



# GEF-6 REQUEST FOR PROJECT ENDORSEMENT/APPROVAL

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: LEAST DEVELOPED COUNTRIES FUND

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## PART I: PROJECT INFORMATION

Project Title: Ecosystem-based approaches to Adaptation (EbA) in the drought-prone Barind Tract and Haor wetland Area			
Country(ies):	Bangladesh	GEF Project ID: <sup>1</sup>	5456
GEF Agency(ies):	United Nations Environment Programme	GEF Agency Project ID:	01150
Other Executing Partner(s):	Ministry of Environment and Forests Department of Environment	First Submission Date:	2015-12-18
		Second submission Date:	2016 -07-04
		Third submission Date:	2016 – 11 - 02
GEF Focal Area (s):	Climate Change	Project Duration (Months)	48
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/> Corporate Program: SGP <input type="checkbox"/>		
Name of Parent Program	[if applicable]		

### A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES<sup>2</sup>

Focal Area Objectives/Programs	Focal Area Outcomes	TRUST FUND	(IN \$)	
			GEF PROJECT FINANCING	CO-FINANCING
CCA-1	Outcome 1.1: Vulnerability of physical assets and natural systems reduced.	LDCF	4,567,000	44,018,200
CCA-2	Outcome 2.3: Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures.	LDCF	557,000	10,773,800
CCA-3	Outcome 3.1: Institutional arrangements to lead, coordinate and support the integration of climate change adaptation into relevant policies, plans and associated processes established and strengthened	LDCF	76,000	240,617
<b>Total project costs</b>			5,200,000	55,032,617

### B. PROJECT DESCRIPTION SUMMARY

<b>Project Objective:</b> To decrease the vulnerability of local communities living in the Barind Tract and Haor Area to the negative impacts of climate change, using Ecosystem-based Adaptation (EbA) approaches.						
Project Components/ Programs	Financing Type <sup>3</sup>	Project Outcomes	Project Outputs	TRUST FUND	(IN \$)	
					GEF PROJECT FINANCING	CONFIRMED CO-FINANCING
Component 1. Capacity development for implementing EbA	TA	Outcome 1 Strengthened technical capacity of local and	Output 1.1 Policy briefs developed on proposed revisions to	LDCF	153,590	6,024,600

<sup>1</sup> Project ID number remains the same as the assigned PIF number.

<sup>2</sup> When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#).

<sup>3</sup> Financing type can be either investment or technical assistance.

and upscaling into national and local plans.		national government to plan, implement and upscale EbA.	policies and strategies related to dryland and wetland ecosystem management to promote EbA.			
			Output 1.2 Mandate of the Climate Change Cell (CCC) incorporates EbA based on technical guidelines and training provided to support coordination, planning and implementation of EbA across Bangladesh.	LDCF	75,910	
			Output 1.3 Training provided to national and local government and VCG members on planning and implementing EbA interventions.	LDCF	20,500	
Component 2. EbA interventions that reduce climate change vulnerability and enhance natural capital	Inv	Outcome 2: Adaptation technologies – including EbA– demonstrated in the Barind Tract and Haor Area to restore degraded ecosystems and promote topsoil and water conservation.	Output 2.1 Vulnerability impact assessments undertaken to select target communities in the Barind Tract and Haor Area.	LDCF	172,000	44,018,200
			Output 2.2 Local authorities, communities, committees and user groups in the Barind Tract and Haor Area trained on implementing and maintaining adaptation technologies, and developing additional livelihoods.	LDCF	325,400	
			Output 2.3 EbA demonstrated in degraded forests in the Haor Area and Barind Tract (including reforestation in degraded swamp forests, dryland forests, and along the lengths of roads, embankments, canals and ponds – 260 hectares in total) <sup>4</sup> .	LDCF	2,079,960	
			Output 2.4	LDCF	1,328,465	

<sup>4</sup> See Section A.3 “proposed alternative scenario, with a brief description of expected outcomes and components of the project” for more details on EbA interventions at each site.

			Adaptation technologies demonstrated – including excavation/re-excavation of ponds, canals and beels, and installation of rainwater harvesting devices – to support EbA by reducing erosion in the Hoar Area and conserving water in the Barind Tract.			
			Output 2.5 Additional livelihoods demonstrated to enhance the adaptive capacity of local communities to climate change.	LDCF	282,175	
Component 3. Research and knowledge management for appropriate EbA design	TA	Outcome 3 Improved access to scientific and traditional information on EbA to promote upscaling of this approach in Bangladesh.	Output 3.1 A central database – for information on EbA lessons learned and cost-effectiveness from the Haor Area, Barind Tract and other regions across Bangladesh – established or strengthened	LDCF	15,000	4,749,200
			Output 3.2 Financial support provided to post-graduate and post-doctorate researchers to conduct research on specific climate change risks and the EbA interventions that are implemented by the project.	LDCF	241,750	
			Output 3.3 A knowledge management plan developed to capture and share information on climate change impacts.	LDCF	13,981	
			Output 3.4 Frameworks that support replicating and upscaling of EbA in Bangladesh developed.	LDCF	112,269	
Component 4 M& E	TA	Monitoring and Evaluation of the project		LDCF	134,000	0
Subtotal					4,955,000	54,792,000

Project Management Cost (PMC) <sup>5</sup>	LDCF	245,000	240,617
<b>Total project costs</b>		5,200,000	55,032,617

**C. CONFIRMED SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE**

Please include evidence for co-financing for the project with this form.

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Amount (\$)</b>
Government of Bangladesh	The Barind Multipurpose Development Authority	Grant	21,662,000
Government of Bangladesh and JICA	Bangladesh Water Development Board	Grant	25,830,000
International Development Association (IDA) and the Government of Bangladesh	Forest Department	Grant	7,300,000
National Budget	Government of Bangladesh (Department of Environment)	In-kind	240,617
<b>Total Co-financing</b>			55,032,617

**D. TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS**

<b>GEF Agency</b>	<b>Trust Fund</b>	<b>Country Name/Global</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>(in \$)</b>		
					<b>GEF Project Financing (a)</b>	<b>Agency Fee <sup>a)</sup> (b)<sup>2</sup></b>	<b>Total (c)=a+b</b>
UNEP	LDCF	Bangladesh	Climate Change	(select as applicable)	5,200,000	494,000	5,694,000
<b>Total Grant Resources</b>					5,200,000	494,000	5,694,000

a ) Refer to the Fee Policy for GEF Partner Agencies

<sup>5</sup> For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

## E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS<sup>6</sup>

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	260 hectares
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	hectares
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	Number of freshwater basins
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	Percent of fisheries, by volume
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO <sub>2e</sub> mitigated (include both direct and indirect)	metric tons
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	metric tons
	Reduction of 1000 tons of Mercury	metric tons
	Phase-out of 303.44 tons of ODP (HCFC)	ODP tons
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	Number of Countries:
	Functional environmental information systems are established to support decision-making in at least 10 countries	Number of Countries:

## F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? NO

(If non-grant instruments are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF Trust Fund) in Annex D.

<sup>6</sup> Update the applicable indicators provided at PIF stage. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

## **PART II: PROJECT JUSTIFICATION**

### **A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN WITH THE ORIGINAL PIF<sup>7</sup>**

Since the PIF was developed, the revised results framework for the GEF Adaptation Programme was introduced. The focal area objectives that the project aligns with have therefore been revised so that these can be aligned with and reported under the GEF AMAT of GEF 6. The LDCF-financed project remains aligned with objectives CCA-1: Outcome 1.1, CCA-2: Outcome 2.3 and CCA-3: Outcome 3.1.

No significant changes in the project design as compared to the original PIF have been made. The following tables summarise a few changes made following PPG consultations in terms of the formulation of project's outcomes/outputs and co-financing activities:

The wording of the three project Outcomes has been altered to make them more specific, however, they remain based on the same underlying principles. The rewording of project outcomes is detailed in the table below:

<b>Outcome as written in the PIF</b>	<b>Outcome revised during the PPG</b>
1. Strengthened technical capacity of local and national institutions to plan, implement and upscale EbA.	1. Strengthened technical capacity of local and national government to plan, implement and upscale EbA.
2. Increased resilience and reduced vulnerability of local communities to climate change impacts, in the Barind Tract and in the Haor Area.	2. Adaptation technologies – including EbA – transferred to local communities at project intervention sites to restore degraded ecosystems and promote topsoil and water conservation.
3. Strengthened information base (scientific and traditional knowledge) – derived from LDCF interventions in the Haor Area and Barind Tract – for supporting the design and upscaling of EbA interventions across Bangladesh.	3. Improved access to scientific and traditional information on EbA to promote upscaling of this approach in Bangladesh.

The project outputs have been contextualized to fit the current needs in Bangladesh, following the consultations held during the PPG phase.

The following table details the revisions to outputs under Component 1.

<b>Output as written in the PIF</b>	<b>Output revised after PPG consultations</b>	<b>Justification</b>
1.1. EbA integrated into existing climate change committees, units and departmental cells.	This output has been removed.	This output was merged with Output 1.2, which focusses on strengthening technical and institutional capacity for EbA coordination, planning and implementation across Bangladesh. The mandate of the Climate Change Cell (CCC) will be revised to integrate EbA. To support the move from EbA policy to implementation, these stakeholders – and other relevant climate change committees, units and departments – will be provided with technical guidelines (output1.2) and training on EbA.
1.2. A stocktaking exercise undertaken and revisions of existing policies and strategies produced to identify entry	This output has been removed.	Based on consultations during the PPG phase, this output has been incorporated as the initial activity in Output 1.1 as it is

<sup>7</sup> For questions A.1 –A.7 in Part II, if there are no changes since PIF, no need to respond, please enter “NA” after the respective question.

points for promoting EbA and up-scaling EbA into national strategies including budget allocations.		seen as a part of the process for the development of policy briefs.
1.3. Policy briefs and technical guidelines developed and distributed for policy- and decision-makers on increasing resilience of local community livelihoods to climate change using appropriate wetland and dryland restoration techniques based on knowledge gained from EbA interventions in Component 2, emerging research findings as well as local indigenous knowledge.	1.1. Policy briefs developed on proposed revisions to policies and strategies related to dryland and wetland ecosystem management to promote EbA.	This output has been split into two outputs and has been reworded to make the new outputs more specific. The split was made because different indicators and targets will be associated with the two distinct products.
	1.2. Mandate of the Climate Change Cell (CCC) incorporates EbA based on technical guidelines and training provided to support coordination, planning and implementation of EbA across Bangladesh	Output 1.2 focusses on capacity for EbA coordination and planning in Bangladesh – i.e. moving from policy to implementation – and therefore includes the activity to revise the mandate of the CCC to integrate EbA (Output 1.1 in the PIF).
1.4. Government staff from the Climate Change Unit and relevant CCFPs trained on planning and implementing EbA interventions.	1.3. Training provided to national and local government staff, and VCG members on planning and implementing EbA interventions.	This output has been reworded to specify that the Village Conservation Group (VCG) members as well as technical government staff will receive training.

The following table details the revisions made to outputs under Component 2. Under this component, the outputs have been re-ordered and reworded in accordance with the results of the PPG stakeholder consultations.

<b>Output as written in the PIF</b>	<b>Output revised after PPG consultations</b>	<b>Justification</b>
2.1. Vulnerability impact assessments (assisted by UNEP led PROVIA) conducted and EbA protocols developed to guide interventions in pilot areas.	2.1. Vulnerability impact assessments undertaken to select target communities in the Barind Tract and Haor Area.	This output has been reworded to make it more specific.
2.2. Resilient restoration of wetlands in landscapes that were initially degraded in the Haor Area for increasing freshwater ecosystem goods/services – including fish, fibre, water purification and supply, flood regulation, sediment/nutrient retention and export, and biodiversity reservoirs – under changing rainfall patterns including heavier and more erratic rainfall during the monsoon season.	This output has been merged with Output 2.3.	During the PPG phase, relevant EbA interventions were selected through consultation with multiple stakeholders. The identified EbA intervention are similar for both areas (see Section 3.3 and Appendix 21 of the UNEP Project Document). The original outputs have therefore been merged.
2.3. Resilient restoration of drylands in landscapes that were initially degraded in the Barind Tract to increase water infiltration and agricultural production under increasing drought conditions and dry spells during erratic monsoon and dry seasons.	2.3. EbA demonstrated in degraded forests in the Haor Area and Barind Tract.	
2.4. EbA support measures – for reducing erosion and increasing ground water replenishment – integrated into existing local community livelihood	2.4. Adaptation technologies demonstrated – including excavation/re-excavation of ponds, canals and beels, and installation of rainwater harvesting	During the PPG phase, hard infrastructure was identified – as part of a suite of adaptation technologies – to effectively support EbA by reducing

activities, including in situ rainwater harvesting structures and drought/flood-resilient eco-agriculture.	devices – to support EbA by reducing erosion in the Hoar Area and conserving water in the Barind Tract. Area	erosion in the Hoar Area and conserving water in the Barind Tract. (see Section 3.3 and Appendix 21 of the UNEP Project Document). The output has been reworded to refer specifically to this infrastructure.
2.5. Alternative livelihoods based on the benefits of functional wetland and dryland ecosystems developed and promoted to enhance community resilience to climate change impacts.	2.5. Additional livelihoods demonstrated to enhance the adaptive capacity of local communities to climate change.	This output has been reworded to make it more specific and measurable.
2.6. Local authorities, communities, committees and user groups, with an emphasis on women and youth, trained on adapting community livelihoods to climate change by using specific techniques for restoring degraded wetlands and drylands in the Haor Area and Barind Tract respectively.	2.2. Local authorities, communities, committees and user groups in the Barind Tract and Hoar Area trained on implementing and maintaining adaptation technologies, and developing additional livelihoods.	This output has been moved and reworded to make it more specific and measurable.

The following table details the revisions to outputs under Component 3. Following stakeholder consultation, the wording of all four outputs has been revised slightly, however, they remain focussed on similar deliverables.

<b>Output as written in the PIF</b>	<b>Output revised after PPG consultations</b>
3.1. A central information base – of data on EbA lessons learned and cost-effectiveness from the Haor Area, Barind Tract and other regions across Bangladesh – established in MoEF within an appropriate entity e.g. the Climate Change Unit or a relevant department’s Climate Change Focal Point for effective EbA project design.	3.1. A central information database – for information on EbA lessons learned and cost-effectiveness from the Haor Area, Barind Tract and other regions across Bangladesh – established or strengthened.
3.2. Post-graduate and post-doctorate research (including long-term research programmes and individual research projects) produced focused on specific climate change risks and providing technical guidance to reduce these risks.	3.2. Financial support provided to post-graduate and post-doctorate researchers to conduct research focused on specific climate change risks and the EbA interventions that are implemented by the project.
3.3. Information and lessons learned – including cost-effectiveness – on EbA interventions implemented in the Barind Tract and Haor Area widely disseminated through tailored policy briefs.	3.3. A knowledge management plan developed to capture and share information on climate change impacts and EbA.
3.4. An upscaling strategy for EbA across Bangladesh developed, based on business case models for both the public and private sectors.	3.4. Frameworks that support replicating and upscaling of EbA in Bangladesh developed and presented to relevant national institutions.

The indicative co-financing in the PIF totalled US\$17,000,000. This estimate was made based on discussions with co-financing initiatives at the time the PIF was formulated. These co-financing initiatives and the indicative co-financing figures were re-assessed during consultations held during the PPG phase. As a result of these consultations, one of the baseline projects in the Barind Tract identified in the PIF – the Seed Production Strengthening Project – was found to be nearing completion and is therefore no longer considered appropriate as a baseline project for the LDCF-financed project. The names of the two remaining baseline projects in the Barind Tract have been revised to reflect the current titles of these projects. In the PIF, the description of baseline projects for the Haor Area did not include specific information on the projects to be implemented by the Bangladesh Water Development Board (BWDB). Through consultations with the BWDB during the PPG phase, a specific project – The Haor Flood Management and Livelihood Improvement Project – was identified for the Haor Area. One further baseline project was identified for the Haor Area – the Strengthening Regional Co-operation for Wildlife Protection project – and included in the project document (see Section A1.2 below for more information). In addition, contributions from the national budget of the Government of



Bangladesh have been included in the co-financing amount. The total indicative co-financing has therefore been increased to US\$55,032,617.

Lastly, Monitoring and Evaluation of project outcomes and outputs was separated into a separate component (Component 4) for ease of reference.

### *A.1. Project Description.*

#### **1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed**

Dryland forests in the Barind Tract and swamp forests in the Haor Area in Bangladesh provide goods and services to local communities. Communities living in the Barind Tract derive most of their income from agriculture. In the Haor Area, fishing and agriculture are important income-generating activities that support local communities. These livelihoods are underpinned by functional ecosystems and the services they provide such as nutrient cycling and pollination. Ecosystems in both areas also provide fresh water, reduce erosion and mitigate climate-related disasters, such as floods in the Haor Area and droughts in the Barind Tract.

Rapid population growth in both the Barind Tract and Haor Area is resulting in an increased demand for resources and clearing of forests for agricultural land. Dryland and swamp forests in these areas are consequently being degraded. This degradation is resulting in reduced forest cover, which in turn is leading to increased erosion. The effects of increased erosion are: i) loss of fertile topsoils in the Barind Tract; and ii) increased sedimentation of beels<sup>8</sup> and haors<sup>9</sup> in the Haor Area. Additionally, unsustainable rates of groundwater extraction for irrigation in the Barind Tract are resulting in the lowering of the water table in this area. Reduced cover of swamp forests in the Haor area is increasing the risk of damage from flash floods.

The effects of climate change are compounding the degradation of ecosystems in the Barind Tract and Haor Area described above. These effects are predicted to worsen in the future. In particular, climate change models predict an increase in mean annual temperature and a decrease in annual precipitation for the Barind Tract. Such changes will result in an increased frequency and severity of droughts in the area. Consequently, local communities in the Barind Tract are predicted to experience: i) decreased availability and quality of water for agriculture and household use; ii) reduced agricultural productivity; iii) decreased food security; and iv) increased risks to human and livestock health. Conversely, models predict an increase in annual precipitation and heavier and more erratic rainfall in the Haor Area. These changes will result in: i) increased river flows, causing breaching of embankments, widespread flooding and erosion; ii) damage to agricultural areas, infrastructure and homes located near rivers; iii) increased risk of water-borne diseases; and iv) increased sedimentation of beels and haors leading to decreased habitat quality for important indigenous fish species. Overall, climate change is consequently a major threat to the integrity of ecosystems in the Barind Tract and the Haor Area.

Given that the livelihoods of vulnerable, local communities in the Barind Tract and Haor Area are strongly linked to these ecosystems, an Ecosystem-based Adaptation (EbA) approach to climate change provides a cost-effective and low-risk means to increase the adaptive capacity of these communities. This approach will enhance the provision of goods and services from functional, well-managed dryland and swamp forests to these communities.

The **problem** that this project seeks to address is that local communities in Bangladesh are vulnerable to the effects of climate change as they rely heavily on ecosystems for goods and services. Currently, the Government of Bangladesh and local communities do not have adequate capacity to implement EbA as a means to adapt to climate change in a cost-effective and sustainable manner. This is because these stakeholders have limited knowledge on planning and

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<sup>8</sup> A beel is a depression or topographic low generally produced by erosion. They are usually marshy and occur mostly in the Ganges-Brahmaputra flood plains.

<sup>9</sup> A haor is a wetland-like lake, larger than a beel and predominantly a feature of north-eastern Bangladesh.

implementing EbA. Additionally, there is a lack of rigorous, quantitative evidence of the effectiveness of EbA within Bangladesh.

The **preferred solution** to the problem described above is to increase the capacity of national and local government and communities in the Barind Tract and the Haor Area to adapt to climate change by planning and implementing EbA. There are, however, several barriers to reaching this preferred solution. By defining and addressing these barriers, the LDCF-financed project will contribute to achieving the preferred solution. These barriers are listed below (see Section 2.3 of the UNEP Project Document for a full description of the barriers).

- Limited understanding of EbA among government stakeholders and local communities.
- Limited technical and institutional capacity of government and local communities to plan and implement EbA.
- Limited integration of EbA into development planning, frameworks and guidelines.
- Limited coordination between government ministries, departments and institutions involved in ecosystem restoration and climate change adaptation.
- Limited protocols/tools for implementing EbA in dryland forests and swamp forests in Bangladesh.
- Insufficient on-the-ground demonstration of EbA.
- Limited research on EbA.

The LDCF-financed project will contribute to addressing the barriers listed above by: i) strengthening the technical and institutional capacity of policy- and decision-makers in Bangladesh to plan EbA; ii) demonstrating EbA and supporting adaptation technologies that will conserve surface water in the Barind Tract (in three districts covering the Tanore, Nachole and Pirganj upazilas<sup>10</sup>) and reduce erosion in the Haor area (in two districts covering the Barlekha, Juri, Kulaura, Golapganj, and Fenchuganj upazilas); and iii) improving knowledge of national and local government, and local communities on effective EbA.

## 2) The baseline scenario and associated baseline projects

Growing population pressure, poverty and unsustainable agricultural practices will continue to result in the degradation of dryland forests in the Barind Tract and swamp forests in the Haor Area. This degradation will reduce the capacity of ecosystems in these areas to provide valuable goods and services that underpin the livelihoods of local communities, such as nutrient cycling, water purification and flood regulation (see Appendix 23 of the UNEP Project Document). Several ongoing initiatives are being implemented to address the problems associated with environmental degradation and its underlying causes. For example, the Barind Multipurpose Development Authority (BMDA) within the Ministry of Agriculture is implementing the **Barind Rain Water Conservation and Irrigation Project** (hereafter Irrigation Project) and the **Marketing of Agricultural Products through Development of Rural Communication Project** (hereafter the Agri-Products Project) to improve agricultural productivity among local communities in the Barind Tract. The Irrigation Project will achieve this objective by *inter alia* improving surface water availability, increasing forest resources and generating employment through agricultural activities. The Agri-Products Project promotes agricultural and commercial activities in the Barind Tract through the construction of feeder roads in the area. To improve livelihoods and protect the assets of local communities in the Haor Area, the Bangladesh Water Development Board (BWDB) is implementing the **Haor Flood Management and Livelihood Improvement Project** (hereafter FMP) to i) reduce damages from floods; ii) improve access to basic infrastructure; and iii) increase agricultural and fisheries production in the haor areas of the upper Meghna River basin. These objectives will be achieved by rehabilitating and constructing flood management facilities and rural infrastructure, and implementing activities that promote sustainable agriculture and fish production. The BWDB is also implementing the **Strengthening Regional Co-operation for Wildlife Protection** (hereafter SRCWP) to improve management of ecosystems and wildlife in this area.

The current and predicted effects of climate change – including *inter alia* increasing temperatures and rainfall variability – will likely reduce the ability of the projects described in the paragraph above to address the baseline problems. Given that the livelihoods of vulnerable, local communities in the Barind Tract and Haor Area are strongly

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<sup>10</sup> (an upazila is a geographical region in Bangladesh that functions as a sub-district) and

linked to functional, intact ecosystems, an EbA approach to address the effects of climate change would provide a cost-effective and low-risk means to achieving development goals while increasing the adaptive capacity of communities in the Barind Tract and Haor Area. Under the baseline scenario, stakeholders involved in these projects do not have adequate capacity to plan and implement this approach. The baseline scenario, as it relates to each component of the LDCF-financed project and the associated baseline projects, is further described below.

*Component 1. Capacity development for implementing EbA and upscaling into national and local plans.*

Through several initiatives – such as the International Centre for Climate Change and Development (ICCAD) and multi-donor supported UNDP Comprehensive Disaster Management Programme<sup>11</sup> – government officials and local communities have received training on: i) the effects of climate change; ii) management and relief of climate-related disasters; and iii) climate-resilient crops for adaptation. These stakeholders – including staff from MoEF, MoWR, MoA, DoE, DLS DoAE, WARPO, FD, BMDA and BWDB – will continue to have an understanding of such topics. However, they will remain unaware of the benefits of EbA as a cost effective measure when complemented with these approaches; particularly in areas such as the Barind Tract and Haor Area, where functioning, intact ecosystems underpin the livelihoods of local communities (see Section A.1.1). For example, stakeholders involved in the Irrigation Project will have capacity to improve water supply by re-excavating ponds and water bodies, and constructing weirs in the Barind Tract. However, these stakeholders will not have knowledge on the benefits of implementing EbA – e.g. planting drought-resilient, multi-use species around the edges of ponds and weirs to reduce erosion of topsoils into these structures – to support and complement this infrastructure in order to ensure that they are more resilient to climate change. In the flood-prone Haor Area, stakeholders implementing the FMP will continue to have knowledge of managing floods by rehabilitating beels<sup>12</sup> and haors<sup>13</sup>, but will be unaware of the benefits of implementing EbA to reduce siltation of these water-holding areas during flooding events. Similarly, staff involved in projects for ecosystem management to enhance biodiversity and improve livelihoods of local communities – such as the SRCP project – will have capacity to plan and implement conservation techniques. However, these stakeholders will not be aware of EbA as a cost-effective and low-risk approach to enhancing ecosystem services under conditions of climate change (e.g. prioritising climate-resilient species for restoration of degraded areas). This method will consequently not be integrated into planning of such initiatives. In particular, national stakeholders and local communities will continue to have limited knowledge on the: i) the costs and benefits of EbA; ii) best practice for this approach; and iii) how to tailor EbA for particular ecosystems.

In 2004, the Ministry of Environment and Forests (MoEF) established the Climate Change Cell (CCC) within the Department of Environment (DoE). The objective of the CCC is to: i) enhance the technical capacity of DoE in supporting the Government in the development of climate change-related policies and programmes; ii) integrate climate change considerations into existing development interventions; and iii) support the Government to coordinate adaptation efforts in Bangladesh. Over the past decade, this cell has played an important role in coordinating climate-related activities across the country. However, national stakeholders – including members of the cell – will continue to have limited knowledge on: i) the benefits of EbA; and ii) how to integrate this approach into planning and coordination for adaptation. Coordination, planning and implementation of adaptation interventions will consequently continue without integrating this cost-effective and low-risk approach..

The CCC worked with the MoEF to develop the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) in 2009. This guiding document describes the climate-related problems in the country and provides recommended programmes for adaptation. However, policies and plans that are related to vulnerable sectors, such as ecosystem management and water resources<sup>14</sup> were developed before: i) the BCCSAP was produced; and ii) the National Adaptation Planning (NAP) process – which promotes an integrated approach to adaptation – was initiated in

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<sup>11</sup>This project is funded by the United Kingdom Department for International Development (DFID), European Union (EU), Norwegian Agency for Development Cooperation (NORAD), Australian Agency for International Development (AusAID), Swedish International Development Cooperation Agency (SIDA), the United Nations Development Programme (UNDP) and the Government of Bangladesh (GoB).

<sup>12</sup> A beel is wetland which generally retains water throughout the year

<sup>13</sup> Haors are depressed basins in the landscape that are inundated by fresh water during the monsoon season and gradually dry out during the dry winter season.

<sup>14</sup>Examples of such policies and plans include *inter alia*: i) the National Water Management Plan; ii) Forestry Management Plan; and Haor Master Plan.

Bangladesh (see Section B1). Without policies and plans that adequately consider climate change in these vulnerable sectors, adaptation will remain an isolated national agenda that is not well integrated into planning for climate-vulnerable sectors. These sectors will consequently continue to remain at risk of being undermined by the negative effects of climate change. In particular, approaches such as EbA will continue to not be integrated into policies for relevant sectors such as agriculture, ecosystem management and water.

In 2009 the Ministry of Finance (MoF) created two separate funds for adaptation finance in the country, in line with the development of the BCCSAP. The first of the two funds is the Bangladesh Climate Change Trust Fund (BCCTF), which is resourced entirely from the government's own budget with an allocation of US\$100,000,000 per year. The second is the Bangladesh Climate Change Resilience Fund (BCCRF), which consists of funds provided by developed countries or groups and is managed by World Bank. The financial provisions within these funds enable: i) scientific research to inform climate change adaptation, and ii) implementation of projects for adaptation. Financial allocations for adaptation to climate change will likely continue to be included in Bangladesh's national budget and these two separate funds for adaptation finance. However, budget provisions will not be allocated to EbA projects because of limited awareness and a lack of capacity to plan for and implement this approach. Under the baseline scenario, these limitations will persist and local communities will not profit from the multiple benefits provided by EbA.

### *Component 2. EbA interventions that reduce climate change vulnerability and enhance natural capital.*

In Bangladesh, multiple initiatives are being implemented to address the problems of poverty, growing population pressure and unsustainable management of natural resources. Particularly within the districts in which the LDCF-financed project will be working, such initiatives are focused on: i) conservation of ecosystems; ii) improved water supply for enhanced agricultural production and livelihoods; and ii) adaptation to climate change using hard infrastructure such as deep tube wells and ponds. Without demonstration of EbA that helps communities to adapt to climate change on the ground in Bangladesh, such initiatives will continue to be undermined by the effects of climate change. As an example, the Irrigation Project will continue to re-excavate silted water bodies in the Barind tract, without taking into consideration climate change, and hence will continue to be affected by increased erosion. In the flood-prone Haor Areas, beels and haors that support fisheries will be rehabilitated and floodwater management infrastructure to protect livelihood assets will continue to be constructed without considering climate change. Therefore, the objectives of these projects to provide multiple sustained benefits for local communities under conditions of climate change and the drivers of vulnerability will continue to be undermined, particularly because approaches such as EbA (e.g. restoration of swamp forests using climate-resilient species to mitigate the impacts of floods) will not be integrated into their activities.

Initiatives that focus on managing ecosystems to increase the supply of natural resources for local communities will continue without adequate consideration and knowledge of the effects of climate change on particular species that are selected for these interventions. For example, restoration and conservation interventions will continue to be implemented through the Irrigation Project and SRCP using plant and tree species that are not climate-resilient. Efforts to enhance ecosystem functioning – and the supply of natural resources for livelihoods – through such activities will continue to be at risk of being unsustainable under conditions of climate change.

### *Component 3. Research and knowledge management for appropriate EbA design.*

In Bangladesh, climate-related research is being undertaken by a number of organisations including *inter alia* the Bangladesh Institute of Development Studies (BIDS), International Centre for Climate Change and Development (ICCCAD) and government research centres. These initiatives contribute to generating knowledge on climate change adaptation in Bangladesh. Universities in the country also contribute to generating this type of knowledge by courses in climate change and adaptation. Most students that are involved in these courses are focussed on pioneering adaptation

interventions<sup>15</sup> such drought- and flood-resilient agricultural techniques, while the effectiveness of adaptation interventions that have already been implemented in Bangladesh is not being measured. Therefore, this type of data and information will continue to not be effectively collated and disseminated to the public including government, the private sector and local communities. Without the development and establishment of appropriate tools, knowledge on the effectiveness of adaptation interventions will continue to not be adequately generated, managed and shared, particularly in the long term. Local communities and government stakeholders will consequently continue to remain unaware of the most effective interventions to implement at a household and community scale. Additionally, policy- and decision-makers in Bangladesh will continue to have limited knowledge on best-practice interventions that should be included in policies to support an integrated approach to adaptation.

Since EbA is a relatively new concept in Bangladesh, frameworks to collate and share information on the benefits of this approach will not be established under the baseline scenario. As a result, there will continue to be a lack of scientific knowledge of how best to implement EbA in dryland and swamp ecosystems. Information on this approach will also not be disseminated to the wider public. Without demonstration of EbA – and the establishment of a framework for collecting data on the effectiveness of this approach – knowledge and understanding on EbA among the public will continue to be limited.

### **Baseline projects**

The LDCF-financed project will build on the on-going activities of two selected baseline projects in the Barind Tract and two selected baseline projects in the Haor Area. To facilitate enhanced collaboration and coordination between the LDCF-financed and baseline projects, a Regional Project Coordination Committee (RPCC) will be established in both the Barind Tract and Haor Area. These RPCCs will consist of focal points from the implementing partners (including baseline project), representatives of academia and civil society.

#### *Baseline projects in the Barind Tract*

The BMDA is undertaking several projects in the Barind Tract to meet the following objectives: i) arrest desertification through large-scale plantations; ii) green the Barind Tract; iii) convert the Barind Tract into the granary of Bangladesh; and iv) improve the livelihoods of people. The two baseline projects that are being implemented by this authority are described below.

The **Barind Rain Water Conservation and Irrigation Project** (hereafter Irrigation Project) (2011-2017) is being implemented in nine districts of the Barind Tract. This programme has a total budget of US\$26,300,000 funded by the Government of Bangladesh (GoB), and will provide US\$5,850,000 co-financing for the LDCF-financed project. The objectives of this baseline project are to: i) increase the use of surface water in irrigation to reduce the demand for ground water; ii) create additional forest resources; iii) increase food production; and iv) generate employment through agricultural activities. These objectives are being achieved by: i) re-excavating ponds and water bodies to increase the rainwater-holding capacity of these reservoirs; ii) constructing submerged weirs; and iii) reforesting khas land<sup>16</sup> in the project area. Activities of the Irrigation Project will conserve rainwater and increase the supply of surface water available for irrigation, which will reduce the demand on ground water. In addition, the increased supply of surface water will enable a larger area of cultivatable land under irrigation, which will increase agricultural productivity.

Climate change will negatively affect the activities of the Irrigation Project. In particular, the predicted increase in temperature coupled with a reduction in precipitation will result in an increase in frequency and severity of seasonal droughts. This will reduce the amount of surface water available for irrigation to support agricultural activities in the Barind Tract. More frequent and severe droughts will also increase the erosion of productive topsoil when rain does

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<sup>15</sup>For example, the Bangladesh Agricultural Research Institute (BARI) conducts research on inter alia, soil and water management, farming systems, and climate change resilient crops, while the International Centre for Climate Change and Development (ICCAAD) conducts research on aspects of Climate Change Adaptation.

<sup>16</sup> Khas land or state-owned land is land which the government is entitled to both lease and give away to those in the country who do not own land.

occur. This erosion will cause siltation in water bodies that are being re-excavated by the Irrigation Project – such as ponds – thereby reducing the water-holding capacity of these features. Furthermore, more frequent and severe droughts will decrease forest productivity, which will compromise the success of the reforestation programme under the Irrigation Programme. In general, the effects of climate change will undermine the objective of the Irrigation to improve livelihoods for local communities living in the Barind Tract.

The LDCF-financed project will build on the Irrigation Project by strengthening the technical capacity of BMDA to plan and implement EbA to support livelihood improvement under conditions of climate change. Implementation of EbA in degraded dryland forests in khas land will be expected to climate-proof the on-the-ground afforestation initiatives of the Irrigation Project. In particular, indigenous, multi-purpose trees that are drought-resilient will: i) provide livelihood benefits for local communities; ii) promote groundwater recharge and stream flow; and iii) reduce erosion of topsoils, thereby promoting conservation of watersheds in these areas. These interventions will support the Irrigation Project by improving watershed conservation and protecting irrigation infrastructure from siltation caused by increasing soil erosion under conditions of climate change. Additionally, by selecting tree species that contribute towards enhanced ecosystem goods and services, local communities' livelihoods will be improved under conditions of climate change.

The **Marketing of Agricultural Products through Development of Rural Communication Project** (hereafter the Agri-Products Project) (2010-2017) is being implemented in five districts<sup>17</sup> of the Barind Tract. This project has a total budget of US\$39,500,000, of which US\$15,812,000 is co-financing funded by the GoB. The main objectives of this project are to: i) facilitate rural communication by improving feeder road networks; ii) promote agricultural and commercial activities in the project area; iii) arrest the process of desertification and improve ecological balance; and iv) create employment opportunities in the project area. The objectives of the Agri-Products Project will be achieved by: i) constructing feeder roads to remote areas; and ii) implementing plantation afforestation programme alongside the feeder roads. The construction of feeder roads will provide local communities with access to markets, which will facilitate development of the local agricultural market, while the afforestation programme aims to arrest desertification in the region.

The effects of climate change – particularly drought – will reduce the efficacy of afforestation activities of the Agri-Products Project along feeder roadsides. The ability of these plantations to bind soils and reduce erosion will decrease under these conditions. As a result, the baseline afforestation programme is unlikely to prevent soil erosion and damage to feeder roads. The general objective of the Agri-Products Project to promote agricultural and commercial activities in area will also be undermined by more frequent and severe droughts.

The LDCF-financed project will build on the objectives of the Agri-Products Project and increase the climate-resilience of its activities. Training provided under Outcome 1 will strengthen the technical capacity of local and national stakeholders – including the BMDA who are implementing this baseline project – to plan and implement EbA in the Barind Tract. Under Outcome 2, EbA will be implemented to afforest roadsides with drought-resilient species, thereby increasing the resilience of both the plantations and the road infrastructure to erosion. Furthermore, the adaptation technologies – such as ponds and rainwater harvesting devices – that will be implemented by the LDCF-financed project in the Barind Tract, will increase the quality and availability of fresh water in the area, which will support the objectives of the Agri-Products Project to promote agricultural and commercial activities. Through the development of additional livelihoods, the LDCF-financed project will support objectives to create employment of the Agri-Products Project by providing local communities with additional resources to be sold at markets. Reforestation of dryland forest on khas land in the Barind Tract will assist also in slowing the process of desertification and land degradation by reducing erosion and increasing water infiltration.

### *Baseline projects in the Haor Area*

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<sup>17</sup> These districts include: Nawabganj, Rajshahi, Rangpur Moulvibazar and Sylhet

There are ongoing projects in the Haor Area of Bangladesh, implemented by the BWDB and the Forest Department (FD), which are addressing some of the baseline problems identified above. This is being achieved by improving flood management, constructing and rehabilitating rural infrastructure and improving fish production. These projects are described below.

The **Haor Flood Management and Livelihood Improvement Project (FMP)** (2014-2022) is funded by JICA and the GoB with a total budget of US\$118,000,000, of which US\$25,830,000 is co-financing for the LDCF-financed project. The project is being implemented<sup>18</sup> by the BWDB with the objectives to: i) reduce damage to infrastructure from floods; ii) improve access to basic infrastructure; and iii) increase agricultural and fish production in the Haor Area of the upper Meghna River Basin. The objectives of this project will be achieved by rehabilitating and constructing flood management facilities and rural infrastructure, and implementing activities that promote sustainable agriculture and fish production.

An increase in the frequency and severity of floods – as a result of increased annual precipitation and heavier, more erratic rainfall events – will negatively affect the construction and rehabilitation of flood management facilities and rural infrastructure activities of the FMP. In addition, these negative climate effects will result in reduced agricultural productivity, which will compromise the activities of the FMP to promote sustainable agriculture and fish production.

Under Outcome 1, the LDCF-financed project will strengthen the institutional capacity of the implementing agencies – including the BWDB – to plan and implement flood management interventions under conditions of climate change. In addition, staff from the BWDB will be trained on planning and implementing EbA in swamp forests. Under Outcome 2, restoration of swamp forests using EbA will increase the resilience of these ecosystems during extreme floods. This type of EbA will support the objectives of the FMP by mitigating the impacts of more frequent and severe floods, thereby complementing and protecting infrastructure constructed by the FMP. These interventions will also improve habitats for important fish, thereby supporting the baseline activities of FMP for sustainable agriculture and fish production.

The Forest Department under the Ministry of Environment and Forests is implementing the **Strengthening Regional Co-operation for Wildlife Protection (SRCWP)** Project (2011-2016) which has a total budget of US\$36,000,000, of which US\$7,300,000 is provided as co-financing for the LDCF-financed project. The SRCWP is funded by the International Development Association (IDA) and the Government of Bangladesh (GoB) and has the following objectives: i) assist participating governments in building capacity and strengthening institutions, and sharing knowledge and expertise to jointly address illegal wildlife trade; and ii) improve management of endangered wildlife and their habitat by addressing selected regional conservation threats. These objectives will be achieved by: i) building capacity for wildlife conservation and cooperation for addressing the trans-boundary illegal wildlife trade in Bangladesh; ii) promoting wildlife conservation in South Asia, including the implementation of a wildlife habitat restoration programme; and iii) facilitating project coordination and communication. The SRCWP project will be implemented in 465 upazilas in 64 districts. In particular, the project will undertake activities in the Sylhet and Moulvibazar districts of the Haor Area in which the LDCF-financed project will be implemented.

Climate change will continue to change the functioning of ecosystems throughout Bangladesh. In the Haor Area, climate-related floods will result in degradation of swamp forests. To manage natural habitats and wildlife effectively, climate-related changes and effects need to be considered in the management of the SRCWP project.

The LDCF-financed project will contribute to establishing and conserving climate-resilient habitats for wildlife in the Haor Area, thereby increasing the climate resilience of the SRCWP project. Under Outcome 1, staff from FD will be trained on: i) opportunities for EbA in the Haor Area; and ii) planning and implementing EbA as a means of managing wildlife habitats. The LDCF-financed project will build on the wildlife conservation and habitat restoration objectives of the SRCWP project through the implementation of EbA in swamp forests and development of additional livelihood options. Such economic options will promote conservation of wildlife habitats by providing agricultural livelihoods for

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<sup>18</sup>In the Brahmanbaria, Habiganj, Kishorganj, Netrakona and Sunamganj districts of the Haor area.

local communities as alternatives to continued unsustainable use of natural resources. Additionally, the proposed revision of policies and plans for ecosystem management to include EbA – under Outcome 1 – will promote the resilience of wildlife habitats to climate change.

### **3) The proposed alternative scenario, with a brief description of expected outcomes and components of the project**

The livelihoods of most local communities living in the Barind Tract and Haor Area depend on small- to medium-scale rain-fed agriculture and fish production. Given this dependency, these local communities are vulnerable to the observed and predicted effects of climate change. In particular: i) increasing temperatures and decreasing rainfall are resulting in more frequent and severe droughts in the Barind Tract; and ii) an increase in erratic rainfall is resulting in more frequent and severe floods in the Haor Area (See Section 2.1 of the UNEP Project Document for more details). These climate-related changes are resulting in: i) decreased agricultural productivity; and ii) degradation of ecosystems that underpin local communities' livelihoods. These effects are predicted to worsen in the future.

To enhance the capacity of government and communities in the Barind Tract and the Haor Area to adapt to climate change, the LDCF-financed project will undertake a range of adaptation interventions. Importantly, these interventions will build on and climate-proof the baseline projects described above. National and local stakeholders will be trained on implementing EbA as a cost-effective and sustainable means to adapt to climate change. Ecosystems that underpin the livelihoods of local communities will be enhanced to provide goods and services under conditions related to climate variability through pilot demonstrations of EbA in the Barind Tract and Haor Area. Adaptation infrastructure that supports the EbA measures, and reduces erosion in the Haor Area and conserves water in the Barind Tract – such as ponds, canals and rainwater harvesting devices – will also be implemented in selected upazilas<sup>19</sup>. Upscaling of EbA throughout Bangladesh will be promoted by proposing recommendations to policies and plans for climate-vulnerable sectors such as agriculture, ecosystem management and water. Additionally, access to scientific and traditional knowledge on EbA will be improved. The outcomes, outputs and activities of the LDCF-financed are described below.

#### **Outcome 1: Strengthened technical capacity of local and national government officials to plan, implement and upscale EbA.**

LDCF: US\$250,000

Co-financing: US\$6,024,600

This outcome will contribute to creating a policy environment that facilitates EbA throughout Bangladesh. This will be achieved by developing and disseminating: i) policy briefs on proposed revisions to policies and plans related to dryland forest and swamp forest management; and ii) technical guidelines for policy- and decision-makers that detail how to move from policy to the implementation of EbA. This outcome will strengthen the technical and institutional capacity of government to plan and implement EbA, thereby promoting the EbA approach as a means of adapting to climate change throughout Bangladesh. The institutional capacity of the Government will be strengthened to promote effective coordination, planning and implementation of EbA by integrating this approach into the mandate of the CCC within the DoE. Technical capacity will also be strengthened through the training of national and local government – including *inter alia* the CCC, Climate Change Focal Points (CCFPs), DoAE, DoF, BMDA, LGED and BWDB – on the policy briefs, technical guidelines and implementing EbA.

Outcome 1 of the project will build on work completed by other projects and organisations in Bangladesh. For example, the UNDP Community-based Adaptation to Climate Change through Coastal Afforestation in Bangladesh reviewed national policies and plans related to coastal development and integrated climate change considerations into these strategies. In addition, this project integrated climate change considerations into community-level strategies. To develop policy briefs on proposed revisions to policies and strategies, the LDCF-financed project will consider lessons learned

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<sup>19</sup> Construction of these hard infrastructure measures in the Haor area will reduce erosion by redirecting, slowing down and/or conserving water runoff.



by these similar projects. In addition, the technical guidelines that will be developed to support the move from policy to implementation will be informed by challenges and successes of implementing the revised policies.

Output 1.1. Policy briefs developed on proposed revisions to policies and strategies related to dryland and wetland ecosystem management to promote EbA.

The activities to be implemented under Output 1.1 are.

- 1.1.1. Collate and review existing policies and plans, including budget allocations, related to ecosystem management, national development, and dryland and wetland restoration to identify entry-points for promoting EbA.
- 1.1.2. Propose revisions to policies and strategies, including budget allocations, to promote the replication and upscaling of EbA throughout Bangladesh.
- 1.1.3. Hold a workshop with stakeholders from national ministries to present proposed revisions to policies and strategies, including budget allocations, to promote the replication and upscaling of EbA throughout Bangladesh (developed in Activity 1.1.2).
- 1.1.4. Develop a workplan to deliver policy and strategy revision.

Output 1.2. Mandate of the Climate Change Cell (CCC) revised, technical guidelines and training provided to support coordination, planning and implementation of EbA across Bangladesh

The activities to be implemented under Output 1.2 are.

- 1.2.1. Identify potential barriers to effective coordination, planning and implementation of EbA. In particular, barriers to the following should be identified: i) effective national dialogue on adaptation; ii) upscaling and replicating EbA, and iii) mobilisation of funds for EbA implementation.
- 1.2.2. Based on the barriers identified in 1.2.1: i) strengthen the mandate of the CCC to incorporate effective EbA coordination; and ii) develop technical guidelines for national government – including the CCC and policy- and decision-makers from the BMDA, BWDB, BHWDB, DEA, BFD and DLS – on moving from policy to implementation (i.e. how to plan, finance and implement EbA interventions).
- 1.2.3. Conduct training workshops with national and local government at project sites to present the technical guidelines on moving from EbA policy to implementation (developed in Activity 1.2.2).

Output 1.3. Training provided to national and local government, and VCG members on planning and implementing EbA interventions.

The activities to be implemented under Output 1.3 are.

- 1.3.1. Develop training programmes for national and local government from technical ministries and departments – including the BMDA, BWDB, BHWDB, DEA, BFD and DLS – and VCGs at project sites on: i) selecting EbA for adaptation in Bangladesh using the UNEP EbA decision support framework; and ii) planning and implementing cost-effective EbA for dryland forests and swamp forests.
- 1.3.2. Train national and local government and VCGs using the programmes developed in Activity 1.3.1.

*Component 2: EbA interventions that reduce climate change vulnerability and enhance natural capital.*

Outcome 2: Adaptation technologies – including EbA– demonstrated in the Barind Tract and Haor Area to restore degraded ecosystems and promote topsoil and water conservation.

LDCF: US\$4,188,000

Co-financing: US\$44,018,200

This outcome includes the implementation of EbA and the construction of hard infrastructure in selected sites that conserves the watersheds in the Barind Tract, and restores swamp forests in the Haor Area as a flood management

strategy, as well as in order to conserve ecosystems that serve as buffers to the communities living in these areas. Initially, comprehensive VIAs will be undertaken to inform the selection of specific target sites and communities together with local communities. Thereafter, Village Conservation Groups (VCGs) – including women, youth and other marginalised representatives – will be established within these communities to implement and maintain EbA interventions. To enable the VCGs to manage the restored areas over the long term – thereby promoting sustainability of LDCF interventions – a Village Conservation Fund (VCF) will be established (for more information on the operation and management of this fund see Annex N). The VCF will provide funding options for alternative income generation for the vulnerable people whose livelihood are dependent on natural resources, ecosystem services and that are likely to be affected by climate change.

Technical protocols for the implementation of EbA in specific ecosystems will be developed based on: i) local knowledge on ecosystem restoration; ii) socio-economic status and biodiversity expert assessments; iii) predicted climate trends; iv) scientific research on best-practice EbA; and v) tools that have been developed by other projects in South and Southeast Asia, such as the UNEP/AF Enhancing Climate Resilience of Rural Communities Living in Protected Areas of Cambodia project. These protocols will be used to restore degraded: i) swamp forests in the Haor Area (in the Barlekha, Juri, Kulaura, Golapganj, and Fenchuganj, upazilas); and ii) dryland forests in the Barind Tract (in the Tanore, Nachole and Pirganj upazilas). Species will be selected for reforestation of dryland forests in the Barind Tract that: i) grow quickly under conditions of drought; ii) are broad-leaved, thereby reducing rainfall impact on the soil; iii) have deep root systems, thereby increase water infiltration into the soil; and iv) produce natural resources that provide benefits for local communities including NTFPs and medicinal products. This reforestation will increase water infiltration and groundwater recharge. Species will be selected for restoration of swamp forests in the Haor Area to: i) bind soils, thereby reducing erosion; and ii) produce natural resources that provide benefits for local communities including NTFPs and medicinal products. Moreover, local government departments – including the DoE, DLS, FD, DAE, WARPO, BMDA, LGED and BWDB – and VCGs will receive: i) the protocols developed by the LDCF-financed project; and ii) training on planning and implementing EbA. Consequently, these stakeholders will have increased knowledge on this approach to integrate into local management plans. The use of EbA to restore forests in the selected upazilas in the Barind Tract and Haor Area will increase the capacity of local communities to adapt to climate change.

To support the EbA measures, other adaptation technologies that conserve water and reduces erosion – including the excavation of ponds, the digging of canals and installing rainwater harvesting systems – will be implemented in the selected intervention sites. Importantly, infrastructure will be complemented by EbA to increase resilience of these structures, thereby promoting sustainability of these investments. Conserving water in the Barind Tract and reducing erosion in the Haor Area will improve livelihood production – particularly those related to agriculture, fish production and forestry – under conditions of climate change. This infrastructure will therefore contribute to the overall objective of increasing the capacity of local communities living in these areas to adapt to climate change.

#### Output 2.1. Vulnerability impact assessments undertaken to select target communities in the Barind Tract and Haor Area.

The activities to be implemented under Output 2.1 are as follows.

- 2.1.1. Conduct comprehensive Vulnerability Impact Assessments (VIAs) including climate change scenario analysis with local authorities and communities in each union<sup>20</sup> of the selected upazilas in the Barind Tract and Haor Area to identify particular sites in which project activities will be implemented.

#### Output 2.2. Local authorities, communities, committees and user groups in the Barind Tract and Haor Area trained on implementing and maintaining adaptation technologies, and developing additional livelihoods.

The activities to be implemented under Output 2.2 are:

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<sup>20</sup>the smallest rural administrative and local government units

- 2.2.1. Develop training programmes, based on the protocols developed in Activity 2.3.3, for local authorities, communities, committees and user groups on: i) the benefits of EbA; ii) implementing and maintain EbA interventions; iii) maintaining hard infrastructure constructed during the project; iv) additional livelihoods, including spice cultivation, vegetable gardens and fish production; and v) techniques to manage livestock under conditions of climate change.
- 2.2.2. Conduct training for local authorities, communities, committees and user groups on implementing, maintaining and monitoring EbA and developing alternate livelihoods using the programmes that have been developed in Activity 2.5.1.

Output 2.3. EbA demonstrated in degraded forests in the Haor Area and Barind Tract.

The activities to be implemented under Output 2.3 are:

- 2.3.1. Establish 25 Village Conservation Groups (VCGs) in the Barind Tract (18 VCGs) and Haor Area (7 VCGs).
- 2.3.2. Establish a Village Conservation Fund (VCF) to support maintenance of ecosystems at project intervention sites by VCGs as well as to support local livelihood activities. Please refer to draft operational guidelines on how the fund will be managed and administered in the long term (see Annex N).
- 2.3.3. Undertake site specific socio-economic (including traditional knowledge), biodiversity and climate change assessments in the selected sites in the Barind Tract and Haor Area to inform the development of technical protocols for all on-the-ground interventions in these areas. The results of these assessments and technical protocols will also serve to validate the list of activities that the VCF will fund. The socio-economic assessments should focus on identifying marginalised groups – including women and youth – and ways to empower these groups through on-the-ground interventions.
- 2.3.4. Undertake a site-specific study to collect traditional knowledge on ecosystem restoration in the Barind Tract and Haor Area to inform the development of technical protocols for all on-the-ground interventions in these areas.
- 2.3.5. Prepare technical protocols based on the site-specific socio-economic, biodiversity and climate change data for EbA in degraded dryland forests in the Barind Tract and swamp forests in the Haor Area.
- 2.3.6. Establish: i) five nurseries in each of the five Haor upazilas (25 nurseries in total); and ii) ten nurseries in each of the three Barind upazilas (thirty in total).
- 2.3.7. Reforest the following areas in the Haor Area using the EbA protocols developed in Output 2.3: i) 50 ha of degraded swamp forests on khas land; ii) 50 ha of degraded swamp forests in other areas; and iii) degraded swamp forest along 50 km of roads, embankments, canals and ponds.
- 2.3.8. Reforest the following areas in the Barind Tract using EbA protocols developed in Output 2.3: i) 80 ha of degraded dryland forest; and ii) degraded dryland forest along 80 km of roads, embankments, canals and ponds.
- 2.3.9. Establish homestead plantations<sup>21</sup> using the EbA protocols developed under Output 2.3, including: i) 1000 homestead plantations (200 households per upazila) in the Haor Area; and ii) 900 homestead plantations<sup>22</sup> (300 homestead plantations per upazila) in the Barind Tract.

Output 2.4. Adaptation technologies demonstrated – including excavation/re-excavation of ponds, canals and beels, and installation of rainwater harvesting devices – to support EbA by reducing erosion in the Haor Area and conserving water in the Barind Tract.

The activities to be implemented under Output 2.4 are:

- 2.4.1. Undertake feasibility assessments including climate change scenario analysis and comprehensive EIAs for: i) the construction of canals in the Barind Tract and Haor Area; ii) the excavation and re-excavation of ponds in the Haor Area and Barind Tract; and iii) the re-excavation of beels in the Haor Area.

<sup>21</sup> A homestead plantation is a family-run productive garden or plantation.

<sup>22</sup>The size of the homestead plantations will depend on the availability of land.

- 2.4.2. Prepare technical protocols – based on site-specific socio-economic, biodiversity and climate information and feasibility assessments – for the implementation and maintenance of ponds, canals/kahls and rainwater-harvesting systems.
- 2.4.3. Excavate 16 (30mx30mx4m)<sup>23</sup> ponds. 10 ponds (2 in each of the Fenchuganj, Golapganj, Barlekha, Juri and Kulaura upazilas) in the Haor Area, and 6 ponds (2 ponds in each of the Tanore, Nachole and Pirganj upazilas) in the Barind Tract.
- 2.4.4. Re-excavate 32 (15mx15mx2m)<sup>24</sup> ponds. 20 ponds (4 in the Fenchuganj, Golapganj, Barlekha, Juri and Kulaura upazilas) in the Haor Area, and 12 ponds (4 in each of the Tanore, Nachole and Pirganj upazilas) in the Barind Tract .
- 2.4.5. Dig: 6 canals/khals (1000mx4mx3m)<sup>25</sup> (3 canals in 3 selected upazilas from the following list Fenchuganj, Golapganj, Barlekha, Juri and Kulaura upazilas) in the Haor Area and 3 canals/khals (1000mx4mx3m)<sup>26</sup> (1 in each of the Tanore, Nachole and Pirganj upazilas) in the Barind Tract.
- 2.4.6. Re-excavate three beels (1 beel in 3 of the selected upazilas) in the Haor Area .
- 2.4.7. Install 9 rainwater harvesting systems for households/agricultural use in the three selected Barind upazilas (27 in total).

Output 2.5. Additional livelihoods demonstrated to local communities.

The activities to be implemented under Output 2.5 are:

- 2.5.1. Conduct research on effective methods to increase the climate-resilience and marketability of livelihoods that will be implemented by the project in the Barind Tract and Haor Area including: i) fish production (i.e. aquaculture) in homestead ponds; ii) community-based gardens; iii) community-based floating gardens; and iv) spice cultivation through zero tillage. Based on this research, strengthen or establish links between local communities at project interventions sites and markets for products from livelihoods that are demonstrated.
- 2.5.2. Demonstrate fish production in: i) 75 homestead ponds in the in the five selected Haor upazilas (375 in total); and ii) 100 homestead ponds in the three selected Barind upazilas (300 in total).
- 2.5.3. Establish 25 community-based floating vegetables gardens in the five selected Haor upazilas (125 in total).
- 2.5.4. Establish: i) 75 homestead vegetables gardens in the five selected Haor upazilas (375 in total); and ii) 100 homestead farming gardens in the three selected Barind upazilas (300 in total).
- 2.5.5. Demonstrate ten 20mx20m plots for spice (onion/garlic/ground nut/mustard) cultivation through zero tillage in each of the three selected Barind upazilas (30 in total) and eight 20x20m plots in the 5 Haor upazilas (40 in total).

Outcome 3: Improved access to scientific and traditional information on EbA to promote upscaling of this approach in Bangladesh.

LDCF: US\$407,000

Co-financing: US\$4,749,200

Outcome 3 will increase national and local knowledge on EbA. To achieve this, a central database will be established to share information on EbA collected and generated during the project. This central database will be accessible to national and local government ministries and departments. In addition, a new Economics of Land Degradation project (led by UNEP) that will be starting up Bangladesh later in 2016 in the context of an Asian regional project will focus on quantifying the losses associated with land degradation and the benefits of sustainable land management. This LDCF project will link to this project to adopt good practice methodologies in quantifying the cost effectiveness of the proposed adaptation measures. Moreover, financial support will be provided to post-graduate and post-doctorate

<sup>23</sup> The dimensions for this infrastructure are subject to change based on the outcome of the feasibility assessments that will be undertaken within Activity 2.4.1 during project implementation. The dimensions included in the project document were recommended during PPG, based on in-depth consultations.

<sup>24</sup> IBID

<sup>25</sup> IBID

<sup>26</sup> IBID

researchers to conduct research focused on: i) specific climate change risks in the Barind Tract and Haor Area; and ii) the effectiveness of EbA interventions that are implemented within Bangladesh. Importantly, post-graduate and post-doctorate students will be selected from local universities that are willing to continue focussing research on the effectiveness of EbA interventions after the lifespan of the LDCF-financed project. In addition, a plan will be developed to manage information and knowledge – including collation, storage and dissemination – on climate change and EbA during and after project implementation. This knowledge management plan will facilitate sustainability and upscaling of this approach in Bangladesh. Moreover, a strategy will be developed to further promote upscaling of EbA throughout Bangladesh. This upscaling strategy will be informed by lessons learned in through implementing EbA in the Barind Tract and Haor Area and validated by local and national government officials. The activities implemented within this outcome of the project will increase knowledge on best-practice EbA for Bangladesh including in the long term. In particular, access to information on EbA – including scientific reports and lessons learned through implementation of the EbA approach – will be improved.

Output 3.1. A central information database – for information on EbA lessons learned and cost-effectiveness from the Haor Area, Barind Tract and other regions across Bangladesh – established or strengthened in MoEF within an appropriate entity

The activities to be implemented under Output 3.1 are:

- 3.1.1. Review existing information databases for ecosystem restoration and/or climate change – including government department websites (such as the climate change website hosted by the MoEF at <http://www.climatechange.gov.bd>) – to identify an appropriate portal for the central EbA information database.
- 3.1.2. If an appropriate portal is identified in Activity 3.1.1, strengthen this portal to include the central EbA information database. If no appropriate existing portals are identified, establish a new portal<sup>27</sup>.
- 3.1.3. Collate data and information from relevant departments and institutions to share on the central EbA information database including: i) lessons learned through implementing the LDCF-financed project; ii) results of research and assessments undertaken within the project; and iii) cost-effectiveness of EbA.

Output 3.2. Financial support provided to post-graduate and post-doctorate researchers to conduct research focused on specific climate change risks and the EbA interventions that are implemented by the project.

The activities to be implemented under Output 3.2 are:

- 3.2.1. Identify research institutions that will be able to assess and research the impact of EbA interventions in the Barind Tract and Haor Area in the long term.
- 3.2.2. Identify post-graduate and post-doctorate students from local research institutions to conduct research on risks from climate change and the effectiveness of EbA interventions implemented by the LDCF-financed project.
- 3.2.3. Develop research questions with selected students to measure the effectiveness of EbA interventions implemented in the Haor Area and Barind Tract.
- 3.2.4. Provide financial support to post-graduate and post-doctorate researchers to scientifically assess the biological, physical and socio-economic impacts of the implemented EbA interventions.

Output 3.3. A knowledge management plan developed to capture and share information on climate change impacts and EbA.

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<sup>27</sup> This portal should be linked to relevant portals/websites established by relevant project such as the GEF/SCCF-funded **Enhancing capacity, knowledge and technology support to build climate resilience of vulnerable developing countries**. The website for this portal is <http://www.ebasouth.org/>.

The activities to be implemented under Output 3.3 are:

- 3.3.1. Design and implement a knowledge management plan and communication strategy to capture, store and disseminate knowledge products generated by the LDCF-financed, baseline and aligned projects in Bangladesh.

Output 3.4. Frameworks that support replicating and upscaling of EbA in Bangladesh developed and presented to relevant national institutions.

The activities to be implemented under Output 3.4 are as follows:

- 3.4.1. Identify good practices for, and barriers to, the effective upscaling of EbA interventions.
- 3.4.2. Develop a nation-wide EbA upscaling strategy through consultation with stakeholders at all levels (including local communities), led by Department of Environment, to sustain and replicate climate-resilient development using EbA.
- 3.4.3. Develop two business-case models<sup>28</sup> to support the nation-wide upscaling strategy including *inter alia* details on: i) the benefits of EbA relevant to the costs; ii) implementation arrangements at all levels (including within local communities) to promote this approach; and ii) potential funding mechanisms.
- 3.4.4. Host a workshop to validate the upscaling strategy and business-case models developed under this output with relevant local and national government officials including *inter alia* the MoF, MoA, MoP, MoEF, MoL and MoWR and all relevant departments under these ministries.

**4) Additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing**

A summary of the adaptation alternative and the business-as-usual scenario – overall and per outcome – is presented in the tables below.

Business-as-usual	Adaptation alternative scenario
<p>Growing population pressure, poverty and unsustainable agricultural practices will continue to result in the degradation of dryland forests in the Barind Tract and swamp forests in the Haor Area. This degradation will reduce the capacity of ecosystems in these areas to provide valuable goods and services that underpin the livelihoods of local communities, such as nutrient cycling, water purification and flood regulation. Several ongoing initiatives are being implemented to address the problems associated with environmental degradation and its underlying causes. The current and predicted effects of climate change – including <i>inter alia</i> increasing temperatures and rainfall variability – will continue to reduce the effectiveness of these initiatives to address the baseline problems. Without LDCF resources, stakeholders involved in these projects will not have adequate capacity to plan and implement EbA to adapt to climate change.</p>	<p>LDCF resources will be used to increase the capacity of government and local communities in Bangladesh to adapt to climate change using the cost-effective, low-risk EbA approach. Stakeholders will be trained on implementing EbA to restore degraded dryland forests in the Barind Tract and swamp forests in the Haor Area to make them: i) more resilient to climate variability; and ii) more beneficial to the local community than the degraded ecosystem iii) combining EbA methods with small scale infrastructure investments. Demonstration of EbA in selected intervention sites using LDCF resources will provide local communities with enhanced ecosystem services, which will reduce their vulnerability to climate change as well as provide alternative sources of income and increased food security under conditions of climate change.</p>

<sup>28</sup>This will be done by following the Targeted Scenario Analysis (TSA) approach.

Business-as-usual	Adaptation alternative scenario
<p><b>Outcome 1</b></p> <ul style="list-style-type: none"> <li>• Policy- and decision-makers in Bangladesh will remain unaware of the considerable benefits of EbA and this will remain an under-explored adaptation strategy.</li> <li>• Technical knowledge on the implementation of EbA interventions will remain limited.</li> <li>• The national approach to ecosystem restoration will continue to be <i>ad hoc</i>, with various ecosystem restoration-related activities taking place in isolation, and with minimal communication between ministries.</li> <li>• Line ministries will continue to have limited technical and institutional capacity for developing the full suite of adaptation benefits that can arise from restoring degraded ecosystems using EbA.</li> </ul>	<p><b>Outcome 1</b></p> <p>LDCF resources will be used to increase the technical and institutional capacity of stakeholders in Bangladesh to adapt to climate change using EbA. The interventions in this outcome will promote the inclusion of EbA in national policies and strategies thereby creating a platform for promoting large-scale EbA in Bangladesh. This will be done through the activities listed below.</p> <ul style="list-style-type: none"> <li>• Developing policy briefs to propose revisions to existing policies and plans that are particularly relevant to ecosystem management.</li> <li>• Conducting technical training with staff from national ministries to present the policy briefs.</li> <li>• Developing technical guidelines for policy- and decision-makers on how to plan and finance EbA interventions that will increase the resilience of communities whose livelihoods are underpinned by functional , intact ecosystems.</li> <li>• Strengthening the mandate of the CCC to include EbA coordination, and strengthening capacity to move from policy to implementation.</li> <li>• Conducting technical training workshops with national and local government staff to: i) present technical guidelines; and ii) train technical staff on moving from policy to implementation.</li> <li>• Promoting improved communication on climate change and EbA between relevant ministries by including multiple implementing partners in the execution of project activities.</li> <li>• Assisting in overcoming barriers to national dialogue by promoting an integrated approach for EbA, in multiple climate-vulnerable sectors.</li> <li>• Conducting introductory training of national and local government on EbA.</li> <li>• Ultimately, creating an enabling policy environment that strongly promotes large-scale EbA implementation.</li> </ul>

<p><b>Outcome 2</b></p> <ul style="list-style-type: none"> <li>• Degradation of climate-vulnerable dryland forests in the Barind Tract will continue to result in negative effects such as: i) increased soil erosion, which reduces agricultural and forest productivity; ii) reduced water infiltration with impacts on ground water and stream flow; iii) flood events from river bank erosion and catchment degradation iv) increased sedimentation of rivers, haors and beels resulting in decreased water quality v) degraded habitat destruction impacting on fish production and vi) reduced agricultural yields.</li> <li>• Livelihood improvement initiatives – such as the Irrigation Project in the Barind Tract and the SRCWP in the Haor Area – will continue to focus on the construction of hard infrastructure rather than combinations of infrastructure and EbA to maximise adaptation benefits for local communities.</li> <li>• Government projects and NGOs will continue to undertake restoration of degraded ecosystems with limited consideration of climate change trajectories.</li> <li>•</li> </ul>	<p><b>Outcome 2</b></p> <p>LDCF finances will be used to demonstrate technologies – including EbA – to increase the adaptive capacity of local communities in the Barind Tract and Haor area. This will be achieved through the activities listed below.</p> <ul style="list-style-type: none"> <li>• Conducting comprehensive Vulnerability Impact Assessments (VIAs) to: i) identify the most vulnerable communities; and ii) select specific sites for the implantation of project activities in the Barind Tract and Haor Area.</li> <li>• Establishing VCGs in the Barind Tract and Haor Area.</li> <li>• Collecting scientific research and traditional knowledge.</li> <li>• Preparing technical protocols and methodologies for the implementation of EbA, and hard infrastructure that supports EbA in dryland and swamp forests in Bangladesh.</li> <li>• Implementing tailored EbA to restore dryland forests and swamp forests in the selected upazilas in the Barind Tract and Haor Area.</li> <li>• Constructing hard infrastructure to support the selected EbA interventions.</li> <li>• Developing , demonstrating and funding climate-resilient additional livelihoods with local communities in selected upazilas to: i) promote conservation of dryland forests and swamp forests; and ii) adaptation to climate change.</li> <li>• Conducting training of local communities (in particular women and youth) on: i) EbA; ii) hard infrastructure that conserves water in the Barind Tract and reduces erosion in the Haor Area; iii) additional livelihoods; and iv) techniques to manage livestock under conditions of climate change.</li> </ul>
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<p><b>Outcome 3</b> Policy- and decision-makers, and the public in Bangladesh will remain largely unaware of the considerable benefits of EbA as a means of adapting to climate change.</p> <ul style="list-style-type: none"> <li>• Impacts of EbA will not be measured in the long term.</li> <li>• Knowledge of EbA will remain limited among the public including policy- and decision-makers, national stakeholders and local communities.</li> <li>• The evidence-base for adaptation technologies in Bangladesh – including EbA – will not be adequate to prioritise effective interventions.</li> <li>• Scientific knowledge on EbA will remain limited and will not inform the design of restoration activities.</li> </ul>	<p><b>Outcome 3</b> LDCF resources will be used to increase knowledge on the benefits and application of EbA, by:</p> <ul style="list-style-type: none"> <li>• designing, creating and maintaining a central information database that will allow sharing of and access to <i>inter alia</i>, technical guidelines, technical reports, handbooks and scientific reports in a user-friendly manner;</li> <li>• providing financial support to PhD and post-doctorate researchers – including international exchange programmes – to conduct research on specific climate change risks and the long term impacts of EbA in the Barind Tract and Haor Area;</li> <li>• promoting short-, medium-, and long-term scientific research within institutions in Bangladesh on EbA – including scientific studies and research into local knowledge – for maximising the benefits of EbA in different ecosystems;</li> <li>• designing and implementing a knowledge management plan – including a strategy for monitoring the biophysical and socio-economic benefits of these interventions over the long-term – and communication strategy to capture, store and disseminate knowledge products generated by the LDCF-financed project and other ecosystems restoration projects in Bangladesh;</li> <li>• developing frameworks that support the replicating and upscaling of EbA in Bangladesh; and</li> <li>• training policy- and decision-makers on the use of the frameworks that support the upscaling of EbA in Bangladesh.</li> </ul>
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### 5) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The LDCF-financed project will improve inter-ministerial coordination and capacity to adapt to climate change in Bangladesh, particularly through implementing an EbA approach. This will be achieved by providing technical support and training to stakeholders including staff from the BMDA, BWDB, BHWDB, DEA, BFD and DLS on planning and implementing this approach. Upscaling of EbA throughout Bangladesh will also be promoted by proposing recommendations to policies and plans for climate-vulnerable sectors such as agriculture, ecosystem management and water. Additionally, access to scientific and traditional knowledge on EbA will be improved for government stakeholders and local communities. Management tools and plans for knowledge of effective adaptation interventions – EbA in particular – will be established through the LDCF-financed project, which will facilitate sustainability and upscaling of this approach to adaptation in Bangladesh.

The adaptation benefits of EbA in swamp forests in Haor Area and dryland forests in the Barind Tract will include enhanced ecosystem services which will reduce the vulnerability of local communities to climate change such as: i) reduced loss of top soils; ii) increased water infiltration, stream flow and groundwater recharge and iii) reduced floods; and other direct benefits such as iv) increased water availability through built water storage; v) longer lifetime of flood protection measures v) availability of non-timber forest products (NTFPs)<sup>29</sup> and vi) restoration and conservation of wildlife habitats including fish spawning sites which will increase food security

Development of livelihoods will further increase the resilience of the local communities to climate change by reducing reliance on a narrow range of resources. EbA and livelihood demonstrations will be supported by national and local

<sup>29</sup> Such as mushrooms, wild fruits, honey and medicinal plants.

institutional and capacity strengthening – of the DoE, DLS, FD, DAE, WARPO, BMDA, LGED and BWDB and VCGs – to reduce the vulnerability of local communities living in the Barind Tract and Haor Area to climate change.

Local communities will benefit directly from the restoration of 260 hectares of climate change resilient dryland forests and wetland forests in the Barind Tract and Haor Area. Research/information on EbA that will be consolidated, generated and shared through the central information base under Component 3 will promote the expansion and replication of local-level interventions nationally. The alternative livelihood interventions will directly benefit over 675 households in local communities living in at least eight upazilas. Additionally, gender equity will be followed in all aspects of the project by ensuring that women are appropriately included in trainings, planning and implementation of the project activities, see Section A4 for more details.

The particular EbA interventions to be implemented within the LDCF-financed project will be sensitive to climate change in their design. Drought- and flood-resilient forest species will, for example, be selected for these interventions based on climate change trajectories for selected sites in the Barind Tract and Haor Area. These EbA interventions will be complemented by the construction of adaptation technology infrastructure for topsoil and water conservation. This mixing of “soft” and “hard” adaptation technologies is an innovative and cost-effective method to sustain adaptation benefits in the long-term<sup>30</sup>. The infrastructure will provide adaptation benefits – including availability of water for irrigation and reduced soil erosion – in the short term. Investments in ecosystems are expected to deliver sustainability to the hard infrastructure installed under this project, assuming that the ecosystems are managed effectively through time, and the small scale rainwater harvesting and storage infrastructure built are expected to increase the benefits of ecosystem investments, thus promoting stewardship of ecosystems beyond the project lifetime.

A new Economics of Land Degradation project is starting up in Bangladesh later in 2016 in the context of an Asian regional project and will focus on quantifying the losses associated with land degradation and the benefits of sustainable land management. This LDCF project will link to this project to adopt good practice methodologies in quantifying the cost effectiveness of the proposed adaptation measures from the perspective of ecosystem services. The results will feed into the development of the business case models under Component 3 to promote up-scaling of the approach.

## **6) Innovativeness, sustainability and potential for scaling up**

### **Innovativeness**

A rapidly growing body of studies suggest that EbA projects deliver favourable cost/benefit ratios when compared with hard adaptation strategies<sup>31</sup>. This is because EbA can help support governments to meet not only their adaptation needs but also greenhouse gas emissions mitigation and broader development goals. EbA reduces climate change vulnerability, and it simultaneously provides a range of co-benefits such as carbon storage and sequestration, biodiversity conservation, alternative livelihoods, and poverty reduction opportunities. The project will benefit from the innovative combination of EbA and small-scale infrastructure which will be mutually beneficial and reinforcing in delivering adaptation benefits during the project period and beyond. Furthermore, the project offers an opportunity to build an evidence base on how EbA approaches can be differentiated and implemented in two different types of ecosystems – dryland and wetland.

The Village Conservation Fund (VCF) are new to Bangladesh and will be mechanism to develop leadership and management capacities and therefore empower local communities in the adaptation process and to create sustainability for adaptation investments beyond the project grant. The VCF will be used as a revolving fund and is aimed at

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<sup>30</sup> Rao et al. 2013. *An economic analysis of ecosystem-based adaptation and engineering options for climate change adaptation in Lami Town, Republic of the Fiji Islands*. A technical report by the Secretariat of the Pacific Regional Environment Programme. Apia, Samoa.

<sup>31</sup> Bignaut, J., Aronson, J. and de Wit, M. 2014. The economics of restoration: looking back and leaping forward. *Annals of the New York Academy of Science* (1322): 35-47.

promoting entrepreneurship for alternative livelihoods that help communities become economically stronger in a situation of climate change.

To promote private sector investment in EbA in Bangladesh, business case models – for both the public and private sector – will be developed and integrated into an upscaling strategy. This is an innovative approach to replicating and upscaling EbA and increasing the adaptive capacity of communities vulnerable to climate change. These business case models will include details on: i) the benefits of EbA relative to the costs; ii) implementation arrangements to promote this approach; and iii) potential funding mechanisms.

The management arrangements for the LDCF-financed project will include national as well as regional management units. These management units will work closely with implementing partners, VCGs and local communities in the project sites to implement project activities. In addition, the project will support the establishment of regional co-ordination committees which will facilitate local dialogue on adapting to climate change using EbA. These management arrangements will promote vertical and horizontal dialogue and coordination between government and private sector stakeholders.

### **Sustainability**

The LDCF-financed project was developed by consulting a wide range of stakeholders, including: i) central government representatives; ii) local government representatives in the Barind Tract and Haor Area; iii) NGO's; iv) implementing agencies; v) national academic institutions; and vi) local communities (see Section 2.5 of the UNEP Project Document for more details). This participatory approach has promoted ownership of the project by all stakeholders. As a result, it is assumed that project interventions will be sustained beyond the project implementation period. A participatory approach will also be used during the implementation of the project to further promote: i) stakeholder ownership; and ii) sustainability of project interventions. The mechanisms for stakeholders consultations will include: i) initial meetings with local government and national government ministries during the project inception workshop; ii) consultation meetings with the coordinators of the baseline projects and co-financing institutions; iii) consultation meetings with aligned projects; iv) consultation meetings with local NGOs and community members; and v) consultation meetings with beneficiaries of the LDCF-financed project

National and local government members will be trained on accessing national funding for EbA from the National Climate Funds. This increased capacity to access funds for EbA will contribute to reducing financial barriers to implementing this approach. Additionally, training on planning and implementing tailored EbA in dryland forests in the Barind Tract and swamp forests in the Haor Area will be provided to local government involved in ongoing initiatives such as the Irrigation Project, Agri-Products Project, FMP and SRCWP. This training – including technical details of selected species, planting protocols and monitoring and conservation plans – will promote replication and sustainability of EbA through these initiatives. Because most of these stakeholders are government representatives, the benefits of strengthening their capacities for this approach will be sustained after these baseline projects have terminated. Technical guidelines on implementing EbA will also be developed to support this training. These technical guidelines will be disseminated to stakeholders including representatives from BMDA, BWDB, BHWDB, DEA, BFD and DLS. Additionally, the guidelines will be made available – along with other technical reports – through the central information base that will be established or strengthened by the LDCF-financed project. This information base – and the knowledge management plan developed through the project – will sustain technical capacity that will be strengthened during the lifespan of the LDCF-financed project. National capacity and knowledge for planning and implementing EbA will also be strengthened through: i) prioritising national consultants to be appointed to work on the LDCF-financed project; and ii) funding PhD and post-doctorate researchers to measure the effectiveness of EbA in the long-term. International consultants will only be appointed when local expertise is limited. In such cases, national and international consultants will collaborate to develop national expertise on EbA

The long-term sustainability of the adaptation interventions will be promoted by establishing/strengthening Village Conservation Groups (VCGs) at intervention sites. In the Haor Area, this activity will build on the VCGs that were established by the CWBMP project. In the Barind Tract, VCGs do not currently exist, and will therefore be established through the LDCF-financed project, based on lessons learned through the CWBMP project. These VCGs will include members from the targeted communities including a representation of women and youth. These committees will: i)

participate in all project activities at the selected communities; and ii) manage and protect restored ecosystems. planning and undertaking maintenance events – including replanting certain areas when necessary and maintaining infrastructure – throughout the project lifespan. The technical capacity of these stakeholders to plan, implement and monitor EbA will be strengthened through the LDCF-financed project. A Village Conservation Fund (VCF) will also be established to maintain the various project interventions in the long term. Refer to Annex N for draft operational and management guidelines for the fund. The VCF will provide options for alternative income generation for vulnerable communities whose livelihoods are dependent on ecosystem services. In addition the VCF will also be used to maintain project interventions past the end of the project – e.g. funding for the management of nurseries, maintenance of restoration activities, re-excavating canals etc. – thereby promoting sustainability of the interventions. The sustainability of demonstrations will also be promoted by strengthening or establishing links between local communities at project interventions sites and markets for products from livelihoods that are demonstrated through the LDCF-financed project.

With regard to the sustainability of various pond and canal excavation activities, EbA will be implemented to complement these re-excavation activities by reducing erosion in watersheds surrounding beels and ponds, which will decrease the rate of sedimentation. Implementation of EbA will consequently enhance ecosystem functioning of natural beels and ponds in the long term. These relatively small canals will be maintained by local communities after the project lifespan through manual labour, and using finances from the VCF. EbA will also be implemented alongside new canals that will be constructed through the LDCF-financed project. This will reduce erosion of topsoils into the canals, thereby increasing the sustainability of the infrastructure.

Furthermore, the protocols that will be developed within Output 2.4 will detail ways to maintain the infrastructure that will be constructed through the LDCF-financed project, and will guide targeted communities after the lifespan of the project.

The LDCF-financed project will benefit from the UN's previous experiences in Bangladesh, particularly the UNDP Comprehensive Disaster Management Programme. Therefore, the project will build on the lessons learned from this project – and other initiatives for ecosystem restoration and management – to avoid pitfalls that have been experienced.

### **Potential for upscaling**

The project design aligns with the National Adaptation Programme of Action (NAPA), the National Action Programme for combatting Desertification (NAP), and the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) priorities. This alignment increases the likelihood of the project interventions being upscaled to other areas. In addition, the cost-effectiveness of the proposed interventions as well as the buy-in of local communities will encourage the government to include EbA in national development planning.

The LDCF-financed project will implement interventions in dryland forests in the Barind Tract and swamp forests in the Haor Area in Bangladesh. Within the project, technical protocols and tools for adaptation interventions will consequently be tailored to dryland and wetland ecosystems. These ecosystems cover a large portion of Bangladesh's land area. Therefore, EbA interventions can be replicated and upscaled in other degraded dryland forests and swamp forests using the protocols and tools developed within this project.

Policy briefs that propose revisions to national policies and plans to include EbA, and technical guidelines on how to plan, finance and implement EbA and hard infrastructure that conserves water in the Barind Tract and reduces erosion in the Haor Area will be produced and distributed to policy- and decision-makers in Bangladesh. The demonstration and monitoring of adaptation technologies in the Barind Tract and Haor Area through the LDCF-financed project will increase the evidence base for this approach. Dissemination of this evidence to the general public – including policy- and decision-makers, government and local communities – through the knowledge platform will also support upscaling of EbA. In addition, the technical guidelines will further promote upscaling of on-the-ground adaptation interventions across Bangladesh.

To facilitate effective replication and upscaling of EbA, lessons learned during implementation will be documented and disseminated by means of: i) workshops with policy- and decision-makers, project managers and other relevant

stakeholders, and ii) an online platform that will be developed within the project to share information on climate change adaptation (see Activity 3.1.2) and EbA. In addition, the upscaling of the project activities will be promoted by the strengthened of institutional and technical capacity of government agencies such as the MoEF and DoE.

Finally, an upscaling strategy developed in output 3.4 - which includes business case models, is aimed at sustaining and replicating climate-resilient development using EbA in Bangladesh.

*A.2. Child Project? If this is a child project under a program, describe how the components contribute to the overall program impact.*

N/A

*A.3. Stakeholders. Elaborate on how the key stakeholders engagement, particularly with regard to civil society and indigenous people, is factored in the preparation and implementation of the project.*

The LDCF-financed project has been country-driven and developed through extensive consultations with national and multilateral stakeholders (see Appendix 21 of the UNEP Project Document for further details on the inception mission, workshops and stakeholder consultations). As a result, the project has been designed to address the priority adaptation needs identified by these stakeholders. This participatory approach to stakeholder engagement promotes ownership of the project by local communities. Consultations at PPG phase included: i) the inception workshop on November 2014; ii) regional workshops in the Barind Tract and Haor Area; iii) multiple meetings with individual international, national and local level stakeholders during November 2014 and November 2015; and iv) multiple remote consultations with national and multilateral stakeholders between October 2015 and November 2015. The main purpose of the stakeholder consultations was to identify: i) appropriate EbA interventions based on the vulnerabilities and needs of different groups within local communities (including Indigenous Communities, women and the youth); ii) on-going projects relevant to the activities of the project; iii) national and local government authorities relevant to the activities of the project; iv) relevant national policies and legislation; and v) additional information on the baseline context in Bangladesh. As a result of these consultations, the LDCF-financed project is aligned with national policies and plans and will be feasible in the local context. The organisations and institutions that were consulted during the Project Preparation Grant (PPG) phase are listed in Annex L.

During project implementation, stakeholder participation will be coordinated to enable effective implementation of the LDCF-financed project. The stakeholder engagement plan described in will be developed during the project inception workshop. Stakeholders will be consulted throughout the implementation phase to: i) promote community understanding of the project's outcomes; ii) promote local community ownership of the project through engaging in planning, implementing and monitoring of the interventions; iii) communicate to the public in a consistent, supportive and effective manner; and iv) maximise complementation with other ongoing projects.

The mechanisms for stakeholders consultations will include: i) initial meetings with local government and national government ministries during the project inception workshop (see Section 2.5 of UNEP project document); ii) consultation meetings with the coordinators of the baseline projects and co-financing institutions (see Section 2.6); iii) consultation meetings with aligned projects (See Section 2.7); iv) consultation meetings with local NGOs; and v) consultation meetings with local communities, indigenous communities and with the beneficiaries of the LDCF-financed project.

Importantly, project interventions will be designed to promote gender equality (see Section A.4 below). To achieve this, Bangladesh gender action groups – such as CARE Bangladesh – will be thoroughly consulted during the project inception phase and throughout implementation.

The stakeholders and partners for each outcome are described in the table below. Memorandums of Understanding (MoUs) will be signed between the different government institutions participating in the implementation of LDCF-

financed project. The corresponding budget for the activity will then be transferred to the implementing partners in charge. Details of stakeholder participation will be finalised during project inception.

**Table 1.** Stakeholder participation per outcome

<b>Outcome</b>	<b>Output</b>	<b>Lead or coordinating institution/s</b>	<b>Important Stakeholders/ partners</b>	<b>Key responsibilities</b>
<b>Outcome 1. Strengthened technical capacity of local and national government to plan, implement and upscale EbA.</b>	Output 1.1 Policy briefs developed on proposed revisions to policies and strategies related to dryland and wetland ecosystem management to promote EbA.	DoE	<ul style="list-style-type: none"> <li>• DoE</li> <li>• NPE</li> <li>• International Policy Expert</li> </ul>	Overseeing: <ul style="list-style-type: none"> <li>• meetings between national experts and projects already conducting research on revisions to existing policies and strategies related to dryland and wetland ecosystem management; and</li> <li>• providing support to develop policy briefs that propose revisions to policies and plans related to ecosystem management.</li> </ul>
	Output 1.2 Mandate of the Climate Change Cell (CCC) incorporates EbA based on technical guidelines and training provided to support coordination, planning and implementation of EbA across Bangladesh.	DoE	<ul style="list-style-type: none"> <li>• CCC</li> <li>• NPE</li> <li>• International Policy Expert</li> <li>• International EbA expert</li> <li>• NAE</li> <li>• ITA</li> </ul>	Overseeing: <ul style="list-style-type: none"> <li>• meetings between national experts and projects already conducting research on policies and strategies for producing technical guidelines that promote EbA;</li> <li>• review of relevant strategies and policies to identify where technical guidelines on EbA are needed; and</li> <li>• development of technical guidelines that promote adaptation to climate change using EbA.</li> </ul>
	Output 1.3 Training provided to national and local government and VCG members on planning and implementing EbA interventions.	DoE	<ul style="list-style-type: none"> <li>• DoE</li> <li>• National Experts</li> <li>• CARE</li> </ul>	Overseeing: <ul style="list-style-type: none"> <li>• developing training materials for national and local government departments on planning and financing EbA; and</li> <li>• training on planning and financing EbA.</li> </ul>
<b>Outcome 2 Adaptation technologies – including EbA– demonstrated in the Barind Tract and Haor Area to restore degraded ecosystems and promote</b>	Output 2.1 Vulnerability impact assessments undertaken to select target communities in the Barind Tract and Haor Area.	DoE	<ul style="list-style-type: none"> <li>• National Vulnerability Assessment Expert.</li> <li>• CARE</li> </ul>	Overseeing the undertaking of comprehensive VIA undertaken in the Barind Tract and Haor Area.
	Output 2.2 Local authorities, communities, committees and user groups in the Barind Tract and Haor Area trained on implementing and	DoE	<ul style="list-style-type: none"> <li>• DoE</li> <li>• BWDB</li> <li>• LGED</li> <li>• National Adaptation Specialist</li> <li>• NGOs</li> <li>• VCGs and local</li> </ul>	Overseeing: <ul style="list-style-type: none"> <li>• Developing training materials for local authorities, communities, committees and user groups in the Barind Tract and Haor Area on planning and implementing EbA; and</li> </ul>

<b>topsoil and water conservation.</b>	maintaining adaptation technologies, and developing additional livelihoods.		<ul style="list-style-type: none"> <li>communities</li> <li>Santal community representatives</li> <li>CARE</li> </ul>	<ul style="list-style-type: none"> <li>training on EbA.</li> </ul>
	Output 2.3 EbA demonstrated in degraded forests in the Haor Area and Barind Tract.	DoE	<ul style="list-style-type: none"> <li>BMDA</li> <li>BWDB</li> <li>FD</li> <li>DoE</li> <li>LGED</li> <li>International EbA Expert.</li> <li>National Biodiversity and Ecology Expert</li> <li>National Adaptation Specialist</li> <li>National Climate Change and Socio-economic Expert</li> <li>National indigenous species in Bangladesh Expert</li> <li>NGOs</li> <li>VCGs and local communities</li> <li>Upazila Development Coordination Committee (UDCC) and District Development Coordinating Committees (DDCC)</li> <li>Santal community representatives</li> <li>CARE</li> </ul>	<p>Implementing:</p> <ul style="list-style-type: none"> <li>reforestation of degraded dryland forests in the Barind Tract and degraded swamp forests in the Haor Area and;</li> <li>reforestation of degraded dryland forest along road side strips in the Barind Tract and swamp forest along road sides in the Haor Area; and</li> <li>establishment of homestead plantations in the Barind Tract and Haor Area;</li> <li>Set up of VCF</li> </ul> <p>Overseeing:</p> <ul style="list-style-type: none"> <li>construction of nurseries in the Barind Tract and Haor Area.</li> <li>Setting up and management of the VCF</li> </ul>
	Output 2.4 Adaptation technologies demonstrated – including excavation/re-excavation of ponds, canals and beels, and installation of rainwater harvesting devices – to support EbA by reducing erosion in the Hoar Area and conserving water in the Barind Tract	DoE	<ul style="list-style-type: none"> <li>BWDB</li> <li>LGED</li> <li>BMDA</li> <li>National Biodiversity and Ecology Expert</li> <li>National Adaptation Specialist</li> <li>National Climate Change and Socio-economic Expert</li> <li>NGOs</li> <li>VCGs and local communities</li> <li>Santal community representatives</li> <li>CARE</li> </ul>	<p>Implementing:</p> <ul style="list-style-type: none"> <li>excavation of ponds in the Barind Tract and Haor Area;</li> <li>digging canals in the Barind Tract and Haor Area; and</li> <li>instillation of rainwater harvesting systems in the Barind Tract.</li> </ul>
	Output 2.5 Additional livelihoods	DoE	<ul style="list-style-type: none"> <li>BWDB</li> <li>LGED</li> </ul>	<p>Implementing:</p> <ul style="list-style-type: none"> <li>demonstration of fish</li> </ul>

	demonstrated to enhance the adaptive capacity of local communities to climate change.		<ul style="list-style-type: none"> <li>• BMDA</li> <li>• National Biodiversity and Ecology Expert</li> <li>• National Adaptation Specialist</li> <li>• National Climate Change and Socio-economic Expert</li> <li>• National indigenous species in Bangladesh Expert</li> <li>• NGOs</li> <li>• VCGs and local communities</li> <li>• Santal community representatives</li> <li>• CARE</li> <li>• FAO</li> </ul>	<p>production in homestead ponds in the Barind Tract and Haor Area;</p> <ul style="list-style-type: none"> <li>• establishment of community homestead farming in the Barind Tract and Haor Area;</li> <li>• establishment of community-based floating gardens in the Haor Area; and</li> <li>• demonstration of spice cultivation through zero tillage in the Barind Tract.</li> </ul>
<b>Outcome 3: Improved access to scientific and traditional information on EbA to promote upscaling of this approach in Bangladesh.</b>	Output 3.1 A central information database – for information on EbA lessons learned and cost-effectiveness from the Haor Area, Barind Tract and other regions across Bangladesh – established or strengthened.	DoE	<ul style="list-style-type: none"> <li>• Consultant contract for an Information database/Web-design Company</li> </ul>	<p>Coordinating:</p> <ul style="list-style-type: none"> <li>• the design and implementation of a central information database for sharing information collated and generated by the project; and</li> <li>• Overseeing the development of the central information database.</li> </ul>
	Output 3.2 Financial support provided to post-graduate and post-doctorate researchers to conduct research on specific climate change risks and the EbA interventions that are implemented by the project.	DoE	<ul style="list-style-type: none"> <li>• National Academic</li> <li>• ICCCAD</li> <li>• BARRI</li> <li>• Local academic institutions</li> <li>• International academic institutions</li> <li>• Bangladesh Haor and Development Department</li> </ul>	<ul style="list-style-type: none"> <li>• Choosing – in coordination with baseline projects – topics on EbA for PhD theses and post-doctorate research.</li> <li>• Selecting and funding students.</li> <li>• Ensuring that students communicate the findings of their research.</li> <li>• Coordinating workshops to communicate findings and suggestions to DoE and other relevant ministries.</li> </ul>
	Output 3.3 A knowledge management plan developed to capture and share information on climate change impacts.	DoE	<ul style="list-style-type: none"> <li>• BMDA</li> <li>• HWDB</li> <li>• LGED</li> <li>• NIE</li> <li>• ICCCAD</li> <li>• Other tertiary institutions</li> </ul>	<ul style="list-style-type: none"> <li>• Overseeing development of a knowledge management plan.</li> <li>• Coordinating the capturing and sharing of impacts and lessons learned.</li> <li>• Implementing the use of the knowledge management plan.</li> </ul>
	Output 3.4 Frameworks that support replicating and upscaling of EbA in Bangladesh developed.	DoE	<ul style="list-style-type: none"> <li>• MoF</li> <li>• National and International Experts</li> <li>• BMDA</li> <li>• HWDB</li> <li>• LGED</li> </ul>	<p>Overseeing:</p> <ul style="list-style-type: none"> <li>• workshops/meetings between experts, and MoF; and</li> <li>• the development of frameworks that support the upscaling of EbA in Bangladesh.</li> <li>• Coordinating workshops to</li> </ul>



				communicate findings and strategies to policy- and decision-makers on the following topics: i) entry points for EbA; and ii) an upscaling strategy.
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**A.4. Gender Considerations.** *Elaborate on how gender considerations were mainstreamed into the project preparation, taking into account the differences, needs, roles and priorities of men and women.*

In Bangladesh, women tend to have lower incomes and fewer opportunities compared to men<sup>32</sup>. The Gender Inequality Index – which measures inequities in different areas of women's and men's everyday lives around the world – ranks Bangladesh at 115 out of 149 countries. The capacity of women to adapt to the effects of climate change is therefore constrained.

Women in Bangladesh have historically had a lower level of employment, less participation in the labour market and reduced level of pay. In addition to this women's level of representation in policy and decision making is low, with women only occupying ~19.7% of seats in parliament<sup>33</sup>. This low representation creates an obstacle to reforming policies related to gender equity.

Bangladesh has taken significant steps to close the gaps in equity in its education system. Bangladesh has achieved the MDG goal of gender parity in primary and secondary education at the national level. Despite this, there remains a considerable gap in enrolment literacy as well as the significantly higher proportion of female dropout from the system is still a major concern<sup>34</sup>.

The LDCF-financed project will adopt an approach that supports gender equality. As such, gender equality, women's rights and the empowerment of women will be promoted. Therefore, the project will support Bangladesh's moral and legal obligations as described in the Constitution. Article 28 of the Constitution recognises the principle of equality between men and women in all spheres of the State and public life. In addition, several of the GoB's Five Year Plans recognise the importance of gender mainstreaming and women's empowerment. For example, one of the goals of the National Policy for Women's Advancement (NPWA) is to ensure that adequate measures are taken for women's education, health and nutrition. In addition, Bangladesh has committed to a number of international conventions that have strong gender policies. These include: i) the United Nations Millennium Declaration; ii) the Cairo Program for Action; iii) the Beijing Platform for Action; and iv) the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW). Accordingly, gender equity – defined here as the equal participation of men and women in project activities – will be addressed in the development of EbA protocols. Stakeholder decisions relating to project activities will therefore only be made with a sufficient representation of women in attendance. Furthermore, women and youth will be a focus of technical capacity strengthening for implementing EbA in degraded dryland and swamp forests.

LDCF-financed project activities will be informed by socio-economic assessments that will include gender research. Moreover, Bangladesh gender action groups – such as CARE Bangladesh – will be consulted when: i) training materials for local communities on EbA and alternate livelihoods are designed; and ii) information materials are disseminated. These consultations will ensure that information reaches female stakeholders within their networks.

Climate-resilient livelihoods will be developed with a focus on including female-headed households. To ensure that the progress of gender mainstreaming can be monitored throughout the project, gender disaggregated targets have been developed and will be used to monitor indicators.

<sup>32</sup>Ferdaush J., K. M. Mustafizur Rahman. 2011. Gender Inequality in Bangladesh, Unnayan Onneshan a centre for research and action on development.

<sup>33</sup>UNDP Bangladesh Human Development Report 2013

<sup>34</sup>Ferdaush J., K. M. Mustafizur Rahman. 2011. Gender Inequality in Bangladesh, Unnayan Onneshan a centre for research and action on development.

Particular interventions that will contribute to reducing the vulnerability of women include:

- Undertaking socio-economic assessments under Outcome 2 that will identify marginalised groups – including women and youth – and identifying ways to empower these groups through project interventions.
- Female representation will be encouraged in: i) training sessions and workshops; and ii) activities for EbA demonstrations. Gender sensitivity will be incorporated into training topics so that: i) female participants are empowered to participate meaningfully in the trainings; and ii) all participants are made aware of their responsibility to respect the views of all of their colleagues during training workshops. Trainers will be required to have the skills and experience necessary to plan and facilitate gender-sensitive training.
- Including women, youth and other marginalised groups in Village Conservation Groups (VCGs) that will be involved in EbA interventions, and promoting women’s leadership of at least some of these groups. These groups will be trained on implementing, monitoring and maintaining EbA interventions, which will reduce the vulnerability of targeted communities.
- Supporting alternative livelihoods that are prioritised by women.

Additional targets for involving women are included in the Results Framework of the project (see Annex A).

The PM and M&E Expert will be responsible for monitoring and review of gender sensitivity in all aspects of the project and the application of gender-disaggregated indicators. The project will also create a mechanism in which women will report to the M&E expert on what their experience has been with regard to feeling empowered by project activities, and whether or not they felt that they benefited from project activities. In addition to gender awareness, the LDCF-financed project will promote the requirements of other disadvantaged and more vulnerable groups including the elderly, children and the differently abled.

*A.5 Risk. Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation. (table format acceptable):*

A participatory approach was adopted during the PPG phase of the project to assess and identify all potential risks to successful implementation of the project. Through annual PSC meetings, this approach will be continued throughout project implementation. Therefore, the project will have strong support from local communities and government. Risks to successful project implementation were identified and assessed and appropriate countermeasures and management responses to minimise the negative effect posed by the potential risk will be taken into consideration during project implementation. Monitoring, re-assessing and updating these project risks will be an important task of the PMU throughout project implementation. Table 2 below describes the risks that have been identified, their associated impacts and countermeasures.

**Table 2.** Risk matrix

#	Description	Potential consequence	Countermeasures	Risk category	Probability & impact (1–5)
National-level risks					
1	Political instability at the national level.	Project interventions delayed because of uncertain role allocation at the central level.	<ul style="list-style-type: none"> <li>• The project manager and ITA will keep abreast of developments in the country and have contingency plans if necessary.</li> </ul>	Organisational	P = 1 I = 3
2	Disagreement between stakeholders on the	Project interventions delayed because of uncertain role allocation.	<ul style="list-style-type: none"> <li>• Institutional representatives at the</li> </ul>	Organisational	P = 1 I = 4

	allocation of roles in the project.	Effectiveness of project management is reduced.	<p>validation workshop will agree upon the roles and responsibilities of each participating stakeholder.</p> <ul style="list-style-type: none"> <li>• During project implementation, the project will include relevant ministries and departments as partners to implement project activities. The coordination and reporting arrangements between ministries and departments will be clearly defined at project inception.</li> </ul>		
3	The central information database established in the MoEF is not utilised or maintained over time leading to limited inter-institutional data sharing or collaboration.	Limited transfer of relevant project information amongst role players and end-users resulting in delayed or ineffective implementation of interventions.	<ul style="list-style-type: none"> <li>• Awareness will be raised among stakeholders on the availability of information on the central information database and importance of using the portal to share information on climate change and EbA.</li> <li>• Stakeholder consultations will be held to identify expectations of sharing information and to clarify responsibilities.</li> <li>• An IT technician – based in the MoEF – will control content upload and ensure that the information database is maintained during and after the project.</li> </ul>	Organisational	P = 1 I = 4
4	The long-term nature of adaptation, in particular EbA, may lead to limited government support for project activities in the selected area.	Loss of government support may result in lack of prioritisation of project activities.	<ul style="list-style-type: none"> <li>• Regular stakeholder consultations will be undertaken with all government staff. Provide training and raise awareness of government authorities on the nature of EbA,</li> </ul>	Organisational	P = 2 I = 4

			and benefits from this approach that will accrue. This will also include active involvement in sharing information and lessons learned.		
5	High turnover of staff members in implementing agencies (in particular MoEF, DoE and CCU).	Changes in project-related government priorities and poor institutional memory result in disruptions or delays in project implementation and coordination.	<ul style="list-style-type: none"> <li>Alternative representatives within the involved institutions will be recommended at inception and involved in training to ensure continuity.</li> <li>Technical guidelines will be developed in English and Bengali. These guidelines will guide new staff that become involved in the project.</li> </ul>	Organisational	P = 2 I = 3
6	Increasing Overseas Development Assistance increases demands on time/capacity	Increasing Overseas Development Assistance results in increased demands on time for implementing agency officials, which in turn results in disruptions or delays in project implementation and coordination.	<ul style="list-style-type: none"> <li>Stakeholders from the LDCF-financed project will collaborate with other related development projects/ programmes/ activities/ initiatives to ensure that capacity is built according to the required in-country needs.</li> </ul>	Organisational	P = 3 I = 3
Local level risks					
7	Limited acceptance of stakeholders to accept change i.e. the adaptation alternative over the business-as-usual. This has a potential to affect the scaling up of project activities.	Communities may not adopt ecosystem restoration for adaptation activities during or after the project resulting in continued unsustainable use of resources.	<ul style="list-style-type: none"> <li>Training will be provided and awareness raised among local communities on the benefits of EbA.</li> <li>Share lessons learned – including success of – the LDCF-financed project.</li> <li>VCGs will promote sustainable management of restored ecosystems.</li> </ul>	Social	P = 1 I = 4
8	Disagreement over allocation of land for implementation of project activities.	Disagreement among stakeholders about site selection.	<ul style="list-style-type: none"> <li>Target upazilas were selected through national and local workshops, and</li> </ul>	Social	P = 1 I = 3

			<p>consultations to promote a transparent, logical and equitable site-selection process.</p> <ul style="list-style-type: none"> <li>• During selection of particular sites, existing land user rights and ownership will be considered.</li> </ul>		
9	Under-developed land tenure system of property rights undermines project interventions.	Insecure/unsure land tenure system decreases buy-in to EbA interventions by local communities.	<ul style="list-style-type: none"> <li>• EbA protocols will be informed by socio-economic assessments at project sites. These assessments will include information on land tenure to ensure the interventions will be sustained in the long term.</li> </ul>	Organisational and social	P = 1 I = 4
10	Unfavourable climate conditions including current climate and seasonal variability and/or extreme weather events.	Current climate and seasonal variability and/or hazard events result in poor restoration results.	<ul style="list-style-type: none"> <li>• Climatic variability will be taken into account in the selection of species for EbA.</li> <li>• Adaptation technology infrastructure will support implementation of EbA by providing water and reducing erosion.</li> </ul>	Environmental	P = 2 I = 4
11	Limited local technical capacity hinders project interventions.	Capacity constraints of local institutions and experts may limit the ability to undertake the research and demonstration activities.	<ul style="list-style-type: none"> <li>• Human resources capacity will be identified and developed as required.</li> <li>• Collaboration and exchange of information between local institutions and international research institutes will be initiated and sustained.</li> <li>• A Technical Advisor will work closely with the project Manager, and Bangladeshi experts will work closely with the LTAs to ensure timely delivery of project outputs.</li> </ul>	Technical	P = 1 I = 3
12	Limited	Lack of commitment/buy-	<ul style="list-style-type: none"> <li>• See stakeholder</li> </ul>	Social,	P = 1

	commitment/ buy-in from local communities.	in from local communities may result in failure of demonstration projects.	<p>engagement plan in Sections 4 and 5 of this document. This plan will be elaborated on during project inception.</p> <ul style="list-style-type: none"> <li>• During project implementation, local communities will be actively engaged and trained to ensure their buy-in into the project.</li> </ul>	Environmental	I = 4
13	Unsustainable land and natural resource use.	Unsustainable use of natural resources continues, leading to further degradation of ecosystems.	<ul style="list-style-type: none"> <li>• Training of local communities on the benefits of EbA and alternate livelihoods will be undertaken.</li> <li>• Local communities will be actively engaged during implementation.</li> </ul>	Social, Environmental	P = 3 I = 4
14	Implemented interventions are not cost-effective.	Priority interventions are not cost-effective which results in limited demonstration and will hamper the success of the interventions. Economic loss and budget allocation to other activities is reduced.	<ul style="list-style-type: none"> <li>• Cost-effectiveness has been considered in the design of the project interventions.</li> <li>• The mix of EbA and other adaptation technology infrastructure is a cost-effective approach to climate change adaptation (See Section 7.3 of the Project Document).</li> </ul>	Technical	P = 1 I = 2
15	Local communities cannot access sufficient support to implement EbA interventions successfully.	Lack of sufficient support to implement EbA for local communities may result in failure of demonstration projects.	<ul style="list-style-type: none"> <li>• Training will be provided for local communities on planning and implementing EbA.</li> </ul>	Social, Environmental	P = 1 I = 4

*A.6. Institutional Arrangement and Coordination. Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.*

### **Institutional framework and implementation arrangements**

The LDCF-financed project will be implemented over a four-year period<sup>35</sup>. Implementation will be informed by lessons learned from other restoration projects in Bangladesh and EbA projects in South Asia. For example, lessons learned during the implementation of the UNDP Coastal and Wetland Biodiversity Management at Cox's Bazar and Hakaluki Haor project will be used to inform the implementation of this LDCF-financed project. Lessons learned will be shared

<sup>35</sup>according to the workplan provided in Annex G

through: i) working with implementing partners in the Barind Tract and the Haor Area; ii) meetings with a wide range of government departments during the implementation of the LDCF-financed project; and iii) meetings with members of the Regional Project Coordination Committees that will be established by the LDCF-financed project.

UNEP will be the Implementing Agency (IA) for the project. The IA will oversee the project, and provide the technical assistance required to meet the project goals<sup>36</sup>, while UNEP will be responsible for project supervision to ensure consistency with GEF and UNEP policies and procedures. A task manager (TM) will be appointed for this role. The TM will be based in UNEP Department of Environmental Policy Implementation (DEPI) GEF Climate Change Adaptation Unit (GEF CCAU). The TM will participate in the: i) mid-term review and terminal evaluation; ii) clearance of half-yearly and annual reports; iii) technical review of project outputs; and iv) PSC meetings.

This project is in line with UNEP's Programme of Work 2014–2015, in particular with Subprogramme 1 – Climate Change. The project will be building capacity, undertaking pilot initiatives through Ecosystem-based approaches to Adaptation, fostering climate change outreach and awareness-raising – all of which are areas of work under Subprogramme 1 under the current UNEP Programme of Work (PoW 2014–15). Under the Climate Change Subprogramme the project will be contributing to PoW Output 2 (*Technical support provided to countries to implement ecosystem-based adaptation demonstrations and supporting adaptation approaches, and to scale these up through partnerships at the regional and national levels*) and Output 4 (*Technical support provided to countries to address adaptation planning and reporting requirements under the Framework Convention on Climate Change*), under expected accomplishment A (*Ecosystem-based and supporting adaptation approaches are implemented and integrated into key sectoral and national development strategies to reduce vulnerability and strengthen resilience to climate change impacts*).

## Management structure

As a result of the large distances between project sites and difficulties in travelling between sites, the management structure will include a centralised Project Management Unit and two regional management units. The management structure of the LDCF-financed project is presented in Figure 1. This will comprise:

- **Project Steering Committee (PSC)** to provide project oversight and advisory support, particularly for the Monitoring and Evaluation (M&E) plan.
- **Project Implementation Committee (PIC)** to provide guidance for project implementation. This Committee will be comprised of the DoE, the National Project Director (NPD) and representatives from other relevant ministries and departments.
- **Project Management Unit (PMU)** to execute the project at the national level, this structure will include: i) a Project Director (PD); ii) a Project Manager (PM); iii) an International Technical Advisor (ITA); iv) an Administrative and Finance Officer (AFO); and v) an Office Assistant.
- **Regional Technical Units (RTUs)** to execute the project at the regional level (one RTU in Rajshahi town and one RTU in Kulaura/Juri of Moulvibazar). This structure will include :i) a Regional Coordinator (RC); ii) a Local Technical Advisor (Barind and Haor); iii) a Climate Change and Natural Resource Management Expert (CC&NRME); iv) an Administrative and Finance Officer (AFO); and v) an Office Assistant.
- **Regional Project Coordination Committee (RPCC)** to facilitate enhanced collaboration, coordination and synergy by providing necessary guidance and insight during implementation of activities in pilot areas at the regional level. One RPCC will be established in both the Barind Tract and Haor Area. The RPCC will consist of focal points from the implementing partners, representatives of academia and civil society. The committee will be headed by the Regional Coordinator (RC) who will be an officer of the DoE.
- **Implementing Partners (IPs)** to execute/implement the delivery of project outputs and activities in the two pilot areas at the regional level.
- **National and International Experts** to provide technical support for project implementation. . This will include an international Technical Advisor (TA) who will work closely with the PM in consultation with PD.

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<sup>36</sup>see Appendix 14 in the project document for information on UNEP's comparative advantage

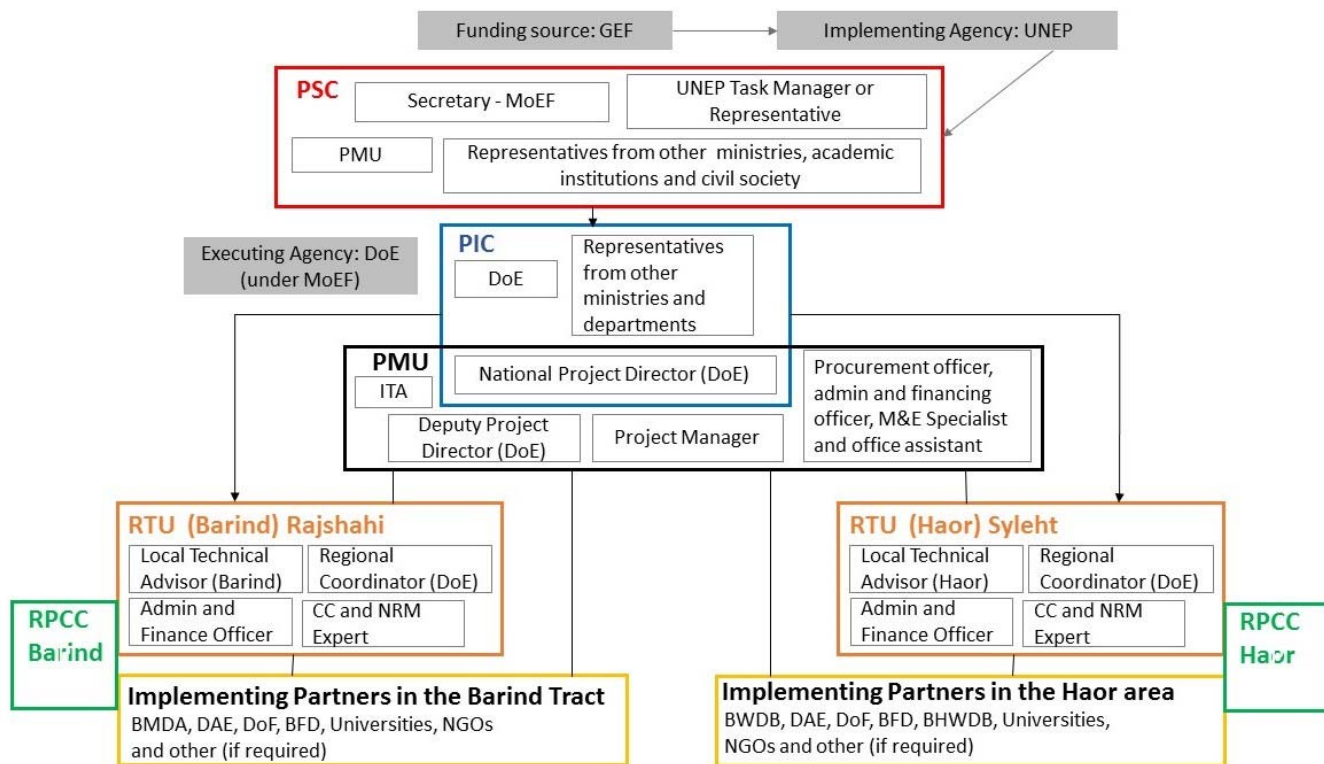


Figure 1. LDCF-financed project management structure.

The mandate of the **PSC** will include: i) overseeing project implementation; and ii) reviewing annual workplans, project reports including any changes in Results-Based Framework (RBF) or timeline of project activities. All decisions taken by the PSC will be communicated to the concerned parties by the Member Secretary. The PSC will meet twice a year to discuss performance indicators and provide strategic guidance. The Secretary of the MoEF (GEF Operational Focal Point) will play the role of the Chairman of the PSC, while the Joint Secretary/Deputy Chief of the MoEF will play the role of Member Secretary for the PSC. At the discretion of the PSC, the following stakeholders will be invited to participate in the PSC: i) representatives from ministries, department and implementing partners (e.g. Ministry of Agriculture, BWDB, BHWDB and DAE); ii) representatives from academic institutions (e.g. ICCCAD); iii) VCG members; and iv) representatives from civil society organisations working in the Barind Tract and Haor Area. These invitations will be extended to promote local ownership and guidance for the project.

**A Project Implementation Committee (PIC)** will be established under the DoE. This committee will be chaired by the Director General of the DoE. The PIC will meet quarterly – or more frequently if necessary – to oversee project implementation and coordination among the IPs. The PIC will provide guidance for project implementation and progress as per the approved workplan.

The DoE will be the **Executing Agency (EA) of this project**. PMU will be established under this government department. This unit will support day-to-day project execution and will ensure:

- the quality of outcomes delivered by the LDCF-financed project;
- the effective use of resources;
- appropriate procurement of equipment and consultation services;
- availability of financing to support project implementation; and
- efficient coordination between project stakeholders, particularly national stakeholders and IPs.



As the Executing Agency, the DoE will retain overall responsibility for project outcomes and strategic guidance. One of the Officers of the DoE will be the **Project Director** (PD). The PD will have complementary and mutually supporting roles of overseeing general project implementation and project management. The PD will be accountable to the PSC and PIC for project implementation. Additional responsibilities of the PD include ensuring: i) quality of outcomes delivered; ii) effective use of resources; and iii) appropriate procurement of equipment and consultation services; iv) hiring of project staff/personnel; and v) preparing the MoU with Implementing Partners.

A **Deputy Project Director** (DPD) will be appointed by MoEF who will be an officer of DoE. The DPD will have complementary and mutually supporting role associated with assisting the PD to oversee implementation, manage the project, and provide technical and operational support services under the guidance of PD.

A full-time **PM** will be hired for the PMU to coordinate and execute the day-to-day activities of the project. The PM will: i) report to the PD; and ii) manage the project in line with budget and work plans, and in accordance with GEF and UNEP guidelines. In addition, the PM will deliver progress reports on a monthly basis to the PD, TM and the ITA. These reports will include information on the: i) status of activities; and ii) challenges encountered on the ground during project execution. In particular, the PM will: i) provide on-the-ground information for UNEP progress reports; ii) engage with stakeholders in the Barind Tract and Haor Area; iii) provide technical support to the project, including measures to address challenges to project implementation; and iv) participate in all national and local training activities. Moreover, the PM will serve as a liaison among the PMU, the technical experts, IPs and the government staff involved in project activities.

Two **Regional Coordinators** (RC) will be appointed by the DoE and based in the RTU offices (one in each regional office). The RTU will be headed by RC and he/she will be the Convenor of RPCC. The RCs will: i) coordinate meetings of the RPCC and other meetings related to EbA project at regional level; ii) promote the timely execution of activities through IPs and the achievement of expected outcome of the project at the regional level; iii) promote dialogue between the DoE and the implementing partners particularly at regional and local level; iv) meet with the focal points from the implementing partners and discuss project progress as per the agreed workplan; v) visit and monitor the intervention sites regularly; vi) work in close collaboration and guidance of the PD.

Two **Local Technical Advisors** (LTAs) will be hired on a full-time basis to support the RC and PM. The responsibility of the LTAs will be to: i) promote the timely execution of activities and achievement of expected deliverables at the project sites; ii) facilitate and coordinate meetings of the RPCC and other meetings. The LTAs will visit/monitor the intervention sites regularly. LTAs will be based in the RTU offices and work under the guidance RC and PM.

At the regional level, the project activities will be executed by **Implementing Partners** (IPs) including: i) the BMDA, DAE, DoF, DLS, BFD, and NGOs in the Barind Tract; and ii) the BWDB, DAE, BFD, BHWDB, DLS, and NGOs in the Haor Area. The IPs will work within the overall framework of the project and will be responsible for: i) the timely execution of activities and achievement of expected deliverables at the project sites; ii) the procurement of equipment and consultation services; and iii) the participation of VCGs and local communities in the LDCF-financed project activities. Each IP will designate a Focal Point with day-to-day responsibility for the project and act as a key point of contact for project management purposes. The IPs Focal Points will report to the RC. Each Focal Point will be responsible for preparing annual work plans in coordination with the RTU under the overall direction of the PMU and in line with the overall guidance of the RPCC. Furthermore, all IPs will: i) have a signed Letter of Agreement (LoA) – or if needed, official legal instruments (contract/MoU) –with the DoE outlining the particular roles and responsibilities of the IPs and the DoE; ii) be assigned financial and material resources based on the agreed objectives and work plans set out in the LoA/MoU; and iii) be accountable for the use of funds, for progress on agreed work plans and for achieving expected outputs. Both the PMU and the IPs may engage contractors or subcontractors to carry out specific tasks relating to project delivery as long as these are stipulated within annual or quarterly work plans.

An Administrative and Finance Officer (AFO) will be based in the PMU and each of the RTUs (three AFOs in total) and will assist in administrative and financial matters. These officers will: i) prepare quarterly financial reports to track

internal expenditures; ii) drawing up a procurement plan; iii) track project procurement; iv) track legal instruments, v) report on expendable equipment, and vi) other activities.

A team of Experts will be employed for the implementation of the project activities. They will provide technical support for specialised tasks that cannot be undertaken by DoE staff or the staff of the implementing partner organisations. Descriptions of the Experts' responsibilities are included in the project's budget notes (see Appendix 1). To address challenges in the implementation of specialised EbA interventions at a national level, an international TA with EbA expertise will be hired to provide technical advice. This individual (ITA) should have experience in other GEF adaptation projects. Responsibilities of the TA will include *inter alia*: i) advising on suitable technical methodologies; ii) technical advice and guidance to national Experts' work; iii) providing quality assurance and technical review of outputs; iv) assisting with knowledge management and communications for awareness-raising at a national level; and v) providing specialised technical and capacity building support to the PMU. The ITA will travel to Bangladesh as per workplan to interact with national and regional staff and implementing partners. In year 1, the ITA will spend two months in country to assist the PM in setting up and initiating the project and thereafter provide 1 month remote technical assistance. In year 2, the TA will spend 1 month in country to provide technical assistance and oversee project implementation and thereafter provide 1 month remote technical assistance. In year 3, the ITA will spend 1 month in country to provide technical assistance. As the project progresses, the technical capacity of PMU, PM, RCs, LTAs and experts will be enhanced through the support of the ITA.

### **Coordination with other relevant GEF-financed projects and other initiatives**

The project has been designed in full alignment with the portfolio of GEF projects that are currently in implementation phase. The project will align with the following GEF-financed and projects that are not financed by GEF (for further information on coordination with GEF and non-GEF initiatives consult Section 2.7 of the UNEP Project Document).

GEF-financed initiatives that that will be under implementation during the implementation of the LDCF project are as follows:

- The project entitled Community-based climate resilient fisheries and aquaculture development in Bangladesh is financed by the GEF/LDCF. This project is implemented by the FAO and executed by the Department of Fisheries. This project aims to address the effects of climate change by strengthening the adaptive capacity in the fisheries and aquaculture sectors and is implementing on-the-ground interventions in the Juri upazila in the Haor wetland area. Synergies will be sought, where relevant, especially with regard to livelihood activities under output 2.5 and EbA demonstration activities under output 2.3 and 2.4 of the LDCF project. The LDCF-financed project will maintain ongoing communication with the FAO-implemented project through the Regional Project Coordination Committees (RPCC) and through PSC meetings where the FAO implemented project will be invited to attend in order to promote synergies and avoid duplication of efforts.
- Assisting Least Developed Countries (LDCs) with country-driven processes to advance National Adaptation Plans (GEF) is a UNEP/UNDP support programme that integrates medium- to long-term planning for adaptation for climate change. The proposed LDCF project will develop the evidence base on the cost effectiveness of investing in ecosystems as an adaptation measure. More broadly, the project will generate lessons learned, and strengthen national and local government coordination mechanisms, implementation partnerships, and awareness and capacity that will be relevant to continuing adaptation planning in the country
- Enhancing capacity, knowledge and technology support to build climate resilience of vulnerable developing countries (SCCF) (2013-2017) will reduce the vulnerability of LDCs and developing African and Asia-Pacific countries to the effects of climate change. The proposed LDCF project will generate knowledge, best practices and lessons learned that can be fed into the knowledge portal that has been developed under the above mentioned SCCF project. Supporting countries in the region to implement EbA and enhancing the south-south transfer of knowledge.
- The UNEP GEF trust fund project entitled *National Land Use and Land Degradation Profile toward mainstreaming Sustainable Land Management practices in sector policies* will be executed by the Department of Environment and will run from 2016 to 2019. The aim of the project is to establish a knowledge base and enabling policy and institutional environment for SLM consideration in the country's development agenda. The LDCF project can

provide useful information and linkages with regard to national land use planning and mapping, as well as on ensuring climate change is integrated into land use policy.

Other relevant non-GEF project initiatives that will be under implementation during the implementation of the LDCF project are as follows:

- Climate-Resilient Ecosystems and Livelihoods programme (2013-17) provided technical advice and assistance to government ministries, technical agencies and community-based organizations. The LDCF-financed project will link with this USAID-funded project by developing the capacity of national and local government to implement EbA and upscale this approach into national and local policies and plans;
- Action Research on Community Adaptation in Bangladesh (ARCAB) (2010 – 2060) is a long-term action-research project– funded by the Department for International Development (DFID) – that is learning from and supporting vulnerable communities in Bangladesh as they adapt to human-induced climate change. ARCAB shares this learning with other developing countries. The project plans to follow how communities adapt to floods, droughts, cyclones and sea level rises at 20 climate-vulnerable sites in the country during the next 50 years or more. The LDCF project will generate lessons learned and create an evidence base on helping communities to adapt to climate change using EbA. ARCAB can use the projects sites as a useful learning tool and as a case study. In addition, the scientific papers produced by the LDCF project can feed into the long term research of ARCAB;
- International Committee on Climate Change Adaptation and Development (ICCCAD). The aim of ICCCAD is to develop a world-class institution that is closely related to local experience, knowledge and research in one of the countries that is most affected by climate change. The LDCF-financed project is well aligned with ICCCAD’s mandate to improve knowledge on, and capacity to adapt to, climate change. The LDCF project will coordinate with ICCCAD and build on relevant trainings related to Component 1 and on the scientific knowledge created in Component 3;
- The Cooperative for Assistance and Relief Everywhere (CARE). Since 1994, CARE has focussed on social justice and decreasing poverty for marginalised groups in Bangladesh. The cooperative has a strong focus on empowering women and will be consulted throughout the LDCF-financed project to ensure integration of gender equality into all activities;
- The Economics of Land Degradation (ELD) and Land Degradation Neutrality (LDN) in Asia is a regional project that is led by UNEP and the Central Asia Regional Economic Cooperation – CAREC and ELD Initiative. The ELD initiative aims to increase political and public awareness of economic costs and benefits of healthy and productive land. The final objective of this cooperation is to prepare a report on the state of knowledge on land degradation and natural capital for Asian Countries clearly showing the comparison of benefits and costs of action to sustainable land management. The LDCF project sites could be a useful and relevant case study for the ELD initiative, as well as using their methodologies as the basis for building the case for upscaling EbA (in Component 3 of the LDCF project).

#### **ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:**

*A.7 Benefits. Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?*

At the national level, the LDCF-financed project will increase the technical and institutional capacity of government to address the negative effects of climate change through implementing EbA. The direct consequence of this approach will be: i) enhanced capacity to integrate climate change and EbA into policies, plans and legislation; and ii) increased capacity to plan, finance and implement EbA interventions as a means of adapting to climate change.

The restoration of dryland forests in the Barind Tract and swamp forests in the Haor Area will result in multiple socio-economic and environmental benefits for local communities. The restoration of these ecosystems will increase the productivity of forests, agriculture and fisheries in the Barind Tract and Haor Area. Direct benefits from these interventions include: i) reduced risk of damage to public and private infrastructure and assets from droughts and floods;

and ii) reduced possibility of loss of life from droughts and floods. Indirect benefits include: i) reduced loss of income from sales of goods from droughts and floods; ii) reduced cost of maintenance and repairs from droughts and floods; iii) reduced cost of response and relief efforts from droughts and floods. Furthermore, the promotion of additional livelihood options will further enhance local community resilience to climate change. These additional livelihood options will provide 1900 households in both the Barind Tract and Haor Area with additional income generating activities. Participants in additional livelihood options are expected to have higher levels of income that will allow them to increase savings and/or further invest in productive assets. This will strengthen their capacity to recover autonomously from eventual climate shocks as well as invest in health care, education, nutrition and other social outcomes.

A new Economics of Land Degradation project is starting up Bangladesh later in 2016 in the context of an Asian regional project, which will focus on quantifying the losses associated with land degradation and the benefits of sustainable land management. This LDCF project will link to this project to adopt good practice methodologies in quantifying the cost effectiveness of the proposed adaptation measures from the perspective of ecosystem services. The methodologies will be adapted to include the expected socio-economic benefits from investments in EbA. The results will feed into the development of the business case models under Component 3 to promote up-scaling of the approach.

The LDCF-financed project will result in multiple benefits for women in targeted communities as well as men. Training opportunities will actively seek the involvement of women, men and youth; leadership of the Village Conservation Groups (VCGs) that will be established to implement and maintain EbA interventions will be encouraged in equitable numbers from the groups of women, men and youth participating in the project. Furthermore, at least some of alternative livelihoods that are supported by the project will respond to the adaptation priorities identified by women. The design of interventions will be informed by gender-sensitive socio-economic research at each interventions site. Section A.4 has more details on the approach to gender equity.

The project’s activities will include measures to support the sustained generation of socio-economic and environmental benefits beyond the project implementation period. For example, the VCGs the project will develop a strategy to upscale EbA in Bangladesh. Additionally, the lessons learned during the project will be collated and shared with local and national policy- and decision-makers.

*A.8 Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.*

Within all three components and implementation structure, the LDCF-financed project will promote effective management of knowledge. The table below details how knowledge will be managed effectively.

Project aspect/component	Contribution to effective knowledge management
Component 1	<ul style="list-style-type: none"> <li>• <i>Maintaining/sustaining knowledge:</i> Through <b>training</b> of national and local government staff, and VCG members on planning and implementing EbA interventions, these national stakeholders will have enhanced knowledge to implement this approach in the future.</li> <li>• <i>Generating and recording information/knowledge:</i> <b>Policy briefs</b> and <b>technical guidelines</b> will be developed to support integration of climate change and EbA into relevant policies and plans, and their related budget.</li> <li>• <i>Improving knowledge:</i> Through conducting <b>technical training</b> on EbA; staff in government and local communities will have enhanced knowledge to implement EbA as a cost-effective means of adapting to climate change.</li> </ul>
Component 2	<ul style="list-style-type: none"> <li>• <i>Generating and recording information/knowledge:</i> A set of detailed <b>Vulnerability Impact</b></li> </ul>

	<p><b>Assessments</b> (VIAs) will be conducted with local authorities and communities in each union of the selected upazilas in the Barind Tract and Haor Area to identify particular sites in which project activities will be implemented.</p> <ul style="list-style-type: none"> <li>• <i>Generating information/knowledge:</i> <b>Technical protocols</b> for the reforestation of forests in degraded dryland and swamp forests, and for the implementation and maintenance of ponds, canals/kahls and rainwater-harvesting systems will be developed based on: i) site specific socio-economic, biodiversity and climate change assessments in the Barind Tract and Haor Area; and ii) traditional knowledge on ecosystem restoration in the Barind Tract and Haor Area.</li> <li>• <i>Generating information/knowledge:</i> <b>Research</b> will be conducted on effective methods to increase the climate-resilience of: i) fish production in homestead ponds; ii) community-based gardens, iii) community-based floating gardens; and iv) spice cultivation through zero tillage that will be implemented by the project, information will be generated.</li> <li>• <i>Maintaining/sustaining knowledge:</i> <b>Village Conservation Groups</b> (VCGs) will be established in the selected upazilas in the Barind Tract and Haor Area. These VCGs will be involved in coordinating project activities, and monitoring the impacts of project interventions and sharing of lessons learned, and will sustain this knowledge in the area once the project has ended.</li> <li>• <i>Maintaining/sustaining knowledge:</i> Through <b>training</b> of local authorities, communities, committees and user groups in the Barind Tract and Hoar Area, these stakeholders will have enhanced knowledge on climate change and EbA.</li> </ul>
Component 3	<ul style="list-style-type: none"> <li>• <i>Maintaining/sustaining knowledge:</i> Through <b>establishing or strengthening</b> a web portal and undertaking awareness-raising campaigns to disseminate information on EbA best practices and lessons learned through the LDCF-financed project, knowledge on EbA will be enhanced among the general public</li> <li>• <i>Generating and recording information/knowledge:</i> By <b>providing financial support</b> to post-graduate and post-doctorate researchers to conduct research focused on specific climate change risks and the EbA interventions that are implemented by the project, stakeholders will have improved access to information on the effectiveness and benefits of implementing EbA.</li> <li>• <i>Maintaining/sustaining knowledge:</i> Through <b>developing</b> a knowledge management plan to capture and share information on climate change impacts and EbA, stakeholders will be provided with an evidence base for EbA, thereby promoting the wide-scale implementation of this approach across Bangladesh.</li> <li>• <i>Generating and recording information/knowledge:</i> Business case models – for both the public and private sector – will be developed and integrated into an upscaling strategy to promote private sector investment in EbA in Bangladesh. These will remain available to stakeholders after the project has ended.</li> </ul>

## B. DESCRIPTION OF THE CONSISTENCY WITH:

*B.1 Consistency with National Priorities. Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.:*

The LDCF-financed project remained aligned with the following national strategies, plans and priorities:

- Bangladesh National Environmental Management Action Plan (NEMAP). The LDCF-financed project will contribute to realising improvements in the environment as described in the objectives of the Action Plan. This plan will likely be revised to identify entry points for EbA.
- United Nations Development Assistance Framework (UNDAF). The LDCF-financed project will promote outcomes under three pillars of the framework. In particular, the project is well aligned with Outcome 5.1.1 under Pillar 5 “By 2016, populations vulnerable to climate change and natural disaster have become more resilient to adapt with the risk”.
- Bangladesh Forestry Master Plan (BFMP). This plan will likely be revised to identify entry points for EbA.
- The National Biodiversity Strategy and Action Plan (NBSAP). The NBSAP aligns with the Poverty Reduction Strategy Paper (PRSP) and Bangladesh’s Sixth Five Year Plan (2011–2015) by promoting sustainable livelihoods

from ecosystem goods and services, thereby contributing to poverty reduction. The LDCF-financed project will support these objectives by developing livelihoods for local communities in the Barind Tract and Haor Area. The National Water Management Plan (NWMP). The LDCF-financed project will have a positive effect on water resource management in the Barind Tract and Haor Area by: i) restoring degraded ecosystems; and ii) implementing techniques that reduce erosion and promote groundwater recharge. This plan will likely be revised to identify entry points for EbA.

- The Haor Master Plan (HMP) was developed in 2012 with the goal of planning and implementing activities related to the optimum utilisation of water resources, and reduction of poverty. The LDCF-financed project will contribute to achieving these objectives by restoring degraded swamp forests in the Haor Area. This will increase freshwater ecosystem goods/services – including the provision of fish and fibre, water purification and supply, flood regulation, and sediment/nutrient retention and export – under heavier and more erratic rainfall during the monsoon season.
- GoB’s Sixth Five Year Plan (2011–2015). This plan prioritises adaptation to climate change for vulnerable communities and degraded ecosystems. The LDCF-financed project will support these priorities by strengthening Bangladesh’s institutional and technical capacity to plan and implement EbA. Thereby providing ecosystems and local communities with a means of adapting to climate change.
- Social Forestry Rules (SFR) provides legal support to communities partaking in participatory forestry and to promote sustainability of the programme. The LDCF-financed project will align with the SFR by training local authorities, communities, committees and user groups – with an emphasis on women and youth – on adapting community livelihoods to climate change by using specific techniques for restoring degraded dryland forests and swamp forests in the Barind Tract and Haor Area respectively.
- The National Adaptation Program for Action (NAPA). The NAPA identified 15 projects to address urgent and immediate national adaptation priorities. The Barind Tract and Haor Area are described in the NAPA as two of the most vulnerable areas in Bangladesh. The LDCF-financed project is aligned with the projects described below.
  - Project 6: “Mainstreaming adaptation to climate change into policies and programmes in different sectors (focusing on disaster management, water, agriculture, health and industry)”.
  - Project 10: “Promotion of research on drought, flood and saline tolerant varieties of crops to facilitate adaptation in future”.
  - Project 12: “Adaptation to agriculture systems in areas prone to enhanced flash flooding–North East and Central Region”.
- The National Action Programme for Combating Desertification (NAP). The NAP identifies factors contributing to the process of desertification in Bangladesh. The LDCF-financed project will align with the NAP by building the climate resilience of communities in the Barind Tract that are exposed to increasingly frequent and severe seasonal droughts and intermittent dry spells.
- The National Adaptation Planning (NAP) process has been initiated in Bangladesh. To date, delegates from Bangladesh have received training on this process at the NAP-Global Support Programme (GSP) workshop that was conducted in February 2014. Relevant programmes and initiatives that have been implemented, on which the NAP process should build, have been identified. These include the: i) European Climate Change Adaptation Conference (ECCA); and ii) the Climate Public Expenditure and Institutional Review (CPEIR) that was developed for Bangladesh in 2012. The LDCF-financed project will support the NAP process by: i) recommending revisions to policies to promote an integrated approach to adaptation; and ii) establishing a framework for long-term research on the effectiveness of adaptation methods.
- While the LDCF-financed project is focussed on increasing technical capacity for EbA, restored forests will promote the sequestration of carbon and contribute to the mitigation of climate change globally. The project is therefore aligned with – and will support – the Intended Nationally Determined Contributions (INDC) process. This process is currently being initiated in Bangladesh.
- The GoB has made considerable progress in planning to achieve the Sustainable Development Goals (SDGs). Through implementation of EbA, the LDCF-financed project will contribute to: i) promoting “climate action” (SDG 13); and ii) improving “life on land” (SDG 15).

Policies, strategies and plans related to agriculture, ecosystem management and water will likely be reviewed within Component 1.

For more information on these strategies and plans, please refer to Section 3.6 of the UNEP Project Document - Consistency with national priorities and plans.

*B.2. Fund Strategies. GEF focal area<sup>37</sup> and/or fund(s) strategies, eligibility criteria and priorities.*

The LDCF-financed project is aligned with the new GEF VI Focal Area/LDCF strategies. This conformity was taken into account in the design of the project’s components. In particular, the following GEF Focal Area Objectives are addressed by the project.

- *CCA-1, Outcome 1.1: Vulnerability of physical assets and natural systems reduced.* The implementation of EbA and hard infrastructure that conserves water in the Barind Tract and reduces erosion in the Haor Area (Component 2) will reduce the vulnerability of natural systems.
- *CCA-2, Outcome 2.3. Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures.* The production of technical guidelines that promote the implementation of EbA (Component 1), and training of national and local government staff and local community members (Component 1 and 2) will strengthen the capacity of local and national government to identify, implement and upscale adaptation in the Barind Tract and Haor Area and in Bangladesh as a whole.
- *CCA-3, Outcome 3.1. Institutional arrangements to lead, coordinate and support the integration of climate change adaptation into relevant policies, plans and associated processes established and strengthened.* While a climate change coordinating mechanism already exists in Bangladesh the project will be strengthening its ability to coordinate specific adaptation actions such as EbA through the revision of its mandate.

**C. DESCRIBE THE BUDGETED M &E PLAN:**

The M&E budget is presented in the table below.

Type of M&E activity	Responsible parties	Budget US \$ (excluding project team staff time)	Time-frame
<b>Inception workshop</b>	<ul style="list-style-type: none"> <li>• PM</li> <li>• ITA</li> <li>• UNEP TM</li> </ul>	Indicative cost: US \$3,000	Within first two months of project start up
<b>Measurement of means of verification of project results</b>	<ul style="list-style-type: none"> <li>• PM</li> <li>• ITA</li> <li>• UNEP TM</li> </ul>	To be finalised in Inception Phase and Workshop. This includes hiring of specific studies and institutions, and delegate responsibilities to relevant team members.	Start, mid and end of project (during evaluation cycle) and annually when required.
<b>Measuring MoV for project progress on output and implementation</b>	<ul style="list-style-type: none"> <li>• PM</li> <li>• DPM</li> <li>• UNEP TM</li> <li>• ITA</li> </ul>	To be determined as part of the preparation of Annual Work Plans (AWPs).	Annually prior to PIR and to the definition of AWPs
<b>PIR</b>	<ul style="list-style-type: none"> <li>• PM</li> <li>• CTA</li> <li>• UNEP TM</li> <li>• PO</li> <li>• FO</li> </ul>	None. Financial audit records to be provided for PSC review	Annually

<sup>37</sup> For biodiversity projects, please describe which [Aichi Target\(s\)](#) the project will directly contribute to and what indicators will be used to track progress towards achieving these specific Aichi target(s).


Type of M&E activity	Responsible parties	Budget US \$ (excluding project team staff time)	Time-frame
<b>Progress reports</b>	<ul style="list-style-type: none"> <li>• PM</li> <li>• ITA</li> <li>• UNEP TM</li> </ul>	None	Quarterly
<b>Annual audit</b>	<ul style="list-style-type: none"> <li>• External Expert</li> <li>• UNEP TM</li> <li>• PM</li> </ul>	Indicative cost: US \$20,000	Annually
<b>Annual PSC meeting</b>	<ul style="list-style-type: none"> <li>• PSC</li> </ul>	Indicative cost: US \$6,000	Annually
<b>Independent baseline assessment</b>	<ul style="list-style-type: none"> <li>• External Expert</li> <li>• UNEP TM</li> <li>• PM</li> </ul>	Indicative cost: US\$ 35,000	No later than 3 months after project inception
<b>MTR</b>	<ul style="list-style-type: none"> <li>• UNEP TM</li> </ul>	Indicative cost: US\$ 35,000	At the mid-point of project implementation.
<b>Independent terminal evaluation</b>	<ul style="list-style-type: none"> <li>• UNEP Evaluation office</li> </ul>	Indicative cost: US\$ 35,000	At least three months before the end of project implementation
<b>Project closure workshop and report</b>	<ul style="list-style-type: none"> <li>• PM</li> <li>• ITA</li> <li>• UNEP TM</li> </ul>	None	On completion of the terminal evaluation.
<b>Visits to demonstration sites</b>	<ul style="list-style-type: none"> <li>• UNEP TM</li> <li>• PM</li> <li>• ITA</li> <li>• PSC representatives</li> </ul>	For GEF supported projects, paid from IA fees and operational budget	Yearly
<b>TOTAL indicative COST Excluding project team staff time and UNEP staff and travel expenses</b>			<b>Estimated Cost: US\$ 134,000</b>



**PART III: CERTIFICATION BY GEF PARTNER AGENCY(IES)**

**A. GEF Agency(ies) certification**

**This request has been prepared in accordance with GEF policies<sup>38</sup> and procedures and meets the GEF criteria for CEO endorsement under GEF-6.**

<b>Agency Coordinator, Agency Name</b>	<b>Signature</b>	<b>Date (MM/dd/yyyy)</b>	<b>Project Contact Person</b>	<b>Telephone</b>	<b>Email Address</b>
Brennan Van Dyke, Director, GEF Coordination Office UNEP		November 2, 2016	Atifa Kassam Task Manager GEF Climate Change Adaptation Unit	(+254) 20-762- 3507	<a href="mailto:Atifa.Kassam@unep.org">Atifa.Kassam@unep.org</a>

<sup>38</sup> GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

## ANNEX A: PROJECT RESULTS FRAMEWORK

Objective/Outcome	Indicator	Baseline	Target (by project end)	MoV
<p><b>Project objective</b> To decrease the vulnerability of local communities living in the Barind Tract and Haor Area to the negative impacts of climate change using Ecosystem-based Adaptation approaches (EbA).</p>	1. Number of individuals benefitting from project interventions disaggregated by gender.	1. Zero	1. At least 6000 beneficiaries (to be validated at inception) of which at least 40% will be women.	1. Household surveys and reports.  2. Specific surveys directed towards women to understand how much they have benefited from project activities.
<p><b>Outcome 1</b> Strengthened capacity of local and national government to plan, implement and upscale EbA.</p>	1. Degree to which capacity of regional, national and sub-national government institutions to identify, prioritize, implement, monitor and evaluate EbA strategies and measures is strengthened.	<p>1. Baseline study to be conducted at the project inception stage.</p> <p>Currently institutions – including CCC – are identifying climate change risks and adaptation options, but not appropriate EbA interventions to manage these risks. Government institutions do not prioritise the implementation of EbA interventions.</p> <p>Government from relevant ministries and departments – including MoEF, MoWR, MoA, DoE, DoAE, WARPO, FD, BMDA and BWDB – have been trained on: i) the effects of climate change; ii) management and relief of climate-related disasters; and iii) climate-resilient crops for adaptation. However, government staff have not received training on EbA</p>	1. Increase by 3 in the capacity score assessment of each institution.	<p>1. Verified through Scorecard Scoring methodologies adapted from AMAT (2014)<sup>39</sup>.</p> <p><i>The indicator is based on five step criteria of capacity assessment framework (expressed as questions):</i></p> <p>1. Are the institutions in the process of identifying climate change risks and appropriate EbA interventions?</p> <p>2. Are the institutions in the process of prioritizing EbA interventions, integrating this approach into relevant policies and strategies and specifying budget allocations and targets for these interventions?</p> <p>3. Have the institutions – including the CCC – defined clear roles and responsibilities for the coordination and implementation of EbA interventions?</p> <p>4. Is there evidence of effective implementation of EbA interventions by the institutions?</p> <p>5. Is there evidence of</p>

<sup>39</sup>Adapted from TAMD (2013) and PPCR (2014) scorecard indicators.

				<p><i>strengthened institutional capacities within the Climate Change Cell, BMDA, BWDB, BHWDB, DEA, BFD, DLS – through gender-sensitive training – for the continuous assessment, learning and review of EbA strategies and measures?</i></p> <p>Each question is answered with an assessment and score for the extent to which the associated criterion has been met: not at all (= 0), partially (= 1) or to a large extent/ completely (= 2). An overall score is calculated, with a maximum score of 10 given five criteria. These five criteria will be reviewed and validated at inception phase of the project.</p>
<p><b>Outcome 2</b> Adaptation technologies – including EbA– demonstrated in the Barind Tract and Haor Area to restore degraded ecosystems and promote topsoil and water conservation.</p>	<p><b>Outcome indicator</b> 1. Number of Village Conservation Groups (VCGs) implementing and maintaining EbA interventions in the Barind Tract and Haor Area.</p>	1. Zero	1. Twenty Five	1. Site visits to verify existence of VCGs. Meetings with VCGs to assess their ability to implement and maintain EbA interventions.
	2. Number of hectares of EbA demonstrated in degraded dryland and swamp forests	2. Zero	2. EbA implemented in at least: i) 50 hectares of degraded swamp forests; ii) 50 hectares of degraded upland forests; iii) 80 hectares of degraded dryland forests; iv) 130 km of strips along roads, canals, ponds and embankments.	2. Site visits to verify the existence of reforested areas and comparison with existing maps of the intervention sites. The presence of saplings will be a proxy for establishment. Interviews with local community members and local government. GPS data and maps of rehabilitated area..
	3. Number of homestead plantations established by the project.	3. Zero.	3. 1900 homestead plantations.	3. Site visits to verify the existence of homestead plantations. Interviews with local community members and

				local government. GPS data and maps of homestead plantations.
	4. Number of adaptation technologies implemented to support EbA by conserving topsoil and water.	4. Zero	4. At least: i) 48 ponds excavated/re-excavated; ii) 6 canals constructed; and iii) 27 rainwater harvesting systems demonstrated.	4. Site visits to verify the existence of functional ponds, canals and rainwater harvesting systems. Interviews with local government and communities.
	5. Number of climate-resilient livelihoods introduced at intervention sites through providing equipment, training and technical support.	5. Zero	5. 1545 (in at least four categories - fish production, floating vegetable gardens, farming gardens and spice cultivation).	5. Site visits to verify the existence of functional aquaculture facilities, floating gardens, duck farming systems and spice cultivation plots. Interviews with local government and communities.
<b>Outcome 3</b> Improved access to scientific and traditional information on EbA to promote upscaling of this approach in Bangladesh.	<b>Outcome indicator</b> 1. Number of government agencies using knowledge management tools developed by the project to share information on EbA.	1. Zero	1. At least 6 (including MoF, MoA, MoP, MoEF, MoL and MoWR).	1. Consultation/assessment with targeted agencies.
	2. Number of PhD candidates and post-doctorate researchers conducting research focused on the environmental and socio-economic impacts of the EbA interventions and hard infrastructure implemented through the LDCF-financed project in the Barind tract and Haor area.	2. Zero	2. At least 2 PhD students and 1 post-doctorate researcher have been/are conducting research.	2. Review of enrolment documentation. Interviews with academics and students. Data and reports developed by students.
	3. Number of strategies and models promoting the replication and upscaling of EbA interventions validated by local and government.	3. Zero	3. At least 3  (1 nation-wide EbA upscaling strategy for Bangladesh and 2 business case models.)	3. Report from workshop to validate upscaling strategy and business case models.

## ANNEX B: RESPONSES TO PROJECT REVIEWS

(from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

### Response to GEF secretariat review

#	Comment	Response
8.	<p>By CEO endorsement:            (i) Please explain in more detail the specific improvements the LDCF project will bring to the baseline projects. The table on p. 19 is useful but does not give specifics. (For example, what are the specific 'additional' measures that will be taken to make the Seed Project climate resilient -- will the LDCF provide improved/different seed, or will it make improvements to irrigation that will render the Seed Project more resilient?). Also, please provide an indication of how many villages/beneficiaries/infrastructures will gain from the LDCF improvements to the baseline projects. (ii) Please demonstrate that consideration was given to the possible impacts of climate change on the selected LDCF activities, so that they are indeed 'EbA', and not business-as-usual natural resources management.</p>	<p>i) Under Outcome 1, the LDCF-financed project will strengthen the technical capacity of the stakeholders involved in baseline projects to plan and implement EbA. Application of this technical capacity on EbA by such stakeholders will contribute to the success of the baseline projects under conditions of climate change. Under Outcome 2, reforestation using EbA will improve the success of the baseline projects working in the Barind Tract and Haor Area under conditions of climate change. Species will be selected for reforestation of forests in the Barind Tract – through <i>the Barind Tract Water Conservation and Irrigation Project and Marketing of Agricultural Products through Development of Rural Communication Project</i> – that: i) grow quickly under conditions of drought; ii) are broad-leaved, thereby reducing rainfall impact on the soil; iii) have deep root systems, thereby increase water infiltration into the soil; and iv) produce natural resources that provide benefits for local communities including NTFPs and medicinal products. The reforestation of dryland forests will increase water infiltration and groundwater recharge. Plant species will be selected for forest restoration in the Haor Area to: i) bind soils, thereby reducing erosion; and ii) produce natural resources that provide benefits for local communities including NTFPs. These interventions will improve habitat for wildlife in the Haor Area under conditions of climate change, thereby supporting the activities of the <i>Strengthening Regional Co-operation for Wildlife Protection Project</i>. EbA interventions to restore forests in this area will also complement and protect infrastructure for flood management that has been installed by the <i>Haor Flood Management and Livelihood Improvement Project</i>. The construction of hard infrastructure through the LDCF-financed project will further climate proof this infrastructure by reducing siltation flash flooding in the Haor Area. During the PPG phase, particular upazilas were selected for these LDCF-financed project interventions, namely: Fenchuganj, Golapganj, Barlekha, Juri and Kulaura in the Haor Area, and Tanore, Nachole and Pirganj in the Barind Tract. Vulnerability assessments will be conducted at project inception to select specific target sites and communities. Consultations that were undertaken</p>

		<p>during PPG phase indicated that at least 6000 community members will benefit from LDCF interventions in these upazilas. See Section 2.6 of the UNEP Project Document and Section A1 of the CEO Endorsement for more details on the specific improvements that the LDCF-financed project will bring to the four identified baseline projects.</p> <p>ii) Interventions can be considered EbA instead of 'business-as-usual' because plant species will be prioritised for reforestation in the Barind Tract and Haor Area based on: i) preferences of local communities; ii) findings from particular assessments undertaken within the LDCF-financed project; and iii) climate data on predicted trends for intervention sites for reforestation of dryland forests in the Barind Tract. See Section 3.3 and 3.6 of the UNEP Project Document and Section A1 of the CEO Endorsement for more details on the LDCF activities.</p>
10.	<p>By CEO endorsement stage: (i) Please provide details on how CSOs and communities will be engaged in designing and implementing the project. (ii) Is it possible to provide quantifiable indicators on CSO engagement in the LDCF project? (iii) How will the needs of marginalized communities be addressed?</p>	<p>i) The establishment of Village Conservation Groups (VCGs) in the Barind Tract and Haor Area will ensure local communities will be engaged in all project activities at the local level. See Section 2.5 and 5 of the UNEP Project Document for details on how national and local representatives were involved in project design and will be involved in project implementation.</p> <p>ii) Indicators have been included in the Results Framework (Annex A of the CEO Endorsement) for the engagement of local communities and VCGs in project activities.</p> <p>iii) The needs of marginalised communities will be addressed by undertaking comprehensive Vulnerability Impact Assessments (VIAs) to select the specific sites and communities where project activities will be implemented. In addition, the establishment of VCGs will promote local community representation and engagement in project activities at the local level.</p>

### Response to STAP review

	Comment	Response
1	<p>It would be helpful to characterize the current vulnerability of the target communities / systems by adding data that characterizes local livelihoods: social and economic data, as well as other livelihood resources (provisioning ecosystem services) that are sensitive to climate impacts and important for communities' coping strategies.</p>	<p>In the Barind Tract, communities rely strongly on agriculture for their income. In the Haor Area, fishing and agriculture – in the dry months – are important income-generating activities that support local communities. In addition, ecosystems in the both the Barind Tract and the Haor Area provide fresh water, reduce erosion and mitigate climate-related disasters, such as floods in the Haor Area and droughts in the Barind Tract. Climate change models predict an increase in mean annual temperature and a decrease in annual precipitation</p>

		<p>for the Barind Tract. These changes will result in an increased frequency and severity of droughts in the area. Consequently, local communities in the Barind Tract will experience: i) decreased availability and quality of water for agriculture and household use; ii) reduced agricultural productivity; iii) decreased food security; and iv) increased risks to human and livestock health. Conversely, models predict an increase in annual precipitation and heavier and more erratic rainfall in the Haor Area. These changes will result in: i) increased river flows, causing breaching of embankments, widespread flooding and beel erosion; ii) damage to agricultural areas, infrastructure and homes located nearby rivers; iii) increased risk of water borne diseases; and iv) increased sedimentation of beels and haors, and decreased habitat quality for important fish species. See Section 3.3 and Appendix 23 of the UNEP Project Document for details on ecosystem goods and services and how climate change will effect these. During the first year of implementation , extensive Vulnerability Impact Assessments (VIAs) will be conducted at the Union level to further characterize the vulnerability of target communities in the Barind Tract and Hoar Area.</p>
2	<p>STAP welcomes a focus on research and knowledge management that strengthens EbA design (component 3). Learning further about the interventions' cost-effectiveness is important. However, STAP also encourages the project developers to consider contributing to the evidence base of the project's effectiveness by identifying indicators that measure ecosystem health, and indicators that measure the provisioning ecosystem services delivered to the communities that strengthen their coping strategies to address climate risks. Contributing to this learning will strengthen knowledge on the complex interrelations between climate impacts and livelihoods, and assist in developing appropriate adaptation strategies. Further information on how to measure the project's effective can be found in the "The GEF's Operational Guidelines on Ecosystem Based Approaches to Adaptation", which the project developers relied upon to develop the proposal.</p>	<p>The full range of benefits from EbA will accrue over the medium- to long-term after the ecosystems have established. It will be difficult (if not impossible) to measure ecosystem health during the lifespan of the LDCF-financed project. This indicator will be measured during the long term research that will be initiated through the LDCF-financed. Financial support will be provided to post-graduate and post-doctorate research on the effectiveness of project interventions. See Section 3.3 and 3.6 of the UNEP Project Document and Section A1 of the CEO Endorsement for details on the research component of the LDCF-financed project.</p>
3	<p>While ecosystem-based adaptation approaches are useful for enhancing ecosystem resilience and thereby reducing the impacts of climate change, the effectiveness of these approaches in the context of the range of climate change scenarios expected may be explored. In particular, a greater emphasis on the interaction between risks associated with changes in socio-economic characteristics and changes in climate</p>	<p>During the PPG phase, in-country assessments – undertaken by national consultants – helped to identify effective approaches for adaptation to climate change in the context of vulnerability of local communities in Barind Tract and Haor Area. Based on these assessments and extensive stakeholder consultations, a combination of EbA and “hard” approaches was prioritised for</p>

	may help during project development.	implementation through the LDCF-financed project. This combination will promote adaption of local communities in the Barind Tract and Haor Area to climate-related risks. See Section 2.1 and 2.3 of the UNEP Project Document and Section A1 of the CEO Endorsement for details on the interaction between climate change risks and socio-economic characteristics.
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**Annex C: status of implementation of project preparation activities and the use of funds**

PPG Grant Approved at PIF: <b>64,000</b>			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
1201 – International Consultants	36,000	36,000	0
1203-National Consultants	34,000	33,505	495
1602-Travel	10,000	6,530	3,470
3301-Meetings and Workshops	16,000	15,892	108
5201-Communication and reporting	4,000	3,993	7
<b>Total</b>	<b>100,000</b>	<b>95,920</b>	<b>4,080</b>

**ANNEX D: CALENDAR OF EXPECTED REFLOWS**

(if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF Trust Funds or to your Agency (and/or revolving fund that will be set up)

Not applicable.

## ANNEX E: PROCUREMENT PLAN

### UNEP/GEF Project Procurement Plan

**Project title:** Ecosystem-based approaches to Adaptation (EbA) in the drought-prone Barind Tract and Haor "wetland" Area

**Project number:** 5456

UNEP Budget Line		Budget note reference		Year {Note 1}	Brief description of anticipated procurement process {Note 2}
1200	Consultants				
1201	National Policy Expert	3	140 days @ US\$100/day	Year 1	The PM will draw up ToRs and put out an advertisement for the position of NPE as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1101	Project Manager (PM)		4 years @ US\$1,792/month	Year 1 - 4	The PD/PMU will draw up ToRs and put out an advertisement for the position of PM as required by the project. Applications and CVs of interested experts will be reviewed. The PM will be selected depending upon qualification and experience.
1202	International Policy Expert	2	53 days @ \$500/day; 23 days in-country at DSA of US\$117/day; 2 flights @ \$2500/flight	Year 1	The PM will draw up ToRs and put out an advertisement for the position of IPE as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1203	International Technical Advisor (ITA)	1	270 days @US\$550/day, 40 days DSA of US\$117/day, and 8 flights US\$2,500/flight	Year 1 - 4	The PM will draw up ToRs and put out an advertisement for the position of ITA as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1204	National Expert in Environmental Economics/Financing expert	4	13 days @ US\$100/day	Year 1	The PM will draw up ToRs and put out an advertisement for the position of NE/FE as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1205	National Adaptation Expert	6	79 days @ US\$100/day	Year 1 - 4	The PM will draw up ToRs and put out an advertisement for the position of NAE as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1206	International EbA Expert	17	49 days @ US\$500/day; 19 days in-country @ DSA US\$117/day; 2 flights @ \$2500/flight	Year 1 - 4	The PM will draw up ToRs and put out an advertisement for the position of IEbAE as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1207	Climate Change and	15	4 years @ US\$1,450/month	Prior to year	The PM will draw up ToRs and put out an advertisement for the position

	Natural Resource Management Expert - Haor Area			1	of CC&NRME for the Haor Area as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1209	Local Technical Advisor – Haor Area	22	4 years @ US\$1,450/month	Prior to year 1	The PM will draw up ToRs and put out an advertisement for the position of LTA for the Haor Area as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1208	Climate Change and Natural Resource Management Expert – Barind Tract	16	4 years @ US\$1,450/month	Prior to year 1	The PM will draw up ToRs and put out an advertisement for the position of CC&NRME for the Barind Tract as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1210	Local Technical Advisor – Barind Tract	26	4 years @ US\$1,450/month	Prior to year 1	The PM will draw up ToRs and put out an advertisement for the position of LTA for the Barind Tract as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1211	Administration and Finance Officer – Haor Area	43	4 years @ US\$1,135/month	Prior to year 1	The PM will draw up ToRs and put out an advertisement for the position of AFO for the Haor Area as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1212	Administration and Finance Officer – Barind Tract	44	4 years @ US\$1,135/month.	Prior to year 1	The PM will draw up ToRs and put out an advertisement for the position of AFO for the Barind tract as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1213	Administrative Assistant – Haor Area		4 years @ US\$195/month.	Prior to year 1	The PM will draw up ToRs and put out an advertisement for the position of AA for the Haor Area as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1214	Administrative Assistant – Barind Tract		4 years @ US\$195/month.	Prior to year 1	The PM will draw up ToRs and put out an advertisement for the position of AA for the Barind Tract as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1215	National Information Expert	45	95 days @ US\$100/day	Year 4	The PM will draw up ToRs and put out an advertisement for the position of NIE as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1216	National Academic	47	20 days @ US\$100/day	Year 1	The PM will draw up ToRs and put out an advertisement for the position of NA as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1217	Climate Change and Natural Resource Management Expert	48	60 days @ US\$100/day	Year 1	The PM will draw up ToRs and put out an advertisement for the position of CC&NRME at the national level as required by the project. Applications and CVs of interested experts will be reviewed. The

	– National				consultant will be selected depending upon qualification and experience.
1218	National Business Expert	55	20 days @ US\$100/day	Year 4	The PM will draw up ToRs and put out an advertisement for the position of NBE as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
1219	International business Expert	.56	30 days @ US\$500/day; 10 days in-country @ DSA US\$117/day; 1 flight @ \$2500/flight	Year 4	The PM will draw up ToRs and put out an advertisement for the position of IBE as required by the project. Applications and CVs of interested experts will be reviewed. The consultant will be selected depending upon qualification and experience.
2200	Sub-contracts (MOUs/LOAs for supporting organizations)				
2201 2202 2203	University funding and stipends for supervision	49–51	PhD @US\$9,000/per student  Post-doc @ US\$21,750/year per researcher  Supervision @ US\$4,000 per year per academic institution	Years 2, 3 and 4	The PM will liaise with identified academic institutions to select PhD students and post-doc researchers.
2300	Sub-contracts (for commercial purposes)				
2301	National VIA Consultancy/Expert	11	40 VIAs @ US\$4,300 per VIA	Year 1	The PM will draw up ToRs and put out an advertisement for the National VIA Consultancy/Expert as required by the project. Applications and CVs of interested companies will be reviewed. The company will be selected depending upon qualification and experience
2304	Consultancy contract for the establishment of Nurseries	18	55 nurseries @ US\$390 per nursery.	Year 1	
2322	Consultancy contract for an information database/Web-design company	46	US\$11,000	Year 1 - 4	The PM will draw up ToRs and put out an advertisement for information database/web-design company the as required by the project. Applications and CVs of interested companies will be reviewed. The company will be selected depending upon qualification and experience
2305	Reforestation of forests in the Haor Area	19	US\$195,570	Year 2 - 4	
2307	Community protection of forests in the Haor Area	21	US\$93,00 (50 guards @ US\$1,860 per guard)	Year 1 - 4	

2308	Reforestation of forests in the Barind Tract	23	US\$132,940	Year 2 - 4	
2311	Establishment of homestead plantations	27	US\$24,700	Year 2	
2312	Excavation of 30x30x4 cubic meter ponds	28	US\$613,800	Year 2	
2313	Excavation of 15x15x2 cubic meter ponds	29	US\$697,500	Year 2	
2315	Digging of canals/khals	31	US\$991,400	Year 2	
2317	Installation of rainwater harvesting systems	33	US\$195,000	Year 2	
2318	Demonstration of fish production in homestead ponds	37	US\$34,125	Year 2	
2319	Establishment of floating vegetable gardens	38	US\$121,250	Year 2.	
2320	Establishment of farming gardens	39	US\$39,000	Year 2	
2321	Demonstration of spice cultivation	40	US\$7,800	Year 2	
3200	Group Training				
3201	Training of national and local government on policy briefs and technical guidelines on planning and financing EbA.	8	US\$12,000	Year 1	The PM will arrange training sessions including organising travel assistance accommodation and food expenses.
3202	Training and workshops on Technical guidelines for policy- and decision-makers to move from policy to implementation	8	US\$12,000	Year 1	The PM will arrange training sessions including organising travel assistance, accommodation and food expenses.

3203	Training of local and national government	8	US\$18,200	Year 1	The PM will arrange training sessions including organising travel assistance, accommodation and food expenses.
3204	Training of local government and communities	12	US\$322,400	Year 1 and 2	The PM and the RMs will arrange training sessions including organising travel assistance, accommodation and food expenses.
3300	Meetings/Conferences				
3301	Consultations	54	US\$5,000	Year 1 and 4	
3302	Validation workshop for the upscaling strategy	58	US\$6,000	Year 4	
3303	Communication		US\$5,000	Year 1 - 4	
4100	Office expendables	35			
4101	Office Rent – RTU	36	US\$12,480	Year 1 - 4	
4102	Expendables – RTU		US\$11,700	Year 1 - 4	
4200	Non-expendable equipment				
4201	Office furniture and equipment		US\$11,700	Year 1 - 4	
4202	Vehicles		US\$35,000	Year 1 - 4	
4203	Project Motor cycle		US\$2,000	Year 1	
4204	Vehicles	34	US\$35,325	Year 1 - 4	
5200	Reporting costs				
	Project Synthesis Report	59	US\$8,481	Year 4	

**Note 1 - Year when goods/services will be procured**

**Note 2 - Based on your organisation's procurement procedures, briefly explain how the service provider/consultant/vendor will be selected**

## ANNEX F: DETAILED GEF BUDGET<sup>40</sup>

ANNEX F-1 - RECONCILIATION BETWEEN GEF ACTIVITY BASED BUDGET AND UNEP BUDGET LINE (GEF FUNDS ONLY US\$)															
Project title:		Ecosystem-based approaches to Adaptation (EbA) in the drought-prone Barind Tract and Haor "wetland" Area											Notes		
Project number:		5456													
Project executing partner:		Ministry of Environment and Forests (MoEF)													
Project implementation period:		Expenditure by project component/activity						Expenditure by calendar year							
From:	2016														
To:	2020	Outcome 1	Outcome 2	Outcome 3	PM	M&E	Total	Year 1	Year 2	Year 3	Year 4	Total			
UNEP Budget Line															
10	PERSONNEL COMPONENT														
	1100	Project personnel													
	1101	Project Manager (4 Years @ US\$21500/year)			86 000		86 000	21 500	21 500	21 500	21 500	86 000			
	1199	Sub-total		0	0	0	86 000	0	86 000	21 500	21 500	21 500	86 000		
	1200	Consultants													
	1201	National Policy Expert		14 000	0	0	0	0	14 000	12 000	0	2 000	0	14 000	3
	1202	International Policy Expert		34 191	0	0	0	0	34 191	34 191	0	0	0	34 191	2
	1203	Chief Technical Advisor		115 686	0	59 844	0	0	175 530	56 850	40 340	39 170	39 170	175 530	1
	1204	National Ecosystem Economics/Financing Expert		1 300	0	0	0	0	1 300	1 300	0	0	0	1 300	4
	1205	National Adaptation Expert		7 900	8 500	4 500	0	0	20 900	15 500	300	300	4 800	20 900	6
	1206	International EbA Expert		31 723	20 000	19 255	0	0	70 978	51 723	0	0	19 255	70 978	5
	1207	Climate Change and Natural Resource Management Expert - Haor area		0	69 600	0	0	0	69 600	17 400	17 400	17 400	17 400	69 600	15
	1208	Climate Change and Natural Resource Management Expert - Barind Tract		0	69 600	0	0	0	69 600	17 400	17 400	17 400	17 400	69 600	16

<sup>40</sup> A portion of the budget allocated to the following items will be gender-related (i.e. will support gender equality through the LDCF-financed project activities): i) national and international policy expert consultancy; ii) national climate change and natural resource management expert consultancy; iii) national and international EbA expert consultancy; iv) consultancy for vulnerability assessments; v) training; and vi) workshops.



	1209	Local Technical Advisor - Haor area	0	69 600	0	0	0	69 600	17 400	17 400	17 400	17 400	69 600	22
	1210	Local Technical Advisor - Barind Tract	0	69 600	0	0	0	69 600	17 400	17 400	17 400	17 400	69 600	26
	1211	Administration and Finance Officer – Haor	0	4 640	0	0	0	4 640	1 160	1 160	1 160	1 160	4 640	43
	1212	Administration and Finance Officer - Barind	0	4 640	0	0	0	4 640	1 160	1 160	1 160	1 160	4 640	44
	1213	Office staff - Haor	0	900	0	0	0	900	225	225	225	225	900	41
	1214	Office staff - Barind	0	900	0	0	0	900	225	225	225	225	900	42
	1215	National Information Expert	0	0	9 500	0	0	9 500	2 500	1 000	1 000	5 000	9 500	45
	1216	National academic	0	0	2 000	0	0	2 000	2 000	0	0	0	2 000	47
	1217	Climate Change and Natural Resource Management Expert - National	0	0	5 000	0	0	5 000	5 000	0	0	0	5 000	48
	1218	National business expert	0	0	2 000	0	0	2 000	0	0	0	2 000	2 000	55
	1219	International business expert	0	0	18 670	0	0	18 670	0	0	0	18 670	18 670	56
	1299	Sub-total	204 800	317 980	120 769	0	0	643 549	253 434	114 010	114 840	161 265	643 549	
	1300	Administrative Support												
	1301	Administration and Finance Officer	0	0	0	68 000	0	68 000	17 000	17 000	17 000	17 000	68 000	
	1302	Administration assistant	0	0	0	34 400	0	34 400	8 600	8 600	8 600	8 600	34 400	
	1399	Sub-total	0	0	0	102 400	0	102 400	25 600	25 600	25 600	25 600	102 400	
	1600	Travel on official business	0	0	0	0	0	0	0	0	0	0	0	
	1601	TA-DA for PMU and Regional Technical Unit	0	120 000	0	0	0	120 000	30 000	30 000	30 000	30 000	120 000	60
	1699	Sub-total	0	120 000	0	0	0	120 000	30 000	30 000	30 000	30 000	120 000	
1999		Component total	204 800	437 980	120 769	188 400	0	951 949	330 534	191 110	191 940	238 365	951 949	
20		SUB-CONTRACT COMPONENT												
	2100	Sub-contracts (MOUs/LOAs for cooperating agencies)												
	2101													
	2199	Sub-total	0	0	0	0	0	0	0	0	0	0	0	
	2200	Sub-contracts (MOUs/LOAs for supporting organizations)												
	2201	PhD candidates	0	0	120 000	0	0	120 000	0	40 000	40 000	40 000	120 000	49

	2202	Post-doctorate researchers	0	0	78 000	0	0	78 000	0	26 000	26 000	26 000	78 000	50
	2203	Stipend for PhD and post-doctorate supervision	0	0	36 750	0	0	36 750	0	12 250	12 250	12 250	36 750	51
	2299	Sub-total	0	0	234 750	0	0	234 750	0	78 250	78 250	78 250	234 750	
	2300	Sub-contracts (for commercial purposes)												
	2301	Consultancy/National vulnerability and adaptation expert	0	172 000	0	0	172 000	172 000	0	0	0	0	172 000	10
	2302	Establishment of VCGs	0	112 140	0	0	112 140	13 824	32 772	32 772	32 772	32 772	112 140	13
	2303	Establishment of VCF	0	120 000	0	0	120 000	120 000	0	0	0	0	120 000	14
	2304	Establishment of nurseries	0	21 450	0	0	21 450	21 450	0	0	0	0	21 450	18
	2305	Reforestation in the Haor area	0	521 250	0	0	521 250	0	521 250	0	0	0	521 250	19
	2306	Maintenance of reforestation activities in the Haor area	0	173 000	0	0	173 000	0	0	86 500	86 500	86 500	173 000	20
	2307	Community protection of forests in the Haor area	0	1 860	0	0	1 860	0	930	930	0	0	1 860	21
	2308	Reforestation in the Barind Tract	0	542 800	0	0	542 800	0	542 800	0	0	0	542 800	23
	2309	Maintenance of reforestation activities in the Barind Tract	0	217 600	0	0	217 600	0	0	108 800	108 800	108 800	217 600	24
	2310	Community protection of forests	0	1 860	0	0	1 860	0	930	930	0	0	1 860	25
	2311	Homestead plantation establishment	0	24 700	0	0	24 700	0	24 700	0	0	0	24 700	27
	2312	Excavation of 30x30x4 cubic meter ponds	0	297 600	0	0	297 600	0	297 600	0	0	0	297 600	28
	2313	Re-excavation of 15x15x2 cubic meter ponds	0	297 600	0	0	297 600	0	297 600	0	0	0	297 600	29
	2314	National EIA Consultancy	0	70 400	0	0	70 400	70 400	0	0	0	0	70 400	30
	2315	Digging of canals/khals	0	353 400	0	0	353 400	0	353 400	0	0	0	353 400	31
	2316	Re-excavation of beels	0	93 000	0	0	93 000	0	93 000	0	0	0	93 000	32
	2317	Installation of rainwater harvesting systems	0	125 500	0	0	125 500	0	125 500	0	0	0	125 500	33
	2318	Demonstration of fish culture in homestead ponds	0	34 125	0	0	34 125	0	34 125	0	0	0	34 125	37
	2319	Establishment of floating vegetable gardens	0	121 250	0	0	121 250	0	121 250	0	0	0	121 250	38
	2320	Establishment of farming gardens	0	39 000	0	0	39 000	0	39 000	0	0	0	39 000	39
	2321	Demonstration of spice cultivation	0	18 200	0	0	18 200	0	18 200	0	0	0	18 200	40
	2322	Consultancy contract for an information base/Web-	0	0	11 000	0	0	11 000	0	0	0	11 000	11 000	46

		design company												
	2399	Sub-total	0	3 358 735	11 000	0	0	3 369 735	347 674	2 553 057	229 932	239 072	3 369 735	
	2999	Component total	0	3 358 735	245 750	0	0	3 604 485	347 674	2 631 307	308 182	317 322	3 604 485	
	30	TRAINING COMPONENT												
	3200	Group training												
	3201	Workshops to present policy briefs on proposed revisions to policies and strategies, including budget allocations, to promote the inclusion of climate change and EbA	12 000	0	0	0	0	12 000	6 000	0	6 000	0	12 000	
	3202	Training and workshops on Technical guidelines for policy- and decision-makers to move from policy to implementation	12 000	0	0	0	0	12 000	6 000	0	6 000	0	12 000	8
	3203	Training of local and national government	18 200	0	0	0	0	18 200	10 400	2 600	2 600	2 600	18 200	9
	3204	Training of local government, VCGs and communities	0	322 400	0	0	0	322 400	248 000	74 400	0	0	322 400	12
	3299	Sub-total	42 200	322 400	0	0	0	364 600	270 400	77 000	14 600	2 600	364 600	
	3300	Meetings/Conferences												
	3301	Consultations	3 000	0	2 000	0	0	5 000	3 000	0	0	2 000	5 000	7
	3302	Validation workshop for the upscaling strategy	0	0	6 000	0	0	6 000	0	0	0	6 000	6 000	58
	3303	Communication	0	0	0	5 000	0	5 000	2 600	800	800	800	5 000	
	3399	Sub-total	3 000	0	8 000	5 000	0	16 000	5 600	800	800	8 800	16 000	
	3999	Component total	45 200	322 400	8 000	5 000	0	380 600	276 000	77 800	15 400	11 400	380 600	
	40	EQUIPMENT AND PREMISES COMPONENT												
	4100	Expendable equipment												
	4101	Office Rent - Regional Technical Units	0	12 480	0	0	0	12 480	3 120	3 120	3 120	3 120	12 480	36
	4102	Expendables - Regional Technical Units	0	21 080	0	0	0	21 080	5 270	5 270	5 270	5 270	21 080	35
	4199	Sub-total	0	33 560	0	0	0	33 560	8 390	8 390	8 390	8 390	33 560	
	4200	Non-expendable equipment												
	4201	Office furniture and equipment	0	0	0	11 700	0	11 700	9 300	800	800	800	11 700	

	4202	Project Vehicle	0	0	0	37 900	0	37 900	9 475	9 475	9 475	9 475	37 900	
	4203	Project Motor cycle	0	0	0	2 000	0	2 000	2 000	0	0	0	2 000	
	4204	Vehicles - Regional Technical Units	0	35 325	0	0	0	35 325	8 831	8 831	8 831	8 831	35 325	34
	4299	Sub-total	0	35 325	0	51 600	0	86 925	29 606	19 106	19 106	19 106	86 925	
4999	Component total		0	68 885	0	51 600	0	120 485	37 996	27 496	27 496	27 496	120 485	
50	MISCELLANEOUS COMPONENT													
	5100	Operation and maintenance of equipment												
	5199	Sub-total												
	5200	Reporting costs												
	5201	Project synthesis report	0	0	8 481	0	0	8 481	0	0	0	8 481	8 481	59
	5299	Sub-total	0	0	8 481	0	0	8 481	0	0	0	8 481	8 481	
	5300	Sundry												
	5301							0					0	
	5399	Sub-total	0	0	0	0	0	0	0	0	0		0	
	5400	Hospitality and entertainment												
	5401							0					0	
	5499	Sub-total	0	0	0	0	0	0	0	0	0		0	
	5500	Evaluation												
	5501	Inception workshop					3 000	3 000	3 000				3 000	
	5502	Baseline evaluation	0	0	0	0	35 000	35 000	35 000	0	0	0	35 000	
	5503	Mid-term evaluation	0	0	0	0	35 000	35 000	0	0	35 000	0	35 000	
	5504	Final evaluation	0	0	0	0	35 000	35 000	0	0	0	35 000	35 000	
	5505	Annual PSC meetings					6 000	6 000	1 500	1 500	1 500	1 500	6 000	
	5506	Annual audit					20 000	20 000	5 000	5 000	5 000	5 000	20 000	
	5599	Sub-total	0	0	0	0	134 000	134 000	44 500	6 500	41 500	41 500	134 000	
5999	Component total		0	0	8 481	0	134 000	142 481	44 500	6 500	41 500	49 981	142 481	
99	GRAND TOTAL		250 000	4 188 000	383 000	245 000	134 000	5 200 000	1 036 704	2 934 213	584 518	644 564	5 200 000	

## Budget Notes

#	Description	Activities and Notes
1	Consultancy contract for International Technical Advisor (ITA) (@US\$550/day, 40 days DSA of US\$117/day, and 8 flights US\$2,500/flight)	<p>This budget will be used to contract an International Technical Advisor (ITA). The ITA will travel to Bangladesh on a regular basis to interact with national and district staff and implementing partners to oversee deliverables in Component 1, 2 and 3.</p> <p>90 days in year 1, the ITA will spend two months (60 days) in country to assist the PM in setting up and initiating the project. Thereafter, the ITA will provide remote technical assistance for 30 days over the remaining eighth months of the first year.</p> <p>60 days in year 2, the ITA will spend one month (30 days) in country to provide technical assistance and oversee project implementation. Thereafter, the ITA will provide remote technical assistance for 30 days over the remaining months of the year.</p> <p>60 days In year 3, the ITA will provide technical assistance for 60 days over the year. The ITA will travel to Bangladesh to attend the PRC meetings.</p> <p>60 days in year 4, the ITA will provide technical assistance for 60 days over the year. The ITA will travel to Bangladesh to attend the PRC meetings.</p>
2	Consultancy contract for International Policy Expert (IPE) (53 days @ \$500/day; 23 days in-country at DSA of US\$117/day; 2 flights @ \$2500/flight)	<p>This budget will be used to contract an International Policy Expert to: i) develop policy briefs to propose revisions to policies and plans related to ecosystem management; ii) develop technical guidelines for integrating EbA into planning, and moving from policies into implementation (including financing these implementations). This expert will also meet stakeholders, and co-facilitate the initial training of local and national policy- and decision-makers on the policy and technical guidelines produced in Activity 1.1.2 and 1.2.2.</p> <p><b>1.1.2. and 1.2.2.</b> 45 days in total. 15 days in country in year 1 to meet with local and national government and the NPE. 15 days in year 1 to develop policy briefs for proposing revisions to policies and plans related to ecosystem management to promote the inclusion of climate change and EbA in collaboration with the NPE. 15 days in year 1 to develop technical guidelines for: i) integrating EbA into planning; and ii) moving from policies to implementation (including financing these implementations) in collaboration with the NPE.</p> <p><b>1.1.3. and 1.2.3.</b> 8 days in-country in year 1 to: i) conduct technical training workshops to present the guidelines developed in Activity 1.2.3 in collaboration with the NPE.; and ii) conduct the initial training with the IEbAE/NAE on the technical guidelines developed in Activity 1.2.3.</p>

3	<p>Consultancy contract for National Policy Expert (NPE) (140 days @ US\$100/day)</p>	<p>This budget will be used to contract a national policy and legal expert to review existing policies and plans and assist in the development of: i) policy briefs for proposing revisions to policies and plans related to ecosystem management to promote the inclusion of climate change and EbA; and ii) technical guidelines for policy- and decision-makers to implement EbA. This expert will then train national and local policy- and decision-makers on the technical guidelines developed in activity 1.1.2 and 1.2.2.</p> <p><b>1.1.1. and 1.2.1.</b> 40 days in year 1 to review existing policies and plans related to ecosystem management, protected area management and coastal development to identify entry points for EbA, and to identify barriers to the effective implementation of EbA.</p> <p><b>1.1.2. and 1.2.3.</b> 50 days in year 1 to provide assistance (including reviewing text and providing relevant information) to the IPE in the development of: policy briefs; and technical guidelines for policy- and decision-makers to implement EbA. These policy briefs and technical guidelines will take into account the findings of activity 1.1.1 and 1.2.1.</p> <p><b>1.1.3.</b> 10 days of training in year 1 and year 3 (20 days in total) on the policy briefs developed in activity 1.1.2 (3 days of training for national government, including 3 days of preparation).</p> <p><b>1.2.3.</b> 10 days training in year 1 and year 3 (20 days in total) on the technical guidelines on EbA (moving from policy to action) developed in activity 1.2.2, including preparation time and 9 days (3 days for local government and 3 days for national government in each of the project areas) of training. Initial training to be conducted by the IPE with assistance from the NPE, subsequent training to be conducted by the NPE with assistance from the IPE.</p> <p><b>1.1.4.</b> 10 days in year 1 to develop a brief on “lessons learned” during the revision of policies and plans – including inter alia barriers to revisions – to inform future medium- and long-term adaptation planning for all sectors in Bangladesh.</p>
4	<p>Consultancy contract for a National Expert in Environmental Economics/Financing expert (13days @ US\$100/day)</p>	<p>This budget will be used to contract a National Expert in Environmental Economics/Financing. This expert will identify and detail financing mechanisms for inclusion in the technical guidelines developed by the NPE. This expert will identify barriers to national dialogue on adaptation and mobilisation of funds for EbA implementation, and develop a strategy to overcome these barriers. This expert will then facilitate training of local and national government on financing mechanisms detailed in the technical guidelines developed in Activity 1.2.2.</p> <p><b>1.2.1.</b> 10 days to meet with relevant stakeholders to identify barriers to mobilisation of funds for EbA implementation.</p> <p><b>1.2.3.</b> 3 days training for local government technical staff (from the DoE, DoAE, WARPO, DoF, BMDA, LGED and BWDB) to: i) present the technical guidelines on EbA (developed in Activity 1.2.2); and ii) train technical staff on moving from policy to implementation in collaboration with the IPE and NPE.</p>
5	<p>Consultancy contract for International EbA Expert (IEbAE) (49 days @ US\$500/day; 19 days in-country @ DSA US\$117/day; 2 flights @ \$2500/flight)</p>	<p>This budget will be used to contract an expert in Ecosystem-based Adaptation (EbA) and/or ecosystem restoration. This expert will be responsible for the development and production of 3 technical guidelines that promote EbA implementation in dryland and swamp forests in Bangladesh (1 guideline for EbA in dryland forests, 1 guideline for EbA in swamp forests, and 1 guideline for EbA in other areas in Bangladesh). This expert will offer technical assistance to the NAE including providing information on best practices and lessons learned from EbA projects, and reviewing training plans.</p> <p><b>1.2.2.40 days in total.</b> 10 days in country to meet with NAE and relevant stakeholders in year 1. 30 days to develop 3 technical guidelines (1 guideline for EbA in dryland forests, 1 guideline for EbA in swamp forests, and 1 guideline for EbA in other areas in Bangladesh) that promote the implementation of EbA in Bangladesh in collaboration with the NEE/FE, IPE, NPE and NAE.</p> <p><b>1.2.3.</b> 9 days in total. 9 days in country to conduct initial training of national and local government in collaboration with</p>

		the NAE.
6	Consultancy contract for National Adaptation Expert (NAE) (79 days @ US\$100/day)	<p>This budget will be used to contract a consultancy with expertise in Ecosystem-based Adaptation (EbA) (if available in Bangladesh) and/or dryland and swamp forest EbA. This consultancy will use the funds to develop training plans aimed at improving local and national policy- and decision-makers understanding of EbA. The training plans will be developed using international best practices and lessons learned from adaptation projects in Bangladesh and EbA in South Asia. The consultant will then implement the training plans and run training sessions and workshops with local and national policy- and decision-makers.</p> <p><b>1.2.2.</b> 29 days in year 1 to assist the IEbAE in the development of technical guidelines that promote the implementation of EbA in Bangladesh.</p> <p><b>1.2.3.</b> 27 days training on technical guidelines in collaboration with IEbAE (including 2 days preparation time per training and 9 days training) in year 1.</p> <p><b>1.3.1.</b> 8 days to review international best practice and lessons learned from EbA projects and to develop training programmes in year 1.</p> <p><b>1.3.2.</b> 6 days training in year 1, followed by 3 day of training in year 2, 3, and 4, (15 days in total) using the training programmes developed in activity 1.1.1, including preparation time and 4 days of training.</p>
7	Consultations	<b>1.1.2 and 1.2.2.</b> This budget will be used to cover travel and meeting costs for consultations between the relevant project experts and national stakeholders in the development of the policy briefs and technical guidelines.
8	Training of national and local government on policy briefs and technical guidelines on planning and financing EbA.	<p><b>1.1.3.</b> 3 x training workshops in year 1 and year 3 to present policy briefs on proposed revisions to policies and strategies, including budget allocations, to promote the inclusion of climate change and EbA developed in Activity 1.1.2 for national and local government @ US\$ 2,000 per training session, including travel assistance, accommodation and food expenses . This training will be co-ordinated by the NPE and IPE.</p> <p><b>1.2.3.</b> 3 x training session (1 national training session, and 1 regional training session in each project area) in year 1 on the technical guidelines developed in Activity 1.2.2 for national and local government @ US\$ 2,000 per training session, including travel assistance, accommodation and food expenses. This training will be co-ordinated by the NPE, IPE, NAE and focus on training local and national government on technical guidelines (moving from policy to action) on EbA. Follow up training in year 3 will be conducted by the National Policy Expert</p>
9	Training of national stakeholders from the Climate Change Cell and relevant CCFPs on: i) cost-effective EbA for dryland forests and swamp forests in Bangladesh; and ii) selecting EbA using the UNEP EbA decision support framework.	<b>1.3.2.</b> 4 x basic training sessions in year 1 on EbA, followed by 1 training session in year 2, 3, and 4, for national and local policy- and decision-makers (@ US\$ 2,600 per training session, including travel assistance, accommodation and food expenses). This training will be specific to EbA and will use the training plans developed in activity 1.3.1. The training will be conducted by the NAE.
10	Consultancy contract for conducting comprehensive Vulnerability Impact Assessments (VIAs) in the Barind Tract and Haor Area	<p>This budget will be used to contract a consultant/company specialising in VIAs in Bangladesh who will conduct comprehensive Vulnerability Impact Assessments (VIAs) with local authorities and communities in each union of the selected Upazilas in the Barind Tract and Haor Area to identify particular sites in which project activities will be implemented.</p> <p>2.1.1. US\$172,000 to conduct 40 comprehensive VIAs (at the union level) in year 1 in the Barind Tract and Haor Area (20 per area @ US\$4,300 per VIA).</p>

11	Consultancy contract for National Adaptation Expert (85 days @ US\$100/day)	<p><b>2.2.1.</b> 30 days in year 1 to develop training programmes, based on the protocols developed in Activity 2.3.3, for local authorities, communities, committees and user groups on: i) the benefits of EbA; ii) implementing and maintain EbA interventions; iii) maintaining EbA support measures; and iv) additional livelihoods, including spice cultivation, vegetable gardens and fish production.</p> <p><b>2.3.1 and 2.3.2.</b> 35 days in year 1 (10 days in each of the project areas and 15 days remote desktop research) to: i) undertake site specific socio-economic (including traditional knowledge), biodiversity and climate change assessments in the selected sites in the Barind Tract and Haor Area; and ii) undertake a site specific study to collect traditional knowledge on ecosystem restoration in the Barind Tract and Haor Area. These assessments will inform the development of technical protocols for all on-the-ground interventions in these areas to inform the development of technical protocols for all on-the-ground interventions in these areas.</p> <p><b>2.3.3 and 2.4.1.</b> 20 days in year 1 to provide assistance to the IEBAE in the preparation of technical protocols for the implementation of selected EbA and EbA support interventions. These protocols will build on tools and lessons learned from similar projects. These protocols will build on the assessments undertaken in Activity 2.3.1 and 2.3.2 and will include selection of climate-resilient species and low impact methods for undertaking EbA interventions.</p>
12	Training of local authorities, communities, committees and user groups on: i) the benefits of EbA; ii) implementing and maintain EbA interventions; iii) maintaining EbA support measures; and iv) additional livelihoods, including spice cultivation, vegetable gardens and fish production.	<p><b>2.2.2</b> 160 batch training events (85 x batch training sessions in the Haor Area and 75 batch trainings in the Barind Tract) for local authorities, communities, committees and user groups on: i) the benefits of EbA; ii) implementing and maintain EbA interventions; iii) maintaining EbA support measures; iv) additional livelihoods, including spice cultivation, vegetable gardens and fish production; and v) techniques to manage livestock under conditions of climate change (@ US\$ 1,550 per training session) in year 1. This training will use the training plans developed in activity 2.2.1. The training will be conducted by the NAE. This includes all expertise, stationary and venue hire. This will be followed by 48 follow up batch training events in year 2 (30 batch training sessions in the Haor Area and 18 batch training sessions in the Barind Tract) @US\$1,550 per training session.</p>
13	Establishment of VCGs	<p><b>2.3.1.</b> This budget will be used to establish 18 VCGs in the Barind Tract and 7 VCGs in the Haor Area @US\$460 per VCG. This budget will also be used to fund bi-annual meetings of the VCGs and an annual general meeting (AGM) @US\$310 per year per VCG for bi-monthly meetings and US\$515 per year per VCG for the AGM.</p>
14	Village Conservation Fund (VCF) (US\$120,000)	<p><b>2.3.2.</b> 2.3.2. This budget will be used to finance meetings of the VCG meetings and to promote long-term management of natural resources in the Barind Tract and Haor area (@ US\$120,000).</p>
15	Contract for a Climate Change and Natural Resource Management Expert (CC&NRME) in the Haor Area (on contract for 4 years @ US\$1,450/month)	<p><b>2.1. - 2.5.</b> A CC&amp;NRME will be contracted to oversee the implementation of activities in the Haor Area. The CCC&amp;NRMEs will be based in the Regional Technical Unit office in Sylhet. This consultant will ensure that the interventions are being done in as low an impact method as possible and are being implemented in a climate resilient manner.</p> <p><b>2.5.1.</b> Conduct research on effective methods to increase the climate-resilience of the selected additional livelihood options that will be implemented in the Haor Area by the project.</p>
16	Contract for a Climate Change and Natural Resource Management Expert (CC&NRME) in the Barind Tract (on contract for 4 years @ US\$1,450/month)	<p><b>2.1. - 2.5.</b> A CC&amp;NRME will be contracted to oversee the implementation of activities in the Barind Tract. The CCC&amp;NRME will be based in the Regional Technical Unit office in Rajshahi. This consultant will ensure that the interventions are being done in as low an impact method as possible and are being implemented in a climate resilient manner.</p> <p><b>2.5.1.</b> Conduct research on effective methods to increase the climate-resilience of the selected additional livelihood options that will be implemented in the Barind Tract by the project. Establish/strengthen market links based on this</p>



		research.
17	Consultancy contract for an International EbA Expert (40 days @ US\$500/day)	This budget will be used to contract an International EbA specialist to develop protocols for the implementation of EbA interventions in collaboration with the NAE. <b>2.3.3.</b> 20 days in total to develop protocols for the implementation of EbA interventions in collaboration with the NAE. <b>2.4.1.</b> 20 days to assess climate change projections and based on these projections prepare technical protocols for the implementation of the selected climate change resilient EbA support interventions in degraded dryland forests and swamp forests in collaboration with the NAE.
18	Consultancy contract for the establishment of Nurseries	This budget will be used to contract a company to establish nurseries in the selected sites in the Barind Tract and Haor Area. <b>2.3.4.</b> Contract for construction company to establish 55 nurseries (25 in the Haor are and 30 in the Barind Tract) @ US\$390 per nursery. Including all technical expertise and other implementation costs. The nurseries will: i) be 5 decimal (0.02 hectare) in size; ii) grow 10,000 seedlings in each nursery; and iii) produce climate resilient wetland/swamp/mainland timber, medicinal and fruit seedlings. The seedlings will be sold for 10 Taka per seedling.
19	Reforestation of forests in the Haor Area	This budget will be used to reforest the following areas in the Haor Area using the EbA protocols developed in Activity 2.3.3: i) 50 ha of degraded upland forests on khas land; ii) 50 ha of degraded swamp forests; and iii) degraded forest along 50 km of road, canals, ponds and embankments. <b>2.3.5.</b> US\$ 581,250 to rehabilitate: 2i) 50 ha of degraded upland forests on khas land (@ 4,850/ha with 2,500 seedlings per ha, US\$ 9,700 for maintenance events, and US\$18,600 for forestry officers to protect the plantings) ii) 50 ha of degraded swamp forests (@ 4,850/ha with 2,500 seedlings per ha, US\$ 9,700 for maintenance events, and US\$18,600 for forestry officers to protect the plantings) iii) degraded forest along 50 km of road, canals, ponds and embankments (@ US\$1,950/km with 10,000 seedlings, This includes all costs for reforestation including purchasing seedlings, transporting seedlings, labour, maintenance and technical expertise.
20	Maintenance of reforestation activities in the Haor Area	This budget will be used to maintain the reforestation activities in the Haor Area using the EbA protocols developed in Activity 2.3.3. Maintenance events include replanting 30% of the initial seedling total (@ US\$670/ha).
21	Community protection of forests in the Haor Area	This budget will be used to hire community members to monitor and protect the reforested areas in the Barind Tract (@US\$930/yr).
22	Contract for a Local Technical Advisor (LTA) in the Haor Area (on contract for 4 years @ US\$1,450/month)	<b>2.1. - 2.5.</b> The LTA will be contracted to: i) promote the timely execution of activities and achievement of expected deliverables at the project sites; ii) facilitate and coordinate meetings of the RPCC and other meetings. The LTAs will visit the intervention sites regularly. The LTA will be based in the Regional Technical Unit office in Sylhet and work under the guidance RC and PM.

23	Reforestation of forests in the Barind Tract	This budget will be used to reforest the following areas in the Barind Tract using the EbA protocols developed in Activity 2.3.3: i) 100 ha of degraded upland forests or khas land; ii) 80 ha of degraded forests; and iii) degraded forest along 80 km of road. <b>2.3.6.</b> US\$542,800 to rehabilitate: i) 80 ha of degraded dryland forest (@ 4,850/ha with 2,500 seedlings per ha) ii) degraded dryland forest along 80 km of road (@ US\$1,950/km with 15,000 seedlings) This includes all costs for reforestation including purchasing seedlings, transporting seedlings, labour, maintenance and technical expertise.
24	Maintenance of reforestation activities in the Barind Tract	This budget will be used to maintain the reforestation activities in the Barind Tract using the EbA protocols developed in Activity 2.3.3. Maintenance events include replanting 30% of the initial seedling total (@ US\$970/ha).
25	Community protection of forests in the Barind Tract	This budget will be used to hire community members to monitor and protect the reforested areas in the Barind Tract (@US\$930/yr).
26	Contract for a Local Technical Advisor (LTA) in the Barind Tract (on contract for 4 years @ US\$310/yr)	<b>2.1. - 2.5.</b> The LTA will be contracted to: i) promote the timely execution of activities and achievement of expected deliverables at the project sites; ii) facilitate and coordinate meetings of the RPCC and other meetings. The LTAs will visit the intervention sites regularly. The LTA will be based in the Regional Technical Unit office in Rajshahi and work under the guidance RC and PM.
27	Establishment of homestead plantations	This budget will be used to establish homestead plantations in the Barind Tract and Haor Area in year 2 using the EbA protocols developed under Output 2.3 <b>2.3.7.</b> US\$24,700 to rehabilitate: i) 1000 homestead plantations @ US\$13/homestead (200 households per upazila) in the Haor Area ii) 900 homestead plantations @ US\$13/homestead (300 homestead plantations per upazila) in the Barind Tract. This includes all costs for reforestation including purchasing seedlings, transporting seedlings, labour, maintenance and technical expertise.
28	Excavation of 30x30x4 cubic meter ponds	This budget will be used to excavate 16 (30x30x4 cubic meter) ponds in the Barind Tract and Haor Area using the protocols developed in Activity 2.4.1. <b>2.4.2.</b> US\$297,600 Excavate 16 (30x30x4 cubic meter) ponds @ US\$18,600/pond. 10 ponds (2 in the Fenchuganj, Golapganj, Barlekha, Juri and Kulaura upazilas) in the Haor Area, 6 ponds (2 ponds in the Tanore, Nachole and Pirganj upazilas) in the Barind Tract.
29	Re-excavation of 15x15x2 cubic meter ponds	This budget will be used to re-excavate 32 (15x15x2 cubic meter) ponds in the Barind Tract and Haor Area using the protocols developed in Activity 2.4.1. <b>2.4.3.</b> US\$297,600 to re-excavate 32 (15x15x2 cubic meter) ponds @ US\$9,300/pond. 20 ponds (4 in the Fenchuganj, Golapganj, Barlekha, Juri and Kulaura upazilas) in the Haor Area 12 ponds (4 in each of the Tanore, Nachole and Pirganj upazilas) in the Barind Tract.
30	National EIA Consultancy	This budget will be used to contract a consultant/company specialising in EIAs in Bangladesh who will undertake a comprehensive EIA for all of the construction of canals in the Barind Tract and Haor Area. This consultant/company will ensure that the comprehensive EIAs comply with all EIA laws and regulation regarding EIAs in Bangladesh. <b>2.1.2.</b> US\$ 70,400 to undertake comprehensive EIA's in the first 3 months of the project.

31	Digging of canals/khals	This budget will be used to excavate 6 canals in the Barind Tract and Haor Area using the protocols developed in Activity 2.4.1. <b>2.4.4.</b> US\$353,400 to excavate: i) 3 canals/khals (measuring 1000*4*3 cubic meter) @ US\$58,900 (3 canals in 3 selected upazilas from the following list Fenchuganj, Golapganj, Barlekha, Juri and Kulaura upazilas) in the Haor Area ii) 3 canals/khals (measuring 1000*4*3 cubic meter) @ US\$58,900 (i in each of the Tanore, Nachole and Pirganj upazilas) in the Barind Tract.
32	Re-excavation of beels	This budget will be used to re-excavate 3 beels (1 beel in 3 of the selected upazilas) in the Haor Area using the protocols developed in Activity 2.4.1. <b>2.4.4.</b> US\$93,000 to re-excavate 3 beels in the Haor Area (@US\$31,000/beel).
33	Install rainwater harvesting systems	This budget will be used to install 27 rainwater harvesting systems in the Barind Tract using the protocols developed in Activity 2.4.1. <b>2.4.5.</b> US\$175,500 to install 27 rainwater harvesting systems (@US\$6,500/system) for households/agricultural use (9 in each of the Tanore, Nachole and Pirganj upazilas) in the Barind Tract.
34	Vehicles	This budget will be used to rent vehicles to be used by the Regional Technical Units in the Barind Tract and Haor Area during project implementation (1 of each vehicle described below for each of the two Regional Technical Units). Vehicles will include: i) Car/microbus @ US\$10,000/car for the project period; ii) Motor cycle @ US\$4,000/motor cycle for the project period; and iii) maintenance @ US\$5,331/yr
35	Office expendables	This budget will be used to cover all expendable and non-expendable equipment for the two Regional Technical Unit offices in the Barind Tract and Haor Area during project implementation. This includes: Electricity and alternate fuel for generators @ US\$105/per month per office (Total for both offices = US\$10,080 for the project lifespan) Office supplies @ US\$2,750/yr per office i) Car/microbus @ US\$10,000/car for the project period ii) Motor cycle @ US\$4,000/motor cycle for the project period
36	Office rent	This budget will be used to cover office rent for the Regional Technical Units in the Barind Tract and the Haor Area @ US\$130/month per office with 1 office in Sylhet and 1 office in Rajshahi.
37	Demonstration of fish production in homestead ponds	This budget will be used to demonstrate fish production in 675 homestead ponds in the Barind Tract and Haor Area in year 2. <b>2.5.2.</b> Demonstrate fish production in: i) 375 homestead ponds (75 in each of the five selected Haor upazilas) in the Haor Area @ US\$39/pond ii) 300 homestead ponds (100 in each of the three selected Barind upazilas) in the Barind Tract @ US\$65/pond.
38	Establishment of floating vegetable gardens	This budget will be used to establish 125 community-based floating vegetable gardens in the Haor Area in year 2. <b>2.5.3.</b> US\$121,250 to establish 125 community-based floating vegetables gardens (25 in each of the five selected Haor upazilas) @ US\$970/garden.
39	Establishment of farming gardens	This budget will be used to establish homestead vegetable gardens in the Barind Tract and Haor Area in year 2. <b>2.5.4.</b> US\$39,000 to establish: i) 75 homestead vegetables gardens in the five selected Haor Upazilas (375 in total) @ US\$65/garden.

		ii) 100 homestead vegetables gardens in the three selected Barind Upazilas (300 in total) @ US\$65/garden.
40	Demonstration of spice cultivation	This budget will be used to demonstrate spice cultivation through zero tillage in the Barind Tract in year 2. <b>2.5.5.</b> US\$18,200: i) US\$7,800 to demonstrate 30 (20x20m) spice cultivation plots @ US\$260/plot in the Barind Tract; and ii) US\$10,400 to demonstrate 40 (20x20m) spice cultivation plots @ US\$260/plot in the Haor Area.
41	Office staff - Haor	<b>2.1. - 2.5.</b> Contract for office cleaning staff to be based in the Sylhet Regional Technical Unit @ US\$195/month.
42	Office staff - Barind	<b>2.1. - 2.5.</b> Contract for office cleaning staff to be based in the Rajshahi Regional Technical Unit @ US\$195/month.
43	Administration and Finance Officer - Haor	<b>2.1. - 2.5.</b> Contract for an Administration and Finance Officer to be based in the Sylhet Regional Technical Unit @ US\$1,135/month.
44	Administration and Finance Officer - Barind	<b>2.1. - 2.5.</b> Contract for an Administration and Finance Officer to be based in the Rajshahi Regional Technical Unit @ US\$1,135/month.
45	Consultancy contract for a National Information Expert with experience in the institutional map of the government (95 days @ US\$100/day)	This budget will be used to contract a national information expert to collate knowledge products, and design and implement a knowledge management plan and communication strategy to capture, store and disseminate knowledge products generated by the LDCF-funded project. <b>3.1.1.</b> 20 days in year 4 to review existing information databases for ecosystem restoration and/or climate change – including government department websites – to identify an appropriate portal for the central EbA information database. <b>3.1.3.</b> 20 days in year 4 to collate data and information from relevant departments and institutions to share on the central EbA information database including: i) lessons learned through implementing the LDCF-financed project; ii) results of research and assessments undertaken within the project; and iii) cost-effectiveness of EbA. <b>3.3.1.</b> 55 days in total. 25 days to design a knowledge management plan and communication strategy in year 1 and 30 days to implement the management plan and communication strategy (10 days in year 2, 3 and 4).
46	Consultancy contract for an information database/Web-design company (US\$5,000 to design strengthen/design portal for an EbA information database in year 1 and US\$6,000 to maintain the website for the project timeframe)	<b>3.1.2.</b> US\$11,000 to design/strengthen an information database portal including liaising with the NIE. Including developing an instructional user-manual for the portal.
47	Consultancy contract for a National academic (NA) to identify research institutions that will be able to assess the impact of EbA interventions in the Barind Tract and Haor Area. (20 days @ US\$100/day)	<b>3.2.1.</b> 20 days in year 1 to identify research institutions, in collaboration with UNEP and the DoE, that will be able to assess the impact of EbA interventions in the Barind Tract and Haor Area.

48	Consultancy contract for a National Climate Change and Natural Resource Management Expert (NCC&NRME) (60 days @ US\$100/day)	<b>3.2.2.</b> 20 days in year 1 to liaise with professors from the identified academic institutions to identify post-graduate and post-doctorate students to conduct research on risks from climate change and the effectiveness of EbA interventions implemented by the LDCF-financed project. <b>3.2.3.</b> 30 days in year 1 to liaise with professors from the identify academic institutions and the selected PhD and post-doctorate researchers to develop research questions to measure the effectiveness of EbA interventions implemented in the Haor Area and Barind Tract.
49	PhD studies (@ US\$9,000 per student)	<b>3.3.2.</b> Funding for 2 x PhD candidates. This amount will cover university funding, logistic costs and living expenses (US\$2,000/month per student) for 3 years.
50	Post-doctorate researchers (@ US\$21,750/year per researcher)	<b>3.3.2.</b> Funding for 1 post-doctorate researcher. This amount will cover logistic costs and remuneration for post-doctorate research (US\$26,000/year per student) for 3 years.
51	Stipend for PhD and post-doctorate supervision (@ US\$12,250 per year)	<b>3.3.2.</b> Stipend for academic supervision of PhD and post-doctorate researchers (@ US\$12,250 per year).
52	Consultancy contract for National Adaptation Expert (NAE) (35days @ US\$100/day)	<b>3.4.1. and 3.4.2.</b> 30 days in total. 10 days in year 4 to identify good practices for, and barriers to the effective upscaling of EbA interventions. 10 days in year 4 to access current entry points for an upscaling strategy. 10 days in year 4 to provide assistance (including reviewing text and providing relevant information) to the IEbAE in the development of the nationwide EbA upscaling strategy in Bangladesh. <b>3.4.4.</b> 5 days to plan and co-facilitate a validation workshop for the upscaling strategy developed in Activity 3.4.2 in year 4.
53	Consultancy contract for International EbA Expert (IEbAE) (25 days @ US\$500/day; 15 days in-country @ DSA US\$117/day; 2 flights @ \$2500/flight)	<b>3.4.2.</b> 20 days in total.10 days in country to meet with NAE and relevant stakeholders in year 4. 10 days to develop and produce an upscaling strategy in collaboration with the NAE in year 4. <b>3.4.4.</b> 5 days in total. 5 days in country to offer technical assistance, attend and facilitate the upscaling strategy validation workshop in year 4.
54	Consultations	<b>3.4.2.</b> This budget will be used to cover travel and meeting costs for consultations between the relevant project experts and national stakeholders in the development of the nation-wide upscaling strategy.
55	Consultancy contract for National Business Expert (NBE) (20 days @ US\$100/day)	<b>3.4.3.</b> 20 days in total. 20 days in year 4 to provide assistance (including reviewing text and providing relevant information) to the IBE in the development of 2 business-case models to support the nation-wide upscaling strategy including inter alia details on: i) the benefits of EbA relevant to the costs; ii) implementation arrangements to promote this approach; and ii) potential funding mechanisms.
56	Consultancy contract for International Business Expert (IBE) (30 days @ US\$500/day; 10 days in-country @ DSA US\$117/day; 1 flight @ \$2500/flight)	<b>3.4.3.</b> 30 days in total. 10 days in country to meet with NBE and relevant stakeholders in year 4. 20 days to develop and produce 2 business-case models to support the nation-wide upscaling strategy including inter alia details on: i) the benefits of EbA relevant to the costs; ii) implementation arrangements to promote this approach; and iii) potential funding mechanisms in collaboration with the NBE in year 4.
57	Consultations	<b>3.4.2.</b> This budget will be used to cover travel and meeting costs for consultations between the relevant project experts and national stakeholders in the development of the nation-wide upscaling strategy.
58	Validation workshop for the upscaling strategy in year 4	<b>3.4.2.</b> This budget will be used to host a validation workshop for the upscaling strategy developed in Activity 3.4.2. @ US\$6,000 for the workshop including travel assistance, lunch and all stationary and materials. This workshop will be

		facilitated by the IEbAE and NAE.
59	Project synthesis report (@ US\$8,481)	<b>3.3.1.</b> This budget will be used to produce a project synthesis report. This budget covers costs of the various experts employed over the project lifespan who will contribute to the relevant sections of the report. This budget also covers the cost of compiling, printing and distributing this report.
60	Travel for PMU and Regional Technical Unit	<p>Travel allowance (TA) and daily allowance (DA) for the PMU and Regional Technical Units.</p> <p><u>PMU (US\$10,000 per year x 4 years = \$40,000)</u>  Project Director: 30 day/year x 2000BHT/day x 4 years = 240,000BHT  Project Manager: 30 day/year x 2000BHT/day x 4 years = 240,000BHT  M&amp;E Specialist: 30 day/year x 2000BHT/day x 4 years = 240,000BHT  Admin and Finance assistant: 6 day/year x 2000BHT/day x 4 years = 48,000BHT  Total 768,000BHT = ~US\$10,000</p> <p><u>Regional Technical Unit (Barind) (US\$10,000 per year x 4 years = \$40,000)</u>  Regional Coordinator: 30 day/year x 2000BHT/day x 4 years = 240,000BHT  Local Technical Advisor: 30 day/year x 2000BHT/day x 4 years = 240,000BHT  CC and NRM: 30 day/year x 2000BHT/day x 4 years = 240,000BHT  Admin and Finance officer: 6 day/year x 2000BHT/day x 4 years = 48,000BHT  Total 768,000BHT = ~US\$10,000</p> <p><u>Regional Technical Unit (Haor) (US\$10,000 per year x 4 years = \$40,000)</u>  Regional Coordinator: 30 day/year x 2000BHT/day x 4 years = 240,000BHT  Local Technical Advisor: 30 day/year x 2000BHT/day x 4 years = 240,000BHT  CC and NRM: 30 day/year x 2000BHT/day x 4 years = 240,000BHT  Admin and Finance officer: 6 day/year x 2000BHT/day x 4 years = 48,000BHT  Total 768,000BHT = ~US\$10,000</p>

**ANNEX G: WORKPLAN**

**Workplan**

Act.	Annual breakdown				Quarterly breakdown															
					Year 1				Year 2				Year 3				Year 4			
	Y1	Y2	Y3	Y4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
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1.1.2	■					■														
1.1.3	■						■	■												
1.1.4	■							■												
1.2.1	■					■														
1.2.2	■						■													
1.2.3	■							■												
1.3.1	■					■														
1.3.2	■	■	■	■				■				■					■			■
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2.2.1	■						■													
2.2.2	■	■						■	■											
2.3.1	■				■	■														
2.3.2	■					■														
2.3.3	■					■														
2.3.4	■					■														
2.3.5	■						■													
2.3.6	■							■												
2.3.7		■	■	■					■	■	■	■		■			■		■	
2.3.8		■							■	■	■	■		■			■		■	
2.3.9		■		■	■				■	■	■	■		■			■		■	
2.4.1	■						■	■												
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2.4.5		■							■		■	■								

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**ANNEX H: TRACKING TOOL**

Attached separately in an excel file

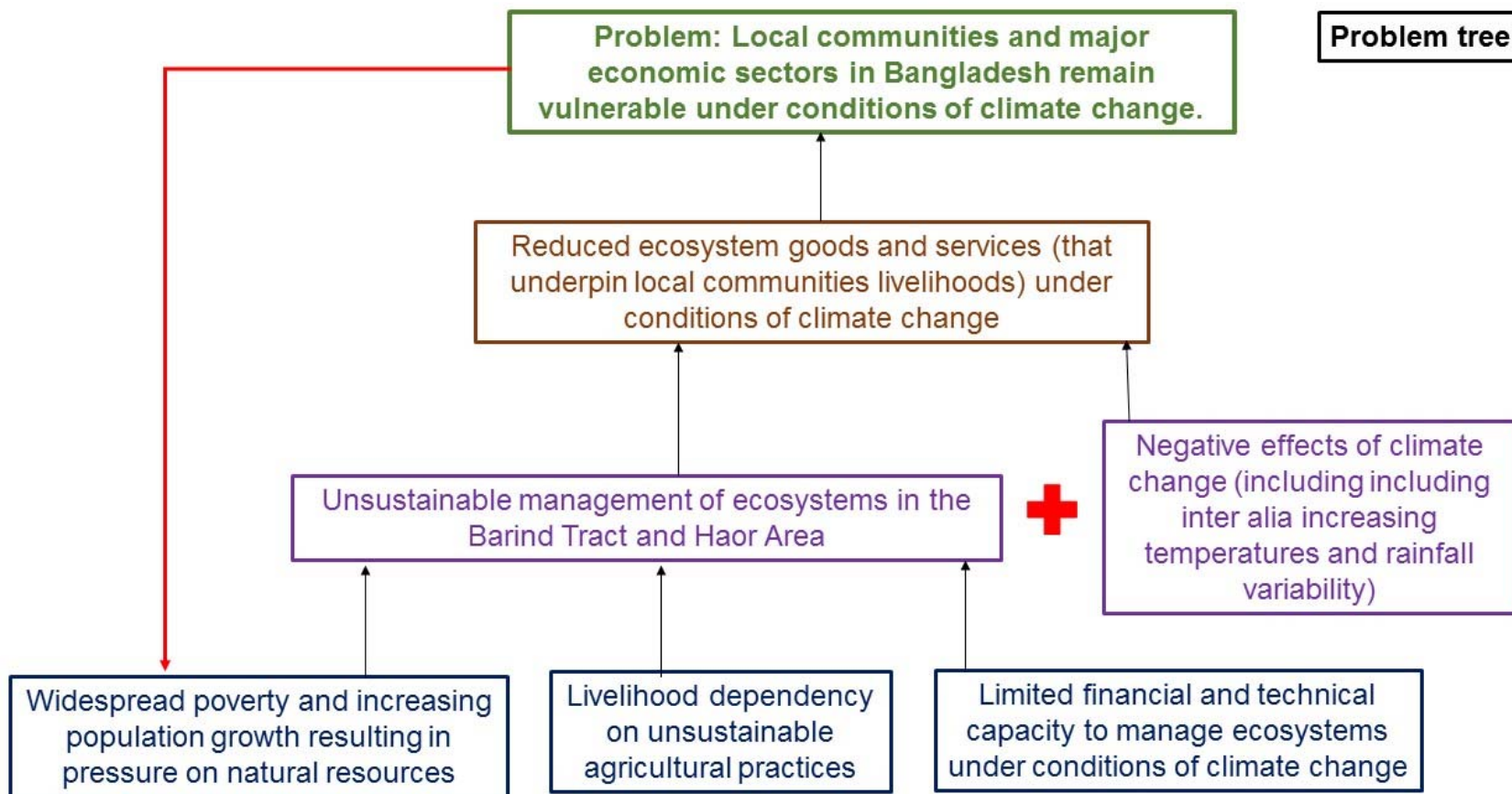
**ANNEX I: OFP ENDORSEMENT LETTER**

Attached separately

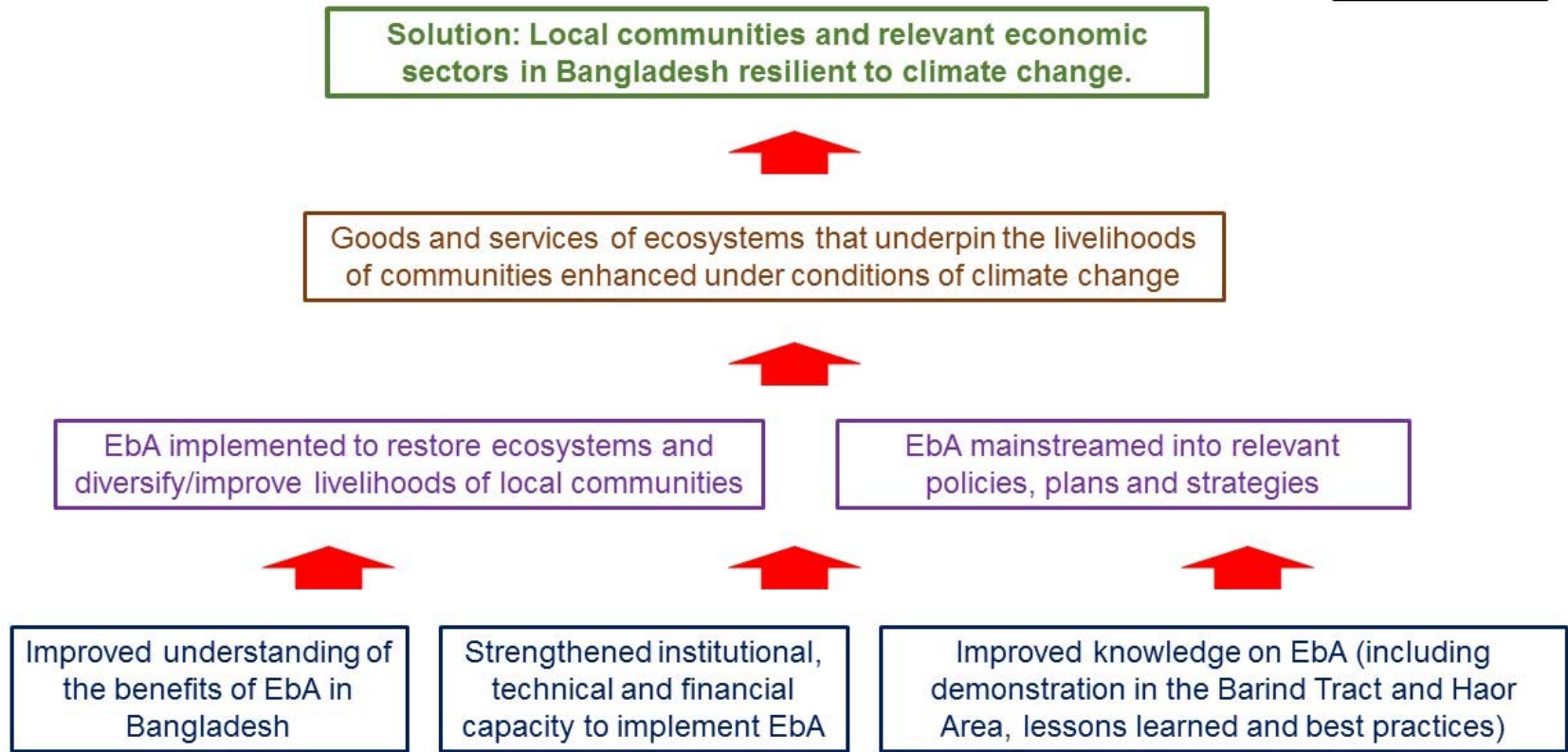
**ANNEX J: COFINANCING LETTERS**

Attached separately

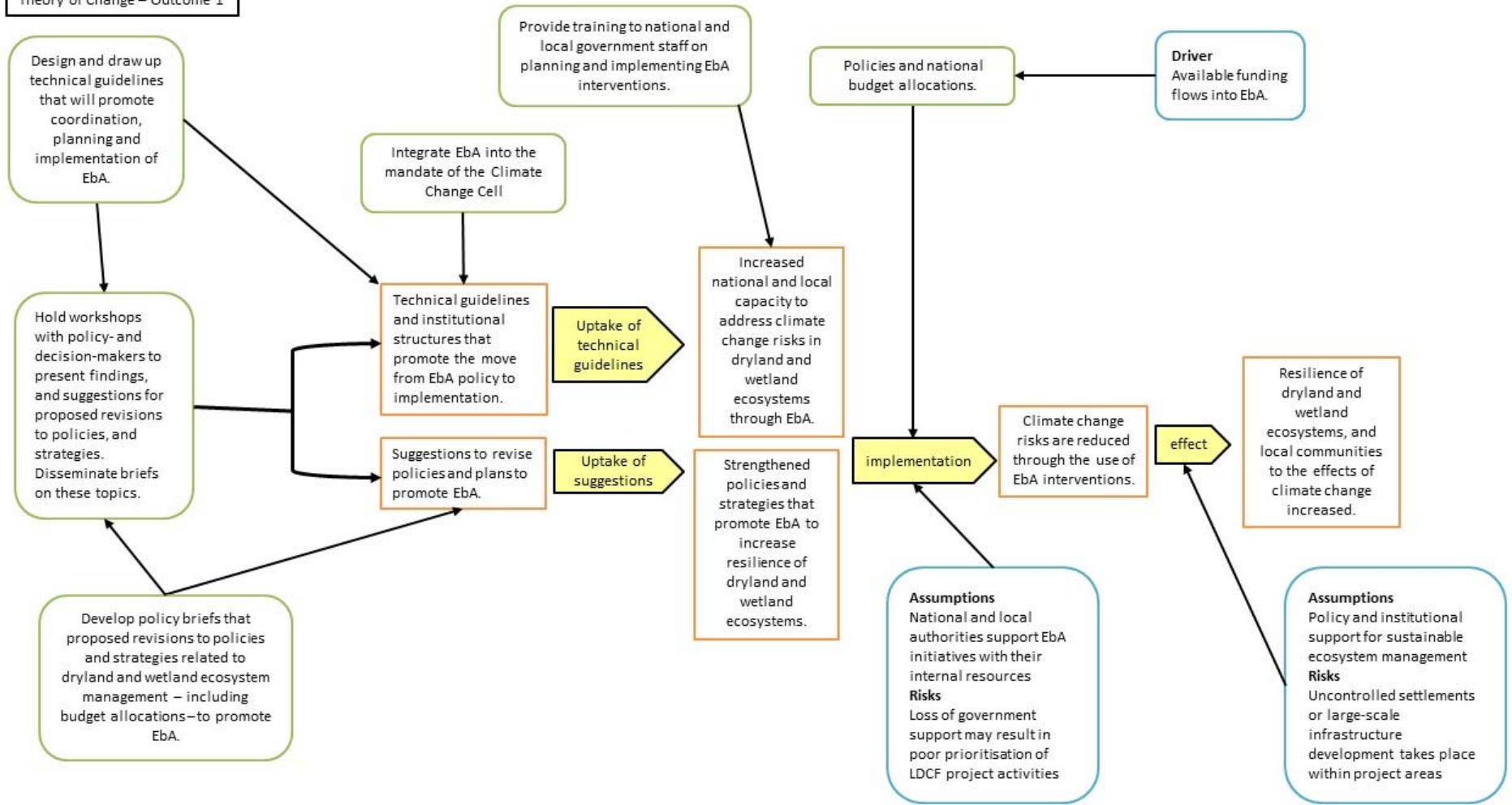
ANNEX K: THEORY OF CHANGE

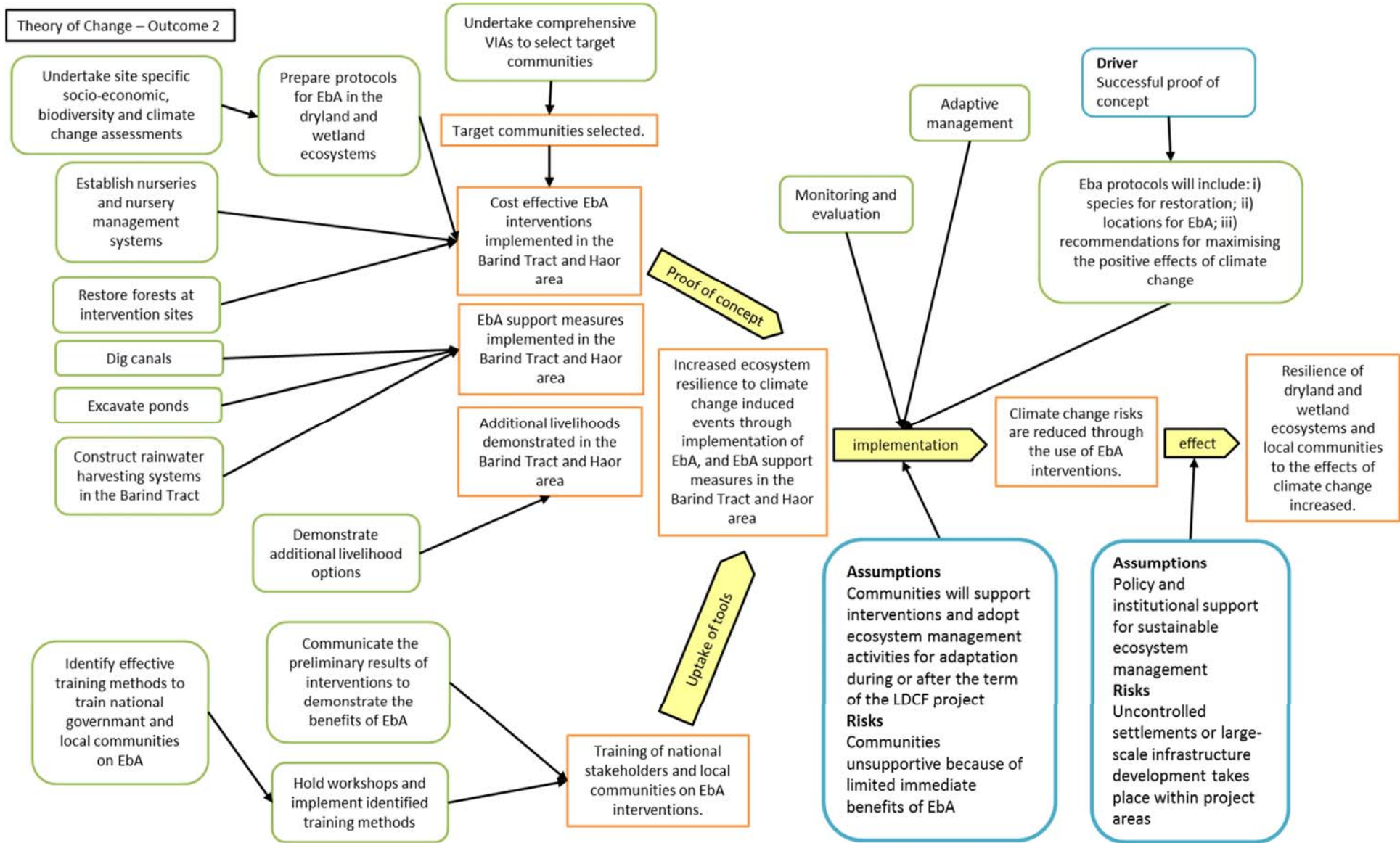


**Solution tree**

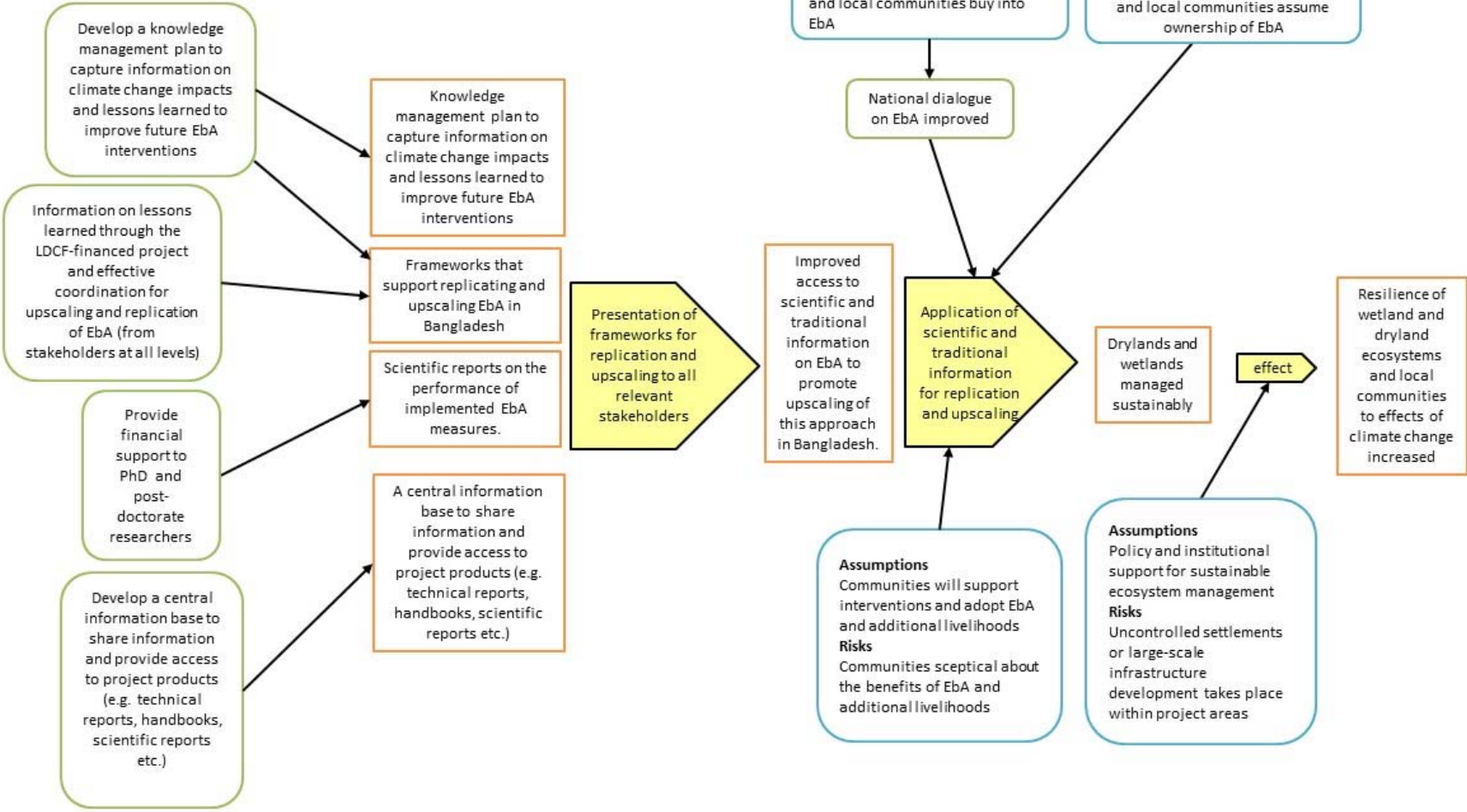


Theory of Change – Outcome 1





Theory of Change – Outcome 3





## **ANNEX L: LIST OF STAKEHOLDERS THAT WERE CONSULTED DURING PPG**

National and sub-national organisations and institutions were consulted during the Project Preparation Grant (PPG). These organisations and institutions are listed below. For a full description of the stakeholders that we involved in the PPG, please see Section 2.5 of the project document. See Appendices 21 and 25 of the project document for the workshop and consultation reports.

### National stakeholders

- Center for Natural Resources Studies (CNRS)
- Center for Environmental and Geographic Information Services (CEGIS)
- Department of Environment (DoE)
- Department of Agriculture Extension (DAE)
- Department of Livestock Services (DLS)
- Department of Fisheries (DoF)
- Bangladesh Water Development Board (BWDB)
- International Union for Conservation of Nature (IUCN)
- JASHIS
- Soil Resource Development Institute (SRDI)
- Bangladesh Agricultural Research Institute (BARI)
- Independent TV

### Sub-national stakeholders

- Divisional Commissioner Office, Sylhet
- Indigenous Community, Barind Tract
- Shahjalal University of Science and Technology (SUST)
- Sylhet Sahitto Forum
- The Daily Sylhet
- Office of Regional Consultant of Food, Sylhet
- Department of Public Health Engineering (DPHE), Sylhet Circle
- The Independent, Sylhet
- Local Government Engineering Department (LGED), Sylhet
- Sylhet Agricultural University (SAU)
- Bangladesh Forest Department (BFD), Sylhet
- Divisional Family Planning Office, Sylhet
- Department of Livestock Services (DLS), Sylhet and Rajshahi
- Zonal Settlement Office (ZSO), Sylhet
- Department of Fisheries (DoF), Sylhet
- Shahjalal University of Science and Technology (SUST)
- Sylhet Press Club

**CHECKLIST FOR ENVIRONMENTAL AND SOCIAL ISSUES**

Addressing Fiduciary Standards, implementing agencies have to address ‘Environmental and Social Safeguards’. To address these, DGEF have developed this checklist with the following guidance:  
 This checklist is a guiding concept development to help guide in the identification of possible risks and activities that will need to be included in the PIF.

The checklist should accompany the PIF.  
 It should be updated during PPG phase and updated as required.  
 The PIF should be submitted with Project Package clearly showing what activities are being undertaken to address issues identified.

	Ecosystem-based approaches to adaptation (EbA) in the drought-prone Barind Tract and Haor "wetland" Area		
<b>Project ID</b>	GEF Agency Project ID: 5456 UNEP ID:	<b>Version of checklist</b>	Two
<b>Project Stage</b>	Preparation	<b>Date of this version:</b>	05 May 2013 Updated 9 March 2015
<b>Project Name, Title</b>	Atifa Kassam, Task Manager, GEF Climate change adaptation unit, DEPI, UNEP		

Both short- and long-term impact shall be considered.

**Comment/Explanation:**

The Comment/Explanation field needs to include: Project stage for addressing the issue; Budget implications, and other comments.

	Yes/No/N.A.	Comment/explanation
Close to -		
Area	Yes	The project will be carried out in three upazilas in the Barind Tract and five upazilas in the Haor area which are both densely populated. The size of the population targeted by the project is at least 21,000 people living in the Barind Tract and 31,000 people living in the Haor area. The project takes into account local livelihoods and communities living in the pilot areas. Capacity building, knowledge sharing and community-based adaptation are all integrated into the project design.
	No	
	No	
	Yes	The project intends to build climate resilience through an Ecosystem-based approach to adaptation – including restoration of degraded swamp forests – in the Haor wetland area in the eastern region of Bangladesh.
	No	

- estuarine	No	
- buffer zone of protected area	No	
- special area for protection of biodiversity	Yes	The project will implement EbA in the Hakaluki haor. The Hakaluki haor was designated by the Government as an Ecologically Critical Area (ECA)..
- Will project require temporary or permanent support facilities?	Yes	The project will implement EbA and hard infrastructure measures to support EbA. These support measures include: digging canals, excavating dams and constructing rainwater harvesting systems.
<i>If the project is anticipated to impact any of the above areas an Environmental Survey will be needed to determine if the project is in conflict with the protection of the area or if it will cause significant disturbance to the area.</i>		

**Section B: Environmental impacts, i.e.**

If negative impact is identified or anticipated the Comment/Explanation field needs to include: Project stage for addressing the issue; Responsibility for addressing the issue; Budget implications, and other comments.

	<i>Yes/No/N.A.</i>	<i>Comment/explanation</i>
- Are ecosystems related to project fragile or degraded?	Yes	The ecosystems that are targeted by the project are fragile and degraded at the selected pilot sites. The project's priority is to restore these ecosystems to build the adaptive capacity of local communities. Anthropogenic pressures, climate variability and extreme weather events such as droughts, and floods contribute to these pressures. Project activities are designed to establish resilient ecosystems in degraded areas in order to ensure long-term adaptation to the impacts of climate change. All on-the-ground implementation will be undertaken using expert guidance from qualified technical staff and scientific advisors.
- Will project cause any loss of precious ecology, ecological, and economic functions due to construction of infrastructure?	Not anticipated	The project aims to increase the ecological opportunities and ecosystem services despite the negative impacts of climate change. Short-, medium- and long-term impacts will be beneficial for local ecosystems.
- Will project cause impairment of ecological opportunities?	Not anticipated	The project aims to increase the ecological opportunities and ecosystem services despite the negative impacts of climate change. Short-, medium- and long-term impacts will be beneficial for local ecosystems.
- Will project cause increase in peak and flood flows? (including from temporary or permanent waste waters)	Not anticipated	Project activities such as ecological restoration will reduce the likelihood of flooding and regulate the flow of rivers. No temporary waste water will be generated by project activities.
- Will project cause air, soil or water pollution?	No	
- Will project cause soil erosion and siltation?	Not anticipated	It is expected that project activities will increase water filtration in all priority project areas in watersheds and dryland forests, thereby reducing erosion and siltation. Furthermore, restored ecosystems will mitigate the effect of floods, further reducing erosion and siltation.
- Will project cause increased waste production?	Not anticipated	

- Will project cause Hazardous Waste production?	Not anticipated	
- Will project cause threat to local ecosystems due to invasive species?	Not anticipated	The project will use indigenous species to restore ecosystems in the Barind Tract and Haor area.
- Will project cause Greenhouse Gas Emissions?	No	Project activities are likely to reduce the emissions of greenhouse gases in identified priority sites through the restoration and re-establishment of degraded ecosystems, increasing soil and plant carbon sequestration.
- Other environmental issues, e.g. noise and traffic	Not anticipated	
<i>Only if it can be carefully justified that any negative impact from the project can be avoided or mitigated satisfactorily both in the short and long-term, can the project go ahead.</i>		

### **Section C: Social impacts**

If negative impact is identified or anticipated the Comment/Explanation field needs to include: Project stage for addressing the issue; Responsibility for addressing the issue; Budget implications, and other comments.

	<i>Yes/No/N.A.</i>	<i>Comment/explanation</i>
- Does the project respect internationally proclaimed human rights including dignity, cultural property and uniqueness and rights of indigenous people?	Yes	All project interventions have been developed in accordance with internationally proclaimed human rights, in conformity with UN guidelines. In addition, all activities were developed together with various stakeholders to ensure that no rights or laws are infringed by the proposed activities.
- Are property rights on resources such as land tenure recognized by the existing laws in affected countries?	Yes	The project facilitates participatory approaches for avoiding any conflicts.
- Will the project cause social problems and conflicts related to land tenure and access to resources?	Not anticipated	The project will promote a community-based natural resources management approach. The project will adhere to national and local laws on land rights and land tenure.
- Does the project incorporate measures to allow affected stakeholders' information and consultation?	Yes	All on the ground activities are implemented by local communities, and are preceded by and include stakeholder consultations together with training and information workshops. Technical briefs will be prepared to ensure that all stakeholders are fully informed.
- Will the project affect the state of the targeted country's (-ies') institutional context?	Yes	The project will strengthen institutions within Bangladesh in order to facilitate mainstreaming of climate change adaptation. In addition, government staff from the Climate Change Cell and relevant Climate Change Focal Points will be trained on planning and implementing EbA interventions as will district, provincial and national structures relevant to the project outcomes.
- Will the project cause change to beneficial uses of land or resources? (incl. loss of downstream beneficial uses (water supply or fisheries)?	Yes	The project is designed to enhance beneficial land uses and access to resources, including improved river flow and reduced siltation from identified project sites.
- Will the project cause technology or land	Yes	The project is designed to enhance beneficial land uses, access to resources and ecosystem

use modification that may change present social and economic activities?		services in both the projects sites.
- Will the project cause dislocation or involuntary resettlement of people?	Not anticipated	No movement of populations is required for project activities: local populations are involved in all on-the-ground implementation.
- Will the project cause uncontrolled in-migration (short- and long-term) with opening of roads to areas and possible overloading of social infrastructure?	Not anticipated	No new roads are to be built through project activities, and no population movement is anticipated. Local social infrastructure will be enhanced through the project community engagement and consultation process, and through community training in adaptation techniques.
- Will the project cause increased local or regional unemployment?	Not anticipated	No long-term change in employment as a result of project activities is anticipated. Community members will be employed for short periods to achieve specific project objectives where necessary. Livelihoods of communities in project sites will be enhanced in order to improve community resilience under conditions of climate change.
- Does the project include measures to avoid forced or child labour?	Yes	The project conforms to all national and international guidelines and laws regarding forced labour. Extensive community engagement will prevent the use of forced labour, and all required labour (short term employment only for establishing specific objectives) will be provided through community engagement and remunerated in accordance with national law.
- Does the project include measures to ensure a safe and healthy working environment for workers employed as part of the project?	Yes	The project will conform to all national and international guidelines and laws regarding health and safety for workers employed as part of the project. Community training will ensure that health and safety regulations are understood.
- Will the project cause impairment of recreational opportunities?	Not anticipated	No recreational opportunities will be impaired through project activities.
- Will the project cause impairment of indigenous people's livelihoods or belief systems?	Not anticipated	<p>The Santal people in the Barind Tract are one of the oldest indigenous populations in Bangladesh. The population is concentrated in Jheolmari where the majority are employed as agricultural labourers, although there has been increased migration to urban areas where opportunities for non-agricultural employment are available.</p> <p>During the PPG, ICs were consulted to gather information on their main livelihoods, the effects of climate change on these livelihoods and the potential for EbA to support and compliment ICs' activities (see Appendix 25 or Annex P). Such consultations will continue at project inception to inform the design of interventions that will be implemented by the LDCF-financed project. Through these consultations it is anticipated that interventions will improve livelihoods for ICs. All project implementation will be carried out in accordance with local belief systems.</p>
- Will the project cause disproportionate impact to women or other disadvantaged or vulnerable groups?	Not anticipated	Women's rights will be promoted in accordance with national legislation, appropriate strategies and UN guidelines for interaction within Bangladesh. In addition, gender has been taken into account in the project document including through gender disaggregated indicators.
- Will the project involve and or be complicit in the alteration, damage or	Not anticipated	No cultural heritage will be impacted through project operations.

removal of any critical cultural heritage?		
- Does the project include measures to avoid corruption?	Yes	Corruption can be a problem in some sectors of Bangladesh, and many government agencies are affected, however within the selected EA this is limited due to strong internal governance and stringent protection measures.
<i>Only if it can be carefully justified that any negative impact from the project can be avoided or mitigated satisfactorily both in the short and long-term, can the project go ahead.</i>		

**Section D: Other considerations**

If negative impact is identified or anticipated the Comment/Explanation field needs to include: Project stage for addressing the issue; Responsibility for addressing the issue; Budget implications, and other comments.

	<i>Yes/No/N.A.</i>	<i>Comment/explanation</i>
- Does national regulation in affected country (-ies) require EIA and/or ESIA for this type of activity?	Yes	The Bangladesh Environment Conservation Act (BECA) (1995) creates an enabling environment that enforces all projects – related to the implementation of construction works, installations or schemes, or implying interventions into the natural and scenery environment – that may have a negative impact on the environment undergo an Environmental Impact Assessment (EIA). EIAs will therefore be undertaken within Component 2 of the LDCF-financed project. In addition, feasibility and vulnerability assessments will be undertaken to inform the design of project interventions..
- Is there national capacity to ensure a sound implementation of EIA and/or SIA requirements present in affected country (-ies)?	Yes	The Bangladesh government has limited capacity or resources to assist with EIAs, however, there are NGOs and companies conducting EIAs in the country in accordance with requirements from other countries.
- Is the project addressing issues, which are already addressed by other alternative approaches and projects?	No	No other projects have been identified that are currently carrying out Ecosystem based Adaptation activities in Bangladesh. Project activities are complementary to the identified baseline projects, and will ensure that long-term adaptation benefits enhance the value of the baseline activities.
- Will the project components generate or contribute to cumulative or long-term environmental or social impacts?	Yes	The project will generate long-term environmental benefits by facilitating adaptation restoration in degraded ecosystems, and positive social impacts through enhanced productivity. The project seeks to enhance the resilience of local communities.
- Is it possible to isolate the impact from this project to monitor E&S impact?	Yes	The project will generate long-term environmental benefits by facilitating adaptation restoration in degraded dryland forests and swamp forests and positive social impacts through enhanced ecosystems services and promoting additional livelihood options.

# **DRAFT Operational Guidelines of Village Conservation Fund (VCF)**

**Ecosystem-based approaches to Adaptation (EbA) in the drought  
prone Barind Tract and Haor wetland Area,**

**Department of Environment  
Ministry of Environment and Forests**

## 1.0: Principle

The Village Conservation Fund (VCF) is a form of financial support for the climate vulnerable communities living in and around the two pilot demonstration sites of the project entitled “Ecosystem-based approaches to Adaptation (EbA) in the drought-prone Barind Tract and Haor wetland Area Ecosystem-based Approaches to Adaptation (EbA)” hereby referred to as the EbA LDCF Project supported by Global Environment Facility (GEF) from Least Developed Countries Fund (LDCF). The fund aims to support projects and activities in order to reduce pressure on and shift from intensive and unwise use of and unsustainable exploitation of natural resources, ecosystem services and biodiversity in Haor Wetland Ecosystems and Barind Dry Land Ecosystems. Specifically, the VCF will provide options for alternative income generation for the vulnerable people whose livelihood are dependent on natural resources, ecosystem services and are likely to be affected by climate change. The fund will also support alternative livelihood projects and activities that aim to reduce pressure on natural resources and ecosystem services. The VCF shall support community efforts through the Village Conservation Groups (VCGs) that are supportive of and compatible with wetland ecosystem and wetland biodiversity protection and management in Haor ecosystem, and protection and management of dry land ecosystem in Barind Tract. While supporting alternative livelihood options for the vulnerable communities, it intends to mobilize and catalyze community efforts that would be the vehicle for developing responsibility, enhancing local capacities and self-reliance within the context of rationale use of natural resources, ecosystem services and biodiversity. Moreover, the VCF shall be utilized as a revolving fund to enhance the development of local leadership and organizational management capacities of the VCGs. This is expected to not only increase the financial management skills of the VCGs but also to develop among them the necessary entrepreneurship skills for more commercial and greener business ventures.

The draft VCF operational guidelines have been developed to provide the basis of use and overall management of the fund. It also aims to guarantee that targeted groups will have access to the fund and that there are sufficient capacities and safeguards to ensure the successful achievement of the objectives of the fund in particular, and the objectives of the project in general.

These draft operational guideline will be further validated (and if need be modified) during the first year of the project at inception phase. It is expected that in the process of the VCF implementation some modifications and improvements may have to be made to adjust to specific circumstances but within the framework and objectives of the EbA LDCF Project.

Therefore, the operational relevance, sensitivity and responsiveness of the provisions, component processes, strategies and approaches of this operational guideline shall be documented during the implementation of the VCF. Hence, close monitoring and documentation of the projects by relevant groups; Monitoring and Evaluation Team, the Audit Team, Project Management Unit (PMU), Upazila Development Coordination Committee (UDCC) and District Development Coordinating Committees (DDCC) will be done so as to be able to observe the process and take note of how the activities are progressing including problems and difficulties encountered and lessons learned.

This draft VCF operational guideline is developed based on similar fund being managed by the Department of Environment and has been developed through a series of consultations with the grassroots National Professional Project Personnel (NPPPs), the Partner Non-Governmental Organizations (PNGOs) and ECAMO (ECA Management Officer) that did the dissemination and community consultations. Therefore, this draft



VCF operational guideline will be discussed and finalized with key stakeholders during first year of the project implementation.

## **2.0 Definitions**

- a) Village Conservation Groups (VCGs): Village Conservation Groups are considered to be a mechanism formed with the local community through which the implementation of field level activities will be initiated, implemented and coordinated;
- b) Village Conservation Fund (VCF): Village Conservation Fund is a fund established by the EbA Project which will support climate vulnerable communities living in and around the two pilot demonstration sites i.e. Haor and Barind Areas. Support will be provided for alternative income generation activities which will reduce pressure on natural resource, enhance resilience of ecosystem services and adaptive capacity of the vulnerable communities in the context of climate change;
- c) VCF Executive Committee (VCF-EC): a committee established by VCGs with support from the PMU of the EbA LDCF Project, who will manage Village Conservation Fund (VCF) including approval of activities/projects to be supported by VCF;
- d) VCF Technical Committees (VCF-TCs): Committees established by VCGs with support from PMU of EbA LDCF Project for two pilot sites i.e. Haor and Barind areas. VCF-TC will be responsible for technical review of the proposed activities/projects and will make recommendation to VCF-EC for approval;
- e) Project Management Unit (PMU): the Project Management Unit is responsible for the overall execution of the EbA LDCF Project. The PMU is located in the Head Office of the Department of Environment under the Ministry of Environment and Forests;
- f) District Development Coordinating Committees (DCCs): A coordination mechanism established at district level that coordinate development activities within the District including development activities at Upazila and Union Parishad Levels;
- g) Upazila Development Coordination Committee (UDCC): A coordination mechanism established at Upazila level for coordinating activities with other Upazila based officers for smooth implementation of policies/programs/projects of national government at the Upazila as well as maintaining vertical and horizontal coordination; and
- h) Revolving Fund (RF): A fund where capital and other income shall be re-invested.

## **3.0 Objectives of the Village Conservation Fund (VCF)**

- a) To enhance and institutionalize the community empowerment process for conserving and managing natural resources and ecosystem services in the Haor Wetland Ecosystem and Barind Tract Dry Land Ecosystem; and
- b) To support the initiatives of Village Conservation Groups (VCGs) for alternative forms of income generation and profitable employment of its members that will lead to reduced pressure, reduced unwise use and exploitation, and help regeneration of natural resources and biodiversity in the Haor and Barind Areas.

## **Part 1**

### **4.0: Procedure to Access Village Conservation Fund (VCF) by the Village Conservation Groups (VCGs)**

As Village Conservation Fund (VCF) will support activities in two pilot demonstration sites, and a principle of an equal block allocation of fund will be adopted for each VCG. VCGs will be the focal point of delivering activities to support management and conservation of natural resources and ecosystem services in the villages. The VCGs will manage the VCF through the VCF Executive Committee. The adoption of this approach is based on the objective of empowering the communities by enhancing the development of local leadership and organizational capacities of the VCGs. The management of the VCF is expected to not only increase the financial management skills of the VCGs but also to develop among them and the village people the necessary entrepreneurial skills in the face of climate change. Organizational development trainings and other capacity building support will be provided to the VCGs for institutional and technical strengthening needs. Such support will include the enhancement of the various levels of capacities of the VCGs including operation of the revolving fund after completion of the EbA LDCF Project.

### **4.1: The following steps shall be followed for Establishment of Village Conservation Fund (VCF)**

**Step 1:** VCF funds will be processed by the PMU upon establishment of Village Conservation Group (VCG) and recommendation by the Upazilla/District Development Coordination Committee;

**Step 2:** A Village Conservation Fund (VCF) account will be opened by the VCGs with the VCG Chair. VCG Chair will not withdraw money from this fund without authorization of Executive Committee of the Fund or Fund Board or an assigned person to approve the fund withdrawal request. The VCG shall officially designate an officer to collect repayments of the VCF;

**Step 3:** Signing of a Letter of Agreement (LOA) between concerned parties (PMU and VCG);

**Step 4:** Initial VCF and other succeeding funds will be directly disbursed by PMU to the Village Conservation Fund (VCF) account.

**Step 5:** UNEP/GEF may also directly disburse additional funds to the VCGs following the same process.

## **Part 2**

### **5.0: Village Conservation Fund (VCF) Implementation procedure at VCG level**

#### **5.1: Preparation of Proposal**

The VCG as an organization assumes the role of both the recipient of the VCF from the project as well as the manager of the VCF for the entire village. As such the VCG will fund alternative income generating activities and projects of its members. The entire EbA LDCF Project team will backstop and support the VCGs during implementation of the project.

The following steps shall be followed for preparation of project proposal and its approval:

### **Step 1: Identification of Areas and Activities for VCF Support**

The VCGs with the guidance from the EbA LDCF PMU will hold focus group discussions (FGD) with the community members to:

- a. Review findings of the vulnerability and impacts assessment undertaken by the project to select target communities in the Haor Wetland and Barind Tract areas under the project; review identified adaptation technologies for demonstration including excavation/re-excavation of ponds, canals and beels, and installation of rainwater harvesting devices to support EbA by reducing erosion in the Haor Area and conserving water in the Barind Tract; and review additional livelihood options identified for enhancing the adaptive capacity of local communities to climate change of the villages as a whole;
- b. Identify knowledge, skills and resources that remain unutilized/underutilized for enhancing adaptive capacity of the communities;
- c. Share ideas and other relevant information with the VCGs and the village as a whole. This may include details about adaptation technologies, demand and price of the products which will be generated through alternative livelihood support, government regulations, eco-labeling, possible competition in the market, availability of raw materials and cost to support alternative livelihoods, production and investment costs, risks and potential threats, etc.

### **Step 2: Improvement of Project Proposal for VCF Investment**

- a. The project team will assist the VCGs and members in developing detailed proposals for VCF support based on their priorities. The PMU and Executive Committee of VCF will develop a template for proposing activities/projects for support under VCF.

### **Step 3: Evaluation and Approval of Proposal by VCF Executive Committee**

- a. Following a review of the proposal by the VCG Technical Group, the proposal will be submitted to the VCF Executive Committee for review and necessary modifications and subsequent approval. The VCF Executive Committee shall send all approved proposals to the PMU. The proposal will then be endorsed and a copy will be provided to the Upazila and District Development Coordination Committee by the PMU.
- b. Execution of the approved VCF projects shall be carried out as indicated in the approved proposal. Any major change in the activities of the project will have to be approved by the Upazilla Development Coordination Committee.

## **5.2: Amount of Fund**

Individual size of the grant will vary from lower range of 15,000 BD taka (approximately US\$ 200) to higher range of 30,000 BD taka (approximately US\$ 400) depending upon the nature and activities of the project.

## **5.3: Criteria for Allocation of Funds**

- a. VCF shall be a onetime grant for a particular purpose given to members of the VCGs;
- b. No individual is to become member of more than one VCG and receive VCF from both VCGs;
- c. The VCF shall not be used for repayment of other earlier loans;
- d. The set of activities proposed for funding must always fit the project objectives and activities;
- e. Beneficiaries should be in a position to show proper management of the grant, maintenance of accounts and records and updated savings as these are subjected to official audits;
- f. Beneficiaries must present regularly in the VCGs meeting and pay savings;
- g. Priority shall be given to women groups;
- h. Priority will be given to individuals or groups that demonstrate the most financial need. This could be ascertained through the findings of the vulnerability assessment done by project;
- i. Proposals for VCF support should comply with national regulations related to environmental resource and biodiversity protection and conservation; and
- j. The beneficiaries shall put in writing their willingness to deposit to the account of the VCF amount equivalent to one monthly installment but should not be less than 10% of the total amount of the VCF. This amount will be used as conserving environment, awareness raising and capacity building.

## **5.4: Allocation of Fund to Beneficiary**

- a. The VCG will process the necessary documents for granting VCF funds to the beneficiaries;
- b. A Letter of Agreement (LOA) will be signed between concerned parties (VCG Chairman, Project Director and UNO or an authorized member of the Upazilla Development Coordination Committee);
- c. Payments will be made directly to the beneficiary in cash;
- d. All VCF supported ventures will maintain proper accounts which would be audited periodically by the audit committee established for the purpose. The project will introduce simple accounting procedures and conduct training for concerned beneficiary groups on maintaining accounts, book keeping and maintenance of proper documentation.

## **5.5: Collection of Re-funded Amount and Procedure to Maintain Accounts Register**

- a. A cashier will be duly assigned from the members of the VCG executive committee;
- b. Designated Cashier must be duly bonded with the VCG;
- c. The Cashier must issue official Receipts for all collections received. Official receipts must be kept in a register;
- d. A Bank Account shall be opened at a nearby bank;
- e. All collections must be deposited in the designated account once a week;
- f. A safety cash box/steel Almirah shall be provided for the safekeeping of un-deposited collections.
- g. The accountant shall maintain receipts for all the transactions and shall keep a carbon/true copy of the receipt;
- h. An audit will be performed at any time by the designated Auditor or financial experts.

## **5.6: Formulation of Policy Making, Monitoring and Evaluation Activities**

- a. The oversight, advisory and policy making functions for the VCF shall be officially integrated with the functions of the Upazilla Development Coordination Committee (See attached TOR, Annexure-1);
- b. The monitoring and evaluation and audit responsibilities for all VCF activities shall be integrated in the functions and responsibilities of the Union Development Coordination Committee (See attached TOR, Annexure-2);
- c. Continuous assistance will be provided to the Monitoring and Evaluation and Audit Committee by the PMU and Upzilla;
- d. Periodic technical monitoring will also be carried out by experts from the PMU and other relevant authorities.

## **5.7: Eligibility of Beneficiary Groups/Individual**

The VCG shall consider the following individual/Groups for allocation of VCF:

- a. Those voluntarily protecting the natural resource, ecosystems, ecosystem services and biodiversity in the project areas;
- b. Poor households and groups whose economic activity is limited and who may be adversely affected by the restriction imposed on natural resources extraction;
- c. Marginal groups whose livelihood and income are very limited and restricted due to their social status in the community;

- d. Women/Women's groups who are actively involved with the activities of the project.

Income need of the above targeted groups shall be a basis for prioritization. This means that among the eligible groups those with lowest income levels shall be accorded the highest priority.

### **5.8: Criteria for Prioritization of VCF Beneficiaries**

The criteria for the selection and prioritization of eligible beneficiaries will not be limited to the following:

- a. Firm and demonstrated commitment to protect the natural resources, ecosystems, ecosystem services and the biodiversity therein;
- b. Satisfactory and regular attendance at the group meetings;
- c. Has the Willingness and deposit on a regular basis;
- d. Willingness of the VCG executive committee members or group leaders to execute an agreement for them to assume liability in cases of default of the funds;
- e. Willingness to undergo and attend trainings related to the proposed project. The beneficiaries must have at least the technical experience or assured of technical assistance from the partners and concerned line agencies for the proposed livelihood activity;
- f. Beneficiary group has installed or willing to install some kind of financial management system and shall render the books open for the Monitoring and Evaluation Team; and
- g. Beneficiary group is favorably endorsed by the members of ECA Committee at the Union or Upazilla level.

### **5.9: Eligible project/programmes for VCF support**

Income generating projects or undertakings to be funded by the VCGs should be consistent with the objectives of reducing pressure on depleting natural resources allowing recovery/replenishment and enhancement of ecosystem, ecosystem services and biodiversity as well as take into account future effects of climate change. It must be emphasized that the VCF should not only be seen as a livelihood fund only. It is primarily and ultimately an investment for climate resilient development. Income generating activities will be drawn from projects determined by the communities themselves and were found viable through technical consultation with partners and sectoral line agencies at Union and Upazila levels.

In general, land-based projects shall be given preference over water-based projects. However, some water-based undertakings may be considered depending on their technical and environmental soundness.

**5.9.1: Initially, the following activities may be considered for Village Conservation Fund (VCF): This list will be validated by a detailed study (reflected under activity 2.3.3) done by the project.**

- i. Agriculture
  - Garden, fruit garden/homestead gardening/nursery

- Mushroom production
- Planting of Medicinal plants
- Cultivation of fodder/grass
- Production of seeds
- Production of other commercial plants
- Cultivation of flowers
- ii. Production of Organic Fertilizer/composting/vermicomposting
- iii. Rearing of domestic animals/poultry birds
  - Goat rearing
  - Cow/Buffalo rearing
  - Chicken/duck/pigeon rearing
- iv. Handicrafts
  - Manufacture of mats
  - Manufacture of bamboo products
- v. Food Processing
  - Fish Processing
  - Food Processing
  - Production of Dairy products
- vi. Small Business
  - Sale of vegetables
  - Business of Organic fertilizer
  - Sale of seeds
  - Small grocery shops
  - Other small business

Other community demand-driven projects not identified but falling within the general categories indicated above may likewise be considered.

#### **5.9.2 An initial list of Activities/Types of Projects which shall be considered non-eligible for VCF:**

- i. Activities/projects will deteriorate ecosystem and ecosystem services;
- ii. Activities/projects will promote unwise/illegal use of natural resources in the face of Climate Change.
- iii. Any activity that is prohibited and a threat to the biodiversity conservation critical to project areas

#### **5.10: Project Proposal Screening and Survey**

Livelihood projects will be prioritized based on the availability of skills and resources, minimum risk and high potential for success. In the process of selection and preparation of projects, this will be guided by the following screening criteria (as well as development) of project proposals:

- i. Technical merits

- ii. Financial viability
- iii. Market demand
- iv. Environmental soundness

**5.10.1: Technical Advantage of the Project:**

The main consideration for the evaluation of livelihood projects is the appropriateness of the technology or process to be employed in the face of climate change, which will indicate whether the project is resource-conserving or enhancing and not merely because it is effective or efficient.

**Depending on the type of project, the screening process will be guided by the following information and considerations:**

**Project location:**

Is the project site accessible and suitable? Does it conform to land use zoning?

**Technical features:**

- i. Which methods and processes are involved for project implementation?
- ii. What plan has been considered for project implementation
- iii. What type of facility will be established under the project?
- iv. Primary knowledge and technical experience of the project developer.

**Availability of raw materials:**

- i. Sources, type and level of utilization of inputs and/or raw materials;
- ii. Are the raw materials for the project available? How are they obtained?
- iii. Do they come from legitimate sources or illegally-sourced?
- iv. Are the quality and quantity of raw materials good and sufficient?

**Availability of necessary skilled workforce:**

Availability of skilled manpower, their wages, how many needed will need to be evaluated.

**Availability of necessary services:**

Utilities and infrastructure support required for project operation (i.e., water, power, communication, etc.). Estimated quantities to be used and its source and availability

**Waste Disposal:**

Type of wastes which would likely be generated and estimates of quantities including means of disposal



### **5.10.2: Financial Sustainability of the Project:**

It is important that the proposed livelihood project should be able to generate a reasonable rate of return. At least a minimum of 20 % return on investment is reasonable. In addition, the following issues should be examined:

- i. Amount of investment VCF needed and probable income;
- ii. Major assumptions used in financial projections;
- iii. Detailed utilization of the VCF and cash flow analysis;
- iv. Income-expenditure analysis of the Project;
- v. Whether income from the project is adequate to repay the daily/weekly/monthly installments or depending on the agreement between the VCG and the beneficiaries. Schemes with assured daily and/or weekly returns should be given preference;
- vi. Individual or groups with outstanding debts to other NGOs or banks shall not be considered for VCF;
- vii. Behaviour of the individual/group's social status, conduct of the group to be considered to determine the ability for the repayment of the fund;
- viii. Profit sharing arrangements among members should also be looked into.

### **5.10.3: Market Demand:**

The potential market for products should be identified and appropriate linkages should be initiated to make sure that the products can be absorbed by the market. In this context, the following should be examined:

A marketing plan showing how the product will be marketed, such as the use of green labeling for product packaging to get the optimum price, contract growing, pricing schemes and others-market sustainability and supply situation and nature of competition etc...

### **5.10.4: Environmental Soundness:**

The environmental soundness of the project can be assessed, considering the technical aspects of the proposed income generating projects/activities and its anticipated changes over the environmental resources can be realized. In addition, the proposed income generating activities/projects will be assessed for their ability to withstand the effects of climate change.

**The livelihood project will be further assessed based on the following key considerations:**

- i. Influence over the Ecosystem;
- ii. Project implementation Methods/processes;
- iii. Level/volume of Natural Resource used/extracted;
- iv. Robustness of the proposed activity in the face of climate change/future climate risks
- v. Magnitude of impact on natural resources (example: soil, air, water, human being and others) (not significant, moderately significant and significant);
- vi. Type/volume and disposal of wastes generated (liquid effluents, solid wastes, air pollution etc.);

- vii. Social acceptability and influence); and
- viii. Analyse income-expenditure and capacity to generate employment opportunities.

Environmental safeguards and/or mitigation measures should be incorporated as part of the project proposal to address potential adverse impacts or enhanced beneficial effects on environment.

### **5.11: Impact Assessment**

- i. Impact assessment will be conducted for measuring the changes that happened in the community out of VCF utilization. Participatory tools will be used for this purpose. In addition, information incorporated in the VCG records will also be used.
- ii. Preparation of an impact assessment report will be conducted by experts and the ECA Executive Committee.

### **5.12: Role of Ministry of Environment and Forests for monitoring of VCF activity:**

Ministry of Environment and Forests shall monitor and give directions to the VCF activity to achieve project objectives from time to time. The Ministry has the right to change, modify, nullify or make new addition to these guidelines.

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## ***Annexure 1***

### **Roles and Responsibilities of VCF Steering Committee/Advisory Committee**

- 1. Evaluation/Review of Project Proposals
- 2. Preparation of relevant terms and conditions for Village Conservation Fund (VCF)
- 3. Ensure effective utilization of VCF
- 4. Facilitate Monitoring and Evaluation of Projects
- 5. Identify and evaluate alternate areas of use of VCG Fund
- 6. Preparation of Policy and Guidelines for effective utilization and implementation of VCF
- 7.

## ***Annexure 2***

### **Functions of the VCG Monitoring Committee**

- 1. Conduct regular monitoring of VCF projects
- 2. Come-up with recommendations towards improving implementation and execution of the Village Conservation Fund.
- 3. Submit to the VCF Executive Committee, a list of non-performing beneficiaries and recommend possible courses of action.

## ANNEX O: ACRONYM LIST

AusAID	Australian Agency for International Development
BCCRF	Bangladesh Climate Change Resilience Fund
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BCCTF	Bangladesh Climate Change Trust Fund
BECA	Bangladesh Environment Conservation Act
BFD	Bangladesh Forest Department
BHWDB	Bangladesh Haor and Wetland Development Board
BMDA	Barind Multipurpose Development Authority
BMZ	German Federal Ministry for Economic Cooperation and Development
BWDB	Bangladesh Water Development Board
CbA	Community-based Adaptation
CBAECA	Community Based Adaptation in the Ecologically Critical Areas
CBD	Convention on Biological Diversity
CBMTHP	Community Based Management of Tanguar Haor Program
CBRMP	Community Based Resource Management Project
CCA	Climate Change Adaptation
CCC	Climate Change Cell
CDMP	Comprehensive Disaster Management Programme
CEDAW	Convention for the Elimination of All Forms of Discrimination Against Women
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CREL	Climate-Resilient Ecosystems and Livelihoods programme
CWBMP	Coastal and Wetland Biodiversity Management Project
DFID	Department for International Development
DLS	Department of Livestock Services
DAE	Department of Agricultural Extension
DoE	Department of Environment
DoF	Department of Fisheries
DRR	Disaster Risk Reduction
EbA	Ecosystem-based adaptation
ECA	Ecologically Critical Area
EFL	Ecosystems for Life
EKN	Embassy of the Kingdom of the Netherlands
GDP	Gross Domestic Product
GEF	Global Environment Facility
GGI	Gender Gap Index
GII	Gender Inequality Index
GoB	Government of Bangladesh
IU	Independent University
IUCN	International Union for Conservation of Nature
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
LGED	Local Government Engineering Department
LoA	Letter of Agreement
M&E	Monitoring and Evaluation
MACH	Management of Aquatic Ecosystems through Community Husbandry

MoA	Ministry of Agriculture
MoEF	Ministry of Environment and Forests
MoL	Ministry of Land
MoU	Memorandum of Understanding
MoWR	Ministry of Water Resources
MP	Muriate of Potash
NAP	National Adaptation Plan
NAPA	National Adaptation Program for Action
NBSAP	Biodiversity Strategy and Action Plan
NGO	Non-governmental Organisations
NoRAD	Norwegian Agency for Development Cooperation
NTFPs	Non Timber Forest Products
NWMP	National Water Management Plan
PPG	Project Preparation Grant
PSC	Project Steering Committee
SIDA	Swedish International Development Cooperation Agency
SRCWP	Strengthening Regional Co-operation for Wildlife Protection
TSP	Triple Super Phosphate
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VCF	Village Conservation Fund
VCG	Village Conservation Group
VIA	Vulnerability Impact Assessment

**ANNEX P: SITE VISIT REPORT (NOVEMBER 2015)**



Site visit  
report\_November 2015