable forests management and conserve their functional values of biodiversity, soil and water protection and the social- economic and cultural benefits to stakeholders.
- To promote community participation in forest conservation.
- To enable and promote communities adjacent to forests to improve their welfare and become less reliant on the forests; through:
  - Engaging in alternative sources of income from nature friendly income generating activities.
- To develop the potential for, and promotion of, forest-based eco-tourism.
- To promote and develop capacity building in Protected Area management
- To inform people about the scope of nature visit and the appropriate behavior
- To attract additional funding for sustainable protected area management.
- To develop public opinion towards natural forest conservation
- To advocate policies for effective protected area management
- To create public awareness, specially making youngsters involved with issues for Protected Area conservation and significance of our natural heritage.”

Elements of a well functioning PA system with regard to IEC include:

- An IEC Strategy has been well prepared through assistance from appropriate technical expertise
- The IEC Strategy aims to create an influential **environmental constituency** within the country at all levels in the private and public sectors that promotes the concept that **sound long-term environmental management makes sound long-term economic sense**
- Linkages with media have been established as part of a national campaign to promote biodiversity conservation
- The IEC Strategy includes IEC activities at each PA and at those public areas that attract great crowds (e.g., botanical and zoological gardens, Safari Parks)

Recommendations for establishing a FD Information, Education and Communications (IEC) program can be briefly summarized:

- The draft FD Communications (IEC) Strategy prepared with NSP assistance needs to be reviewed, revised if necessary and adopted by the FD as an integrated strategy that increases public awareness of environmental issues, biodiversity conservation, and the importance of protected areas.
- The IEC Strategy must form the basis to develop improved environmental governance (EcoGov) and advocacy as well as an informed “environmental constituency” among the citizens of the country
- Need to increase public awareness of the laws and publicize prosecutions under the laws
- Visitor services and nature interpretation/education programs and centers at the PAs need to be appropriately designed by experts
- Need to improve relations and communication between FD and the media to publicize environmental issues
- Must view the potential of high visitation areas (e.g., zoological and botanical gardens, Safari-Parks) as focal areas for intensive environmental education and establishing well-designed (by technical experts) nature interpretation centers
- Implementers and participants / targets of the IEC and its Strategy must be comprised of both men and women to address gender issues of IEC

Delivery mechanisms in support of these recommendations require that the FD will:

- Secure the funding and expertise to finalize and implement a thorough IEC Strategy, most likely with NSP assistance, using the draft Communications Strategy as the basis
- Secure the commitment and cooperation of partners (e.g., universities, schools, NGOs) to implement IEC Strategy
- Ensure that adequate and appropriately designed visitor services and nature interpretation/education centers are in place in priority PAs where visitation is currently or potentially the greatest
- Secure technical expertise as required
- Ensure that an IEC curriculum is added to FD Schools and FD Academy
- Develop an IEC program that will enlist the co-operation of *Upazila* near to the PAs
- Promote with MoEF to create a special national day during winter( e.g., “National Protected Areas Day”, similar to the “Tree Planting Program”) to be celebrated in the vicinity of the PAs in collaboration with stakeholders (e.g., local government, civil administration, schools and other educational institutions, civil societies, NGOs)

### *3.2.11. Research*

To successfully manage PAs, research is needed to make managers to aware of present conditions, trends and threats, especially those related to achievement of legal and administrative requirements and goals. To garner the most benefits from PA management, it is also necessary for managers to have the products of research to enable them to predict and evaluate expected results from various options and to then choose the best option. Basic research is needed on such topics as wildlife and habitats, visitor uses and needs, habitat restoration techniques and effects of PA programs on affected communities. Research that is required for PA managers is applied and management-oriented conservation biology research.

As the PAs have not received much emphasis from conservation and forestry management points of view, no integrated research or holistic approach on PA management has so far been undertaken. There has been some support and coordination between the FD and the Bangladesh Forest Research Institute (BFRI), Chittagong, and limited support from universities. Sporadic research activities have been conducted by universities for master or doctoral research or by the BFRI in different PAs. These studies have mainly been focused on taxonomy with some are focusing on ecology. Ideas about the research conducted on NSP pilot PAs were found in the secondary information compiled by NSP, particularly FSP documents produced by Tecsalt on conservation areas and by Rashid (2004). Applied research on such topics as sustainable management, plant-animal community interactions, harvest limits of different NTFPs, harvesting impacts on natural regeneration, human ecology and land ecology are very much lacking but needed.

However, there is a weak base of required hard scientific information (e.g., species and habitat studies, maps, and priority-setting documents used to identify and establish PAs) but it can be difficult to find these documents. As noted, very little research is currently being conducted in support of PA or biodiversity management, and much needs to be done to develop a management-oriented research agenda. This must include how this information will be used, disseminated and applied towards PA management.

What information is available and accessible within Bangladesh and abroad has not been fully used in assessing how Bangladesh's PAs and biodiversity is protected and managed. WNCC and other organizations concerned with biodiversity conservation must ask, "What biodiversity?" and "Where is it?," reviewing the available information in a comprehensive way and identifying both gaps and redundancy in the system, issues that could best be addressed under "Intersectoral Conservation Planning" (*Section 3.2.13*). The FD/WNCC and IUCN, among others, must ensure that the draft *National Biodiversity Strategy and Action Plan (NBSAP) for Bangladesh* (see *Section 1.5.1*) responds to the question, "What do we do about it?" for improving the country's PA and biodiversity management.

Additional weakness and missed opportunities that need to be rectified in the FD with regard to adaptive, management-oriented conservation biology research includes the issue that there are no FD research staff or back-up technical staff at Division or PA level, There is a lack of involvement of the FD in the research grant proposal process within PAs by universities, research organizations and NGOs. Coordination and research assistance requests from FD to BFRI are only very limited and can be greatly improved to the benefit of both agencies. The research assistance and coordination between FD and other departments, institutions and universities unfortunately remains very limited. Finally, no integrated research or holistic approaches to PA management are being undertaken. So, there is much that can be done.

It is recommended that a study be conducted to prepare a sociological and biological research agenda for the PAs and biodiversity of Bangladesh. This will require defining and prioritizing for inventory purposes, especially for endangered species and to prepare long term strategies to address specific threats and supportive management approaches in PAs.. This will include carrying out *site conservation planning* to identify inventory surveys that have management priorities.

As noted, most of the current research in the PAs is carried out by independent researchers. Officers of the FD/WNCC, due to lack of training, funds and time do not carry out any research work on their own. Furthermore, there is no incentive for those who engage in such

activities. However, if FD/WNCC is to effectively manage the biodiversity under its administration, then it must develop its own research program. To do so, selected FD/WNCC officers must be trained on research methodology (e.g., development of research project proposals, funding mechanisms, implementing research projects, data analysis and reporting, literature survey and database search). The training could be provided through the FD Training Schools or Academy as well as through the help of independent researchers who work in the areas administered by the FD/WNCC. Thus, through partnerships combined with in-house capacity building, the FD could be quite capable of ensuring that appropriate priority research is done. It is suggested that a particular research focus be directed towards the five priority pilot sites of the Nishorgo Program.

The present research work in the PAs carried out by independent researchers technically supposed to be under the supervision of a sort of “research committee” formulated by the FD. There has been no serious attempt to create awareness within the Department about the findings of these research projects and how these findings can be adapted or applied towards PA management. Consequently a deep rooted mistrust could be said to have developed between researchers and the FD in some instances. This state of affairs must be changed. Attitudinal change could be achieved through developing an appreciation among the FD/WNCC staff about the importance of applied conservation biology research to carry out more effective PA and biodiversity management.

Thus important activities for the FD to consider will include a study to establish a research program for FD/WNCC that largely involves partnership outsourcing. The overall structure for coordinating various research agenda in support of an appropriate integrated research program would need to be established. Activities required to achieve an effective research program at FD/WNCC could include:

- Review the present research program of FD/WNCC and other research programs carried out in areas administered by FD/WNCC
- Develop a database on all the research projects carried out thus far by FD/WNCC and others in areas administered by FD/WNCC (e.g., type of project, project period, project objectives, project outcomes) and ideally in collaboration with the MIS staff of RIMS once they are in place
- Identify constraints to carry out research through interview survey
- Develop a research agenda for PA and biodiversity management based on a collaborative workshop (e.g., to identify research needs, priority areas, identify training needs)
- Develop a funding mechanism, including identifying potential donors and possibly investors, as well as research project monitoring and assessment procedures, including plans on how the research findings will be used and by whom
- Provide assistance for identifying and perhaps establishing field based research programs and consider the feasibility of establishing a small research station in one or more PAs

Elements of a well functioning PA system with regard to research include:

- A clear Research Strategy and Agenda is prepared
- The focus is on applied research, i.e. management-oriented conservation biology research
- Research is conducted through a cooperative network of collaborating institutions with clear responsibilities developed through MOUs
- Research findings are made accessible to PA decision-makers

Recommendations for improving the FD's research capabilities for PA and biodiversity management can be briefly summarized:

- Develop an Action Plan or Research Agenda for appropriate prioritized multi-disciplinary and integrated conservation biology research programs that support management within and around PAs; an excellent summary of types of appropriate research that could be initiated is found in an excellent and concise book, *Research Priorities for Conservation Biology* (Soulé and Kohm 1989) and various publications of the Society for Conservation Biology.
- Develop clear collaborative efforts with lead agencies within specialized fields with clearly identified responsibilities for PA management research, ie. linkage to the rationale behind "Intersectoral Conservation Planning" (*Section 3.2.13*)

Delivery mechanisms in support of these recommendations require that the FD will cooperate with national and international research institutions to develop a clear "Conservation Biology Research Agenda and Strategy" focusing on PA and biodiversity management. The FD must also ensure that in any PA research agenda adequate attention is also paid to socioeconomic research of PA communities, particularly those engaged with the FD in PA co-management arrangements. FD will also ensure its involvement in the research grant proposal process within PAs by universities, research organizations and NGOs and will secure adequate budget allocation for PA priority research.

### *3.2.12. Monitoring and Evaluation*

Monitoring and Evaluation (M&E) for Biodiversity and Protected Area management is not a program *per se* within the Forest Department. Although some M&E is done through the RIMS unit, most is not related to activities pertaining to wildlife or protected areas, i.e. PA land-use or biodiversity monitoring. However, a program of monitoring and evaluation is a critical part of any management planning and implementation process.

As the NSP target PAs are not operated by any Management Plan, there is no monitoring and evaluation process. Some base data, particularly checklists of flora and fauna are available for several PAs. Some indicators for monitoring and evaluation including a "Habitat Suitability Index" have also been incorporated in the Management Plans and Guidelines developed under FSP. When developing indicators for a new M&E program, these FSP indicators should be taken into consideration. However, the Management Plans developed by FSP did not take staff performance into consideration. In M&E performance of the management staff, involved NGOs and local community groups should be taken into consideration. There offers a great range of focal areas that require M&E programs.

On the positive side, the FD does have varying degrees of management division M&E capability among its staff for collecting data and doing inventories but largely focusing on forest plantations.

PA management plans do provide some guidelines for M&E in the PAs. However, M&E weaknesses include (i.) no inventory, monitoring and evaluation programs are being implemented for biodiversity or PA management; and (ii.) no M&E guidelines include participatory M&E (e.g., in cooperation with trained PA community members and NGO staff).

PA and biodiversity M&E information required includes, but is not limited to: (i.) visitor profiles and expectations, (ii.) species ecology, (iii.) climate changes, (iv.) habitat changes,

(v.) human-animal conflicts, (vi.) PA threats, (vii.) management impacts, and (viii.) endangered species recovery.

The approach to PA and biodiversity M&E should include: (i.) review data management, (ii.) establish data collection protocol, (iii.) establish database networks, (iv.) communicate research outputs, (v.) provide necessary training, (vi.) draft bid documents prepared for outsourcing “Habitat Mapping and Biodiversity Surveys” in the 5 Pilot PAs (if required).

An important part of the Nishorgo Support Project (NSP), extensive M&E plans are being developed with the FD Nishorgo Program with sets of clear measurable indicators. For example, a “Community Management Scorecard” has been developed to generally help track and monitor progress of the NSP itself while working in the five pilot PAs. However, it is also expected that the Community Scorecard, once shown to be a successful tool, will be used more specifically by the FD to guide its agenda to improve policy and management effectiveness in the pilot PAs. More specifically this M&E program has the following objectives:

- To provide a harmonized and standardized reporting system for PAs assessment
- To provide consistent data that will allow progress tracking over time
- To provide a relatively quick and easy tool that can be utilized and completed by participating people in the PAs
- To provide a useful scoring system with four alternative text answers to each question, each of which signifies a level of achievement or problem
- To provide an overall “score” for assessment and to compare and prioritize issues, i.e. strengths and weaknesses, among the PAs

Also as part of NSP, performance indicators have been proposed by USAID and IRG to monitor success of the initiatives. A “Management Performance Scorecard” has been developed as a rapid assessment tool to measure the effectiveness of each PA management to deal with current challenges. Thus, this method first identifies the current challenges and monitors improvements in each of the pilot PA’s management capacity. The method relies on experience of PA managers for information. The analysis is simple, quick and qualitative in nature yet has its limitations. Nevertheless, this method can detect trends in development progress over time.

Elements of a well functioning PA system with regard to supportive M&E include:

- A Monitoring and Evaluation Program is prepared to address:
  - Institutional Development (progress and constraints)
  - Biodiversity (abundance, threats)
  - Land-use in and around PAs
- Monitoring and Evaluation is supported by trained and coordinated staff

Recommendations for improving the FD’s monitoring and evaluation capabilities can be briefly summarized:

- Monitoring and evaluation requires much greater attention and resources than currently allocated by FD, therefore a M&E Circle will be added to the PA and Biodiversity Management Wing organizational structure, headed by a CF



- Strategic planning for FD / WNCC/PA institutional development, done at regular intervals in a participatory manner and facilitated, is required to develop an “Institutional Development Framework” (IDF) in support of assessing institutional development progress through regular monitoring & evaluation at various management levels, from HQ to PA level.
- Biodiversity monitoring tools need to be applied and standardized by the FD (or in collaboration with research institutions) through regular monitoring of PAs and biodiversity.
- A program of monitoring impacts and changes on biodiversity and the PAs needs to be developed
- A program of socio-economic impacts on resource conservation through livelihood enhancement and the PAs needs to be developed
- Biodiversity monitoring biodiversity, of PAs for example, could be conducted by an independent organization outside the FD (e.g., IUCN, other national institutes)

3. Delivery mechanisms in support of these recommendations require that the FD will secure the funding and expertise to ensure development of an integrated M&E program that will focus on institutional development (“change management”), biodiversity conservation, PA management, as well as sociological and economic conditions of PA communities.

Recognizing the overriding importance of a good M&E program on several levels, the FD and MoEF will ensure that the CCF’s recommendation (from the PA assessment workshop, 31 July 2004) be implemented, i.e. that a M&E Circle be added to the PA and Biodiversity Management Wing organizational structure, to be headed by a CF. The FD will also ensure that external independent agencies or organizations are involved in more effective M&E of particular FD activities and progress. Finally, the FD will ensure continuous monitoring at the PA level by Park Wardens-ACFs / PA staff, and will also encourage and develop the mechanisms for participatory monitoring by local participants engaged in PA co-management.

### *3.2.13. Intersectoral Conservation Planning*

This type of planning is accomplished on a high-level among agencies and organizations to plan and sometimes implement national or regional-scale conservation programs (e.g., a national biodiversity assessment, a national review of the PA system) or integrated conservation and development programs. This is not the same as co-management planning, which involves local stakeholders, including villagers, within and adjacent to a particular PA.

The purpose and challenge of developing intersectoral conservation planning is to build a foundation for conserving Bangladesh’s natural resources and biodiversity over the long term. A sound process for collaboration among a broad array of government and other institutions and stakeholders will promote consensus, ensure the legitimacy of priorities, and enhance support for conservation strategies and measures in Bangladesh. This process can be supported by the FD through activities in four areas; namely: (i.) finalizing the NBSAP, (ii.) enhancing inter-PA geographic links and system coverage, (ii.) setting joint priorities, and (iii.) recovering endangered species.

Intersectoral conservation planning or participatory planning like participatory management is a new concept in Bangladesh. Management Plans prepared under FSP were participatory to a certain extent in which different stakeholders were consulted individually and sometimes in

groups. Recently the draft National Biodiversity Strategy and Action Plan (NBSAP) has been prepared through rigorous consultation (MoEF/IUCN 2004). A recent meeting on “Elephant Conservation and Local People’s Safety” as mentioned in a previous section is also an example of intersectoral conservation planning.

Positive aspects of FD involvement was seen during the drafting of the National Biodiversity Strategy and Action Plan (NBSAP) prepared by IUCN and included extensive collaboration with FD and other agencies. Some small programs for wildlife research and management (e.g., IUCN, USDA-F&W for elephant conservation) have involved collaboration with FD. Some district or field level inter-agency meetings to collaborate on PA or wildlife (e.g., elephants) issues have involved the FD. Some FD international or trans-boundary cooperative planning (e.g., UNDP-funded joint Tiger Survey between India and Bangladesh for Sundarbans) is an additional example. However, on the negative side, there is no institutional mechanism or capacity building back-up to support any long-term intersectoral conservation planning.

Joint Priority Setting for management of biological resources is not a common practice in Bangladesh due to sectoral, sub-sectoral and subject specific management regimes undertaken by various institutes in the government and semi-government sectors. This practice has adverse effects especially for biological resources, which should be managed through an ecosystem approach and participatory method rather than the traditional command and control method. Similarly, numerous agencies are undertaking development activities in the PA support zones with either insufficient or no coordination with FD/WNCC.

This high-level intersectoral planning aims to provide better functional coordination between major conservation agencies and other stakeholders. One significant objective is to develop shared priority setting procedures that can be applied for Joint Planning Fora and Policy Development. When this objective is achieved, it is expected that an effective and realistic or more practical working relationship would be established in the long run that would surpass the current institutional barriers. Thus, quite a lot of inter-sector planning is needed and it is beneficial to have a greater inter- and intra-institutional coordination to learn best practices to address needs for effective PA management and biodiversity conservation. It will also be helpful to learn “which and where things went wrong and why” it happened in that way.

Elements of a well functioning PA system with regard to intersectoral conservation planning include:

- An ICP Strategy is prepared to enable high-level collaboration and cooperation among agencies and organizations to plan and sometimes collaboratively implement national or regional scale conservation programs (e.g., *National Biodiversity Strategy and Action Plan* implementation, a national biodiversity assessment, a national review of the PA system, a review of land-use capabilities and development priorities).
- The FD has the willingness and capacity to engage in nation- or region-wide collaborative planning exercises with other agencies and organizations

Recommendations and delivery mechanisms for improving the FD’s ability to coordinate and collaborate with other national institutions and agencies in support of PA management and biodiversity conservation can be briefly summarized:

- The FD needs to establish a clear program or strategy for intersectoral conservation planning with other agencies and institutions both within and outside the country
- A FD “Intersectoral Conservation Strategy” needs to provide the mechanisms for improving intersectoral coordination and information sharing so as to maximize conservation efforts in the country
- The FD needs to develop its institutional capacity within itself and with other agencies and organizations for Intersectoral Conservation Planning

Delivery mechanisms in support of these recommendations require that the FD will ensure that institutional arrangements are in place for inter-sectoral conservation planning on a wider landscape scale beyond the boundaries of an individual PA. The FD will also ensure that nation-wide programs (e.g., *National Biodiversity Strategy and Action Plan* implementation, floral and faunal surveys, land capability, PA system reviews, biodiversity assessments) are implemented through intersectoral conservation planning.

### **3.2.14. Public-Private Partnerships**

88. Public and private partnerships obviously entail joint action by both the private sector and the public sector. Here the private sector can be individual investors, NGOs or corporate bodies. These partnerships are invariably connected to a public sector asset, facility or utility, which the private sector would help to manage and/or market. The partnership can be of varying duration and the degree of participation by either party can also vary. Such partnerships can start as a small concession given by the public sector organization to the private sector. This initial partnership can build up to an equal partnership in time. It can even change roles with time and understanding and confidence that will develop between the two parties.

89. Experience shows that historically the public sector has been very reluctant to allow the private sector to get involved in any way in their activities. This reluctance stems from fears that areas of authority will be reduced or that the private sector would make money from this exercise. On the other hand the general public fear that with the intervention of the private sector in what has been public sector activities, some benefits that they enjoyed would get out of the reach of the local populace.

90. The constant cry by certain sections of the general public seems to be: “If the private sector gets involved in what are now the functions of WNCC there will be a loss of control over our valuable wildlife and other natural resources.” Some NGOs and individuals have articulated this fear that with the development of ecotourism, for example, the valuable wildlife resources of this country would be lost through over exploitation. There are also fears that if the private sector gets involved in the management of PA visitor facilities, they would be raised to competitive levels of the market and as a result out of the financial reach of the citizens of this country.

Development of government and private sector partnerships for financing PA management has been realized in many countries. The products range from NTFPs to pharmaceuticals and entrepreneurship like eco-tourism. The appropriate links with suitable legal and policy guidance are required in this regard. The Conservation Enterprise Fund operated by Conservation International (CI), for example, is being developed to invest in eco-business in priority areas in Africa, Asia and Latin America, including those concerned with agroforestry, eco-tourism and NTFPs. As far as WNCC is concerned there has been very little

participation with the private sector. No such substantial public-private partnerships exist for PA or biodiversity management in Bangladesh.

Strong and useful FD partnerships have the potential to be established under the NSP Partnerships Program. The FD MoEF and Arannayk Foundation have developed a partnership for financial support and there is the potential for a formal partnership between the Foundation and FD. The private sector is beginning to invest in environmental management, and some PA and wildlife conservation support has been offered. Some leasing and concessions for gate management at the Botanical Garden and Bhawal N.P. appear to be working well. However, some private tour operators are organizing tours particularly to the Sundarbans (an internationally known PA), but with no or only very limited coordination with the FD or with any financial returns to the PAs for the privilege of using the resource.

74. Outreach and extension capacity building among FD/WNCC Staff is considered the key that opens the door to strengthen PA management and to develop operational partnerships with local community entrepreneurs and other stakeholders to promote sustainable use of PA resources and biodiversity conservation. The concept of outreach is not universally familiar to the staff of FD/ WNCC. At present, FD/WNCC personnel are carrying out their duties from the background of serving as protectionists of the PA resources. The envisaged change under the Nishorgo Project is to provide services as facilitators of the process of participatory management in partnership with local communities and other stakeholders. The focus on capacity building for outreach activities will revolve around attitudes and behaviors in addition to technical capacities.

75. The specific objectives of outreach activities that promote public-private partnerships could include the following:

- Orientation of FD/WNCC Staff for community outreach activities
- Sensitivity building towards the community as partners in the process of PA management
- Improve communication skills for carrying the message of conservation of biodiversity and sustainable use of PA resources
- Establish linkages with a wide variety of stakeholders, including investors, for joint decision making.
- Promote active involvement of the more entrepreneurial members of local PA communities in PA activities (e.g., adaptive management, ecotourism, small business development, sustainable natural resource harvesting and processing).

93. With the interest and enthusiasm shown by the private sector to get involved in some of the WNCC's activities, there is a tremendous potential to enhance the value of the resources that the WNCC has. This would not only lift the conservation efforts of the WNCC but would also ensure the sustainable use of the resources commercially. In this respect controlled ecotourism looms large in the list of possibilities for public-private participation (e.g., for the internationally well known Sundarbans).

Joint venture partnerships, which benefit both parties to the venture, can be formulated. It is essential that these ventures are thought through carefully and looked at as possibilities only if they are deemed to be sustainable in the long run. *Ad hoc*, one-off partnerships and ventures have little or no value in the long term.

Once the FD/WNCC accepts the principle that partnerships with the private sector are possible and beneficial, it should invite selected organizations and individuals for preliminary

discussions. These discussions could be developed to the extent that they bear fruit in the form of positive ventures/projects. It is necessary, since the WNCC has no real experience in these areas, that they should start these ventures as pilot projects and let them grow into larger efforts later.

Elements of a well functioning PA system with regard to public-private partnerships include:

- A Public – Private Partnerships Program Strategy has been prepared between the FD and private sector companies or individuals
- Clear guidelines and criteria are provided for partner selection and required and acceptable types of partnerships for PA management and biodiversity conservation
- PAs are benefiting from the partnerships in support of management and financial sustainability

Recommendations for improving the FD's ability to enter into public-private partnerships in support of PA management and biodiversity conservation can be briefly summarized:

- A clear program or strategy should be developed on Public – Private Partnerships in and around PAs.
- Alternative income generating activities for local communities within and adjacent to PA's (particularly those engaged in co-management agreements with FD) are required and best accomplished through business partnerships for skills training and improved access to markets.
- A study should be commissioned to address the following issues as an assistance to FD/WNCC:
  - Identify potential areas for public-private (including community) partnerships in business development
  - Help develop agreements with private sector and communities as part of the PA village development micro-planning process (envisioned as part of the co-management process)
  - Develop procedures for and help implement management and monitoring agreements
  - Develop procedures for managing and monitoring agreements
  - Establish monitoring procedures. Ensure that monitoring procedures are established to monitor the progress of the partnerships.

Delivery mechanisms in support of these recommendations require that the FD will ensure that greater attention is made to Public-Partnerships for improved PA management and financial sustainability of the PA. The FD will also ensure that a Strategy for Public-Private Partnerships for PA Management be prepared (with NSP support) and implemented.

### ***3.2.15. Sustainable Financing***

It is not expected that the USAID-funded Nishorgo Support Project can or should fund all, or even a good portion, of the recommended strategies for building the institutional capacity of the FD. Rather, it would be expected that partners, i.e. other donors, will join together to fund different output areas, to be identified in the assessment. It is for this reason that the recommendations will be organized to allow for this distinction of areas to be financed (**Annex F**).

A very positive initiative is the Bangladesh Tropical Forest Conservation Foundation (*Arannyk* Foundation), which has been created through a USA/GoB debt-for-nature swap, with the potential for funding support to PA and wildlife conservation. The FD, however, currently has no sustainable financing programs planned or in place for supporting any PA, although some management plans have made suggestions. Instead they rely totally on the annual GoB allocations, which are typically much lower than required, i.e. unsustainable.

PAs represent important economic opportunities for the country, and for the regions in which they are found. Protected areas will need to take steps to move toward financial self-sufficiency. The PA system will need to access additional public and private financial sources. The FD's Nishorgo Program will need to work closely with the country's domestic and international tourism operators, as an example, but reliance on tourism alone would be a mistake if the goal is to achieve financial sustainability of the PA system.

Sustainable financing of Protected Areas is one of the key elements of PA management, and it has been especially emphasized in the most recent World Parks Congress (WPC) Accord of 2003. The costs of PA management in Bangladesh are financed mainly from budgets of the government (especially through the budget of FD). Also there are several donor funded projects that support PA and biodiversity management such as the Sundarbans Biodiversity Conservation Project (SBCP) which supported three PAs within the Sundarbans complex.

Various types of Trust Funds can be created. Recently "*Arannyk* Foundation" has been created with debt-swaps. Development of eco-tourism enterprises also ensure some sorts of sustainable financing for certain areas. But currently there is no eco-tourism as a strategy for sustainable PA management in the country. However, some private tour operators are organizing tours particularly to the Sundarbans, but the arrangements are not clear and there are little if any returns to the PAs or local communities.

Tourism, particularly nature tourism or eco-tourism, is one of the elements of PA management that can potentially involve local communities. Involving the local communities is an important factor towards co-management of PAs. Development of eco-tourism enterprises also has the possibility of some degree of sustainable financing. One of the important policy elements of PA management is the facilities available for the visitors. Other than some FD rest houses (e.g., the inspection bungalows) and watch towers (almost in ruined conditions in Chunati and Kalenga), visitors' facilities, particularly the tracking trails, toilet, drinking water facilities are very poor in most of the PAs. Guidelines for developing conservation area facilities prepared under FSP (Tecsult 2001), under NSP by Rashid (2004) give an idea about the visitor service facilities.

However, to really strive for sustainable financing for PA management and community partnership building, establishing a Trust or a Fund can be among the most promising route (Spergel 2000). A Trust (e.g., a "Protected Area Conservation Trust") could adequately finance activities that relate communities with PA and biodiversity conservation. The explicit aim through a Trust is to empower support-zone communities so as to improve governance over local development processes and build a foundation for increasingly sustainable management of natural resources. Empowerment necessarily means that communities will play a significant role in creating rules and making decisions. The implication is that rules and decisions will improve and, equally important, communities will accept greater responsibility for and become more effective at increasing compliance and managing conflicts. The design of a Fund or Trust's competitive grants process, FD/WNCC's potential

role in guiding co-management planning at specific sites, and the quality of training and field support will all be important to ensure these results occur.

Elements of a well functioning PA system with regard to sustainable PA financing include:

- Lack of participation with Arannayk Foundation by the FD
- A strategy for sustainable financing has been developed to supporting Protected Area management and to build stakeholder partnerships at national and local levels
- The strategy identifies potential mechanisms to achieve the goal of sustainability
- Success is seen as PAs begin to “pay for themselves” and the community co-management partners are deriving long-term economic benefits
- Sustainable financing is supporting both Protected Area Management and Building Local Stakeholder Partnerships (e.g., through co-management arrangements)

The primary recommendation for improving the FD’s ability to achieve sustainable financing for PAs is to develop a sustainable PA financing strategy (or set of tailored strategies) for (i.) the overall PA system and (ii.) for individual PAs to promote the sustainability of both Protected Area Management and Building Stakeholder Partnerships.

It is recommended that the FD fund a study to explore the possibilities or options for raising revenues that have the potential for becoming self-sustaining by developing a “Strategy for Sustainable Financing of Protected Area Management and Building Stakeholder Partnerships” for the over all PA system. The study will explore options for raising additional funds for future conservation activities, including community development that supports PA protection. Activities to explore during the study could include:

- Setting up an advisory committee to establish a Trust or Fund in coordination with the identified Donor Agencies
- Establishing and supporting a Board of Directors to administer the Fund or Trust
- Preparing documentation and processing legal requirements to establish the Fund or Trust
- Preparing bid documents and selecting NGO consortia to work with communities
- Drafting criteria for project funding that will ensure linkages between PA biodiversity conservation and village development, particularly as part of a functioning co-management arrangement
- Developing the funding mechanism in support of PA village development micro-plans (as part of co-management) and integrated area-wide plans
- Preparing documents and manuals to publicize and implement the Trust or Fund

Delivery mechanisms in support of these recommendations require that the FD will secure the funding and technical assistance (e.g., NSP?) to develop a “Strategy for Sustainable Financing of Protected Area Management and Building Stakeholder Partnerships” for the over all PA system. The FD will also secure the funding and technical assistance to develop sustainable PA financing strategies for individual PAs (beginning with the 5 pilot PAs under the NSP). The FD will ensure a legal option or provision, which is required for retention and distribution of revenue at the PA level.

### **3.3. Training and Capacity Building: Human Resource Development**

#### ***3.3.1. Staffing Pattern***

*Professional and Central Management Staffing:* It has been mentioned in previous sections that the FD personnel at all levels are mostly engaged in production forestry. Recently they have accustomed and taken a participatory forestry or social forestry approach. But most of the professionals at all levels are not conversant with participatory conservation management or co-management of PAs. However, recent overseas study programs have helped to promote the idea of co-management of PAs among many professionals. But under the present situation of territorial FD management system the territorial DFOs and ACFs can not pay due attention to the PAs under their territorial control.

*Sub-professional Protected Area Field Staffing:* 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 Forestry Schools. At that time little emphasis was given to PA or wildlife management. By PA management they mostly think 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.

The total positions allocated to WNCC is 378 (**Table 3-2**), however out of this total only 259 positions are functioning. The remaining positions are either vacant or staff are working somewhere else within FD but receiving salary from WNCC. For example, the WMNC Division, Chittagong, has five allocated positions for Assistant Conservator of Forests (ACF) but none are currently in position; these ACF's are working elsewhere in the Department.

Additional weaknesses in the FD/WNCC staffing arrangements include:

- Existing staffing pattern is not keeping with the PA/ Biodiversity/Wildlife management systems
- All PAs are not properly staffed
- Insufficient staff at all levels from PA to CF office
- No research staff or back up at Division or PA level
- Out of total 378 positions only 105 are technical positions (from CF to Forester)
- 45 % of the technical posts are vacant
- Only 259 positions (about 70 per cent of total sanctioned positions) are filled and working in FD, of which nearly 58 percent (148 positions) are employed in two Botanical Gardens
- However, 30 of the “WNCC allocated positions” that are filled are not working for WNCC but have been placed elsewhere within FD under Inter-Divisional Transfer (IDT)
- Therefore, only 229 FD staff are fully dedicated to the WNCC
- Women are under-represented in FD, particularly at the field level

**Table 3-2. Sanctioned, allocated positions of the Wildlife & Nature Conservation Circle (WNCC) according to the approved 2001 Forest Department organogram**  
(Note: not all positions are currently filled).



<b>WNCC POSTS</b>	<b>CF Wildlife and Nature Conservation</b>	<b>National Botanical Garden, Dhaka</b>	<b>Botanical Garden and Eco-Park, Chittagong</b>	<b>Wildlife Management &amp; Nature Conservation Division, Dhaka</b>	<b>Wildlife Management &amp; Nature Conservation Division, Chittagong</b>	<b>Wildlife Management &amp; Nature Conservation Division, Sylhet</b>	<b>Wildlife Management &amp; Nature Conservation Division, Khulna</b>
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 (Jharudar)	1	2	1	1	1	1	1
Boatman				2	2	2	10
Sweeper				1	1		
Driver	1	1	1	1	1	1	1
Head Mali / Mali (Gardener, Laborer)		75	25	5	5	5	5
<b>TOTAL (378)</b>	<b>17</b>	<b>112</b>	<b>45</b>	<b>49</b>	<b>53</b>	<b>42</b>	<b>60</b>

As a result of a Staff Needs Assessment, which is strongly recommended, the FD/WNCC will need to upgrade its scheme of recruitment to ensure higher calibre employees, and should also establish something along the lines of a “Protected Area Management and Biodiversity Conservation Service”, which would be comparable to other Government Services. This is required with the intention of providing employees with meaningful career opportunities and improved salary prospects, all necessary incentives to overcome the current reluctance of foresters to enter into PA or wildlife management careers. What is really needed for PA management is multi-functionalism and multi-skilled employees as part of a strategy by

which the FD could aim to: (i.) enhance the WNCC's flexibility, (ii.) increase learning and development opportunities, and (iii.) improve long-term organizational effectiveness.

Elements of a well functioning PA system with regard to staffing issues include:

- Staff are adequate, both in quantity and quality, to achieve various strategic goals and to implement PA and biodiversity management prescriptions at HQ, Divisions and the PAs
- Issues of staff recruitment, number of staff at various levels, promotions, incentives and performance evaluations are proportionate to the needs
- Staff performance, satisfaction and mutual respect are given highest priority

Recommendations for improving the FD's staffing capacity in support of PA management and biodiversity conservation can be briefly summarized:

- Immediately fill the vacant allocated positions in PAs and all levels under the WCNCC.
- A detailed staff needs assessment focusing on PA management (e.g., issues of staff levels, recruitment procedures, promotions, pay scales, incentives, performance evaluations) is required.
- Special consideration should be given to the feasibility of research staffing needs or collaboration with research institutions to provide the expertise
- It is recommended to increase the number of technical positions within the WCNCC to reflect specialized field requirements (e.g., sociologists, ecologists, legal specialists, wildlife management specialists/zoologists, botanists).
- Staff assessment should also consider the career opportunities for the non-cadre positions as mentioned under recommendation 4, above.
- More FD staff positions should be filled by women, particularly at the field level; constraints to implementing greater recruitment and postings of women should be overcome.

Delivery mechanisms in support of these recommendations require that the FD will ensure that consideration be made for reallocation of funds to improve quantity and quality of staffing for the WNCC in support of improved PA and wildlife management. The FD will ensure that a detailed staff needs assessment be conducted for the PA system overall and for individual PAs with special requirements. The FD staff needs assessment will consider the career opportunities for non-cadre positions. MoEF and FD will ensure immediate staff allotment in each PA/Division/Circle. FD and MoEF will recruit the appropriate technical specialists to serve the entire PA&BM Wing (e.g., sociologists, ecologists, legal specialists, IEC specialists, biodiversity management specialists) in support of PA system management.

### *3.3.2. Training Facilities and Capacity*

At present most of the protected areas in Bangladesh except three in the Sunderbans and the Chunar Wildlife Sanctuary are managed under the territorial system of the Forest Department. Under this system PAs are managed in the line of existing territorial demarcation of Ranges and Beats. The relevant DFO holds responsibility for overall administration of PA management under his/her jurisdiction. Range Officers and Beat Officers carry out all activities within their respective territories. Forest Guards assigned at beat level, or at camp under a beat, are responsible for protection activities.

FD presently has no specialized capacity for protected area management. All staff are trained to a specific level in traditional forestry subject areas, but receive limited exposure to protected areas or biodiversity management concepts. No special training is provided to field level staff working in protected areas.

Some staff at the professional level are trained in PA management, but they are posted some where else. Thus, the capacity for PA management within the FD is not in the line of modern concepts required for *in-situ* conservation at ecosystem and landscape levels involving local communities. However, development and expansion of Social Forestry activities have developed the capacities of FD personnel in participatory forest management. This experience can be utilized and modified for co-management of PAs.

In Bangladesh there currently is no special training program on Conservation Biology or PA Management. But the Institute of Forestry and Environmental Sciences, Chittagong University (IFESCU) has trained professionals in most of the disciplines for PA management curricula. The Bangladesh Forest Research Institute (BFRI), Chittagong, has segmented facilities in terms of manpower and infrastructure related to PA management.

The Bangladesh Forest Academy, Chittagong has good facilities as a training institute but lacks permanent instructors particularly trained in PA management. Similarly the Forest School at Chittagong covers the curricula mostly for wildlife management. It also lacks trained instructors. Infrastructure for training also exist in Sylhet and Rajshahi Schools and Forestry Development Training Centre at Kaptai.

Training facilities in terms of infrastructure exist in the country. Professionals in the FD, BFRI, and IFESCU are capable to build capacity if an integrated approach is taken. A recent Master of Forestry Course conducted by IFESCU and Bangladesh Forest Academy can be cited as an example. In this course, the instructors were from FD, Forest Academy, BFRI and IFESCU. Through coordination and revision of curricula, courses on Conservation Biology or PA Management can be organized in Chittagong. One of the drawbacks in capacity is the insufficient funds dedicated or committed towards PA management and conservation biology training. Another drawback is the inadequate number of trained instructors who can teach in these subjects, although that may not be such a serious problem.

Thus on the positive side, there is a variety of training institutes and organizations present inside the FD and also outside the FD. The Forest Academy inside the FD; and IFESCU, BFRI and universities outside FD are capable of imparting training of professionals. Training facilities for sub professionals exist with three Forest Schools and FDTC at Kaptai. However, weaknesses include: (i.) no integrated course on Nature Conservation, Conservation Biology or PA management is imparted in IFESCU or the Forest Academy. However, IFESCU and other Forestry Education Institutes provide training on wildlife management and other related subjects. Furthermore, all training institutes under FD suffer from low funds and constraints from inadequate and appropriately trained trainers or lecturers.

Elements of a well functioning PA system with regard to training facilities and teaching capacity include:

- Training facilities (e.g., buildings and equipment) are adequate to process the training needs of all staff required at all levels of PA and biodiversity management

- Training instructors are adequate in both quantity and quality, and they receive both incentives (e.g., financial and overseas courses and seminars) and refresher courses to update their knowledge and training skills
- Training facilities are networked with other training institutions in the country to maximize instruction of cross-cutting issues

Recommendations for improving the FD's training facilities and teaching capacity in support of PA management and biodiversity conservation can be briefly summarized:

- Strengthen the capacity of the existing training facilities within the FD
- Develop linked FD programs for capacity building with BFRI and IFESCU and other universities
- Budget allocation for conducting training and improving facilities (e.g., maintenance) needs to be secured.
- Develop an integrated course on conservation biology (e.g., nature conservation, biodiversity, sociology and PA management) in a suitable institution

Delivery mechanisms in support of these recommendations require that the FD will ensure that adequate funding is available to improve the quality of its training facilities (e.g., expansion, maintenance, equipment, transport) and increase the level of trainer capacity through recruitment or refresher courses for trainers/instructors. The FD and MoEF, in consultation with Ministry of Education, will identify a suitable institution for developing an integrated course on conservation biology for FD staff

### *3.3.3. Training for Professional Specialist Skills*

As mentioned in the previous section, most of the professionals' training is at most focused on wildlife management. An integrated course of conservation biology that covers all aspects of PA management and biodiversity conservation is not available. For co-management, skills can currently only be developed through extension and experiences from social forestry activities. But *in-situ* conservation of biodiversity through PAs, ecosystem approaches and landscape management specialist skills need to be developed to produce a core group of FD professionals from all capacity building centers.

On the positive side, some skills developed through implementation of social forestry activities can be used in the co-management approach. Some midlevel and senior professionals have foreign training on PA management. However, weaknesses include (i.) insufficient number of officers with training on PA management available in FD, (ii.) many professionals trained in PA or wildlife management are working outside WNCC., (iii.) training is typically dependent on donor support, and (iv.) there are no opportunities for refresher courses on PAs or wildlife management.

A "training needs assessment for participatory PA management" was conducted during the FSP (Tecsult 2000). This important document seems to have been neglected but now needs to be revived and reviewed by the FD with a view towards improving the substance and quantity of appropriate staff training. This should be considered before yet another training needs assessment is conducted.

A provisional list of Professional Specialist skill sets that are required, include but are not limited to:

- Strategic and Adaptive PA Management Planning (Note: e.g., includes Co-management training / understanding, capacity to revise existing management plans and implement adaptive PA management)
- Information Technology (MIS) / Spatial Data Management (GIS)
- Communications Hardware Technology
- Information, Education and Communications (IEC) / Visitor Services
- Public Outreach and Extension
- Community Relations: Conflict Management and Resolution
- Community Support: Livelihoods Improvement ( e.g., Micro-Finance, Small Business Development)
- Environmental and Wildlife Law / Legal Support
- Law Enforcement
- Financial Management / Accounting
- Wildlife Insurance (Human – Wildlife Conflicts / Compensations)
- Participatory Co-Management of Protected Areas
- Conservation Biology
- Ecological and Biodiversity Inventory and Research
- Habitat Management and Rehabilitation Applied Research
- Wildlife Management, Rehabilitation and Species Recovery
- Sociological and Economic Research
- Gender and Ethnic Diversity
- Leadership Training for Decentralized Management (see below)

*Building Decentralized Capacity: Training through Leadership and Mentoring:*

Although strengthening systems is essential, the complementary contribution of leadership is also indispensable. One of the basic weaknesses commonly found in centralized institutions is the absence of training for decision-making leadership positions. There is one effective response to this basic weakness: decentralization, which intends to devolve authority and power. However, learning to make decisions as genuine judgments, based on risk and uncertainty, must be accepted as part of the process. Substituting strict rules for “on the spot” judgment is self-defeating, since judgment can be developed only by using it. The role of leadership, thus, is clear. Leaders must set the values (e.g., high standards for conservation and social outreach), but they can devolve authority. Having key WNCC staff and NSP staff present as mentors diminishes these risks.

### *Competence Standards for Protected Area Management Jobs*

The FD must become aware of competence standards for PA jobs in South East Asia as established by the ASEAN Regional Center for Biodiversity Conservation, Los Baños, Philippines (Appleton *et al.* 2003). Because of its potential importance, a summary of this book is quoted here:

“The competence standards in this book were developed through a one-year consultative process conducted by the ASEAN Regional Centre for Biodiversity Conservation. They consist of regionally derived recommendations for the skills and knowledge ideally required for 24 key protected areas jobs, divided into 17 technical categories and five levels. A total of 250 separate skills for protected area management are described. The book contains details of all the standards and guidance as to how to use them. The standards have been developed as a non-prescriptive tool, to assist protected area management authorities, training and educational organizations and conservation projects to improve human resource development, staff performance and training. They have been developed through a review of best practice in the region and are intended to be adapted as required by those using them to meet specific national requirements and training and development contexts. A key recommendation of the Third Southeast Asia Regional Meeting of the IUCN World Commission on Protected Areas (held in Manila in April 2003) was the adaptation and adoption of these standards in the region. Further information about the standards, including a more detailed account of the rationale behind the standards and the process by which they were developed can be found on the ARCBC website ([www.arcbc.org.ph](http://www.arcbc.org.ph))”.

Elements of a well functioning PA system with regard to professional training include:

- A Training Strategy clearly identifies the technical specialist set of skills required for PA and biodiversity management at all levels
- Training is adequate in both quantity and quality, and appropriate to FD needs
- Refresher courses and overseas seminars/courses are available to update knowledge and skills

Recommendations for improving the FD’s professional training in support of PA management and biodiversity conservation can be briefly summarized:

- A detailed list or set of skills needed to effectively manage the WNCC and the PAs is required, including central and field levels
- Ensure that the trained professionals are deployed in the correct places / positions that focus of improving the management of PAs
- Some professionals within the RIMS Units and the proposed MIS Unit should be trained to improve their understanding of PA requirements and data collection and management requirements
- FD should review previous “Participatory PA Management Training Requirements” studies accomplished during the Forestry Sector Project (FSP) and other studies and revise as necessary.
- Special emphasis should be given to habitat restoration technical capacity for PA management

- Need to develop institutional and financial arrangements for training abroad for professional and sub-professional staff
- Greater professional training opportunities should be made available to women in the FD at all levels

Delivery mechanisms in support of these recommendations require that the FD will ensure that they maximize use of previous training needs assessments and to consider these first rather than conducting new studies. The FD will ensure that funding and expertise are allocated to implement final approved recommendations for PA training. Both FD and MoEF will ensure the posting of trained personnel (with appropriate disciplines) in each PA. The NSP could assist to facilitate institutional and financial arrangements for professional training abroad, for example.

### *3.3.4. Integrated Training for On-site Protected Area Field Staff*

Strengthening the capacity of Forest Academy and Forest Schools at Chittagong and Sylhet facilities for training of sub-professional field staff can be enhanced. Study tours for sub-professional may also be organized in neighboring countries to share experiences. While this section focuses on on-site training for field staff (e.g., Park Wardens, Range Officers, Beat Officers and other PA staff), much of the discussion under the previous section is relevant. On the positive side, most of the field staff have some training in wildlife management as a part of their training course when they entered in the job. However, the FD does not operate any job-oriented courses on PA management and no refresher courses in support of PA and biodiversity management.

A training needs assessment for participatory PA management was conducted during the FSP (Tecsult 2000). This important document, mentioned in the previous section, is of great relevance to On-Site Field Training and must be reviewed and considered by the FD before any further training needs assessments are considered.

Elements of a well functioning PA system with regard integrated on-site training include:

- An Integrated Field Training Strategy clearly identifies the set of skills required for effective PA and biodiversity management
- The curriculum is integrated to stress the multi-disciplinary skills required for PA management
- The curriculum stresses community relations and conflict resolution, including the process of co-management as a management tool
- Refresher courses, cross-visits and overseas study tours are available to periodically update knowledge, skills and experience from other others

Recommendations for improving the FD's integrated on-site training in support of PA management and biodiversity conservation can be briefly summarized:

- The FD needs to design and implement a program in support of job orientation courses on PA management and provide regular refresher courses on PA and wildlife management.
- Greater training opportunities should be made available to women in the FD, especially at the PA field level.

Delivery mechanisms in support of these recommendations require that the FD will ensure that they maximize use of previous training needs assessments and to consider these first rather than conducting new studies. The FD will ensure that funding and expertise are allocated to implement final approved recommendations for PA training. The NSP could assist to facilitate financial and technical assistance for implementing on-site PA field staff training.



### 3.3.5. Integrated Training for Local Communities and Other Stakeholders

In co-management of PAs, the NGOs and CBOs can play key roles in development and implementation of the management plan. NGOs will have specific responsibility for socio-economic surveys, group formations, consultations in developing management plans. Many NGOs are conversant with these sorts of activities. But most of these organizations do not have experience and ideas about biodiversity conservation and their sustainable management. Although the NGOs will be engaged on the basis of existing experience levels, their staff will also require specialized training to ensure that their skills are oriented to the needs of the co-management of the PAs. Also the visits of the community leaders to different areas inside and outside the counties will help in sustaining their capacity acquired.

The major limiting factors to effective NGO involvement in SF included low institutional capacity and technical expertise of a considerable number of NGOs (especially the local and small ones); inadequate coordination and collaboration with the FD/government; insufficient funds and logistics to maintain staff exclusively for SF activities and extension; and political influence on decisions and operations (Khan *et al.* 2004). Besides the government and NGOs, of late, there has been increasing interest in SF among more non-traditional quarters such as neighborhood groups, media, environmental associations, and enterprising individuals. These activities localized, limited, and mostly undertaken on uncoordinated and piecemeal basis (Khan *et al.* 2004).

On the positive side, the FD has experience with group formation and working with communities through Social Forestry activities. Some NGOs are familiar with FD's Social Forestry activities and have the potential for involvement in PA training. However, the FD has not yet developed any training for local communities and NGOs with regard to PA management. Furthermore, none of the NGOs have specific training experience on PA or biodiversity management, including co-management processes and arrangements.

The major focus of the co-management approach will be on skills transfer and on-the-job training. Technology and skills transfer will be essential to ensure sustainability of the activities through capacity building and human resource development. An integrated approach to training and skills transfer will be required to achieve co-management. Training will be for PA protection staff, grassroots community facilitators and organizers, village focal groups and additional key local government agency staff. All are included here for the sake of completeness although this could just as easily have been placed in the previous section. Nevertheless, the point should be made that integrated training at the PA level requires that both PA staff and community stakeholders learn, train and work together to accomplish mutual goals for PA co-management.

Because of the overlapping objectives and mutually supportive initiatives within a co-management strategy, an integrated training plan will comprise training packages and modules that are complementary and beneficial and which have direct linkages among the various training activities and target groups.

While this summary focuses on management within the PAs and its zones, many of the issues and approach used are of relevance to sustainable development activities planned outside and adjacent to the PAs. NSP consultants and NGOs, together with PA wardens (ACFs), once posted, should prepare a detailed training needs assessment for co-management and develop

an appropriate integrated curriculum that combines both community support and services (extension) with enforcement of PA regulations.

Several target groups for integrated co-management training are required. Targets groups will include a variety of stakeholders from the PA and government agencies staff at national, district and local levels as well as the main beneficiaries and users of PA resources, the local village communities. Because of past inequities and specific needs, special emphasis will be on skills transfer and training for groups of women and the poorest and most marginalized within the communities. Furthermore, many of these groups often have the greatest impact on resources due to the absence of any alternative income activities.

The integrated training plan will focus on the following types of training and skills transfer, each with key achievement indicators developed for continual monitoring and evaluation throughout the process. Several specific needs are identified under each of the major broad target groups, but with a particular emphasis on PA staff capacity building.

#### *Protected Area Staff*

Collaborative alliances are required among a variety of stakeholders (most notably PA authorities and local villagers), and this will require suitable skills and training. Current PA staff training does not adequately address the critical importance of community relations in a practical day-to-day manner nor does it address the skills required for co-management. The current emphasis is largely on administration, regulations and law enforcement. This needs to be changed in the context of “co-management” for PA field staff training.

Appropriate selection and training of PA Field Extension Staff, who will live in PA Management Stations (typically called “guard posts”) located in villages but who are not originally from those villages, is essential. However, staff will have to be able to converse in the local language or dialect, if relevant. Appropriate incentives must also be built into the system to make a field appointment more attractive, both financially and for career advancement.

**PA management stations, i.e. guard posts, must be in villages. Families of PA field extension staff should be encouraged to join them. It is untenable to expect PA field extension workers to live apart from the village; this is not good for the staff or his family nor is it conducive to daily village communication and interaction. Focal area and ICDP villages should be given preference, but other villages must be considered where the threats or current conflicts are greatest.**

Suggested topics for an integrated staff training program in each PA could include: (i) law enforcement training, (ii) conservation, (iii) conflict resolution and community relations/sensitivity training, (iv) PRA techniques, (v) co-management arrangements, (vi) first aid and safety, (vii) visitor services, (viii) public awareness and social marketing, (ix) joint patrols and data collection techniques, (x) motorcycle and other equipment maintenance, and (xi) GPS, GIS and data base management.

The training focus for new or existing PA field extension staff for co-management could include, but not be limited to:

- Public awareness and extension (as part of a larger PA public awareness program)
- Community facilitating and participatory mapping, basic geography, and use of GPS

- Map and GPS reading, and field data collection for GIS input by other staff at PA HQ (RIMS)
- PA regulations and adaptability (national laws and traditional resource regulations)
- Drafting co-management agreements (to be modified within a legal framework)
- Monitoring illegal activities and enforcing legal co-management agreements
- Participatory monitoring and evaluation of project initiatives
- PA and zone boundary patrols
- Wildlife surveys and inventories
- PA management station (guard post) security and maintenance.

#### *NGOs, CBOs, Community Facilitators and Village Motivators (VM)*

Strengthening local CBOs for co-management activities through capacity building workshops is recommended. Training grassroots organization staff, including *Community Facilitators* and VMs must also be “up-graded” to include responsibilities of working alongside both the PA staff and village groups. The goal is to prepare and implement a meaningful collaborative management agreement including identification of management zones.

A training program for *Community Facilitators* and VMs must ensure an understanding of co-management and the steps required to implement the strategy. Established training programs include PRA techniques, organizing community groups and facilitating informal and formal public meetings including diverse local stakeholders. Training will also be required for selected NGO staff, to work alongside the PA field extension staff for participatory monitoring, GPS, GIS computer management and data transfer to the PA GIS system/data base at PA Headquarters (RIMS).

#### *Village Resource User Groups*

Village groups will also require coordinated training to work alongside the PA and NGO field staff to achieve an understanding of co-management responsibilities, including participatory boundary maintenance, PA zone identification within village boundaries, and coupled with regulation identification and enforcement. Focus must be on those people who are most dependent, and destructive, on forests and NTFP resources and not just on the village elite, who typically have been the incorrect focus for many village development projects.

#### *Local Government Agencies*

Representatives from local government (*Union Council and Upazila*) and several government agencies and regional planning units also need to be involved in this process, which includes both conservation and development elements and requires local government support. The program should facilitate and directly provide on-the-job and on-site training for government staff at several levels and for villagers within the context of their work and day-to-day settings. The NSP consultants and senior FD/WNCC staff could ensure application of innovative approaches to assist the PA managers (ACFs) to define the structure of the training programs.

Elements of a well functioning PA system with regard to training local communities and other stakeholders include:

- Training for co-management (meaning, methodology, steps, ultimate rights and responsibilities) is conducted for those local partners engaged with the FD for PA co-management
- Training follows the needs presented in a strategy being implemented for PA co-management and alternative livelihoods improvement with PA communities
- Training is done regularly and for both the PA staff and the community groups together

Recommendations for improving training local communities and other stakeholders in support of PA management and biodiversity conservation can be briefly summarized:

- The FD, perhaps in cooperation with universities or NGOs, needs to design and implement a program in support of community involvement (e.g., co-management, alternative livelihood development, micro-finance) that supports PA management.
- A program needs to be designed to socialize concepts of protected areas and co-management to PA communities.
- Programs for co-management must involve women at all levels of management planning and decision-making in each PA, and must also include recruitment of women as well as men as community facilitators, organizers and motivators.

Delivery mechanisms in support of these recommendations require that the FD will ensure that they maximize use of previous training needs assessments (e.g., some done by NGOs) and to consider these first rather than conducting new studies. FD will also ensure that funding and expertise are allocated to implement final approved recommendations for PA training. The NSP could assist to secure financial and technical assistance for implementing on-site training facilities to local communities and other PA stakeholders

### **3.4. Summary of Current Status, Recommendations and Delivery Mechanisms**

#### **3.4.1. Institutional Organization: Management Support Systems**

##### **a. Organizational Management**

###### *Current Situation*

###### *Strength:*

- “Wildlife and Nature Conservation Circle (WNCC) was recently established and headed by a Conservator of Forests (CF) directly responsible to the Chief Conservator of Forests (CCF)
- Four WNCC Divisions (Dhaka, Chittagong, Khulna and Sylhet)

###### *Weakness:*

- Existing staffing pattern is not keeping with the PA/ Biodiversity/Wildlife management systems (see more detail under *Staffing* Section)
- No WNCC/FD institutional strategic planning for PA management
- No organogram for PA management has been developed
- Currently each PA is not an autonomous operational unit
- Only CF office, and , Chittagong and Khulna Divisions in operation

- Other than PAs of Khulna WNCD, only Chunati WS has so far handed over to WNCC ?????
- PAs are not properly staffed and with insufficient staff at all levels from PA to CF office (See *Staffing* section)
- No research staff or other technical back up at Division or PA level (See *Staffing* section)

#### *Recommended Strategic Priorities*

9. Strategic planning for FD / WNCC/PA institutional development, done in a facilitated participatory manner, is required to develop an “Institutional Development Framework” (IDF) in support of organizational management, and M&E at various management levels, from HQ to PA level.
10. Organograms need to be reconsidered, revised and approved for the WNC Circle level as well at the PA level (initially a standard PA staffing organogram will be designed which can later be tailored to each PA and its specific needs) – *See sample organograms at HQ and PA levels*
11. Strengthen WNCC in its current organizational position within FD as a Circle and only later, when capacity has increased, decide if its position within FD should be changed / elevated.
12. Recommend a name change from “Wildlife & Nature Conservation Circle (WNCC)” to “Protected Areas & Biodiversity Management Circle (PABMC)” to better reflect a more modern and comprehensive terminology for the Circle, and elevate the position from Circle to Wing with greater authority and responsibility.
13. Need to also operationalize and staff the Division offices at Sylhet and Dhaka
14. All protected areas should be handed over to WNCC with full responsibility for management under the CF-WNCC
15. Each PA should be an autonomous operational unit with greater decentralized authority for decision-making with an assigned ACF
16. Need to operationalize and staff the PAs, beginning with placing ACF’s in each PA in stages, beginning with the 5 priority pilot PA’s of the NSP

#### *Delivery Mechanisms*

1. Workshops, with assistance from NSP, should be designed and facilitated by trained facilitators, with staff of FD/WNCC, to prepare a “Protected Areas and Biodiversity Management Institutional Development Framework”
2. NSP assists to prepare initial organograms for FD consideration, revision and approval. The FD authority should take this action into account as a high priority.
3. Funding required to operationalize and fully staff the 64 DFO Division offices (4 existing and 2 new) in support of PA and wildlife management
4. Funding required to operationalize and fully staff the 5 PAs under NSP with each PA headed by an ACF. These 5 sites must be given first priority because they are viewed as pilot sites for improved PA management.
5. FD will ensure that staffing of all other PAs will proceed according to an agreed schedule.
6. FD budget allocation is required to operationalize and staff the PAs, with the 5 NSP-focused PAs being given first priority.
7. Staffing issues in support of an improved organizational management system are found in *Staffing* Section.

### ***b. Information Management Technology***

### *Current Situation*

#### *Strength:*

- RIMS (GIS) Unit established at FD HQ level for natural forest management and plantation forestry

#### *Weakness:*

- A coordinated Management Information System (MIS) does not exist to process data management for FD
- Due to the lack of an adequate MIS, there is no e-governance (e-Gov) in place in the FD to promote greater transparency and network efficiency.

### *Recommended Strategic Priorities*

8. A detailed assessment of FD / WNCC / PA data management needs is required to recommend an appropriate MIS structure
9. The existing RIMS Unit (now, only for GIS) should be converted and expanded to a full MIS Unit, and the name should remain as “RIMS” but with wider data management responsibilities that include, but are not limited to, GIS
10. Need to improve the storage and management mechanisms and increase hardware capability (e.g., computers in HQ and in DistrictsDivisions)
11. Need to institutionalize the MIS (perhaps as a new MIS Unit) and orient staff to its capabilities at all levels:
12. RIMs (GIS & MIS) must be networked to support and coordinate data management at Central and Division levels up to DFO level and ultimately up to the field level for all PAs
13. Ensure that the MIS is linked with the existing RIMS system
14. Ensure that information is readily accessible for decision-making at local levels and for networking of information both with the FD and with other agencies.

### *Delivery Mechanisms*

1. FD–initiated MIS needs assessment that identifies priorities and phasing of equipment and trained staff
2. FD allocation for staff and equipment to develop a MIS Unit

## **c. Spatial Data Management**

### *Current Situation*

#### *Strength:*

- RIMS Unit (GIS) established at FD HQ level for natural forest management and plantation forestry
- Trained personnel
- Maps and some other cartographic facilities are available for PAs

#### *Weakness:*

- Inadequate staffing and equipment to handle any more than basic map production
- GIS is only available in the FD HQ with no facilities or staff in the DistrictsDivisions
- Focusing primarily on plantation forestry, but not well conversant with the data system of the PAs and wildlife

#### *Recommended Strategic Priorities*

6. The RIMS Unit needs to be upgraded in terms of staffing levels, capabilities, equipment and maintenance
7. Need to integrate RIMS with an overall MIS system
8. RIMS needs to devote more focus towards PA and wildlife management and this will require staff dedicated to that focus
9. RIMS usefulness must be seen as more than a map making tool but with wider applications for planning and data management
10. The existing RIMS Unit (now, only for GIS) should be converted and expanded to a full MIS Unit (above, 1.b.c.), and the name should remain as “RIMS” but with wider data management responsibilities that include, but are not limited to, GIS

#### *Delivery Mechanisms*

1. FD allocation for staff and equipment for the RIMS Unit increased.

### **d. Financial Organizational Systems**

#### *Current Situation*

##### *Strength:*

- Salary and allowances of revenue staff are secured
- GoB provides funding for FD activities, however GoB support is rarely for *in situ* conservation, i.e. within PAs
- Existing financial management system enables FD officials at particular levels to work as Treasury Officers

##### *Weakness:*

- No special allocation for the WNC Circle, therefore, the operational fund is limited and uncertain
- All PA-generated revenues (e.g., gate fees) must be submitted to the FD and then to the Treasury after retaining an agreed amount to be ploughed back in PA management activities
- Annual budget allocation for each PA is not related to its income-generating success or potential, i.e. equal allocations for each PA regardless of special needs
- No clear management team capabilities and FD relies on outside consultants and other

#### *Recommended Strategic Priorities*

7. The current financial organization systems appear to be adequate and appropriate in most areas but should be reviewed in greater detail to identify specific inadequate areas for improvement.
8. Special allocation for operational funds dedicated to the WNCC is required to ensure at least a certain adequate level of financial stability annually, including incorporation of a specific budget code for PA management
9. Special consideration should be made by the FD to consider increasing WNCC budget to strengthen and speed its growth
10. Greater revenue must be allocated to *in situ* conservation, i.e. with PAs, rather than *ex situ* conservation (e.g., breeding programs, zoological Safari Parks and botanical gardens)
11. Special consideration should be given to allocating a portion (e.g., 20% or more) of total PA-generated revenues (e.g., gate fees) to remain with the PA for management expenses and co-management (e.g., community benefits), i.e. the greater the revenue

- income the greater the PA and community revenue retention and, therefore, greater the incentives)
12. There should be a staff member at HQ in charge of financial management of the PA system

#### *Delivery Mechanisms*

1. Commitment from the FD to allocate greater resources and financial management capability (e.g., bookkeepers) to the PAs
2. FD will take up the matter with MoEF regarding the transfer of gate income or other generated PA revenue to PA management

### **e. Management Planning and Implementation**

#### *Current Situation*

##### *Strength:*

- Management Plans have been prepared for XX five PAs (3 PAs in Sundarbans, Lawanchara N.P and Rema-Kalenga W.S.), and Guidelines have been prepared for XX five PAs, and no plans or guidelines have been prepared for the remaining five PAs
- Overall guidelines for PA management plan preparation guidelines have been prepared but require review and revision
- Some prescribed management operations have been implemented in some of the PAs (e.g., habitat restoration, replanting, wildlife translocation) in limited areas

##### *Weakness:*

- Only one PA management plan has been approved (a consolidated 5-year MP covering 3 PAs within the Sundarbans) but this was approved long after submission making some mgmt. prescriptions out-dated
- Other PA Management Plans have not been approved or implemented
- The process of moving from PA management plan submission to approval is too slow and lack a clear and speedy mechanism
- With some notable exceptions, there is very little active management or protection activities in the PAs
- Very little zonation of PAs in management plans other than “core area” and “buffer zone”, which is something inside and sometimes outside the PA – zoning concepts and identification are unclear.
- PA or wildlife management has been on an *ad hoc* (emergency response) basis and not in line with any clear integrated long-term management plan either for a PA or for an endangered species (e.g., species recovery plan)
- No clear and consistent management planning process, with follow-up, is in place, although guidelines have been prepared
- The participatory process essential to management planning from the very beginning is unclear and haphazard

#### *Recommended Strategic Priorities*

1. Management Plans need to be prepared for all PAs, and all Management Plans (especially those prepared under the FSP) will require review and revision as needed followed by approval, and the approval process needs to be much faster
2. Management guidelines for the other PAs need to be developed into full Management Plans



3. Management Plans need to take a “landscape approach” that addresses management around the PA (e.g., “buffer zones”) and identify the specific partners required for management of those external PA zones as well as the limits of a “buffer zone”
4. Developments within a designated “buffer zone”, external to a PA, require an EIA prior to commencement of the development
5. The term “buffer zone”, which has a negative connotation of “buffering” something “good” from something “bad”, should be renamed “Support Zone”, i.e. this external area supports the protection of the PA while the PA can support/enable sustainable development in the surrounding area.
6. Management plans require local stakeholder participation during the planning process
7. A clear and consistent management planning process, with follow-up, is urgently required and which gives due attention to the participatory planning process, i.e. a process for stakeholder involvement with clear steps and required milestones
8. The mechanism for participatory planning must be developed, approved and put in place with special consideration towards co-management as a participatory management tool
9. Need to establish PA Management Units for greater decentralized management and decision-making
10. It must be stressed that even in the absence of an approved management plan, each PA must still be adaptively managed through a proposed management plan, if one exists, and in response to particular urgent needs and issues
11. PAs must be staffed, and staff will require appropriate training (see *Staffing and Training*)
12. Clear staff roles and responsibilities (job descriptions) are required for PA management
13. Budget must be allocated towards management of PAs on the basis of management plans

#### *Delivery Mechanisms*

1. FD to finalize management planning guidelines that take into consideration a wider “Landscape approach” together with co-management and other mechanisms for improved and sustainable PA management.
2. NSP to continue providing stakeholder co-management process development and pilot studies in the PAs
3. FD to finalize a more speedy review process of management plans for approval and more rapid follow-up / implementation
4. FD to secure greater fund allocation to management plan implementation and other programs (e.g., species recovery plans, human-animal conflict resolutions, stakeholder conflict resolutions, co-management arrangements)
5. FD to ensure that elements of social justice and human rights are incorporated into management planning, i.e. through a co-management approach.

### ***f. Institutional Orientation to Co-management***

#### *Current Situation*

##### *Strength:*

- The FD has experience with some levels of community-based or participatory natural resource management under the social forestry program, and this experience can be applied towards PA co-management with process and goal modifications

##### *Weakness:*

- The FD has no experience with collaborative management (co-management) of PAs
- No PA co-management institutional frameworks (e.g., local community bodies, coordination committees) are in place
- An institutional orientation towards PA co-management is not a universally accepted part of the WNCC

#### *Recommended Strategic Priorities*

13. Special consideration towards co-management and other participatory management tools must be included within the management plan
14. The mechanism, step-by-step process for co-management must be clearly developed and socialized both within the FD and within the target communities.
15. The legal basis for co-management must be established.
16. However, PA co-management activities can be initiated within existing legal framework and does not have to wait for full legal basis before beginning PA co-management activities. For example, FD has implemented social forestry for more than 20 years, but the legal backing for SF was only established in 2000 under the amended Forestry Act.
17. An institutional orientation towards co-management must become universally accepted as part of the WNCC (e.g., establish a Co-management Unit to oversee this management approach)
18. Review the experience with participatory natural resource management through social forestry and to what extent the capacity within the FD can be re-oriented towards PA co-management.
19. Participatory planning towards co-management must be developed, approved and put in place at the very beginning of PA management planning
20. Stakeholder participation should be included during the boundary demarcation process, and the steps to follow to achieve consensus over boundary location must be put into place, including a legal basis for the participatory boundary identification and field demarcation process
21. Institutional arrangements for co-management must be developed and made clear from the very beginning
22. Strengthen the existing Wildlife Advisory Board but reorient its focus in line with a name change (e.g., “Protected Areas and Biodiversity Management Advisory Board”)
23. Stakeholders engaged in co-management must be able to see direct benefits from their involvement, thus special consideration should be given to allocating a portion of PA-generated revenues (e.g., 20% of gate fees) to remain with the PA for co-management (e.g., community benefits), i.e. the greater the revenue income the greater the PA and community revenue retention and the greater the incentives for co-management.
24. Implementers from both FD and the community stakeholder groups must include both men and women to address gender issues of management and decision-making

#### *Delivery Mechanisms*

1. The co-management process, including approach, criteria and steps can be developed with assistance from NSP.
2. FD to ensure that Institutional Arrangements for co-management are developed and made clear from the very beginning thorough Co-management Committees
3. FD to initiate Co-mManagement Committees (FD and communities) will develop annual work plans and budgets approved at a regional or DFODivision Llevel PA Co-management Advisory Committee

4. Annually, the full set of PA annual work plans and reviews will be presented by the FD to the existing “Wildlife Advisory Board” or to an alternative and acceptable “Co-management” Board that will either be renamed or reformed later.

## ***g. Legal Support***

### *Current Situation*

#### *Strength:*

- The Wildlife (Preservation) Order 1973 has been drafted aiming towards better PA management
- The Wildlife (Preservation) Order, 1973, Wildlife Preservation (amendment) Act 1974 and subsequent Notifications provides the legal basis for protecting wildlife as well as their habitats.
- The Forest Act has been revised to incorporate reserve forest.
- The draft Social Forestry Rule is in the process of enactment
- The Wildlife Act includes all sorts of wildlife of the country not just within the PAs
- The Forest Act and Social Forestry Rule have been enacted
- The Biodiversity Act has been drafted and is in the process of review by the Ministry of Environment and Forests (MoEF)
- The Wildlife Order defines various protected areas in the form of game reserve, national park and wildlife sanctuary and aims at preserving wildlife of those protected areas.
- The wildlife sanctuary regime also requires undisturbed breeding ground for the protection of wildlife as well as all natural resources in the sanctuary.

#### *Weakness:*

- The Wildlife Act does not take either community participatory management of natural resources or collaborative (co-) management of PAs into consideration.
- The Wildlife (Preservation) (amendment) Act, 1974 provides for the establishment of a Wildlife Advisory Board, however the composition, procedures and functions of the WAB are not specified under the Act.

### *Recommended Strategic Priorities*

7. Wildlife (Preservation) (amendment) Act, 1974 contains provision for the establishment of Wildlife Advisory Board, the composition, procedure and functions all of which should be modified to make it more efficient, effective and participatory.
8. Enabling policies in support of co-management need to be translated into law that will establish the legal basis for PA co-management arrangements (among FD, community groups and other stakeholders), including issues of rights and responsibilities, land tenure rights, social justice, etc.
9. The schedules of the Wildlife Act have to be revisited and modified regularly given the degree of vulnerability of animal and plant species depending on many unforeseeable factors and on ever changing market demands. The Act should also be reviewed to bring about more conformity with the provisions of CITES and to encourage sustainable export of protected flora and fauna species.
10. The revised Wildlife Preservation Act must take into consideration and be in line with the Forest Act, draft Social Forestry Rule, proposed Biodiversity Act and the international and regional international obligations (e.g., CBD, CITES, Ramsar)
11. Section 36 of the Order allows compounding of first time offences by payment of a nominal amount of compensation (between 1000 and 2000 taka) to the Conservator of

Forests (Wildlife). Otherwise offences under this Act would be tried by a 1<sup>st</sup> Class Magistrate. In view of the ever increasing threats to the survival of various wildlife, the penal provisions should be made more stringent and offences under this order could also be made subject to trials in the courts.

12. The Wildlife Advisory Board should be renamed the “Protected Areas & Biodiversity Advisory Board”.

#### *Delivery Mechanisms*

1. FD to ensure the recommendations that address current weaknesses are considered for approval in support of more effective PA and wildlife management
2. FD to ensure greater technical support available from environmental legal specialists, and environmental legal support may be received from outside partnership (e.g., IUCN, BELA)

### **h. Law Enforcement**

#### *Current Situation*

##### *Strength:*

- The FD has established a forest protection enforcement force, and the FD has the authority to enforce the laws (Forest Act, Wildlife Act)
- FD has a forest protection and enforcement mechanism, and FD has the authority to enforce the laws

##### *Weakness:*

- Lack of or inadequate trained field staff and number of staff for effective PA and wildlife law enforcement
- Inability (or hesitancy) to enforce laws in the field by forest guards due to political pressure and other social influences or delays in the court prosecution process
- Lack of awareness, work pressure and influence can delay the prosecution process
- Lack of incentives for and protection of informers

#### *Recommended Strategic Priorities*

9. Need to increase public awareness of the laws and publicize prosecutions under the laws
10. Need improved training of forest field staff to better understand the Wildlife Act and its enforcement (see *Training*)
11. Need more allocation of forest guard staff to the positions at PA level
12. PA guard staff need to understand their role more as collaborator with local stakeholders for PA management rather than as strict law enforcers.
13. All allocated WNCC field positions need to be filled
14. Initial priority should be given to the 5 pilot PAs under the NSP
15. A mechanism must be in place for greater cooperation between FD law enforcement officers and other relevant sectors (e.g., police, military)
16. A Wildlife CITES Enforcement Officer with the rank of DFOACF or higher, supported by staff, should be posted at Dhaka and Chittagong Airports

#### *Delivery Mechanisms*

1. FD to ensure that FD law enforcement officers have the support they need to enforce laws
2. FD to ensure improved cooperation and coordination with other law enforcement agencies (e.g., police, military)

3. FD to promote joint forest protection enforcement force along with the stakeholders/participants within and around each PA

## ***i. Wildlife Insurance***

### *Current Situation*

#### *Strength:*

- None

#### *Weakness:*

- No wildlife insurance or compensation schemes are in place for damages due to human-animal conflict (e.g., injury, death, crop and property damage)

### *Recommended Strategic Priorities*

3. FD should review and assess the feasibility of a wildlife insurance or compensation scheme in Bangladesh to cover claims (granted under strict criteria) for damages due to human-animal conflict (e.g., injury, death, crop and property damage)
4. If a wildlife scheme is instituted, then this provision must be made in revised Wildlife Act, including strict criteria for claims

### *Delivery Mechanisms*

1. FD to conduct a feasibility study on a wildlife insurance or compensation scheme in Bangladesh, in collaboration with IUCN and NSP
2. Assess feasibility of making a wildlife insurance scheme part of the revised Wildlife Act

## ***j. Information, Education and Communication (IEC) and Visitor Services***

### *Current Situation*

#### *Strength:*

- Some FD community outreach or public awareness activities done on a small-scale and *ad hoc* basis
- There is one existing position, “Mass Communication Officer” at the FD head quarters.
- Some limited visitor services and information centers for nature interpretation in the PAs (e.g., Sundarbans) and Safari-Park
- Some posters and other information materials prepared on an *ad hoc* basic, usually through donor-funded projects
- Guidelines for developing PA visitor services and facilities were prepared under FSP

#### *Weakness:*

- No overall integrated IEC Strategy prepared or implemented by FD in support of wildlife and protected areas, i.e. environmental conservation, at multiple levels (e.g., national campaigns, media coordination, school programs, PA promotion, network of nature interpretation/education centers)
- Lack of or inadequately trained staff to design or manage an IEC program
- No public relations technical specialties within FD
- There is a structural hindrance within FD that prohibits prompt response to media reports

- No visitor services or nature interpretation/education programs or centers at the PAs (only in Bio-Safari Parks)

#### *Recommended Strategic Priorities*

8. An IEC Strategy needs to be prepared as an integrated strategy that increases public awareness of environmental issues, biodiversity conservation, the importance of protected areas, etc.
9. The IEC Strategy must form the basis to develop improved environmental governance (EcoGov) and advocacy as well as an informed “environmental constituency” among the citizens of the country
10. Need to increase public awareness of the laws and publicize prosecutions under the laws
11. Visitor services and nature interpretation/education programs and centers at the PAs need to be appropriately designed by experts
12. Improve relations and communication between FD and the media to publicize environmental issues
13. Must view the potential of high visitation areas (e.g., zoological and botanical gardens, Safari-Park) as focal areas for intensive environmental education and establishing nature interpretation centers
14. Implementers and participants / targets of the IEC and its Strategy must be comprised of both men and women to address gender issues of IEC

#### *Delivery Mechanisms*

1. FD to secure the funding and expertise to prepare a thorough IEC Strategy, most likely with NSP assistance
2. FD to secure the commitment and cooperation of partners (e.g., universities, schools, NGOs) to implement IEC Strategy
3. FD to ensure that adequate and appropriately designed visitor services and nature interpretation/education centers are in place in priority PAs where visitation is currently or potentially the greatest.
4. FD to secure technical expertise as required.
5. IEC curriculum must be added to FD Schools and FD Academy
6. An IEC program will enlist the co-operation of local bodies (union councils and *upazila*) near to the PAs
7. MoEF and FD will promote the creation of a special day during winter (e.g., “National Protected Areas Day”, similar to the “Tree Planting Program”) to be celebrated in the vicinity of the PAs in collaboration with local government, civil administration, schools and other educational institutions, civil societies, NGOs, etc.

7. Creation of a day, like the Tree Planting Program <<< ???

## **k. Research**

### *Current Situation*

#### *Strength:*

- Some support and coordination between the FD and the Bangladesh Forest Research Institute (BFRI), Chittagong, and limited support from universities

*Weakness:*

- No FD research staff or back up at Division or PA level
- Lack of involvement of the FD in the research grant proposal process within PAs by universities, research organizations and NGOs
- Coordination and research assistance requests from FD to BFRI is only very limited
- Research assistance and coordination for the FD with other departments, institutions and universities is very limited
- No integrated research on holistic approaches to PA management undertaken.
- Sporadic research activities have been conducted by different universities for master or doctoral research or by BFRI in different PAs, but these studies are mainly focused on taxonomy and ecology and not on applied research useful for PA or wildlife management
- Applied research is very much lacking (e.g., research on sustainable management of resources, plant-animal interactions, harvest limits of different NTFPs, impact of harvest on natural regeneration and wildlife, human ecology, sociology)

*Recommended Strategic Priorities*

3. Develop an Action Plan for appropriate prioritized multi-disciplinary and integrated research programs in support of management within and around the PAs
4. Develop clear collaborative efforts with lead agencies within specialized fields with clearly identified responsibilities for PA management research

*Delivery Mechanisms*

1. National and international research institutions to cooperate with FD to develop a clear Research Agenda and Strategy focusing on PA and wildlife management.
2. FD to ensure that in any PA research agenda adequate attention is also paid to socioeconomic research of PA communities, particularly those engaged with the FD in PA co-management arrangements
3. FD to ensure its involvement in the research grant proposal process within PAs by universities, research organizations and NGOs
4. FD to ensure budget allocation for PA research

## ***I. Monitoring and Evaluation***

*Current Situation*

*Strength:*

- FD has some management division M&E capability for collecting data and doing inventories focused on forest plantations
- PA management plans provide guidelines for M&E in the PAs, for example some indicators for monitoring and evaluation including Habitat Suitability Index have been incorporated in the Management Plans and Guidelines developed under FSP
- Some base data particularly the checklist of flora and fauna are available on several PAs

*Weakness:*

- No inventory, monitoring and evaluation programs are being implemented for wildlife or PA management
- No M&E guidelines include participatory M&E (e.g., with communities and NGOs)

- Monitoring by the FD itself

#### *Recommended Strategic Priorities*

7. Monitoring and evaluation requires much greater attention and resources than currently allocated by FD, therefore a M&E Circle will be added to the PA and Biodiversity Management Wing organizational structure, headed by a CF
8. Strategic planning for FD / WNCC/PA institutional development, done at regular intervals in a participatory manner and facilitated, is required to develop an “Institutional Development Framework” (IDF) in support of assessing institutional development progress through regular monitoring & evaluation at various management levels, from HQ to PA level.
9. Biodiversity monitoring tools need to be applied and standardized by the FD (or in collaboration with research institutions) through regular monitoring of PAs and biodiversity.
10. A program of monitoring impacts and changes on biodiversity and the PAs needs to be developed
11. A program of socio-economic impacts on resource conservation through livelihood enhancement and the PAs needs to be developed
12. Biodiversity monitoring biodiversity, for example, could be conducted by an independent organization outside the FD (e.g., IUCN, other national institutes)

#### *Delivery Mechanisms*

1. FD to secure the funding and expertise to ensure development of an integrated M&E program implemented to focus on institutional development (“change management”), biodiversity, PA management, and sociological and economic conditions of PA communities.
2. FD to ensure that CCF’s recommendation (PA workshop, 31 July 2004) be implemented, that a M&E Circle be added to the PA and Biodiversity Management Wing organizational structure, to be headed by a CF
- 2.3. FD to ensure that an external independent agencies or organizations are involved in more effective M&E of FD activities and progress.
- 3.4. FD to ensure continuous monitoring at PA level by Park Warden/ PA staff, and will also encourage participatory monitoring by local participants of PA co-management

### ***m. Intersectoral Conservation Planning***

#### *Current Situation*

##### *Strength:*

- Recently the draft National Biodiversity Strategy and Action Plan (NBSAP) has been prepared by IUCN including collaboration with FD and other agencies
- Some small programs for wildlife research and management (e.g., IUCN, USDA-F&W for elephant conservation) have involved collaboration with FD
- Some district or field level inter-agency meetings to collaborate on PA or wildlife (e.g., elephants) issues
- Some FD international or trans-boundary cooperative planning (e.g., UNDP-funded joint Tiger Survey between India and Bangladesh for Sundarbans)

##### *Weakness:*

- No institutional mechanism or capacity building back-up to support any long-term collaborative conservation planning



#### *Recommended Strategic Priorities*

4. The FD needs to establish a clear program or strategy for collaborative conservation planning with other agencies and institutions both within and outside the country
5. A Forest Department “Collaborative Conservation Strategy” needs to provide the mechanisms for improving intersectoral coordination and sharing of information to maximize conservation efforts in the country
6. Develop institutional capacity within FD and other agencies and organizations for Collaborative Conservation Planning

#### *Delivery Mechanisms*

1. FD to ensure that institutional arrangements are in place for inter-sectoral collaborative conservation planning on a wider landscape scale beyond the boundaries of a PA.
2. FD to ensure that nation-wide programs (e.g., floral and faunal surveys, land capability, PA system reviews, biodiversity assessments) are implemented through collaborative conservation planning.

### ***n. Public-Private Partnerships***

#### *Current Situation*

##### *Strength:*

- Partnerships established under the NSP Partnerships Program
- The FD MoEF and Arannayk Foundation have developed a partnership for financial support and there is the potential for a formal partnership between the Foundation and FD
- Private sector is beginning to invest in environmental management and some PA and wildlife conservation support
- Some leasing and concessions for gate at Botanical Garden and Bhawal N.P.

##### *Weakness:*

- Some private tour operators are organizing tours particularly to the Sundarbans (an internationally known PA), but with no or only very limited support to the PAs

#### *Recommended Strategic Priorities*

3. A clear program or strategy should be developed on Public – Private Partnerships in and around PAs.
4. Alternative income generating activities for local communities within and adjacent to PA’s (particularly those engaged in co-management agreements with FD) are required and best accomplished through business partnerships for skills training and improved access to markets.

#### *Delivery Mechanisms*

1. FD to ensure that greater attention is made to Public-Partnerships for improved PA management and financial sustainability of the PA.
2. FD to ensure that a Strategy for Public-Private Partnerships for PA Management be prepared (with NSP support) and implemented.

### ***o. Sustainable Financing of Protected Areas***

### *Current Situation*

#### *Strength:*

- Salary and allowances of FD revenue staff (including WNCC) are secured
- The Bangladesh Tropical Forest Conservation Foundation (Arannyk Foundation) has been created through a USA/GoB debt-for-nature swap, with the potential for funding support to PA and wildlife conservation.

#### *Weakness:*

- No sustainable financing programs are planned or in place for supporting any PA, although some management plans have made suggestions
- Lack of participation with Arannyk Foundation by the FD

### *Recommended Strategic Priorities*

2. A sustainable PA financing strategy (strategies) should be developed for 1) the overall PA system and 2) for individual PAs to promote the sustainability of both Protected Area Management and Building Stakeholder Partnerships

### *Delivery Mechanisms*

1. FD to secure the funding and technical assistance (e.g., NSP?) to develop a “Strategy for Sustainable Financing of Protected Area Management and Building Stakeholder Partnerships” for the over all PA system
2. FD to secure the funding and technical assistance to develop sustainable PA financing strategies for individual PAs (beginning with the 5 pilot PAs under the NSP)
3. FD to ensure a legal option or provision, which is required for retention and distribution of revenue at PA level

## **3.4.2. Training and Capacity Building: Human Resource Development**

### **a. Staffing Pattern**

#### *Current Situation*

##### *Strength:*

- The WNCC was recently established and has 378 allocated positions, including technical and other positions for PA and wildlife management

##### *Weakness:*

- Existing staffing pattern is not keeping with the PA/ Biodiversity/Wildlife management systems
- All PAs are not properly staffed
- Insufficient staff at all levels from PA to CF office
- No research staff or back up at Division or PA level
- Out of total 378 positions only 105 are technical positions (from CF to Forester)
- 45 % of the technical posts are vacant
- Only 259 positions (about 70 per cent of total sanctioned positions) are filled and working in FD, of which nearly 58 percent (148 positions) are employed in two Botanical Gardens
- However, 30 of the “WNCC allocated positions” that are filed are not working for WNCC but have been placed elsewhere within FD under Inter-Divisional Transfer (IDF)

- Therefore, only 229 FD staff are fully dedicated to the WNCC
- Women are under-represented in FD, particularly at the field level

#### *Recommended Strategic Priorities*

7. Immediately fill the empty allocated positions in PAs and all levels under the WNCC.
8. A detailed staff needs assessment focusing on PA management (e.g., issues of staff levels, recruitment procedures, promotions, pay scales, incentives, performance evaluations) is required.
9. Special consideration should be given to the feasibility of research staffing needs or collaboration with research institutions to provide the expertise
10. It is recommended to increase the number of technical positions within the WNCC to reflect specialized field requirements (e.g., sociologists, ecologists, legal specialists, wildlife management specialists/zoologists, botanists).
11. Staff assessment should also consider the career opportunities for the non-cadre positions as mentioned under recommendation 4, above.
12. More FD staff positions should be filled by women, particularly at the field level; constraints to implementing greater recruitment and postings of women should be overcome.

#### *Delivery Mechanisms*

1. FD to ensure that consideration be made for reallocation of funds to improve quantity and quality of staffing for the WNCC in support of improved PA and wildlife management.
2. FD to ensure that a detailed staff needs assessment be conducted for the PA system overall and for individual PAs with special requirements.
3. The FD staff needs assessment will consider the career opportunities for non-cadre positions
4. MoEF and FD to ensure immediate staff allotment in each PA/Division/Circle
5. FD and MoEF will recruit the appropriate technical specialists to serve the entire PABMW (e.g., sociologists, ecologists, legal specialists, IEC specialists, wildlife management specialists/zoologists, botanists) in support of PA system management.

## **b. Training Facilities and Capacity**

#### *Current Situation*

##### *Strength:*

- Variety of training institutes and organizations are present inside the FD and also outside the FD.
- Forest Academy inside the FD; and IFESCU, BFRI and universities outside FD are capable of imparting training of professionals.
- Training facilities for sub professionals exist with three Forest Schools and FDTC, Kaptai.

##### *Weakness:*

- No integrated course on Nature Conservation or PA management is imparted in IFESCU or Forest Academy. IFESCU and other Forestry Education Institutes provide training on wildlife management and other related subjects.
- All training institutes under FD suffer from fund and trained trainer constraints.

#### *Recommended Strategic Priorities*

6. Strengthen the capacity of the existing training facilities within the FD

7. Develop linked FD programs for capacity building with BFRI and IFESCU
8. Budget allocation for conducting training and improving facilities (e.g., maintenance) needs to be secured.
9. Develop linked FD programs for capacity building with BFRI, IFESCU and universities.
10. Develop an integrated course on conservation biology (e.g., nature conservation, biodiversity, sociology and PA management) in a suitable institution

#### *Delivery Mechanisms*

1. FD to ensure that adequate funding is available to improve the quality of its training facilities (e.g., expansion, maintenance, equipment, transport) and increase the level of trainer capacity through recruitment or refresher courses for trainers/instructors.
2. FD and MoEF, in consultation with Ministry of Education, will identify a suitable institution for developing an integrated course on conservation biology for FD staff

### **c. Training for Professional Specialist Skills**

#### *Current Situation*

##### *Strength:*

- Some skills developed through implementation of social forestry activities can be used in co-management approach.
- Some midlevel and senior professionals have foreign training on PA management.

##### *Weakness:*

- Insufficient number of officers with training on PA management available in FD
- Many professionals trained in PA or wildlife management are working outside WNCC.
- Training is dependent on donor support.
- No opportunity of refresher course on PAs

#### *Recommended Strategic Priorities*

8. A detailed list or set of skills needed to effectively manage the WNCC and the PAs is required, including central and field levels
9. Ensure that the trained professionals are deployed in the correct places / positions that focus of improving the management of PAs
10. Some professionals within the RIMS Units and the proposed MIS Unit should be trained to improve their understanding of PA requirements and data collection and management requirements
11. FD should review previous “Participatory PA Management Training Requirements” studies accomplished during the Forestry Sector Project (FSP) and other studies and revise as necessary.
12. Special emphasis should be given to habitat restoration technical capacity for PA management
13. Need to develop institutional and financial arrangements for training abroad for professional and sub-professional staff
14. Greater professional training opportunities should be made available to women in the FD at all levels

#### *Delivery Mechanisms*

1. The NSP in its “Assessment of Institutional Organization and Capacity Building of the FD for PA Management” will identify a set of skills required to more effectively or optimally manage the WNCC and the PAs.
2. FD to ensure that they maximize use of previous training needs assessments and to consider these first rather than conducting new studies.
3. FD to ensure that funding and expertise are allocated to implement final approved recommendations for PA training.
4. FD and MoEF will ensure the posting of trained personnel (with appropriate disciplines) in each PA
5. The NSP could assist to facilitate institutional and financial arrangements for professional training abroad

#### ***d. Integrated Training for On-site Protected Area Field Staff***

##### *Current Situation*

###### *Strength:*

- Most of the field staff have some training in wildlife management as a part of their training course while they entered in the job.

###### *Weakness:*

- Forest Department does not operate any job oriented course on PA management or no refresher course on PAs.

##### *Recommended Strategic Priorities*

3. The FD needs to design and implement a program in support of job orientation courses on PA management and provide regular refresher courses on PA and wildlife management.
4. Greater training opportunities should be made available to women in the FD, especially at the PA field level.

##### *Delivery Mechanisms*

1. FD to ensure that they maximize use of previous training needs assessments and to consider these first rather than conducting new studies.
2. FD to ensure that funding and expertise are allocated to implement final approved recommendations for PA training.
3. The NSP could assist to facilitate financial and technical assistance for implementing on-site PA field staff training.

#### ***e. Integrated Training for Local Communities and Other Stakeholders***

##### *Current Situation*

###### *Strength:*

- FD has experience of group formation and working with communities through Social Forestry activities.
- Some NGOs are familiar with FD’s Social Forestry activities and have the potential for involvement in training.

###### *Weakness:*

- FD has not yet developed any training for local communities and NGOs with regard to PA management

- None of the NGOs have training experience on Pa management, including co-management.

#### *Recommended Strategic Priorities*

4. The FD, perhaps in cooperation with universities or NGOs, needs to design and implement a program in support of community involvement (e.g., co-management, alternative livelihood development, micro-finance) that supports PA management.
5. A program needs to be designed to socialize concepts of protected areas and co-management to PA communities.
6. Programs for co-management must involve women at all levels of management planning and decision-making in each PA, and must also include recruitment of women as well as men as community facilitators, organizers and motivators.

#### *Delivery Mechanisms*

1. FD to ensure that they maximize use of previous training needs assessments (e.g., some done by NGOs) and to consider these first rather than conducting new studies.
2. FD to ensure that funding and expertise allocated to implement final approved recommendations for PA training.
3. The NSP could assist to secure financial and technical assistance for implementing on-site training facilities to local communities and other PA stakeholders

### **3.4.3. Conclusions:**

#### ***Moving Protected Area Management Forward to 2010***

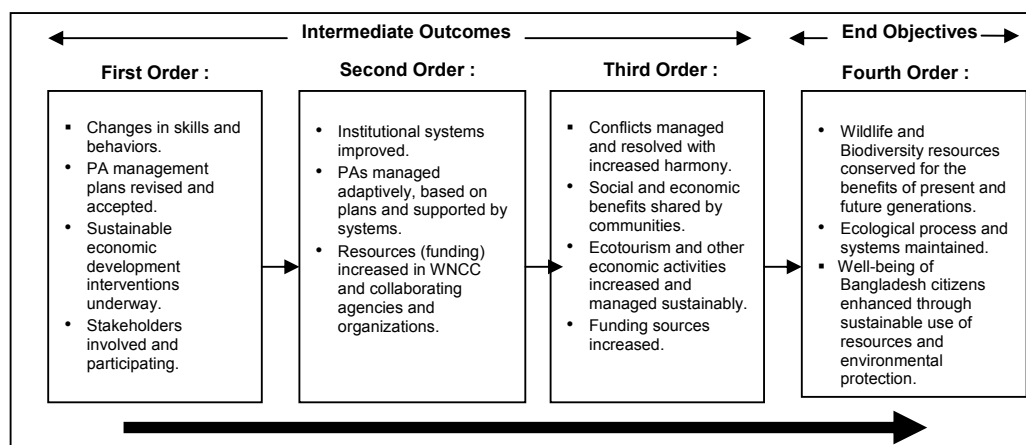
Enhancing the Forest Department's (FD) institutional capacity for protected area and biodiversity management will enable the Wildlife and Nature Conservation Circle (WNCC) to set priorities, define results, and apply resources more effectively. This will enable the FD to more effectively respond to threats and opportunities facing protected area and biodiversity conservation.

By the end of the FD's Nishorgo Program, strategic relationships at multiple levels will have been developed among a diversity of institutions, including governments, non-government organizations (NGOs), communities and community-based organizations (CBOs), and the private sector. At the national level, the Project will have helped improve understanding of biodiversity conservation priorities, "gaps," and redundancies and facilitated collaborative action to support specific priorities. At the local level, communities will be receiving tangible benefits (e.g., increased income) from their nearby PAs, will understand the importance of

conserving these areas, and will have developed relationships with the wider economy that enable them to contribute to their continued conservation.

**Figure 3.5** shows progress of a dynamic, adaptive process that will achieve the conservation objectives. The Program’s initial implementation activities and resources are designed to create the conditions for achieving lasting beneficial changes. During the first years of the Program, the FD/WNCC will gain experience and improve management at the level of the five pilot sites. A strong foundation in the pilot sites will prepare the WNCC to face the challenge of influencing other PAs and the larger landscape, i.e. beyond PA borders, that must become better managed to conserve Bangladesh’s biodiversity.

**Figure 3-5. Achieving Conservation Objectives**



Source: Adapted from ARD (2003)

### *The Challenge facing the FD/WNCC*

Enhancing institutional capacity for FD/WNCC HQ and PA site management will require major approach shifts in WNCC. WNCC must develop systems and procedures that will enable decentralized planning and delegation of authority. This will permit greater

management responsiveness to conservation threats and opportunities at the field level. For example, a revised budget structure linked to the public-sector budgeting codes could give WNCC greater flexibility within the limitations of GoB's administrative systems. At the national level, WNCC needs administrative systems that enable delegation but also ensure accountable tracking of resources, processes, and results. Appropriate changes in financial and administrative systems and procedures could help recast the role of administration within WNCC to better support management (e.g., through procurement, operational budgets, and training more closely tied to programs).

To achieve results, WNCC must be able to set priorities, define results, and apply resources in response to the specific threats and opportunities facing PA management and biodiversity conservation. In this way it can evaluate outcomes and learn more optimal approaches to PA management. At present, the WNCC's capacity to respond to these threats and opportunities is limited by administrative services requirements and procedures. Rather than supporting WNCC's efforts and providing information and resources that respond to its needs, the administrative system imposes added burdens and limits WNCC's ability to respond. For example, on the one hand, WNCC has limited authority to manage its expenditure (although this situation is improving) while, on the other, the administrative system is unable to provide disaggregated information on where costs are being incurred and, more important, the delegated authority for field-based managers to incur costs.

Meeting the challenges and opportunities requires that WNCC broaden its functions and responsibilities beyond those it has traditionally assumed. There is not yet complete consensus on which ways, or to what degree, this should be done. WNCC could contribute more significantly to achieving GoB's conservation objectives through broadened its roles in monitoring, research, PA management, wildlife health, managing human–elephant conflict, participatory management, and facilitating private-sector partnerships. More active engagement in these areas will require more complex management decision processes, more



effective strategy development, and working in areas of little experience or going beyond “tried-and-true” methods.

Financial and technical support is needed to assist the GoB conserve biodiversity through three main courses of action:

- Strengthen WNCC by helping it improve its management systems and resources, with an emphasis on teamwork, learning, decentralization, and outreach.
- Improve the management of PAs and their surrounding support zones by working to conserve biodiversity in the five NSP pilot PAs through:
  - Strengthening WNCC field staff capacity and experience. Supported by improved management systems, training, and teamwork, WNCC field staff will improve their motivation and ability to develop management strategies, make decisions, and work together with local people.
  - Building capacity among local stakeholders. It is important to strengthen commitment and resources for conservation by engaging local stakeholders and helping them develop sustainable economic activities. This will help develop means of conserving biodiversity through managing the broader landscape, including private lands. Community participation in conservation management and wider regional planning could also be enhanced through grants from a supporting protected areas trust or fund, if one successfully develops.
- Increase understanding of conservation issues and consensus and commitment for biodiversity priorities among a broad array of stakeholders at multiple levels and in other sectors. The Nishorgo Project will help other actors build on the experience and credibility developed through NSP’s/WNCC’s pilot efforts.

Results from various delivery mechanisms to implement recommendations are expected to come from fundamental changes in the way that WNCC carries out its role. The FD will need help to broaden WNCC’s role, influence, and impact on conservation in Bangladesh. The goal is that by 2010, several initiatives will have been implemented for institutional strengthening:

- The WNCC will manage the PA system scientifically by using management plans that bring together best practices with skilled staff and local people living in association with the PAs. WNCC will move beyond the current mode of responding to day-to-day “urgencies and putting out fires” by adopting a long-term perspective, supported by a well-understood and widely shared vision and guided by a clear strategy that includes local stakeholders.
- The attitude and approach of FD/WNCC staff will have changed. Field staff will interact easily with community members in the support zones and other locally active stakeholders. They will no longer think that their role ends at the PA boundary. They will

have both the technical understanding and the practical skills to assess threats and manage the PA system as integral parts of the larger landscape essential for the well-being of flora and fauna populations.

- The WNCC will have strengthened its working relationships within government and the natural resources sector. WNCC and the Forest Department (FD) will apply a consistent approach towards management of the national system of PAs. WNCC will have engaged a wider array of stakeholders at both the PA and national levels.
- The WNCC will have developed new relationships with actors in other sectors. It will have developed working relationships with private enterprises that benefit local communities, strengthen support for Bangladesh's PA system, and provide revenues for conservation.

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# **ANNEXURE**

## **ANNEX A. SCOPE OF WORK**

## **ANNEX B. CONSULTANTS' ITINERARY: CONSULTATIONS, WORKSHOPS AND FIELD VISITS**

## **ANNEX C. FOREST DEPARTMENT ASSESSMENT WORKSHOPS**

## **ANNEX D. MATRIX: SUMMARY OF INSTITUTIONAL ORGANIZATION AND CAPACITY BUILDING ELEMENTS FOR IMPROVED AND SUSTAINABLE PROTECTED AREA MANAGEMENT IN BANGLADESH (CURRENT CONDITIONS, RECOMMENDATIONS & DELIVERY MECHANISMS)**

## **ANNEX E. FOREST DEPARTMENT STRATEGIC PLANNING: USING ADVANCED PARTICIPATORY METHODS AND PREPARING AN INSTITUTIONAL DEVELOPMENT FRAMEWORK FOR PROTECTED AREA MANAGEMENT**

## **ANNEX F. PRELIMINARY PROGRAM COMPONENT COST TABLES**

## **ANNEX G. WORLD PARKS CONGRESS (WPC) RECOMMENDATIONS ON CO- MANAGEMENT, STRENGTHENING INDIVIDUAL AND GROUP CAPACITIES, AND STRENGTHENING INSTITUTIONAL AND SOCIETAL CAPACITIES FOR PROTECTED AREA MANAGEMENT IN THE 21ST CENTURY**



**ANNEX D.**  
**Matrix of Institutional Organization and Capacity Building Elements for**  
**Improved and Sustainable Protected Area Management in Bangladesh**

1. INSTITUTIONAL ORGANIZATION : MANAGEMENT SUPPORT SYSTEMS	CURRENT CONDITIONS	RECOMMENDATIONS	DELIVERY MECHANISMS
1.a. Organizational Management	<ul style="list-style-type: none"> <li>• “Wildlife and Nature Conservation Circle (WNCC) was recently established and headed by a Conservator of Forests (CF) directly responsible to the Chief Conservator of Forests (CCF)</li> <li>• Four WNCC Divisions (Dhaka, Chittagong, Khulna and Sylhet)</li> </ul> <p><i>Weakness:</i></p> <ul style="list-style-type: none"> <li>• Existing staffing pattern is not keeping with the PA/ Biodiversity/Wildlife management systems (see more detail under <i>Staffing</i> Section)</li> <li>• No WNCC/FD institutional strategic planning for PA management</li> <li>• No organogram for PA management has been developed</li> <li>• Currently each PA is not an operational unit</li> <li>• Only CF office, and Chittagong and Khulna Divisions in operation</li> <li>• Other than PAs of Khulna WNCD, only Chunati WS so far handed over to WNCC</li> <li>• PAs are not properly staffed and with insufficient staff at all levels from PA to CF</li> </ul>	<ol style="list-style-type: none"> <li>1. Strategic planning for FD / WNCC/PA institutional development, done in a facilitated participatory manner, is required to develop an “Institutional Development Framework” (IDF) in support of organizational management, and M&amp;E at various management levels, from HQ to PA level.</li> <li>2. Organograms need to be reconsidered, revised and approved for the WNC Circle level as well at the PA level (initially a standard PA staffing organogram will be designed which can later be tailored to each PA and its specific needs) – <i>See sample organograms at HQ and PA levels</i></li> <li>3. Strengthen WNCC in its current organizational position within FD as a Circle and only later, when capacity has increased, decide if its position within FD should be changed / elevated.</li> <li>4. Recommend a name change from “Wildlife &amp; Nature Conservation Circle (WNCC)” to “Protected Areas &amp; Biodiversity Management Circle</li> </ol>	<ol style="list-style-type: none"> <li>1. Workshops, with assistance from NSP, should be designed and facilitated by trained facilitators, with staff of FD/WNCC, to prepare a “Protected Areas and Biodiversity Management Institutional Development Framework”</li> <li>2. NSP assists to prepare initial organograms for FD consideration, revision and approval. The FD authority should take this action into account as a high priority.</li> <li>3. Funding required to operationalize and fully staff the 6 DFO offices (4 existing and 2 new) in support of PA and wildlife management</li> <li>4. Funding required to operationalize and fully staff the 5 PAs under NSP with each PA headed by an ACF. These 5 sites must be given first priority because they are viewed as pilot sites for improved PA management.</li> <li>5. FD will ensure that staffing of all other PAs will proceed according to an</li> </ol>

	<p>office (See <i>Staffing</i> section)</p> <ul style="list-style-type: none"> <li>No research staff or other technical back up at Division or PA level (see <i>Staffing</i>)</li> </ul>	<p>(PABMC)" to better reflect a more modern and comprehensive terminology for the Circle, and elevate the position from Circle to <u>Wing</u> with greater authority and responsibility.</p> <p>4.5. Need to also operationalize and staff the Division offices at Sylhet and Dhaka</p> <p>5.6. All protected areas should be handed over to WNCC with full responsibility for management under the CF-WNCC</p> <p>6.7. Each PA should be an operational unit with greater decentralized authority for decision-making with an assigned ACF</p> <p>7.8. Need to operationalize and staff the PAs, beginning with placing ACF's in each PA in stages, beginning with the 5 priority pilot PA's of the NSP</p>	<p>agreed schedule.</p> <p>6. FD budget allocation is required to operationalize and staff the PAs, with the 5 NSP-focused PAs being given first priority.</p> <p>7. Staffing issues in support of an improved organizational management system are found in <i>Staffing</i> Section.</p>
<p><b>1.b. Information Management Technology / Management Information Systems (MIS)</b></p>	<p><i>Strengths</i>Strength:</p> <ul style="list-style-type: none"> <li>RIMS (GIS) Unit established at FD HQ level for natural forest management and plantation forestry</li> </ul> <p><i>Weaknesses</i>Weakness:</p> <ul style="list-style-type: none"> <li>A coordinated Management Information System (MIS) does not exist to process data management for FD</li> <li>Due to the lack of an adequate MIS, there is no e-governance (e-Gov) in place in the FD to promote greater transparency and network efficiency.</li> </ul>	<p>1. A detailed assessment of FD / WNCC / PA data management needs is required to recommend an appropriate MIS structure</p> <p>2. The existing RIMS Unit (now, only for GIS) should be converted and expanded to a full MIS Unit, and the name should remain as "RIMS" but with wider data management responsibilities that include, but are not limited to, GIS</p> <p>2.3. Need to improve the storage and management mechanisms and increase hardware capability (e.g., computers in HQ and in Divisions)</p> <p>3.4. Need to institutionalize the MIS (perhaps as a new MIS Unit) and orient staff to its capabilities at 2 all levels: Central FD and CF</p> <p>5. RIMS (GIS &amp; MIS) must be networked to support and coordinate data management at Central and Division levels and ultimately up to the field level for all PAs</p>	<p>1. FD-initiated MIS needs assessment that identifies priorities and phasing of equipment and trained staff</p> <p>2. FD allocation for staff and equipment to develop a MIS Unit</p>

		<p>4.6. Ensure that the MIS is linked with the existing RIMS system</p> <p>5. Ensure that information is readily accessible for decision-making at local levels and for networking of information both with the FD and with other agencies.</p> <p>7.</p>	
1.c. Spatial Data Management / Geographic Information System (GIS)	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• RIMS Unit (GIS) established at FD HQ level for natural forest management and plantation forestry</li> <li>• Trained personnel</li> <li>• Maps and some other cartographic facilities are available for PAs</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• Inadequate staffing and equipment to handle any more than basic map production</li> <li>• GIS is only available in the FD HQ with no facilities or staff in the Divisions</li> <li>• Focusing primarily on plantation forestry, but not well conversant with the data system of the PAs and wildlife</li> </ul>	<p>1. The RIMS Unit needs to be upgraded in terms of staffing levels, capabilities, equipment and maintenance</p> <p>2. Need to integrate RIMS with an overall MIS system</p> <p>3. RIMS needs to devote more focus towards PA and wildlife management and this will require staff dedicated to that focus</p> <p>4. RIMS usefulness must be seen as more than a map making tool but with wider applications for planning and data management</p> <p>5. The existing RIMS Unit (now, only for GIS) should be converted and expanded to a full MIS Unit (above, 1.b.), and the name should remain as "RIMS" but with wider data management responsibilities that include, but are not limited to, GIS(e.g., overlays of land-use, wildlife distribution)</p>	1. FD allocation for staff and equipment for the RIMS Unit increased.
1.d. Financial Organizational Systems	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• Salary and allowances of revenue staff are secured</li> <li>• GoB provides funding for FD activities, however GoB support is rarely for <i>in situ</i> conservation, i.e. within PAs</li> <li>• Existing financial management system enables FD officials at particular levels to work as Treasury Officers</li> </ul> <p><i>WeaknessesWeakness:</i></p>	<p>1. The current financial organization systems appear to be adequate and appropriate in most areas and appropriate but should be reviewed in greater detail to identify specific inadequate areas for improvement.</p> <p>2. Special allocation for operational funds dedicated to the WNCC is required to ensure at least a certain adequate level of financial stability annually, including Incorporation of a specific budget code for</p>	<p>1. Commitment from the FD to allocate greater resources and financial management capability (e.g., bookkeepers) to the PAs</p> <p>2. FD will take up the matter with MoEF regarding the transfer of gate income or other generated PA revenue to PA management</p>

	<ul style="list-style-type: none"> <li>• No special allocation for the WNC Circle, therefore, the operational fund is limited and uncertain</li> <li>• All PA-generated revenues (e.g., gate fees) must be submitted to the FD and then to the Treasury</li> <li>• Annual budget allocation for each PA is not related to its income-generating success or potential, i.e. equal allocations for each PA regardless of special needs</li> <li>• No clear management team capabilities and FD relies on outside consultants and other expertise to prepare PA management plans</li> </ul>	<p>PA management</p> <ol style="list-style-type: none"> <li>3. Special consideration should be made by the FD to consider increasing WNCC budget to strengthen and speed its growth</li> <li>4. Greater revenue must be allocated to <i>in situ</i> conservation, i.e. with PAs, rather than <i>ex situ</i> conservation (e.g., breeding programs, Safari Parks and botanical gardens)</li> <li>5. Special consideration should be given to allocating a portion (e.g., 20% or more) of total PA-generated revenues (e.g., gate fees) to remain with the PA for management expenses and co-management (e.g., community benefits), i.e. the greater the revenue income the greater the PA and community revenue retention and therefore greater the incentives)</li> <li>6. There should be a staff member at HQ in charge of financial management of the PA system.</li> </ol>	
1.e. Management Planning and Implementation	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• Management Plans have been prepared for five PAs (3 PAs in Sundarbans, Lawanchara N.P and Rema-Kalenga W.S.), and Guidelines have been prepared for five PAs, and no plans or guidelines have been prepared for the remaining five PAs</li> <li>• Overall guidelines for PA management plan preparation have been prepared but require review and revision</li> <li>• Some prescribed management operations have been implemented in some of the PAs (e.g., habitat restoration, replanting, wildlife translocation) in limited areas</li> </ul> <p><i>Weakness:</i></p>	<ol style="list-style-type: none"> <li>1. Management Plans need to be prepared for all PAs, and all Management Plans (especially those prepared under the FSP) will require review and revision as needed followed by approval, and the approval process needs to be much faster</li> <li>2. Management guidelines for the other PAs need to be developed into full Management Plans</li> <li>3. Management Plans need to take a “landscape approach” that addresses management around the PA (e.g., “buffer zones”) and identify the specific partners required for management of those external PA zones and well as the limits of a “buffer zone”</li> </ol>	<ol style="list-style-type: none"> <li>1. FD to finalize management planning guidelines that take into consideration a wider “Landscape approach” together with co-management and other mechanisms for improved and sustainable PA management.</li> <li>2. NSP to continue providing stakeholder co-management process development and pilot studies in the PAs</li> <li>3. FD to finalize a more speedy review process of management plans for approval and more rapid follow-up / implementation</li> <li>4. FD to secure greater fund allocation to management plan implementation</li> </ol>

	<ul style="list-style-type: none"> <li>• Only one management plan has been approved (a consolidated 5-year MP covering 3 PAs within the Sundarbans) but this was approved long after submission making some mgmt. prescriptions out-dated</li> <li>• Other PA Management Plans have not been approved or implemented</li> <li>• The process of moving from PA management plan submission to approval is too slow and lack a clear and speedy mechanism</li> <li>• With some notable exceptions, there is very little active management or protection activities in the PAs</li> <li>• Very little zonation of PAs in management plans other than “core area” and “buffer zone”, which is something inside and sometimes outside the PA – zoning concepts and identification are unclear.</li> <li>• PA or wildlife management has been on an <i>ad hoc</i> (emergency response) basis and not in line with any clear integrated long-term management plan either for a PA or for an endangered species (e.g., species recovery plan)</li> <li>• No clear and consistent management planning process, with follow-up, is in place, although guidelines have been prepared</li> <li>• The participatory process essential to management planning from the very beginning is unclear and haphazard</li> </ul>	<p>4. Developments within a designated “buffer zone”, external to a PA, require an EIA prior to commencement of the development</p> <p>4.5. The term “buffer zone”, which has a negative connotation of “buffering” something “good” from something “bad”, should be renamed “<u>Support Zone</u>”, i.e. this external area supports the protection of the PA while the PA can support/enable sustainable development in the surrounding area.</p> <p>5.6. Management plans require local stakeholder participation during the planning process</p> <p>6.7. A clear and consistent management planning process, with follow-up, is urgently required and which gives due attention to the participatory planning process, i.e. a process for stakeholder involvement with clear steps and required milestones</p> <p>7.8. The mechanism for participatory planning must be developed, approved and put in place with special consideration towards co-management as a participatory management tool</p> <p>8.9. Need to establish PA Management Units for greater decentralized management and decision-making</p> <p>9.10. It must be stressed that even in the absence of an approved management plan, each PA must still be adaptively managed through a proposed management plan, if one exists, and in response to particular urgent needs and issues</p> <p>10.11. PAs must be staffed, and staff will require appropriate training (see <i>Staffing</i></p>	<p>and other programs (e.g., species recovery plans, human-animal conflict resolutions, stakeholder conflict resolutions, co-management arrangements)</p> <p>5. FD to ensure that elements of social justice and human rights are incorporated into management planning, i.e. through a co-management approach.</p>
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		<p>and Training)</p> <p>11.12. Clear staff roles and responsibilities(job descriptions) are required for PA management</p> <p>12.13. Budget must be allocated towards active management of PAs on the basis of management plans</p>	
1.f. Institutional Orientation to Co-management	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>The FD has experience with some levels of community-based or participatory natural resource management under the social forestry program, and this experience can be applied towards PA co-management with process and goal modifications</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>The FD has no experience with collaborative management (co-management) of PAs</li> <li>No PA co-management institutional frameworks (e.g., local community bodies, coordination committees) are in place</li> <li>An institutional orientation towards PA co-management is not a universally accepted part of the WNCC</li> </ul>	<ol style="list-style-type: none"> <li>Special consideration towards co-management as a and other participatory management tools must be included within the management plan</li> <li>The mechanism, step-by-step process for co-management must be clearly developed and socialized both within the FD and within the target communities.</li> <li>The legal basis for co-management must be established.</li> <li>However, PA co-management activities can be initiated within existing legal framework and FD does not have to wait for full legal basis before beginning PA co-management activities. For example, FD has implemented social forestry for more than 20 years, but the legal backing for SF was only established in 2000 under the amended Forestry Act.</li> <li>An institutional orientation towards co-management must become universally accepted as part of the WNCC (e.g., establish a Co-management Unit to oversee this management approach)</li> <li>Review the experience with participatory natural resource management through social forestry and to what extent the capacity within the FD can be re-oriented towards PA co-management.</li> <li>Participatory planning towards co-management must be developed,</li> </ol>	<ol style="list-style-type: none"> <li>The co-management process, including approach, criteria and steps can be developed with assistance from NSP.</li> <li>FD to ensure that Institutional Arrangements for co-management are developed and made clear from the very beginning thorough Co-management Committees</li> <li>FD to initiate Co-management Committees (FD and communities) will develop annual work plans and budgets approved at a Division Level PA Co-management Advisory Committee</li> <li>Annually, the full set of PA annual work plans and reviews will be presented by the FD to the existing "Wildlife Advisory Board" or to an alternative and acceptable "Co-management" Board that will either be renamed or reformed later(e.g., "Protected Areas and Biodiversity Advisory Board").</li> </ol>

		<p>approved and put in place at the very beginning of PA management planning</p> <p>8. Stakeholder participation must should be included during the boundary demarcation process, and the steps to follow to achieve consensus over boundary location must be put into place, including a legal basis for the participatory boundary identification and field demarcation process</p> <p>9. Institutional arrangements for co-management must be developed and made clear from the very beginning</p> <p>10. Strengthen the existing Wildlife Advisory Board but reorient its focus in line with a name change (e.g., "Protected Areas and Wildlife Biodiversity Advisory Board")</p> <p>11. Stakeholders engaged in co-management must be able to see direct benefits from their involvement, thus special consideration should be given to allocating a portion of PA-generated revenues (e.g., 20% of gate fees) to remain with the PA for co-management (e.g., community benefits), i.e. the greater the revenue income the greater the PA and community revenue retention and the greater the incentives for co-management.</p> <p>12. Implementers from both FD and the community stakeholder groups must include both men and women to address gender issues of management and decision-making</p>	
<b>1.g. Legal Support</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• The Wildlife (Preservation) Order 1973 has been drafted aiming towards better PA management</li> <li>• The Wildlife (Preservation) Order, 1973, Wildlife Preservation (amendment) Act</li> </ul>	<p>1. Wildlife (Preservation) (amendment) Act, 1974 contains provision for the establishment of Wildlife Advisory Board, the composition, procedure and functions all of which should be modified to make it more efficient, effective and participatory.</p>	<p>1. FD to ensure the recommendations that address current weaknesses are considered for approval in support of more effective PA and wildlife management</p> <p>2. FD to ensure greater technical</p>

	<p>1974 and subsequent Notifications provides the legal basis for protecting wildlife as well as their habitats.</p> <ul style="list-style-type: none"> <li>• The Forest Act has been revised to incorporate reserve forest.</li> <li>• The draft Social Forestry Rule is in the process of enactment</li> <li>• The Wildlife Act includes all sorts of wildlife of the country not just within the PAs</li> <li>• The Forest Act and Social Forestry Rule have been enacted</li> <li>• The Biodiversity Act has been drafted and is in the process of review by the Ministry of Environment and Forests (MoEF)</li> <li>• The Wildlife Order defines various protected areas in the form of game reserve, national park and wildlife sanctuary and aims at preserving wildlife of those protected areas.</li> <li>• The wildlife sanctuary regime also requires undisturbed breeding ground for the protection of wildlife as well as all natural resources in the sanctuary.</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• The Wildlife Act does not take either community participatory management of natural resources or collaborative (co-) management of PAs into consideration.</li> <li>• The Wildlife (Preservation) (amendment) Act, 1974 provides for the establishment of a Wildlife Advisory Board, however the composition, procedures and functions of the WAB are not specified under the Act..</li> </ul>	<p>2. Enabling policies in support of co-management need to be translated into law that will establish the legal basis for PA co-management arrangements (among FD, community groups and other stakeholders), including issues of rights and responsibilities, land tenure rights, social justice, etc.</p> <p>3. The schedules of the Wildlife Act have to be revisited and modified regularly given the degree of vulnerability of animal and plant species depending on many unforeseeable factors and on ever changing market demands. The Act should also be reviewed to bring about more conformity with the provisions of CITES and to encourage sustainable export of protected flora and fauna species. like pet birds, turtles and crabs.</p> <p>3.</p> <p>4. The revised Wildlife Preservation Act must take into consideration and be in line with the Forest Act, draft Social Forestry Rule, proposed Biodiversity Act and the international and regional international obligations (e.g., CBD, CITES, Ramsar)</p> <p>5. Section 36 of the Order allows compounding of first time offences by payment of a nominal amount of compensation (between 1000 and 2000 taka) to the Conservator of Forests (Wildlife). Otherwise offences under this Act would be tried by a 1<sup>st</sup> Class Magistrate. In view of the ever increasing threats to the survival of various wildlife, the penal provisions should be made more stringent and offences under this order could also be made subject to trials in the environmental courts.</p>	<p>support available from environmental legal specialists, and environmental legal support may be received from outside partnership (e.g., IUCN, BELA)</p>
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		6. The Wildlife Advisory Board should be renamed the "Protected Areas & Biodiversity Advisory Board".	
<b>1.h. Law Enforcement</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• The FD has established a forest protection enforcement force, and the FD has the authority to enforce the laws (Forest Act, Wildlife Act)</li> <li>• FD has a forest protection and enforcement mechanism, and has the authority to enforce the lawsSome officers within the FD law enforcement force have the potential for selection and training as PA and wildlife management rangers / officers, i.e. FD may not need to recruit many new staff</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• Lack of or Inadequate trained field staff and number of staff for effective PA and wildlife law enforcement</li> <li>• Inability (or hesitancy) to enforce laws in the field by forest guards due to political pressure and other social influences</li> <li>• or delays in the court prosecution process</li> <li>• Lack of awareness, work pressure and influence can delay the prosecution process</li> <li>• Lack of incentives for and protection of informers</li> </ul>	<ol style="list-style-type: none"> <li>1. Need to increase public awareness of the laws and publicize prosecutions under the laws</li> <li>2. Need improved training of forest field staff to better understand the Wildlife Act and its enforcement (see <i>Training</i>)</li> <li>3. Need more allocation of forest guard staff to the positions at PA level</li> <li>4. PA guard staff need to understand their role more as collaborator with local stakeholders for PA management rather than as strict law enforcers.</li> <li>5. All allocated WNCC field positions need to be filled</li> <li>6. Initial priority should be given to the 5 pilot PAs under the NSP</li> <li>7. A mechanism must be in place for greater cooperation between FD law enforcement officers and other relevant sectors (e.g., police, military)</li> <li>8. A CITES Enforcement Officer with the rank of ACF or higher, supported by staff, should be posted at Dhaka and Chittagong Airports</li> </ol>	<ol style="list-style-type: none"> <li>1. FD to ensure that FD law enforcement officers have the support they need to enforce laws</li> <li>2. FD to ensure improved cooperation and coordination with other law enforcement agencies (e.g., police, military)</li> <li>3. FD to promote joint forest protection enforcement force along with the stakeholders/participants within and around each PA</li> </ol>
<b>1.i. Wildlife Insurance</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• No wildlife insurance or compensation schemes are in place for damages due to human-animal conflict (e.g., injury, death, crop and property damage)</li> </ul>	<ol style="list-style-type: none"> <li>1. FD should review and assess the feasibility of a wildlife insurance or compensation scheme in Bangladesh to cover claims (granted under strict criteria) for damages due to human-animal conflict (e.g., injury, death, crop and property damage)</li> </ol>	<ol style="list-style-type: none"> <li>1. FD to conduct a feasibility study on a wildlife insurance or compensation scheme in Bangladesh, in collaboration with IUCN and NSP</li> <li>2. Assess feasibility of making a wildlife insurance scheme part of the revised Wildlife Act</li> </ol>

		2. If a wildlife scheme is instituted, then this provision must be made in revised Wildlife Act, including strict criteria for claims	
1.j. Information, Education & Communication (IEC) and Visitor Services	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• Some FD community outreach or public awareness activities done on a small-scale and <i>ad hoc</i> basis</li> <li>• There is one existing position, “Mass Communication Officer” at the FD head quarters.</li> <li>• Some limited visitor services and information centers for nature interpretation in the PAs (e.g., Sundarbans) and Safari-Park</li> <li>• Some posters and other information materials prepared on an <i>ad hoc</i> basis, usually through donor-funded projects</li> <li>• Guidelines for developing PA visitor services and facilities were prepared under FSP</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• No overall integrated IEC Strategy prepared or implemented by FD in support of wildlife and protected areas, i.e. environmental conservation, at multiple levels (e.g., national campaigns, media coordination, school programs, PA promotion, network of nature interpretation/education centers)</li> <li>• Lack of or inadequately trained staff to design or manage an IEC program</li> <li>• No public relations technical specialties within FD</li> <li>• There is a structural hindrance within FD that prohibits prompt response to media reports</li> </ul> <p>♣• No visitor services or nature</p>	<ol style="list-style-type: none"> <li>1. An IEC Strategy needs to be prepared as an integrated strategy that increases public awareness of environmental issues, biodiversity conservation, the importance of protected areas, etc.</li> <li>2. The IEC Strategy must form the basis to develop improved environmental governance (EcoGov) and advocacy as well as an informed “environmental constituency” among the citizens of the country</li> <li>3. Need to increase public awareness of the laws and publicize prosecutions under the laws</li> <li>4. Visitor services and nature interpretation/education programs and centers at the PAs need to be appropriated designed by experts</li> <li>5. Improve relations and communication between FD and the media to publicize environmental issues</li> <li>6. Must view the potential of high visitation areas (e.g., zoological and botanical gardens, Safari-Park) as focal areas for intensive environmental education and establishing nature interpretation centers</li> <li>7. Implementers and participants / targets of the IEC and its Strategy must be comprised of both men and women to address gender issues of IEC</li> </ol>	<ol style="list-style-type: none"> <li>1. FD to secure the funding and expertise to prepare a thorough IEC Strategy, most likely with NSP assistance</li> <li>2. FD to secure the commitment and cooperation of partners (e.g., universities, schools, NGOs) to implement IEC Strategy</li> <li>3. FD to ensure that adequate and appropriately designed visitor services and nature interpretation/education centers are in place in priority PAs where visitation is currently or potentially the greatest.</li> <li>4. FD to secure technical expertise as required.</li> <li>5. IEC curriculum must be added to FD Schools and FD Academy</li> <li>6. An IEC program will enlist the co-operation of <i>upazila</i> near to the PAs</li> <li>7. MoEF and FD will promote the creation of a special day during winter (e.g., “National Protected Areas Day”, similar to the “Tree Planting Program”) to be celebrated in the vicinity of the PAs in collaboration with local government, civil administration, schools and other educational institutions, civil societies, NGOs, etc.</li> </ol>

	interpretation/education programs or centers at the PAs (only in Safari-Parks)		
<b>1.k. Research</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>Some support and coordination between the FD and the Bangladesh Forest Research Institute (BFRI), Chittagong, and limited support from universities</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>No FD research staff or back up at Division or PA level</li> <li>Lack of involvement of the FD in the research grant proposal process within PAs by universities, research organizations and NGOs</li> <li>Coordination and research assistance requests from FD to BFRI is only very limited</li> <li>Research assistance and coordination for the FD with other departments, institutions and universities is very limited</li> <li>No integrated research on holistic approaches to PA management undertaken.</li> <li>Sporadic research activities have been conducted by different universities for master or doctoral research or by BFRI in different PAs, but these studies are mainly focused on taxonomy and ecology and not on applied research useful for PA or wildlife management</li> <li>Applied research is very much lacking (e.g., research on sustainable management of resources, plant-animal interactions, harvest limits of different NTFPs, impact of harvest on natural regeneration and wildlife, human ecology, sociology)</li> </ul>	<ol style="list-style-type: none"> <li>1. Develop an Action Plan for appropriate prioritized multi-disciplinary and integrated research programs in support of management within and around the PAs</li> <li>2. Develop clear collaborative efforts with lead agencies within specialized fields with clearly identified responsibilities for PA management research</li> </ol>	<ol style="list-style-type: none"> <li>1. National and international research institutions to cooperate with FD to develop a clear Research Agenda and Strategy focusing on PA and wildlife management.</li> <li>2. FD to ensure that in any PA research agenda adequate attention is also paid to socioeconomic research of PA communities, particularly those engaged with the FD in PA co-management arrangements</li> <li>3. FD to ensure its involvement in the research grant proposal process within PAs by universities, research organizations and NGOs</li> <li>4. FD to ensure budget allocation for PA research.</li> </ol>

<b>1.i. Monitoring and Evaluation</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• FD has some M&amp;E capability for collecting data and doing inventories focused on forest plantations</li> <li>• PA management plans provide guidelines for M&amp;E in the PAs, for example some indicators for monitoring and evaluation including Habitat Suitability Index have been incorporated in the Management Plans and Guidelines developed under FSP</li> <li>• Some base data particularly the checklist of flora and fauna are available on several PAs</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• No inventory, monitoring and evaluation programs are being implemented for wildlife or PA management</li> <li>• No M&amp;E guidelines include participatory M&amp;E (e.g., with communities and NGOs)</li> <li>• Monitoring by the FD itself</li> </ul>	<p>13. Monitoring and evaluation requires much greater attention and resources than currently allocated by FD, therefore a M&amp;E Circle will be added to the PA and Biodiversity Management Wing organizational structure, headed by a CF</p> <p>14. Strategic planning for FD / WNCC/PA institutional development, done at regular intervals in a participatory manner and facilitated, is required to develop an “Institutional Development Framework” (IDF) in support of assessing institutional development progress through regular monitoring &amp; evaluation at various management levels, from HQ to PA level.</p> <p>15. Biodiversity monitoring tools need to be applied and standardized by the FD (or in collaboration with research institutions) through regular monitoring of PAs and biodiversity.</p> <p>16. A program of monitoring impacts and changes on biodiversity and the PAs needs to be developed</p> <p>17. A program of socio-economic impacts on resource conservation through livelihood enhancement and the PAs needs to be developed</p> <p>18. Biodiversity monitoring of for example, could by conducted an independent organization outside the FD (e.g., IUCN, other national institutes)</p>	<p>1. FD to secure the funding and expertise to ensure development of an integrated M&amp;E program implemented to focus on institutional development (“change management”), biodiversity, PA management, and sociological and economic conditions of PA communities.</p> <p>2. FD to ensure that CCF’s recommendation (PA workshop, 31 July 2004) be implemented, that a M&amp;E Circle be added to the PA and Biodiversity Management Wing organizational structure, to be headed by a CF</p> <p>3. FD to ensure that an external independent agencies or organizations are involved in more effective M&amp;E of FD activities and progress.</p> <p>4. FD to ensure continuous monitoring at PA level by Park Warden/ PA staff, and will also encourage participatory monitoring by local participants of PA co-management</p>
<b>1.m. Collaborative Intersectoral Conservation Planning</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• Recently the draft National Biodiversity Strategy and Action Plan (NBSAP) has been prepared by IUCN including collaboration with FD and other agencies</li> <li>• Some small programs for wildlife research</li> </ul>	<p>1. The FD needs to establish a clear program or strategy for collaborative conservation planning with other agencies and institutions both within and outside the country</p> <p>2. A Forest Department “Collaborative</p>	<p>1. FD to ensure that institutional arrangements are in place for inter-sectoral collaborative conservation planning on a wider landscape scale beyond the boundaries of a PA.</p> <p>2. FD to ensure that nation-wide</p>

	<p>and management (e.g., IUCN, USDA-F&amp;W for elephant conservation) have involved collaboration with FD</p> <ul style="list-style-type: none"> <li>• Some district or field level inter-agency meetings to collaborate on PA or wildlife (e.g., elephants) issues</li> <li>• Some FD international or trans-boundary cooperative planning (e.g., UNDP-funded joint Tiger Survey between India and Bangladesh for Sundarbans)</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• No institutional mechanism or capacity building back-up to support any long-term collaborative conservation planning</li> </ul>	<p>Conservation Strategy” needs to provide the mechanisms for improving intersectoral coordination and sharing of information to maximize conservation efforts in the country</p> <p>3. Develop institutional capacity within FD and other agencies and organizations for Collaborative Conservation Planning</p>	<p>programs (e.g., floral and faunal surveys, land capability, PA system reviews, biodiversity assessments) are implemented through collaborative conservation planning.</p>
<b>1.n. Public-Private Partnerships</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• Partnerships established under the NSP Partnerships Program</li> <li>• The MoEF and Arannayk Foundation have developed a partnership and there is the potential for a formal partnership between the Foundation and FD</li> <li>• Private sector is beginning to invest in environmental management and some PA and wildlife conservation support</li> <li>• Some leasing and concessions for gate at Botanical Garden and Bhawal N.P.</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• Some private tour operators are organizing tours particularly to the Sundarbans (an internationally known PA), but with no or only very limited support to the PAs</li> </ul>	<p>1. A clear program or strategy should be developed on Public – Private Partnerships in and around PAs.</p> <p>2. Alternative income generating activities for local communities within and adjacent to PA’s (particularly those engaged in co-management agreements with FD) are required and best accomplished through business partnerships for skills training and improved access to markets.</p>	<p>1. FD to ensure that greater attention is made to Public-Partnerships for improved PA management and financial sustainability of the PA.</p> <p>2. FD to ensure that a Strategy for Public-Private Partnerships for Pa Management be prepared (with NSP support) and implemented.</p>
<b>1.o. Sustainable Financing</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• Salary and allowances of FD revenue staff (including WNCC) are secured</li> <li>• The Bangladesh Tropical Forest Conservation Foundation (Arannyk</li> </ul>	<p>1. A sustainable PA financing strategy (strategies) should be developed for 1) the overall PA system and 2) for individual PAs to promote the sustainability of both Protected Area Management and Building</p>	<p>1. FD to secure the funding and technical assistance (e.g., NSP) to develop a “Strategy for Sustainable Financing of Protected Area Management and Building</p>

	<p>Foundation) has been created through a USA/GoB debt-for-nature swap, with the potential for funding support to PA and wildlife conservation.</p> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>No sustainable financing programs are planned or in place for supporting any PA, although some management plans have made suggestions</li> </ul>	Stakeholder Partnerships	<p>Stakeholder Partnerships” for the overall PA system</p> <ol style="list-style-type: none"> <li>FD to secure the funding and technical assistance to develop sustainable PA financing strategies for individual PAs (beginning with the 5 pilot PAs under the NSP)</li> <li>FD to ensure legal option or provision, which is required for retention and distribution of revenue at PA level</li> </ol>
<b>2. TRAINING AND CAPACITY BUILDING : HUMAN RESOURCE DEVELOPMENT</b>			
<b>2.a. Staffing Pattern</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>The WNCC was recently established and has 378 allocated positions, including technical and other positions for PA and wildlife management</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>Existing staffing pattern is not keeping with the PA/ Biodiversity/Wildlife management systems</li> <li>All PAs are not properly staffed</li> <li>Insufficient staff at all levels from PA to CF office</li> <li>No research staff or back up at Division or PA level</li> <li>Out of total 378 positions only 105 are technical positions (from CF to Forester)</li> <li>45 % of the technical posts are vacant</li> <li>Only 259 positions (about 70 per cent of total sanctioned positions) are filled and working in FD, of which nearly 58 percent (148 positions) are employed in two</li> </ul>	<ol style="list-style-type: none"> <li>Immediately fill the empty allocated positions in PAs and all levels under the WCNCC.</li> <li>A detailed staff needs assessment focusing on PA management (e.g., issues of staff levels, recruitment procedures, promotions, pay scales, incentives, performance evaluations) is required.</li> <li>Special consideration should be given to the feasibility of research staffing needs or collaboration with research institutions to provide the expertise</li> <li>It is recommended to increase the number of technical positions within the WCNCC to reflect specialized field requirements (e.g., sociologists, ecologists, legal specialists, wildlife management specialists/zoologists, botanists).</li> <li>Staff assessment should also consider the career opportunities for the non-cadre positions as mentioned under recommendation 4, above.</li> </ol>	<ol style="list-style-type: none"> <li>FD to ensure that consideration be made for reallocation of funds to improve quantity and quality of staffing for the WNCC in support of improved PA and wildlife management.</li> <li>FD to ensure that a detailed staff needs assessment be conducted for the PA system overall and for individual PAs with special requirements.</li> <li>The FD staff needs assessment will consider the career opportunities for non-cadre positions</li> <li>MoEF and FD to ensure immediate staff allotment in each PA, Division and Circle</li> <li>FD and MoEF will recruit the appropriate technical specialists to serve the entire PA&amp;BM Wing (e.g., sociologists, ecologists, legal specialists, IEC specialists, wildlife</li> </ol>

	<p>Botanical Gardens</p> <ul style="list-style-type: none"> <li>• However, 30 of the "WNCC allocated positions" that are filed are not working for WNCC but have been placed elsewhere within FD under Inter-Divisional Transfer (IDF)</li> <li>• Therefore, only 229 FD staff are fully dedicated to the WNCC</li> <li>• Women are under-represented in FD, particularly at the field level</li> </ul>	<p>6. More FD staff positions should be filled by women, particularly at the field level; constraints to implementing greater recruitment and postings of women should be overcome.</p>	<p>management specialists/zoologists, botanists) in support of PA system management.</p>
<b>2.b. Training Facilities and Capacity</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• Variety of training institutes and organizations are present inside the FD and also outside the FD.</li> <li>• Forest Academy inside the FD; and IFESCU, BFRI and universities outside FD are capable of imparting training of professionals.</li> <li>• Training facilities for sub professionals exist with three Forest Schools and FDTC, Kaptai.</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• No integrated course on Nature Conservation or PA management is imparted in IFESCU or Forest Academy. IFESCU and other Forestry Education Institutes provide training on wildlife management and other related subjects.</li> <li>• All training institutes under FD suffer from fund and trained trainer constraints.</li> </ul>	<ol style="list-style-type: none"> <li>1. Strengthen the capacity of the existing training facilities within the FD</li> <li>2. Develop linked FD programs for capacity building with BFRI and IFESCU</li> <li>3. Budget allocation for conducting training and improving facilities (e.g., maintenance) needs to be secured.</li> <li>4. Develop linked FD programs for capacity building with BFRI, IFESCU and universities.</li> <li>5. Develop an integrated course on conservation biology (e.g., nature conservation, biodiversity, sociology and PA management) in a suitable institution</li> </ol>	<ol style="list-style-type: none"> <li>1. FD to ensure that adequate funding is available to improve the quality of its training facilities (e.g., expansion, maintenance, equipment, transport) and increase the level of trainer capacity through recruitment or refresher courses for trainers/instructors.</li> <li>2. FD and MoEF, in consultation with Ministry of Education, will identify a suitable institution for developing an integrated course on conservation biology for FD staff</li> </ol>
<b>2.c. Training for Professional Specialist Skills</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• Some skills developed through implementation of social forestry activities can be used in co-management approach.</li> <li>• Some midlevel and senior professionals have foreign training on PA management.</li> </ul>	<ol style="list-style-type: none"> <li>1. A detailed list or set of skills needed to effectively manage the WNCC and the PAs required, incl. HQ &amp; PA field levels</li> <li>2. Ensure that the trained professionals are deployed in the correct places / positions that focus of improving the management of</li> </ol>	<ol style="list-style-type: none"> <li>1. The NSP in its "Assessment of Institutional Organization and Capacity Building of the FD for PA Management" will identify a set of skills required to more effectively or optimally manage the WNCC and the</li> </ol>

	<p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• Insufficient number of officers with training on PA management available in FD</li> <li>♣• Many professionals trained in PA or wildlife management are working outside WNCC.</li> <li>♣• Training is dependent on donor support.</li> <li>♣• No opportunity of refresher course on PAs.</li> </ul>	<p>PAs</p> <ol style="list-style-type: none"> <li>3. Some professionals within the RIMS Units and the proposed MIS Unit should be trained to improve their understanding of PA requirements and data collection and management requirements</li> <li>4. FD should review previous "Participatory PA Management Training Requirements" studies accomplished during the Forestry Sector Project (FSP) and other studies and revise as necessary.</li> <li>5. Special emphasis should be given to habitat restoration technical capacity for PA management</li> <li>6. Need to develop institutional and financial arrangements for training abroad for professional and sub-professional staff</li> <li>7. Greater professional training opportunities should be made available to women in the FD at all levels</li> </ol>	<p>PAs.</p> <ol style="list-style-type: none"> <li>2. FD to ensure that they maximize use of previous training needs assessments and to consider these first rather than conducting new studies.</li> <li>3. FD to ensure that funding and expertise are allocated to implement final approved recommendations for PA training.</li> <li>4. FD and MoEF will ensure the posting of trained personnel (with appropriate disciplines) in each PA</li> <li>5. The NSP could assist to facilitate institutional and financial arrangements for professional training abroad</li> </ol>
<b>2.d. Integrated Training for On-site Protected Area Field Staff</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• Most of the field staff have some training in wildlife management as a part of their training course while they entered in the job.</li> </ul> <p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• Forest Department does not operate any job oriented course on PA management or no refresher course on PAs.</li> </ul>	<ol style="list-style-type: none"> <li>1. The FD needs to design and implement a program in support of job orientation courses on PA management and provide regular refresher courses on PA and wildlife management.</li> <li>2. Greater training opportunities should be made available to women in the FD, especially at the PA field level.</li> </ol>	<ol style="list-style-type: none"> <li>1. FD to ensure they maximize use of previous training needs assessments and to consider these first rather than conducting new studies.</li> <li>2. FD to ensure funding &amp; expertise allocated to implement final approved recommendations for PA training.</li> <li>3. The NSP could assist to facilitate financial &amp; technical assistance for on-site PA field staff training.</li> </ol>
<b>2.e. Integrated Training for Local Communities and Other Stakeholders</b>	<p><i>StrengthsStrength:</i></p> <ul style="list-style-type: none"> <li>• FD has experience of group formation and working with communities through Social Forestry activities.</li> <li>• Some NGOs are familiar with FD's Social Forestry activities and have the potential for involvement in training.</li> </ul>	<ol style="list-style-type: none"> <li>1. FD, perhaps in cooperation with universities or NGOs, needs to design and implement a program in support of community involvement (e.g., co-mgmt., alternative livelihood development, micro-finance) that supports PA management.</li> <li>2. A program needs to be designed to</li> </ol>	<ol style="list-style-type: none"> <li>1. FD to ensure that they maximize use of previous training needs assessments (e.g., some done by NGOs) and to consider these first rather than conducting new studies.</li> <li>2. FD to ensure that funding and expertise allocated to implement final</li> </ol>



	<p><i>WeaknessesWeakness:</i></p> <ul style="list-style-type: none"> <li>• FD has not yet developed any training for local communities and NGOs with regard to PA management</li> <li>• None of the NGOs have training experience on PA management, including co-management.</li> </ul>	<p>socialize concepts of protected areas and co-management to PA communities.</p> <p>3. Programs for co-management must involve women and ethnic people at all levels of management planning and decision-making in each PA, and must also include recruitment of ethnic people, women as well as men as community facilitators, organizers and motivators.</p>	<p>approved recommendations for PA training.</p> <p>3. The NSP could assist to secure financial and technical assistance for implementing on-site training facilities to local communities and other PA stakeholders</p>
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