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# ASSESSMENT REPORT

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TO IDENTIFY THE TRAINING NEEDS  
IN DISTRICT LEVEL PLANNING





The entire effort in producing this document was coordinated by the Rio project.

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# ASSESSMENT REPORT ON THE IDENTITY TRAINING NEEDS IN DISTRICT LEVEL PLANNING

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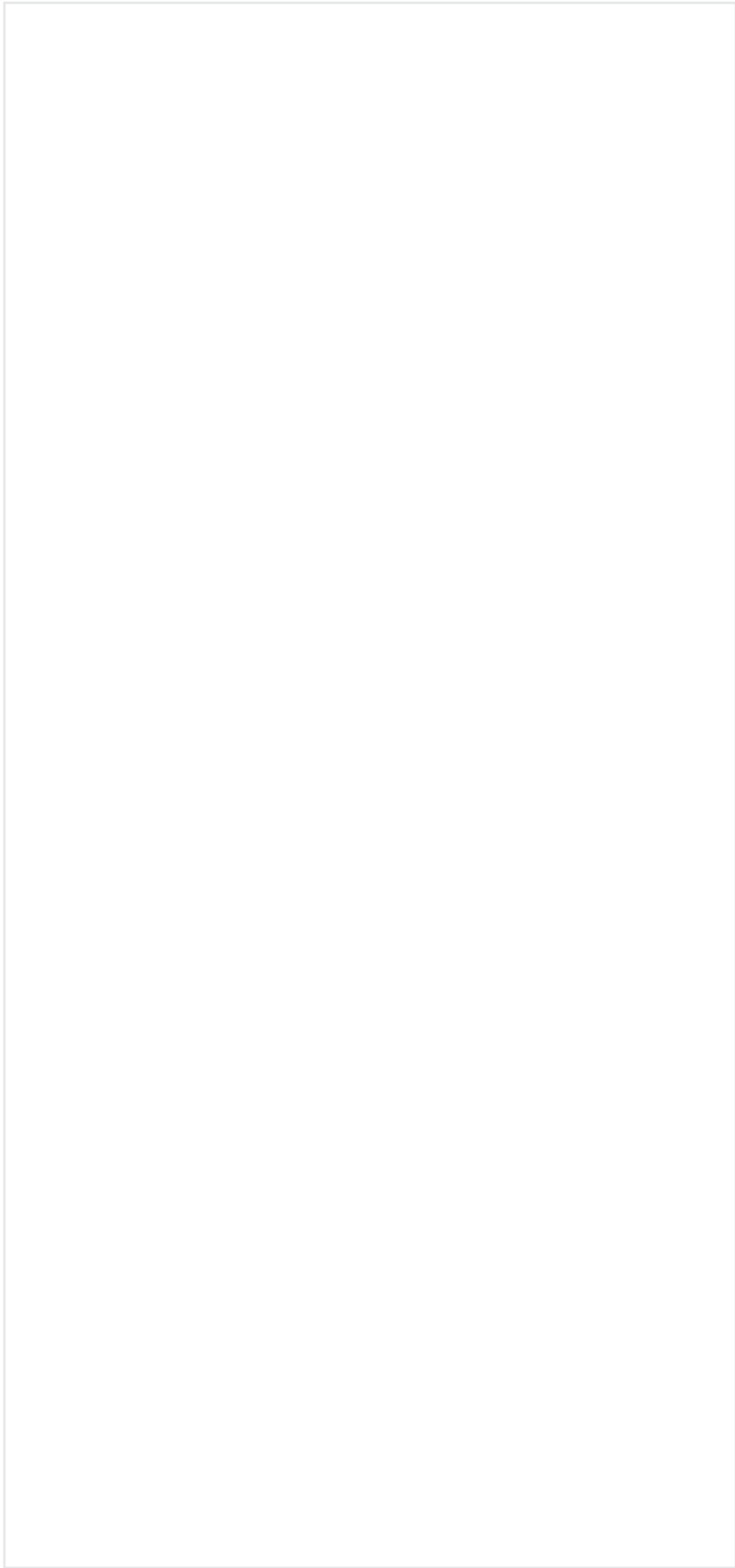
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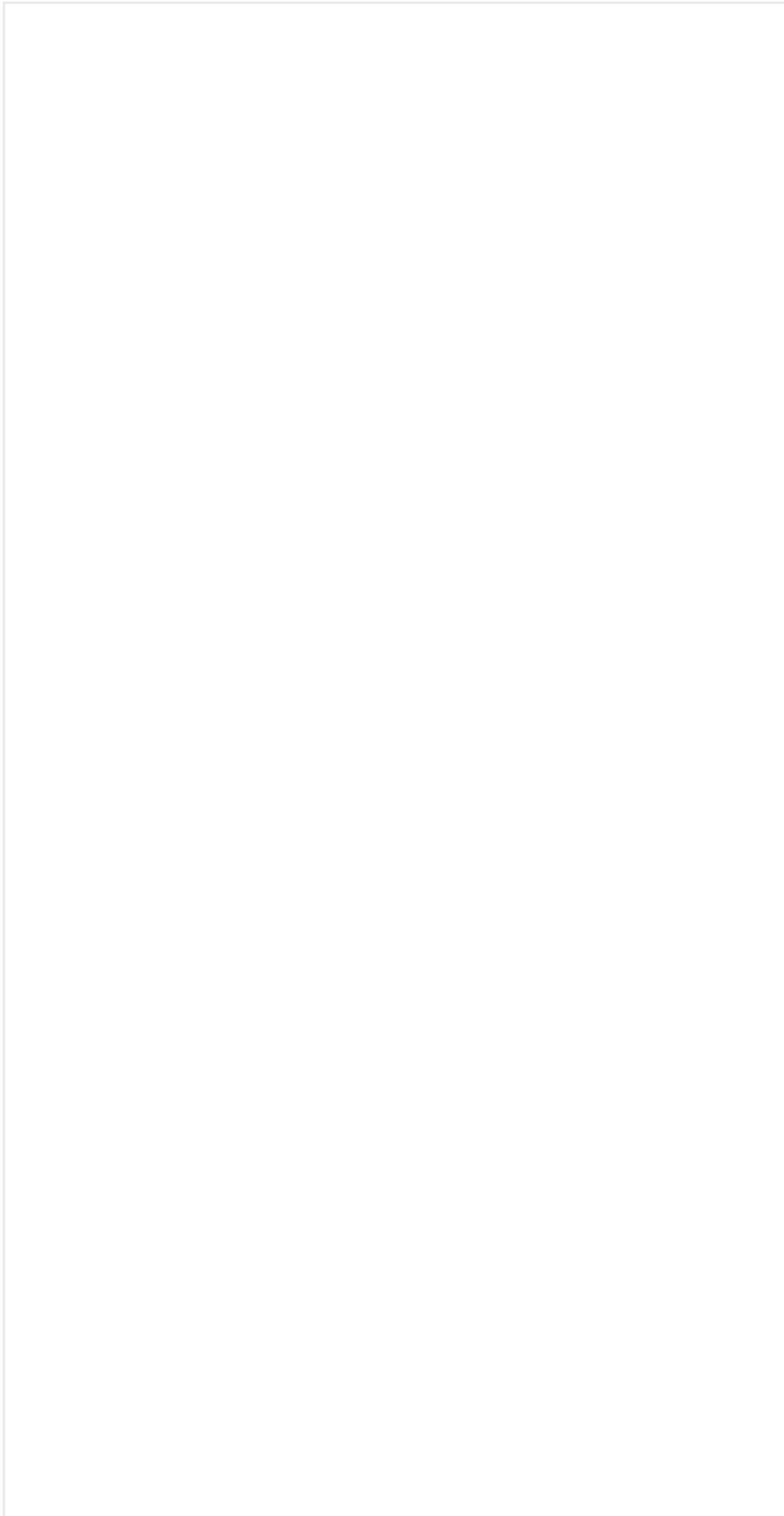




# FOREWARD



## **ACKNOWLEDGEMENT**

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Tanguar Haor, Sunamganj, © Masud Al Mamun



# CHAPTER 1

## 1.1 Background and Overview

Rio convention is popularly known as ‘Earth Summit’. The outcomes of the conference were three important conventions; i) the UN Convention on Biological Diversity (CBD) focused on biological aspects of the earth with a special attention to protection, conservation and sustainable management of biological resources; ii) the UN Framework Convention on Climate Change (UNFCCC), which aims to reduce greenhouse gas emissions and iii) UN convention to combat desertification.

With the help of UNDP and GEF, Department of Environment has taken a project which is working on capacity building and institutional development through improving biodiversity, climate change and land degradation of the country. Hakaluki Haor is a marsh wetland ecological system of Eastern Bangladesh in an area bordering Assam, India where piloting of this project will be held. It is one of Bangladesh’s largest and one of Asia’s larger marsh wetland resources. Some 190,000 people live in the surrounding Hakaluki Haor area.

Hakaluki Haor was designated an Ecologically Critical Area (ECA). It’s also a protected Ramsar site of international importance for the conservation and sustainable utilization of wetlands. Hakaluki Haor located in greater Sylhet, the haor offers a very different type of ecosystem as well as a new set of management issues. The haor basin is an extensive alluvial plain supporting a variety of wetland habitats. It contains about 47 major haors and more than 6,000 beels, or freshwater lakes, nearly half of which are seasonal. Hakaluki

Haor itself is a complex of more than 80 inter-connecting beels located in the Maulvi Bazar district. During the dry season, the beels cover an area of approximately 4,400 ha. However, during the rainy season, the entire area gets flooded, and the beels are united as one large lake, or haor, with an area of approximately 18,000 ha. This makes it the largest haor in Bangladesh. Some 190,000 people live surrounding Hakaluki haor area. Hakaluki haor is a highly significant site for a wide variety of waterfowl. It is important for wintering migratory birds. Its overall significance is perhaps best expressed with reference to the various criteria for inclusion as a Ramsar site. It is a particularly good representative example of a wetland which plays a substantial hydrological, biological or ecological role in the natural functioning of a major river basin; It supports an appreciable assemblage of rare, vulnerable or endangered species of plant or animal, or an appreciable number of individuals of any one or more of these species. It is of special value for maintaining the genetic and ecological diversity of a region because of the peculiarities of its flora and fauna. It regularly supports about 20,000 waterfowl. It regularly supports substantial numbers of individuals from particular groups of waterfowl, indicative of wetland values, productivity or diversity.

Hakaluki Haor is situated in the eastern part of Bangladesh adjacent to the Assam-Bangladesh border. 5 upzillas comprise this haor's total area. 3 of them Kulaura, Juri and Baralekha are under Moulvibazar district. While the other 2 upzillas Golapganj and Fenchuganj are under Sylhet division. It covers a large surface area of about 181.15 km<sup>2</sup>. Around 40% of this land falls in the territory of Baralekha upzilla. This huge land coverage makes it Bangladesh's largest haor and one of Asia's larger wetlands. During rainy season, all the beels are united as one large lake, or haor, making Hakaluki Haor the largest freshwater wetland in Bangladesh. The haor is mainly fed by the Juri/ Kantinala, Sonai/ Bordol, Damai. Fanai, and Kuiachara

Rivers, out of which the Bordol/ Sonai, and Juuri/ Kantinala Rivers are originated in India.

This haor basin supports numerous wetland habitats. Different types of plants are found here. Various known- unknown plants and rare aquatics adorn this area with shades of green. The abundance of trees and herbs is surprising. The Hakaluki Haor supports a wide variety of agricultural and horticultural crops and fast growing introduced timber species. A significant number of medicinal plants is also found in the Haor. It provides sanctuary to many species of animals and birds including some very rare kinds – already declared as threatened, vulnerable, endangered and critically endangered species.

A total of 558 species of animal and birds have been identified here. Amphibians, reptiles, apes and mammals all of them enrich the biodiversity of this haor region. Among these animals are the freshwater Turtle and Tortoises, Otters, Capped Langur, Pallas's Fish Eagle, dolphin, snakes and many more. Besides trees and animals Hakaluki haor has something more special for the bird lovers. Presence of birds of many different species adds life to this haor. 417 species of apes have been spotted here among which 26 are totally threatened, 2 are vulnerable, and 10 are endangered and 14 critically endangered species. Besides local birds many migratory birds visit this area in winter. The numbers of migratory birds are increasing every year. As a result Hakaluki haor has become a significant site for bird watching. Wide variety of waterfowl seen here is one of the main attractions.

In the recent time has become a fast-degraded landscape and facing increased pressure and threats. Such rapid degradation of the wetland ecology is causing devastating consequences on the community people living in, around and downstream of the Hakaluki Haor, who, for generations, were dependent for their livelihoods upon vital functions, services and benefits provided by this wetland. About

200,000 people live around the haor. All of them, more or less, are dependent on the resources of the haor for their livelihoods. As the haor floods annually, settlements are clustered along its slightly raised fringes. On ground of such threats and rapid degradation of the resources and in recognition of the urgent need to protect the unique ecology and biodiversity of the haor, Government of Bangladesh has declared Hakaluki Haor as an 'Ecologically Critical Area' (ECA) under the provision of the Bangladesh Environment Conservation Act in 1999 (CNRS, 2002).

Today's work environment requires employees to be skilled in performing complex tasks in an efficient, cost-effective, and safe manner. Training is needed when employees are not performing up to a certain standard or at an expected level of performance. The difference between actual the actual level of job performance and the expected level of job performance indicates a need for training. The identification of training needs is the first step in a uniform method of instructional design. A successful training needs analysis will identify those who need training and what kind of training is needed. It is counter-productive to offer training to individuals who do not need it or to offer the wrong kind of training. A training needs analysis helps to put the training resources to good use.

Hakaluki haor is a neglected area that affected with land degraded, biodiversity lost and climate change, there is no proper initiative to protect biodiversity, land degradation and climate change in this area. Some capacity building activities done by some developing organizations, most of them were on IGAs.

Rio project is working on to fulfill the obligation of three Rio conventions i.e. Convention on biological diversity, convention on UNFCCC and convention on land degradation and desertification. The project is a capacity building and institutional development project which is working on

capacity building and institutional development for government organization. As Hakaluki haor is affected with environmental problem associates with obligation of three mother conventions i.e. Convention on biological diversity, convention on UNFCCC and convention on land degradation and desertification, Rio project selected the area where Rio project activities will be implemented as piloting basis and environment sector is selected as piloting sector.

## 1.2 Objectives of the Study

The major objective of the assessment is to strengthen institutional and technical capacities and skills of core public training institutions for improved implementation of the Rio Conventions. Other objectives to this end include,

An overview of the Rio Conventions obligations to the nation and actions taken in response to those obligations

- Review mandates of the training institutions on Rio Conventions obligations;
- A quick overview of existing training programmes;
- Areas covered by the Rio Conventions and its obligations in the existing course curricula and identification of gap if any exists;
- Scope of integrating the Rio Conventions obligations and present responses of Bangladesh to Rio Conventions obligations;
- Scope of creating any new course on the Rio; and
- Identification of the scope of networking with other national training institutions.

These will lead to development of training modules and training materials as resource base for the institutions, which will ultimately strengthen institutional and technical capacities and skills for improved implementation of the Rio Conventions.



# CHAPTER 2

## 2.1 Methodology and Approach

To complete the assessment report and current skillset different base materials were collected from different organizations. Considering the time constrains a quick methodology was adopted in this assessment process. This included literature reviews/ desk studies and stakeholders consultation in the light of UNDP's "Practitioner's Guide: Capacity Development for Environmental Sustainability" (UNDP, 2011), but not strictly based on it. The review process also included some of the past project reports on institution and capacity development of biodiversity conservation and management (Mitchell et al., 2004; Catterson and Alam, 2009) with a special emphasis on NCSA (MoEF, 2007), Report on Capacity Development Action Plan by MoEF with support from ADB (MoEF, 2015) and SDG (UN, 2016). Public Administration Training Policy of Bangladesh Government (BAPT, 2017) was also reviewed. The desk studies included content analysis of respective organizations and related websites visit.

## 2.2 Stakeholders' Consultations

Stakeholders' consultations included visit to the training organizations, consultation with the resource persons of the organizations and existing physical facilities of the organizations. Discussions on existing course contents and delivery mechanisms enable us to understand the individuals' capacities of the organizations.

## Organizations

Following organizations were visited for this need assessment purpose:

- 1) Bangladesh Public Administration Training Centre (BAPTC), Savar, Dhaka
- 2) Bangladesh Civil Service Administration Academy (BCSAA), Shahbag, Dhaka
- 3) The Judicial Administration Training Institute (JATI), College Road, Dhaka
- 4) National Academy for Training and Development (NAPD), Nilkhet, Dhaka
- 5) Bangladesh Institute of Administration and Management (BIAM), Moghbazar, Dhaka
- 6) National Academy for Educational management (NAEM), Dhanmondi, Dhaka
- 7) National Agriculture Training Academy (NATA), Gazipur
- 8) Bangladesh Academy for Rural Development (BARD), Koatbari, Comilla
- 9) Rural Development Academy (RDA), Bogra

# CHAPTER 3

## Findings of the Need Assessment and Gap Analysis

### 3.1 Gap analysis: UN CBD

Analyses of desired capacities against existing capacities help to identify the capacity needs at individual and organization levels. For each capacity, putting of (a) capacity assets, i.e., strengths, and (b) gaps, weaknesses and

challenges can identify priority areas in capacity development needs. Findings of the capacity needs for different organizations are given in Table below.

Name of the Organization	Capacity Assets (Strengths)	Gaps, Weaknesses and Challenges	Capacity Development Needs
Bangladesh Public Administration Training Centre (BPATC)	Mandated for capacity development with physical facilities, manpower and budgetary provisions; Apex training organization, others follow it for Foundation Training Course modules. There are always opportunities to introduce new courses.	Rio Conventions are absent in most of the courses; Most of the staff members are not aware of CBD obligations and national achievements; little scope of changing of on-going modules and allocation of time in set modules	Integrate CBD, its obligations, responses of Bangladesh; related protocols, best practices in FTC; CBD obligations and SDG in Advanced Course on Administration and Development (ACAD). CBD obligations in Project Management, and Environment Management course. Introduction of new course on CBD with other Rio Conventions
Bangladesh Civil Service Administration Academy (BCSAA)	Mandated for capacity development with physical facilities, manpower and budgetary provisions. There are always opportunities to introduce new courses.	Rio Conventions are absent in most of the courses; Most of the staff members are not aware of CBD obligations and national achievements; little scope of changing of on-going modules and allocation of time in set modules	Integrate CBD, its obligations, responses of Bangladesh; related protocols, best practices in FTC, Course on Law and Administration (L&A); CBD and Bangladesh in Governance Course for DC fit list, and CBD with NBSAP in Masters Course in Public Policy and Management (MPPM); Introduction of new course on CBD with other Rio Conventions

Name of the Organization	Capacity Assets (Strengths)	Gaps, Weaknesses and Challenges	Capacity Development Needs
The Judicial Administration Training Institute (JATI)	Mandated for capacity development with physical facilities, manpower and budgetary provisions. There are always opportunities to introduce new courses.	Rio Conventions are absent in most of the courses; Most of the staff members are not aware of CBD obligations and national achievements; little scope of modifications and allocation of time in set modules	
National Academy for Planning and Development (NAPD)	Mandated for capacity development with physical facilities, manpower and budgetary provisions. There are always opportunities to introduce new courses.	Rio Conventions are absent in most of the courses; Most of the staff members are not aware of CBD obligations and national achievements; little scope of changing of on-going modules and allocation of time in set modules	Integrate CBD, its obligations, responses of Bangladesh, best practices in FTC, Project Appraisal, EIA and Formulation of DPP, Post Graduate in Development Planning course; Environmental Issues for Project Management. Introduction of new course on CBD with other Rio Conventions
Bangladesh Institute of Administration and Management (BIAM)	Mandated for capacity development with physical facilities, manpower and budgetary provisions	Rio Conventions are absent in most of the courses; Most of the staff members are not aware of CBD obligations and national achievements; little scope of changing of on-going modules and allocation of time in set modules	

Name of the Organization	Capacity Assets (Strengths)	Gaps, Weaknesses and Challenges	Capacity Development Needs
National Academy for Educational management (NAEM)	Mandated for capacity development with physical facilities, manpower and budgetary provisions	Rio Conventions are absent in most of the courses; Most of the staff members are not aware of CBD obligations and national achievements; changing of on-going modules and allocation of time in set modules	
National Agriculture Training Academy (NATA)	Mandated for capacity development with physical facilities, manpower and budgetary provisions. There is scope to introduce new course.	Rio Conventions are absent in all of the current courses; Most of the staff members are not aware about CBD obligations and national achievements; little scope of changing of on-going modules and allocation of time in set modules	Integrate CBD, its obligations, responses of Bangladesh; related protocols, best practices in Climate Smart Agriculture course; Disaster Management course; Project Appraisal and Formulation of Development Project Proforma (DPP), and Introduction of new course on CBD with other Rio Conventions
Bangladesh Academy for Rural Development (BARD)	Mandated for capacity development with physical facilities, manpower and budgetary provisions	Rio Conventions are absent in most of the courses; Most of the staff members are not aware of CBD obligations and national achievements; little scope of changing of on-going modules and allocation of time in set modules	Integrate CBD, its obligations, responses of Bangladesh; related protocols, best practices in Foundation Training Course (FTC); CBD obligations and SDG in Poverty Alleviation courses; Bio-safety rules and in Food Hygiene course; CBD obligations in Project Management, and Environment Management course. Introduction of new course on CBD with other Rio Conventions



Name of the Organization	Capacity Assets (Strengths)	Gaps, Weaknesses and Challenges	Capacity Development Needs
Rural Development Academy (RDA)	Mandated for capacity development with physical facilities, manpower and budgetary provisions	Rio Conventions are absent in most of the courses; Most of the staff members are not aware of CBD obligations and national achievements; little scope of changing of on-going modules and allocation of time in set modules	

### 3.2 Gap analysis: UNCCD

Public training institutes are the key organizations to convey international instruments to young or senior officials. Unfortunately, CCD has not been addressed in public training systems, leaving off Bangladesh from getting benefits of an improved management of land degradation.

Content analysis of the manuals of 8 training institutes and indicates poor level of inclusion of the CCD in public training arrangements. Information on training programme available in the websites also do not mention anything

exclusive or generally on the CCD. Most of the training institutes have a general focus on ‘Environment’ as a whole in the training programme. A total of 6 institutes, out of 8 offers training topic on climate change. Training institutes do have good focus on land related topics, but only on legal aspects of land, leaving off its physical aspects. Land as a part of natural resources has not been included in the curriculum. It has not been included from desertification point of view either. Institutes having climate change as a training component do have touched the UNFCCC superficially, but the CCD has no place in academic activities of the training institutes.

**Table: Level of inclusion of the CCD in Current Training Programs of Public Training Institutes**

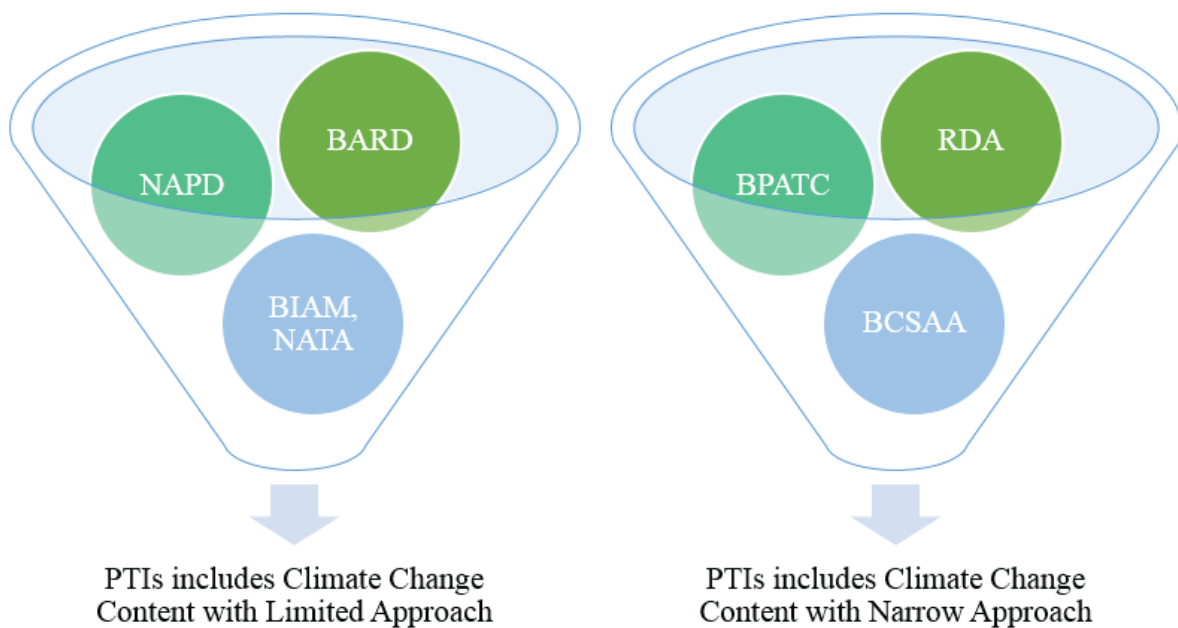
Organization	Environment as a whole	Climate change	Land	CCD	Any other convention/ protocol
BARD	yes	Yes	Yes	No	N/A
BCSAA	Yes	Yes	Yes	No	UNFCCC
BIAM	Yes	Yes	Yes	No	UNFCCC
BPATC	Yes	No	No	No	N/A
NAEM	Yes	No	No	No	N/A
NAPD	Yes	Yes	Yes	No	UNFCCC
NATA	Yes	Yes	Yes	No	UNFCCC
RDA	Yes	Yes	Yes	No	UNFCCC

### 3.3 Gap analysis: UNFCCC

Bangladesh Academy for Rural Development (BARD) provides training Course on: Climate Change Issues and Its Adaptation, Contents: Mitigation and Adaptation. Other Courses relvent to climate change includes Environmental Impact Assessment of Rural Development Projects (2 Weeks); Disaster and Environment Management (1 Week); Effects of Extreme Events of Climate Change on the Livelihoods of Coastal Areas of Bangladesh; Sustainable Development Goal; Farmers' Response to Natural Disasters in Chittagong Coastal Zone of Bangladesh.

Academy for Rural Development (BARD), Bangladesh Institute of Administration and Management (BIAM), Dhaka National Academy for Planning and Development (NAPD), and National Agricultural Training Academy (NATA), provide number of course on climate change. On the other hand, Bangladesh Civil Service Administration Academy (BCSAA), Public Administration Training Centre (BPATC), Rural Development Academy (RDA) are offering limited number of courses related to climate change.

**Figure 1: Elaborates the intensity of climate contents in their courses**



### 3.4 Need Analysis

The previous sections identified the gaps and scope of nine public institutions to provide trainings related to climate change and this section identifies the needs of these training institutions through consultations. Selected nine public training institutes have been consulted to understand the gaps and needs related to climate change relevant training contents, duration, trainers, target participants and mode of delivery, extensive visits. Consultant

assigned for this report, visited these nine institutions and talked with relevant officials and trainers regarding climate change issues involved with training programs, for ensuring demand driven need assessment. Such consultations identify the following needs of these institutions as follows:

- Awareness Programs are needed: Concerned personals of these institutions are not adequately aware about the basic science, cause and consequences of climate change

- Training Programs are needed: Concerned personals of these institutions do not have enough knowledge on international and national policy responses to climate change
- Expertise Development: Trainers of these institutions need trainings for enhancing their understandings and skills to provide further trainings.
- Training Modules: Training Modules for Trainers need to be developed initially with relevant experts
- Participants Hand Book: Participants Hand Book need to be developed through relevant experts.
- Policy Approaches: Policy guidance is need to mainstream the climate change related trainings

# CHAPTER 4

## Major Interventions and Current Skillset

### 4.1 Community Based Haor and Floodplain Resource Management project

The Community Based Haor and Floodplain Resource Management project undertaken by IUCN Bangladesh Country Office (IUCNB) is a component of the Sustainable Environmental Management Programme (SEMP) of the Government of Bangladesh (GoB) implemented by its Ministry of Environment and Forest (MoEF). It is an implementation activity of the National Environment Management Action Plan (NEMAP) and is undertaken with the support of a grant from UNDP. The objective of SEMP is to build and strengthen capacity in environmental management at the community, local area and national levels especially through enabling access by the poor to natural and environmental resources, developing capacity to protect the interests of the poor, and by exploring possible changes to existing policies, laws and institutions. The overall aim of SEMP is to curb and where possible reverse the trend towards environmental degradation, promote development that is sustainable, alleviate poverty and enhance the quality of life.

The goal of Project is to establish and mainstream participatory resource management in haor and floodplain ecosystems through improving access by the poor, especially women, by building understanding and capacity for sustainable wetlands resource utilization. It is implemented in association with three agencies acting as partners of IUCNB viz. the Center for Natural Resources

Studies (CNRS), the Bangladesh Center for Advanced Studies (BCAS) and the Nature Conservation Management (NACOM). These organizations have strong grassroots links and have been working in the areas selected for the pilot projects, prior to the commencement of SEMP. They provided the much-needed link between IUCNB and local communities.

The Project successfully enhanced technical skills in activities crucial for community-based wetland resource management in all participating communities. Trainings were successfully provided in twelve key activities, processes and issues as follows:

1. Plantation and swamp forest regeneration
2. Swamp nursery development and management
3. Accounts keeping and management
4. Basic concepts of organizational development
5. Capacity building on organizational development and management
6. Women in wetlands
7. Gender issues
8. Training of trainers on wetland resource management
9. Participatory monitoring and evaluation
10. Duck rearing
11. Vegetable gardening
12. Baira practice

The Project was instrumental in making training by Government Departments such as that by the Department of Livestock, Fisheries, Agriculture & Extension, and by the

Bangladesh Centre for Scientific and Industrial Research (BCSIR) available to the communities who would otherwise have had no knowledge of the existence of these training courses and of how to secure the training services provided by these departments.

## **Supporting Resources**

The Project provided quite considerable supporting resources to the local communities. These included items such as planting materials used to re-establish areas of swamp forests, materials for

### **4.2 Eco-environmental Changes of Wetland Resources of Hakaluki haor in Bangladesh Using GIS Technology**

The main objective of this study is to investigate the eco-environmental changes of the Hakaluki haor, one of the major wetland resources of Bangladesh using GIS technology. From the time series data analysis by GIS technology, it is confirmed that wetland ecosystems of Hakaluki haor is decreasing in course of time due to sedimentation, irregular rainfall and other related anthropogenic causes. This decreasing trend is becoming serious due to the lack proper management planning. Henceforth, this wetland eco-system is degrading seriously which impacts on the bio-resources and biodiversity of the study areas.

### **4.3 An Integrated Environmental Assessment of Hakaluki Haor Ecosystem Using Dpsir Framework A Case Study on Moulvibazar District of Bangladesh**

The Objective of the project was Species Conservation and ecosystem restoration:

#### **Species Conservation**

Birds - Overall bird numbers are declining at Hakaluki Haor and a significant number are now vulnerable, threatened, and even critically

endangered such as the Lesser Adjutant (*Leptoptilos javanicus*) and Pallas Fish Eagle (*Haliaeetus leucoryphus*). This general decline is largely a result of habitat degradation, but also because of on-going illegal hunting activities including the use of guns, nets, and poison. Caught birds are either eaten or sold in local markets as a source of additional income usually for poorer families.

#### **Ecosystem Restoration**

The Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention) is directed toward the conservation and wise use of wetland habitats, as well as the conservation wetland fauna and flora including migratory species, especially waterfowl.

### **4.4 Strengthening and consolidation of community based Ecosystem**

Conservation and Adaptation in ECA of Bangladesh is working nearly about three years to improve the live and livelihood of the common people of the area. Under the project the following training provided to the affected people of the Hakaluki haor. From this project 380 people were trained on different topics of environment development and on IGAs.

Trainings and Workshops Conducted during October to December 2017 in Hakaluki Haor, Cox's Bazar and Sonadia Island ECAs .

<b>Training Name</b>	<b>No of trainings</b>	<b>Days</b>	<b>Participants</b>	<b>Remarks</b>
Strengthen VCG Capacity on MCG management	5 (2 in Hakaluki, 2 in Cox's Bazar, 1 in Teknaf)	5X1 = 5 days	20 persons in each batch	Module development and impart training
Training on Alternative livelihoods activities	10 (4 in Hakaluki, 3 in Cox's Bazar, 3 in Teknaf)	10X2 = 20 days	25 persons in each batch	Module development, training materials and impart training
Training of the Volunteers to monitor MCG performance	5 (2 in Hakaluki, 2 Cox's bazaar and 1 Teknaf)	5X1 = 5 days	15 – 20 persons in each batch	Module development and impart training
Training for Eco-tour guide development	4 (2 in Hakaluki, 1 in Cox's bazaar, 1 in Teknaf)	4X1 = 4 days	15 persons in each batch	Module development and impart training
Orientation on equipment's; use for Watchtower Management Committee (30 persons)	4 trainings (HH 2, Cox's 1 and Taknaf 1)	4X1 = 4 days	Each batch 10 persons	Module development and impart training
Orientation on VCC utilization, multipurpose use and maintenance	6 half day events (3 in HH, 2 in Cox's Bazar, 1 in Teknaf)	6 X ½ = 6 half days	20 VCG members in each batch	Module development and impart training
Trainings on wetland sanctuary management	Sanctuary Management Committees are trained in 4 batches (in Hakaluki)	4X2 = 8 days	About 15 participants in each batch	Module development and impart training
Orientation for Solar Irrigation Plant Management Committee on Operation and Maintenance; fee collection, Accounts keeping etc	6 half day orientations (4 in HH, 2 in Cox's)	6 X ½ = 6 half days	About 10 participants in each batch	Module development and impart orientation
Train VCG members on specimen collection and preservation	4 trainings (2 in HH, 1 in Cox's and 1 in Taknaf)	4X1 = 4 days	About 10 participants in each batch	Module development, materials and impart training
Workshop for Dissemination of ECA Rules at District levels	2 (1 in Sylhet/ Moulvibazar, 1 in Cox's Bazar)	2X1 = 2 days	About 100 participants in each workshop	Organize the workshops
Total (BDT)				

4.5 Under the **Community Based Fisheries Management (CBFM-II)** Project (2001–2007), a total of 130 community based organizations were established to manage 116 water bodies in 22 districts. Part of Hakaluki Haor (Barlekha upazila) was included in this country wide venture supported by the USAID. Community based management approach was introduced in the project sites, where different skill development initiatives, like water body management, good governance, leadership and account keeping were exercised to build the capacity of the fishermen’s organizations for wetland management. At the same time, alternative income generating options such as duck rearing, vegetable production, livestock rearing, aquaculture and cage culture were introduced to reduce people’s dependency on natural resources. The project established sanctuaries for managing and enhancing biodiversity of the wetlands. The initiative showed improvement in wetland management and in fish biodiversity by the communities.

4.6 The **Nishargo Support Project (2003–2008)** was initiated by the Bangladesh Forest Department with USAID’s support and introduced the co-management approach in protected areas for wise use of natural resources. In continuation of this initiative, USAID supported implementation of Integrated Protected Area Co-management (IPAC) Project (2009–2012)<sup>8</sup> in association with the Bangladesh Forest Department and the Department of Fisheries to promote and institutionalize an integrated protected area co-management system for sustainable natural resources management and biodiversity conservation. A couple of ECAs, namely Hakaluki Haor and Teknaf Peninsula were included in this project, where activities to reduce dependency of the local communities over natural resources and improvement of biodiversity through conservation were implemented. The project revealed that by understanding the local context, a mix of strategies needed to be considered for better

management of wetlands and forests.

#### **4.7 Coastal and Wetland Biodiversity Management Project**

The Coastal and Wetland Biodiversity Management Project (CWBMP), implemented by the Department of Environment from 2003 to 2011 was the first comprehensive initiative to focus only on management of selected ECAs, namely, Cox’s Bazar, Hakaluki Haor, Sonadia Island and St. Martin’s Island. The project considered the major threats faced by these ECAs: i) excess and unsustainable exploitation of biodiversity resources; ii) clearing of forests, including watershed; iii) conversion and fragmentation of wetland and forest ecosystems; iv) movement of large number of tourists and transportation; iv) hunting and poaching of birds and other wildlife; v) indiscriminate collection of shell, coral and shrimp fry; vi) pollution of habitats; vii) dry season water lifting from rivers in neighboring country India; and viii) climate change impacts. The initiative sensitized and raised awareness of local communities and secondary stakeholders in the light of these threats and harnessed the opportunities to overcome the challenges.

Governance has always been a major challenge in natural resource management in Bangladesh. Keeping that in mind, the CWBMP formed village conservation groups (VCG) and ECA Management Committees and linked them for effective monitoring and support on the ground. The project brought together relevant stakeholders from union to national levels in the ECA Management Committees to take pragmatic, context specific actions for respective ECA management, including enforcement. This was further supported by establishing Endowment Fund at the Upazila (sub-district) level, facilitating conservation efforts within the committees’ jurisdiction.

#### **4.8 Capturing the Experiences of Community Based Ecosystem Conservation and Adaptation in Ecologically Critical Areas**

To retain and strengthen CWBMP's conservation efforts in ECAs and to build resilience of respective communities under changing climate, the Department of Environment has implemented the "Community Based Adaptation in the Ecologically Critical Areas through Biodiversity Conservation and Social Protection Project (CBA-ECA Project)" between 2010 and 2015. The CBA-ECA project has motivated communities and enhanced their awareness, capacity and organizations (Village Conservation Groups, VCGs) for ECA management and biodiversity conservation. Like its predecessor, the CWBMP, it has further supported the community organizations with grants to facilitate alternative income generation activities. The project has strengthened

linkages among the VCGs and the ECA Management Committees, from union to national levels, for effective ECA management.

The CBA-ECA Project undertook many conservation initiatives at the ecosystem and the species levels, ranging from mangrove restoration and sea turtle conservation on the coast to swamp protection and aquatic sanctuaries in the haor. The Endowment Fund established under the CWBMP further facilitated conservation and ECA management efforts in all ECA upazilas under the CBA-ECA Project. To build community resilience through adaptation and mitigation, special initiatives were undertaken by providing a wide range of technological support to the communities, like improved cooking stoves, solar home systems, solar irrigation and desalinization plants, and submersible green belts.



# CHAPTER 5

## Conclusions

The fact that Hakaluki haor has been designated as an Ecologically Critical Area signifies its importance as a reservoir of disappearing natural resources. By the findings of the need assessment, gap analysis it underscores the reality that that Hakaluki haor also constitutes an important source of natural capital, which yields high economic and livelihood values to surrounding populations and the country as a whole. Where capacity building on obligation of Rio conventions i.e. Convention on biological diversity, convention on UNFCCC and convention on land degradation and desertification could be applied to recover its biodiversity, climate change and land degradation.

It is found that more than 80% of local households depend on wetland resources, and that the bulk of income-earning and livelihood opportunities in the area are wetland-based. The wetland also generates a series of economically important ecosystem services, which function to underpin, support and safeguard essential production and consumption processes. In total, it has been estimated that Hakaluki haor is worth at least BDT 585 million, or an average of BDT 48,000/hectare.

To conserve biodiversity and protect the natural resources of Hakaluki Haor the initiative and measure should be taken which are swamp forest restoration and conservation, sustainable management of fisheries resources, production of wildlife, resources substitution for conservation of wetland ecology, ensure alternative sources of income and development of community based organization. Government should formulate appropriate policy and necessary law and should to create awareness among the people to preserving it biodiversity. It is also necessary to co-ordinate among different Ministry, specially Ministry of Forestry and Environment, Ministry of water resource, Ministry of land.

By applying obligation of three Rio conventions i.e. Convention on biological diversity, convention on UNFCCC and convention on land degradation and desertification could recover its land degradation, biodiversity and climate change. Through institutional development and capacity building of common people of the Hakaluki haor, Rio project can play a vital role in the field of land degradation, biodiversity and climate change.

## REFERENCE

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