



## **Building Resilience in the Wake of Climate Disasters in Southern Haiti**

### **Part I: Project Information**

#### **GEF ID**

10175

#### **Project Type**

FSP

#### **Type of Trust Fund**

LDCF

#### **CBIT/NGI**

CBIT No

NGI No

#### **Project Title**

Building Resilience in the Wake of Climate Disasters in Southern Haiti

#### **Countries**

Haiti

#### **Agency(ies)**

UNEP

#### **Other Executing Partner(s)**

Food and Agriculture Organization of the United Nations (FAO)

#### **Executing Partner Type**

GEF Agency

#### **GEF Focal Area**

Climate Change

#### **Taxonomy**

Focal Areas, Climate Change, Climate Change Adaptation, Mainstreaming adaptation, Small Island Developing States, Least Developed Countries, Sea-level rise, Climate resilience, Private sector, Community-

based adaptation, Disaster risk management, Innovation, Ecosystem-based Adaptation, Livelihoods, Influencing models, Demonstrate innovative approaches, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Stakeholders, Private Sector, SMEs, Individuals/Entrepreneurs, Local Communities, Civil Society, Non-Governmental Organization, Communications, Behavior change, Strategic Communications, Awareness Raising, Type of Engagement, Information Dissemination, Consultation, Partnership, Participation, Beneficiaries, Gender Equality, Gender results areas, Access to benefits and services, Capacity Development, Participation and leadership, Knowledge Generation and Exchange, Gender Mainstreaming, Women groups, Sex-disaggregated indicators, Gender-sensitive indicators, Capacity, Knowledge and Research, Learning, Theory of change, Indicators to measure change, Adaptive management, Knowledge Generation, Workshop, Training

**Sector**

Mixed & Others

**Rio Markers**

**Climate Change Mitigation**

Climate Change Mitigation 0

**Climate Change Adaptation**

Climate Change Adaptation 2

**Submission Date**

4/8/2022

**Expected Implementation Start**

7/1/2022

**Expected Completion Date**

6/30/2026

**Duration**

48In Months

**Agency Fee(\$)**

411,146.00

**A. FOCAL/NON-FOCAL AREA ELEMENTS**

<b>Objectives/Programs</b>	<b>Focal Area Outcomes</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
CCA-1	Technologies and innovative solutions piloted or deployed to reduce climate-related risks and/or enhance resilience	LDC F	3,416,729.00	19,217,319.00
CCA-2	Strengthened cross-sectoral mechanisms to mainstream climate adaptation and resilience	LDC F	911,128.00	5,124,620.00
<b>Total Project Cost(\$)</b>			<b>4,327,857.00</b>	<b>24,341,939.00</b>

## B. Project description summary

### Project Objective

To increase the adaptive capacity and resilience of communities residing amongst fragile ecosystems and vulnerable to recurring climate disasters

<b>Project Component</b>	<b>Financing Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>GEF Project Financing(\$)</b>	<b>Confirmed Co-Financing(\$)</b>
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 1: Climate-Resilient Governance and Planning	Technical Assistance	Outcome 1: Strengthened institutional governance and capacity to reduce vulnerability of physical assets, natural systems, and livelihoods in Macaya buffer zone and Baraderes-Cayemites	<p>Output 1.1</p> <p>Two regional multisectoral climate change adaptation coordination mechanisms established in the Grand Sud region</p> <p>Output 1.2</p> <p>175 people in 13 institutions trained on climate change risk, vulnerability, and adaptation in the context of Haiti, targeting national (MDE, MARNDR, ANAP, SEMANA, and DPC), regional (SSRCC, CRCC), departmental (decentralized services of ANAP, MDE, MARNDR), and local (CLA, CLGRD, CCGRD) stakeholders</p> <p>Output 1.3</p> <p>Six community-led climate change vulnerability assessments undertaken and</p>	LDC F	962,167.00	1,704,356.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 2: Ecosystem-based adaptation and disaster risk reduction in response to climate risks	Investment	Enhanced climate-resilient land management, environmental protection and rehabilitation practiced by local authorities and communities	<p>Output 2.1</p> <p>Erosion control techniques implemented with two pilot communities on 200 hectares of agricultural land on steep terrain</p> <p>Output 2.2</p> <p>30 km of coastlines and 35 km of riverbanks rehabilitated through targeted reforestation with climate-resilient coastal and riparian species</p> <p>Output 2.3</p> <p>Three pilot sustainable woodlots of fast-growing tree species established on 100ha, with sustainable exploitation plans, to reduce destruction of mangroves and endemic trees for charcoal production</p> <p>Output 2.4</p>	LDC F	1,808,251.00	7,363,582.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 3: Green Economy Approach for Resilient Ecosystem-based Livelihoods	Investment	Outcome 3: Strengthened climate-resilient agricultural value chains with improved access to markets in Macaya and Baraderes & Cayemites	<p>Output 3.1</p> <p>At least 15 local climate-resilient cooperative businesses established and capacitated through training and technical support, for at least three value chains</p> <p>Output 3.2</p> <p>At least 800 people benefitting from technical support and equipment for climate-resilient production and transformation technologies provided for at least three value chains</p> <p>Output 3.3</p> <p>Partnerships (including with private sector) and financing schemes established to mobilize investment to strengthen resilient value chains and market access for at least 30 small businesses</p>	LDC F	1,351,351.00	15,030,582.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
				<b>Sub Total (\$)</b>	<b>4,121,769.00</b>	<b>24,098,520.00</b>

**Project Management Cost (PMC)**

	LDCF		206,088.00		243,419.00	
	<b>Sub Total(\$)</b>		<b>206,088.00</b>		<b>243,419.00</b>	
	<b>Total Project Cost(\$)</b>		<b>4,327,857.00</b>		<b>24,341,939.00</b>	

Please provide justification



**C. Sources of Co-financing for the Project by name and by type**

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Investment Mobilized</b>	<b>Amount(\$)</b>
Other	ILO	Grant	Recurrent expenditures	1,650,000.00
Donor Agency	IDA	Grant	Recurrent expenditures	6,094,444.00
Donor Agency	IDA	Grant	Recurrent expenditures	278,571.00
Civil Society Organization	CECI	Grant	Recurrent expenditures	181,796.00
Civil Society Organization	CECI	Grant	Recurrent expenditures	2,315,803.00
Civil Society Organization	CECI	Grant	Recurrent expenditures	6,606,325.00
GEF Agency	FAO	Grant	Recurrent expenditures	7,215,000.00
<b>Total Co-Financing(\$)</b>				<b>24,341,939.00</b>

**Describe how any "Investment Mobilized" was identified**

Not Applicable

**D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds**

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
UNEP	LDC F	Haiti	Climate Change	NA	4,327,857	411,146	4,739,003.00
<b>Total Grant Resources(\$)</b>					<b>4,327,857.00</b>	<b>411,146.00</b>	<b>4,739,003.00</b>

**E. Non Grant Instrument**

NON-GRANT INSTRUMENT at CEO Endorsement

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Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

**F. Project Preparation Grant (PPG)**

PPG Required **true**

**PPG Amount (\$)**

150,000

**PPG Agency Fee (\$)**

14,250

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
UNEP	LDC F	Haiti	Climate Change	NA	150,000	14,250	<b>164,250.00</b>
<b>Total Project Costs(\$)</b>					<b>150,000.00</b>	<b>14,250.00</b>	<b>164,250.00</b>

## Meta Information - LDCF

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LDCF true

SCCF-B (Window B) on technology transfer false

SCCF-A (Window-A) on climate Change adaptation false

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Is this project LDCF SCCF challenge program?

false

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This Project involves at least one small island developing State(SIDS). true

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This Project involves at least one fragile and conflict affected state. true

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This Project will provide direct adaptation benefits to the private sector. true

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This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs). false

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This Project has an urban focus. false

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This Project covers the following sector(s)[the total should be 100%]:\*

Agriculture	<b>20.00%</b>
Natural resources management	<b>50.00%</b>
Climate information Services	<b>0.00%</b>
Costal zone management	<b>10.00%</b>
Water resources Management	<b>0.00%</b>
Disaster risk Management	<b>20.00%</b>
Other infrastructure	<b>0.00%</b>
Health	<b>0.00%</b>
Other (Please specify:)	<b>0.00%</b>
Total	<b>100%</b>

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This Project targets the following Climate change Exacerbated/introduced challenges:\*

Sea level rise true

Change in mean temperature true

Increased Climatic Variability true

Natural hazards true

Land degradation true

Costal and/or Coral reef degradation true

GroundWater quality/quantity false

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[To calculate the core indicators, please refer to Results Guidance](#)

## **Core Indicators - LDCF**

<b>CORE INDICATOR 1</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>% for Women</b>
Total number of direct beneficiaries	104,999	55,484	49,515	47.16%

<b>CORE INDICATOR 2</b>	
Area of land managed for climate resilience (ha)	2,046.00

<b>CORE INDICATOR 3</b>	
Total no. of policies/plans that will mainstream climate resilience	8

<b>CORE INDICATOR 4</b>		<b>Male</b>	<b>Female</b>	<b>% for Women</b>
Total number of people trained	975	456	519	53.23%

## **OUTPUT 1.1.1**

### **Physical and natural assets made more resilient to climate variability and change**

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		<b>Male</b>	<b>Female</b>
Total number of direct beneficiaries from more resilient physical assets	<b>102,928</b>	<b>54,552</b>	<b>48,376</b>

Ha of agriculture land	Ha of urban landscape	Ha of rural landscape	No. of residential houses
<b>200.00</b>		<b>1,846.00</b>	<b>0</b>
No. of public buildings	No. of irrigation or water structures	No. of fishery or aquaculture ponds	No. of ports or landing sites
<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Km of road	Km of riverban	Km of coast	Km of storm water drainage
	<b>35.00</b>	<b>30.00</b>	
Other	Other(unit)	Comments	
<b>0</b>			

## OUTPUT 1.1.2

### Livelihoods and sources of income of vulnerable populations diversified and strengthened

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		Male	Female
Total number of direct beneficiaries with diversified and strengthened livelihoods and sources of income	<b>871</b>	<b>392</b>	<b>479</b>

**Livelihoods and sources of incomes strengthened / introduced**

Agriculture	Agro-Processing	Pastoralism/diary	Enhanced access to markets
<b>true</b>	<b>true</b>	<b>false</b>	<b>true</b>
Fisheries /aquaculture	Tourism /ecotourism	Cottage industry	Reduced supply chain
<b>true</b>	<b>false</b>	<b>false</b>	<b>true</b>
Beekeeping	Enhanced opportunity to employment	Other	Comments
<b>false</b>	<b>true</b>	<b>false</b>	

**OUTPUT 1.1.3**

**New/improved climate information systems deployed to reduce vulnerability to climatic hazards/variability**

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		Male	Female
Total number of direct beneficiaries from the new/improved climatic information systems	<b>0</b>	<b>0</b>	<b>0</b>



**Climate hazards addressed**

Flood <b>false</b>	Storm <b>false</b>	Heatwave <b>false</b>	Drought <b>false</b>
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Other <b>false</b>	Comments
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**Climate information system developed/strengthened**

Downscaled Climate model <b>false</b>	Weather/Hydromet station <b>false</b>	Early warning system <b>false</b>	Other <b>false</b>
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Comments

**Climate related information collected**

Temperature <b>false</b>	Rainfall <b>false</b>	Crop pest or disease <b>false</b>	Human disease vectors <b>false</b>
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Other <b>false</b>	Comments
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**Mode of climate information dissemination**

Mobile phone apps <b>false</b>	Community radio <b>false</b>	Extension services <b>false</b>	Televisions <b>false</b>
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Leaflets <b>false</b>	Other <b>false</b>	Comments
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**OUTPUT 1.1.4**

# Vulnerable natural ecosystems strengthened in response to climate change impacts

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## Types of natural ecosystem

Desert <b>false</b>	Coastal <b>true</b>	Mountainous <b>false</b>	Grassland <b>false</b>
Forest <b>false</b>	Inland water <b>false</b>	Other <b>false</b>	Comments

## OUTPUT 1.2.1

### Incubators and accelerators introduced

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Total no. of entrepreneurs supported	<b>0</b>	Male <b>540</b>	Female <b>660</b>
No. of incubators and accelerators supported	<b>0</b>	Comments	
No. of adaptation technologies supported	<b>0</b>	Comments	

## OUTPUT 1.2.2

### Financial instruments or models to enhance climate resiliency developed

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#### Financial instruments or models

PPP models <b>false</b>	Cooperatives <b>true</b>	Microfinance <b>true</b>	Risk insurance <b>false</b>
Equity <b>false</b>	Loan <b>false</b>	Other <b>false</b>	Comments

## OUTPUT 2.1.1

### Cross-sectoral policies and plans incorporate adaptation considerations

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Will mainstream climate resilience <b>0</b>	Of which no. of regional policies/plans <b>0</b>	Of which no. of national policies/plan <b>0</b>	
<b>Sectors</b>			
Agriculture <b>false</b>	Fishery <b>false</b>	Industry <b>false</b>	Urban <b>false</b>

Rural  
**false**

Health  
**false**

Water  
**false**

Other  
**true**

Comments

**DRR**

## **OUTPUT 2.1.2**

### **Cross sectoral institutional partnerships established or expanded**

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No. of institutional partnerships established or strengthened

**0**

Comments

## **OUTPUT 2.1.3**

### **Systems and frameworks established for continuous monitoring, reporting and review of adaptation**

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No. of systems and frameworks

**2**

Comments

## **OUTPUT 2.1.4**

### **Systems and frameworks established for continuous monitoring, reporting and review of adaptation**

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No. of systems and frameworks      2

Comments

## **OUTPUT 2.2.1**

### **No. of institutions with increased ability to access and/or manage climate finance**

---

No. of institution(s)

Comments

## **OUTPUT 2.2.2**

## **Institutional coordination mechanism created or strengthened to access and/or manage climate finance**

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No. of mechanism(s)

Comments

### **OUTPUT 2.2.3**

## **Global/regional/national initiatives demonstrated and tested early concepts with high adaptation potential**

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No. of initiatives or  
technologies

Comments

### **OUTPUT 2.2.4**

## **Public investment mobilized**

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Amount of investment  
(US\$)

Comments

## **OUTPUT 2.2.5**

### **Private investment mobilized**

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Amount of investment  
(US\$)

Comments

## **OUTPUT 2.3.1**

### **No. of people trained regarding climate change impacts and appropriate adaptation responses**

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Total no. of people trained	<b>975</b>	Male <b>456</b>	Female <b>519</b>
Of which total no. of people at line ministries	<b>15</b>	Male <b>9</b>	Female <b>6</b>
Of which total no. of community/association	<b>90</b>	Male <b>45</b>	Female <b>45</b>
Of which total no. of extension service officers	<b>35</b>	Male <b>21</b>	Female <b>14</b>
Of which total no. of hydromet and disaster risk management agency staff	<b>35</b>	Male <b>21</b>	Female <b>14</b>
Of which total no. of small private business owners	<b>800</b>	Male <b>360</b>	Female <b>440</b>
Of which total no. school children, university students or teachers	<b>0</b>	Male <b>0</b>	Female <b>0</b>
Other	Comments		

## **OUTPUT 2.3.2**

### **No. of people made aware of climate change impacts and appropriate adaptation responses**

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		Male	Female
No. of people with raised awareness	<b>10,000</b>	<b>5,000</b>	<b>5,000</b>

Please describe how their awareness was raised

### **OUTPUT 3.1.1**

**National climate policies and plans enabled including NAP processes by stronger climate information decision-support services**

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No. of national climate policies and plans

Comments

### **OUTPUT 3.1.2**

**Systems and frameworks established for continuous monitoring, reporting and review of adaptation**

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No. of systems and  
frameworks

Comments

### **OUTPUT 3.1.3**

## **Vulnerability assessments conducted**

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No. of assessments  
conducted

Comments

### **OUTPUT 3.2.1**

## **No. of institutions with increased ability to access and/or manage climate finance**

---

No. of institution(s)

Comments

## **OUTPUT 3.2.2**

**Institutional coordination  
mechanism(s) created or strengthened  
to access and/or manage climate  
finance**

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No. of mechanism(s)

Comments

## **OUTPUT 3.2.3**

**Global/regional/national initiative(s)  
demonstrated and tested early  
concepts with high adaptation potential**

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No. of initiative(s) or  
technology(ies)

Comments

## **OUTPUT 3.3.1**

# No. of people trained regarding climate change impacts and appropriate adaptation responses

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Total no. of people trained	<b>0</b>	Male <b>0</b>	Female <b>0</b>
Of which total no. of people at line ministries	<b>0</b>	Male	Female
Of which total no. of community/association	<b>0</b>	Male	Female
Of which total no. of extension service officers	<b>0</b>	Male	Female
Of which total no. of hydromet and disaster risk management agency staff	<b>0</b>	Male	Female
Of which total no. of small private business owners	<b>0</b>	Male	Female
		Male	Female

Of which total no. school children, university students or teachers **0**

Other

Comments

## **OUTPUT 3.3.2**

### **No. of people made aware of climate change impacts and appropriate adaptation responses**

---

	Male	Female
No. of people with raised awareness		
Please describe how their awareness was raised		

## Part II. Project Justification

### 1a. Project Description

While some significant restructuring of the project outcomes and outputs has been done during the PPG phase, the new outcomes and outputs all continue to contribute to the overall objective of the project, in a more effective fashion than initially presented. In particular, the scope of Component 1 has been narrowed in comparison with the PIF to focus on climate change adaptation coordination at regional level and planning at departmental and local scale. Although training is still provided to national government stakeholders, the PIF outputs focused on the identification of policy tools and the integration of climate risks in the work programs of national government institutions have been removed. This is in response to a request by the Ministry of Environment (MDE) to rather focus on the creation and capacitation of regional level governance mechanisms.

Restoration and erosion control techniques have been added to outputs dedicated to the sustainable use of natural resources under Component 2. Due to the need to streamline and focus project intervention strategy for greater impact, as well as in response to budget constraints, PIF outputs on small-scale water infrastructure and a report on alternatives to coral and sand have been removed. These interventions were identified as lower priority in the consultations with communities and local authorities.

The two project outcomes initially proposed under Component 3 have been merged and rearranged under one outcome aiming at strengthening climate-resilient agricultural value chains with improved access to markets in Macaya and Baraderes & Cayemites. Finally, as there is only one outcome per component, the number of outputs has been reduced.

The following table summarizes the changes made as a result of the consultations organised during the PPG phase, in terms of the project's outputs:

Output as written in the PIF	Output revised or added during PPG
1.1.1 Climate change risk and vulnerability assessments undertaken in the two project areas to model the impact of climate change on the main indicators of importance to stakeholders	1.3 Six community-led climate change vulnerability assessments undertaken and six communal adaptation plans developed
1.1.2 Two multistakeholder protected area governance mechanisms established (one in each area)	1.1 Two regional multisectoral climate change adaptation coordination mechanisms established in the Grand Sud region

Output as written in the PIF	Output revised or added during PPG
1.1.3 Training on climate change risk, vulnerability and adaptation provided to the protected area governance mechanisms	1.2 175 people in 13 institutions trained on climate change risk, vulnerability, and adaptation in the context of Haiti, targeting national (MDE, MARNDR, ANAP, SEMANA, and DPC), regional (SSRCC, CRCC), departmental (decentralized services of ANAP, MDE, MARNDR), and local (CLA, CLGRD, CCGRD) stakeholders
1.1.4 Participatory climate-resilient management plans, including EbA and Eco-DRR considerations and enforcement mechanisms, established for each of the protected areas in Macaya and Barraderes & Cayemites	1.4 EbA and Eco-DRR considerations integrated into six communal and two departmental contingency (disaster risk management) plans  1.5 A climate-sensitive management plan for the Baradere-Cayemites PA developed
1.1.5 Climate change risks and policy tools to respond to them identified by national and departmental governments	Now an activity contributing to Output 1.3.
1.1.6 The national and departmental programmes of work of the Ministry of Environment (MDE), Ministry of Agriculture (MARNDR) and Civil Protection Directorate (DPC) include concrete climate resilient risk reduction practices, methodologies and procedures	N/A
1.1.7 EbA and Eco-DRR training provided to key ministerial staff	Incorporated under Output 1.2.
N/A	1.6 A Knowledge Management and Communication Strategy for the project developed and implemented, informing the development of an Upscaling Strategy for EbA and Eco-DRR in Haiti
2.1.1 Climate-smart agriculture implemented with two pilot communities on 200 hectares of steep terrain, including adaptive soil conservation practices such as contour hedgerows, rehabilitation of ravines, and intercropping, use of short-range and seasonal weather forecasts and integrated pest management	2.1 Erosion control techniques implemented with two pilot communities on 200 hectares of agricultural land on steep terrain
2.1.2 30 km of coastlines and 35 km of riverbanks rehabilitated through targeted reforestation with climate-resilient coastal and riparian species	Same as PIF.
2.1.3 Small scale water capture and storage infrastructure built in each of the targeted communities (number to be determined)	N/A

Output as written in the PIF	Output revised or added during PPG
3.2.1 At least two pilots of sustainable woodlots of fast-growing tree species established, with business plans for their management, to replace destruction of mangroves and native trees for charcoal production	2.3 Three pilot sustainable woodlots of fast-growing tree species established on 100ha, with sustainable exploitation plans, to reduce destruction of mangroves and endemic trees for charcoal production
3.2.2 Awareness raising and training events on natural buffer preservation (e.g. mangroves, coral reefs) and sustainable catches/livelihoods organized for at least two fishing cooperatives/ associations	2.4 Two fishers' associations established, trained and supported for the adoption of sustainable fisheries management practices
3.1.1 A green economy assessment of agricultural value chains undertaken in Macaya and Barraderes & Cayemites	3.1 At least 15 local climate-resilient cooperative businesses established and capacitated through training and technical support, for at least three value chains
3.1.2 Training and technical support provided on at least one resilient value chain per area (e.g. castor oil, honey, fisheries, cacao, vetiver in Macaya and Barraderes & Cayemites)	3.2 At least 800 people benefitting from technical support and equipment for climate-resilient production and transformation technologies provided for at least three value chains
N/A	3.3 Partnerships (including with private sector) and financing schemes established to mobilize investment to strengthen resilient value chains and market access for at least 30 small businesses
3.2.3 A report on construction alternatives to coral and sand commissioned, with promising technologies in Haiti identified	N/A

The changes in the Output plan have also resulted in changes to the amount of budget allocated to the project's three Outcomes. These are displayed in the table below.

Outcome	Amount budgeted in PIF (USD)	Amount budgeted in PPG phase (USD)
Outcome 1	865,571	962,167
Outcome 2	1,817,700	1,808,251
Outcome 3	1,438,498	1,351,351

In terms of co-financing, since the project was initially prepared at PIF stage significant changes have taken place (i.e. projects have ended while others have begun). Moreover, the August 2021 earthquake in the Grand Sud has highlighted the urgency of the needs in the region.

Co-financing source	Amount budgeted in PIF (USD)	Amount budgeted in PPG phase (USD)
Government of Haiti	500,000	0



Government of Norway	5,200,000	1,650,000
Government of France	6,000,000	0
World Bank/IDA	500,000	6,373,015
UN Environment Programme	100,000	0
UN Environment Programme	350,000	0
Government of Quebec/CECI	0	181,796
IDB, GAFSP, and IFAD: PITAG		2,315,803
Government of Canada	0	6,606,325
EU/FAO	0	7,215,000
<b>TOTAL</b>	<b>12,650,000</b>	<b>24,341,939</b>

### 1a. Project Description

This proposal seeks funding from the Least Developed Countries Fund (LDCF) to implement the Full-Sized Project (FSP) ?Building Resilience in the Wake of Climate Disasters in Southern Haiti?. Hereafter, this FSP will be referred to as ?the proposed project? or ?the LDCF project?.

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

#### Project summary

Haiti is a fragile state, and one of the world?s Least Developed Countries (LDC) and a Small Island Developing State (SIDS), suffering from some of the worst environmental degradation in the Western Hemisphere. The Southern region of the country (Grand Sud) is highly vulnerable to frequent and severe climate events, as well as other natural disasters including devastating earthquakes and landslides that affect local populations? livelihoods, food security, and well-being. In order to cope with difficult socio-economic circumstances, communities are undertaking maladaptive practices (e.g. overexploitation of forests, overfishing and destructive fishing practices, unsustainable agricultural practices) which degrade ecosystems and render communities more vulnerable to climate hazards such as storms, hurricanes, droughts and floods, which are increasing in frequency and intensity. While climate change is likely to increase the frequency, intensity and impacts of extreme weather events, the country still faces very low adaptive capacity. While many Caribbean Island states face similar natural risks, Haiti faces higher death tolls, greater destruction of infrastructure and longer-lasting negative impacts (such as food insecurity, water shortages and disease outbreaks).

Therefore, the objective of the project is to increase the adaptive capacity and resilience of communities residing amongst fragile ecosystems and vulnerable to recurring climate disasters in Haiti. To achieve this, the preferred solution proposed by the project is to (i) rehabilitate ecosystems so that they may buffer vulnerable communities from negative impacts of climate-induced hazards; and (ii) provide alternative livelihoods and economic opportunities through resilient value chains that are suited to the project implementation zones.

The project focuses on Ecosystem-Based Adaptation (EbA) and Ecosystem-Based Disaster Risk Reduction (Eco-DRR) approaches in addressing the climate change challenges and the compounding baseline drivers of vulnerability. EbA approaches use biodiversity and ecosystem services to help people and communities adapt to the adverse effects of climate change, whereas Eco-DRR entails the sustainable management, conservation, and restoration of ecosystems intended to reduce disaster risk, including in the face of extreme climate events, with the aim to achieve sustainable and resilient development. Considering the importance of ecosystem-based livelihoods and the broader importance of ecosystem services in protecting and enhancing the resilience of communities to climate change impacts in rural Haiti (agriculture, fisheries, tourism), this project is designed to further strengthen environmental resilience and fortify natural buffers in order to protect and build the resilience of local

communities and economic assets.

The project proposes to take several transformational pathways to address barriers to adaptation in the country, including: a) Capacitate governance bodies to enable them to effectively coordinate adaptation action, manage PAs, and enforce environmental laws, thereby protecting and restoring ecosystems for adaptation benefits; b) Generate knowledge products to be used in adaptation decision-making processes across scales and sectors to enhance local resilience; c) Mainstream adaptation in existing DRR planning processes to increase emergency and natural resource management's efficiency in the face of climate hazards; d) Build capacity at the local level on adaptation practices, leading to increased uptake of adaptation strategies; e) Support alternative and climate-resilient livelihoods to foster behavioral change of local populations towards ecosystem-based management while increasing their resilience to natural shocks; and f) Through support to cooperative climate-resilient enterprises, help demonstrate the business case for private sector investment and ultimately increase investments in climate-resilient value chains.

The proposed project has been designed while taking into consideration lessons learnt from past projects and, wherever possible, replicating and scaling up good practices, including of past projects funded by the GEF. This will ensure that possible risks to the project, as well as the social and environmental risks potentially brought on by the project, are effectively addressed and that the rate of success of project activities is increased. Implementation arrangements relying on strong NGO and CSO partnerships will increase community buy-in and contribute to the long-term sustainability of interventions, while adequate planning in light of existing political and security risks will reduce their potential impact on project implementation.

#### Socio-economic context

Haiti is one of the world's Least Developed Countries (LDC) and a Small Island Developing State (SIDS), suffering from some of the worst environmental degradation in the Western Hemisphere. In 2021, Haiti's population was estimated to reach 11.5M people with a population density of 414 people per km<sup>2</sup>, most living in extreme poverty (60% were estimated to live below the national poverty line, of which two thirds are in rural areas). The country occupied as of 2020 the 170th rank out of 189 countries in terms of its Human Development Index (HDI). Improvements in human capital stagnate and infant and maternal mortality remain at high levels.

Like the rest of the world, the COVID-19 pandemic has adversely affected Haiti's economy. Compounded by ongoing political instability (including the assassination in July 2021 of the country's President), rising gang violence, extreme rates of inflation, and years of exposure to natural hazards including major hurricanes, floods, and earthquakes (including the August 14th, 2021 earthquake in southwestern Haiti), the country's Gross Domestic Product (GDP) has been decimated and poverty reduction progress significantly hampered.

The agricultural sector has been particularly affected, and continues to be highly vulnerable to shocks, in particular in the face of climate change. In fact, most of the agricultural production in the country constitutes highly vulnerable rainfed crop production, which employs up to 66% of the workforce, occupies 67% of the land, and contributes up to 27% of the GDP. Only 50 percent of the country's food needs are met by local production, while imports make up for the deficit. Poorer rural households primarily purchase their food rather than produce it, tying their food security to their income, which they mainly generate through labor for wealthier landowners, petty trade, crop sales, and wood and charcoal sales.

Much of the population resides near the coast. In fact, Haiti has nearly 1,500 km of coastline and 20,000 ha of freshwater in the form of natural and artificial water bodies. Artisanal and small-scale marine fishing is one of the main sources of food and income. The Haitian fishing fleet consists of about 24,550 small units (i.e. dugout canoes, sailing boats, motor boats). National production contributes about one third of consumption, the rest also being imported. Despite a valuable marine heritage hosting species of high commercial value, decades of weak governance on resource

management, overexploitation as well as proliferation of invasive species, has led to serious pressure on the marine fishery resource. This has resulted in a sustained annual decrease of the catches in individual sizes and abundance.

Finally, exploitation of wood resources (production of charcoal, planks, timber and firewood) is one of the main income-generating activities. The country is therefore highly dependent on woodland ecosystems such as forest and mangroves. This has contributed significantly to an almost complete deforestation of the country's territory. In 2000, 97% of the territory was deforested, including 25 of its 30 watersheds, causing significant degradation of soils and slopes due to erosion, and bringing an increased risk of landslides and mudslides. Today, only the southern departments (Sud, Grand-Anse, Nippes, Sud-Est, and Ouest) still have some forest cover. Natural forests are limited to 20,000 ha (Macaya, Parc de la Visite, and the Forest of Pines).

#### Geographical context

Haiti is located in the western half of the Island of Hispaniola, which it shares with the Dominican Republic. The Haitian terrain is very contrasted geographically, dominated by rugged mountains interspersed with river valleys and coastal flat lands. Humid ecosystems are generally found on windy mountain slopes, such as in the mountains of the northern coast (around Cap-Haitien) and in the southern peninsula, and sub-humid ecosystems in the less humid part of the leeward exposure. Coastal ecosystems such as mangroves, beaches, coral reefs, lagoons and cays are essential for biodiversity, but also protect local communities by acting as buffers against storm impacts, serve as bases for recreation and tourism, and are nurseries for commercial species.

Haiti has a strong exposure to ground movements such as landslides. Some phenomena, such as mudflows, which regularly cause damage to infrastructures and dwellings, are made more frequent by severe land degradation, soil erosion, and extreme rainfall events. Moreover, Haiti sits at the boundary between the North American tectonic plate and the Caribbean tectonic plate, with the Enriquillo Fault System crossing the entire southern peninsula of Haiti, then passing into the sea and joining the island of Jamaica to the west. These fault systems have been the site of major historical earthquakes, including in January 2010 when a devastating earthquake originated near the Enriquillo fault system, destroying the Haitian capital and killing more than 230,000 people. On August 14th 2021, another devastating earthquake hit southwestern Haiti, killing well over 2,200 people and displacing thousands more. The rescue efforts were also hampered by Hurricane Grace, which brought torrential rain and triggered mudslides across the region.

The project will be implemented in two departments in Southwestern Haiti (Nippes and Grand-Anse), which have been identified by the Government of Haiti (GoH) as having significant environmental value, and include Protected Areas (PAs). The first project area is located in the buffer zone of the Parc Macaya National Park, while the second is the Barad-res-Cayemites Complex (see Figure 1). The project proposes to operate within the following six communes: Roseaux (Grand-Anse ? Fond Cochon in the Macaya buffer zone and the low-lying coastal area); Barad-res (Nippes); Grand Boucan (Nippes); Iles Cayemites (Grand-Anse); Corail (Grand-Anse) and Pestel (Grand-Anse).

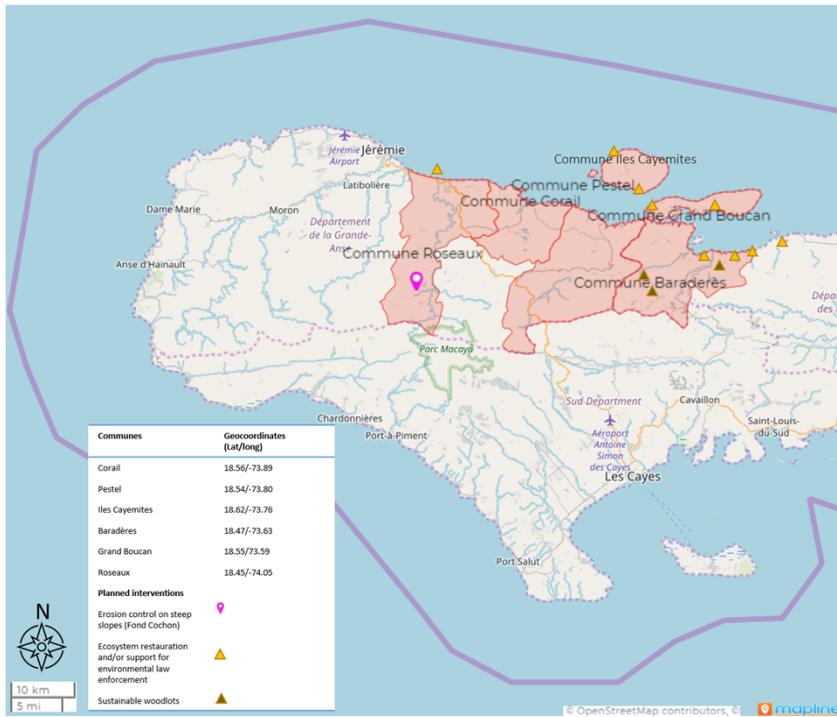


FIGURE 1 MAP OF HAITI INDICATING AREA DEPICTED IN LOWER MAP (TOP) AND PROJECT INTERVENTION ZONE AND PRELIMINARY SITE SELECTION (BOTTOM)

The **main problem** this project seeks to address is that the project zones are highly vulnerable to frequent and severe climate events that affect local populations' livelihoods, food security, and well-being. In order to cope with socio-economic circumstances, communities are undertaking maladaptive practices (e.g. overexploitation of forests, overfishing and destructive fishing practices, unsustainable agricultural practices) which degrade ecosystems and render communities more vulnerable to climate events such as storms, hurricanes, droughts and floods, which are increasing in frequency and intensity. This creates a negative cycle of increasing vulnerability and desperation in the context of growing climate unpredictability.

While climate change is likely to increase the frequency, intensity and impacts of extreme weather events, the country still faces a lack of adequate preparedness and adaptation mechanisms. Indeed, the capacity to plan, manage, adapt to, and respond to these risks by national and departmental governments, and local community members, is very low, threatening livelihoods, destructing assets, causing illnesses, and even deaths. While many Caribbean Island states face similar natural risks, Haiti faces higher death tolls, greater destruction of infrastructure and longer-lasting negative impacts (such as food insecurity, water shortages and disease outbreaks). Delayed elections, and lack of coordination among communal, departmental, and national governments have left many vulnerable communities on their own.

#### Description of the areas of intervention

During the Project Preparation Grant (PPG) phase, a participatory process allowed the further selection of the intervention sites for the project, based on a set of criteria including:

- ? Vulnerability to climate change
- ? Access to intervention sites
- ? Number and type of beneficiaries
- ? Complementarity with other interventions
- ? Priority areas as identified by different stakeholders (e.g. PAs)

Below is a detailed description of the areas of intervention of the project:

#### Description of the landscape

##### Barad?res-Cayemites Complex

One of the areas selected for this project is the Barad?res-Cayemites Complex, an area cutting across the departments of Nippes and Grand?Anse. This Complex, which is one of the main biodiversity areas of the country, covers a total land area of 438 km<sup>2</sup> (43,800 ha) and a marine area of 447 km<sup>2</sup> (44,700 ha). Located on the northern coast of the southwestern peninsula of Haiti, the marine area is characterized by coral formations, which extend from the coastal town of Corail in the west, to the town of Petit-Trou-de-Nippes in the east. This area was declared a Managed Natural Resources Protected Area in April 2017 by the Haitian government as being of significant environmental value. As presented on the map (see Figure 1), the different communes visited and selected as priorities for the project interventions in this area are: Barad?res, Grand Boucan, Pestel, Iles Cayemites, and Corail.

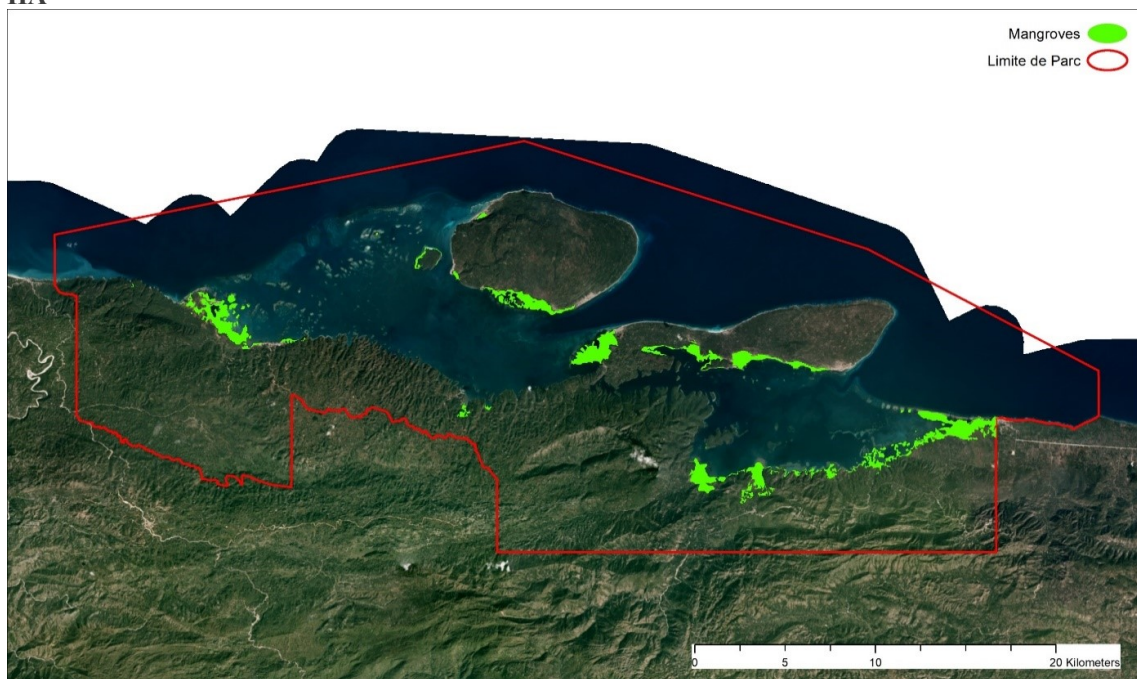
Biophysical characteristics in this zone are varied. Land surfaces comprise dry non-vegetated areas, dry forests, mixed deciduous forests, and open pastures/lands. Due to dry climate, wetlands occupy only 0.5% of the landscape. There are also villages and settlements. The communes differ by their relief and freshwater availability. The municipality of Barad?res is well provided with water and presents a very uneven relief. Similarly, the commune of Pestel is located in the heart of limestone geological formations (dolines). A part of its area borders the bed of the Glace River, which originates in the eastern part of the Macaya Park. However, recent analyses revealed that the water of the river presents a danger for human consumption because of high E. coli concentration. Moreover, a state of advanced to very advanced degradation of the freshwater habitats has been observed. This is due to the cutting of vegetation on the banks (lack of shade and transitional habitats, strong erosion), but also to the alteration of the riverbed through the extraction of materials and the channeling of the river at

Barad?res. The peninsula of Grand Boucan as well as Iles Cayemites are, for their part, devoid of springs and rivers.

From a marine point of view, along the coast, mangroves (see Figure 2), coral reefs (including all classes of corals), and marine hard bottoms cover the shallow marine area, as well as seagrass beds and sandy and muddy bottoms. There are interrelations/dependencies between coastal mangroves, coral reefs, and seagrass beds: together, these form highly diverse and structurally complex ecosystems in which the reefs act as a barrier that shelters seagrass beds and mangroves from high wave energy; these in turn provide foraging and nursery habitats for many larvae and juveniles of reef species of fish and invertebrates, including those of commercial value to fisheries. A recent UNDP assessment in the area indicated that the coral is healthy, rich and diverse west of Petit-Trou-de-Nippes, but a significant lack of fish was observed due to heavy pressure from fisheries. The proportion of lower value fish (herbivores) to commercially important species is five times higher on Haitian reefs than on average Caribbean reefs. It was determined that although fish populations are low, there is great potential for recovery if management measures are implemented to reduce fishing. On the west side of the Complex, corals were sparse with large quantities of gravel.

This same UNDP assessment revealed that within the area, a large number of birds, mollusks and crustaceans have been observed, attesting to the (good) health of the mangrove. However, both community members and UNDP assessment deplored the growing practice of unsustainable mangrove cutting related to construction activities, clairin distilleries, and charcoal production.

**FIGURE 2 LOCATION OF MANGROVES IN BARAD?RES-CAY?MITES, TOTAL OF 1,879 HA**



Finally, the residents of the localities visited reported an advanced state of degradation of the lagoon ecosystems due to overexploitation of the fishery resource and an overall degradation of ecosystem associated with unsustainable fishing practices. According to the populations interviewed, they all agree on an observed progressive modification of the populations of fish species in recent years with some disappearances and the appearance of others. The invasive species lionfish (*Pterois*) has been observed in the complex and could represent a serious threat to the trophic balance of the lagoon and its biomass .

#### Macaya National Park buffer zone, Fond Cochon

Established in 1983, Macaya National Park is located in the south-west region of the country, in the heights of the Massif de la Hotte, the 2nd largest mountain chain that runs the length of Haiti's southern peninsula . It straddles the departments of Sud (68% of the area) and Grand-Anse (32% of the area). It covers a total area of 13,436 hectares and includes 10 communes whose population is undetermined. Pic Macaya, the highest point in the Park, reaches 2,347 meters and the surrounding area contains some of the country's last virgin cloud forest. It is a global biodiversity hotspot, containing many endemic species.

One of the most significant geomorphic features of Macaya Park is the karst topography found along the low relief between 900 and 1100 m. The 70-million-year-old limestone formation is characterized by sinkholes and caves. The park is therefore a water tower of major importance for the southern region and for the 8 watersheds that originate there. Most of the associated rivers drain their waters into the Department Sud. Macaya Park is home to a wide variety of plants and presents a highly rich fauna and flora. Although incomplete, the fauna surveys also show the largest concentration of endemic amphibians in the world, a great diversity of butterflies, mollusks, birds (73 species, 14 of which endemic) but also mammals (several rodents, one monkey specie and 5 sloth).

The project intervention area is located in the park's buffer zone, in the locality of Fond Cochon, commune of Roseaux (Grand-Anse department). Fond Cochon is located in the heart of mountains dominated by long slopes leading to gorges. Upstream, there are areas of rainforest (part of the Macaya Park), while downstream are bare areas, part of the park's buffer zone. The village is crossed by water courses. In recent years, profound changes have been observed, including a considerable decrease in vegetation cover. Wood being the primary source of energy available to the communities, this has resulted in significant deforestation, leading to disappearance of certain bird species, drying up of water sources, and soil degradation including severe gullying. It is reported that some areas of the South region, despite having some of the best preserved ecosystems of the country, still have reached irreversible levels of erosion (INESA, 2008) . This advanced state of environmental degradation contributes to the vulnerability of the local communities to the adverse impacts of climate change; to further degradation of downstream ecosystems through sediment loading; to increased exposure to mudflows and landslides with heavy rainfall for populations downstream; as well as putting additional

pressure on the Macaya Park and its key ecosystem services (including water provision), as populations seek more productive land areas and forest resources.

#### Livelihoods and other socio-economic characteristics

##### Barad?res-Cayemites complex

One of the main preliminary steps of the project ?Enhancing the resilience of vulnerable ecosystems and communities to climate change and anthropic threats through a ?ridge to reef approach? to biodiversity conservation and watershed management? (GEF ID 5380) led by UNDP was to establish a socio-economic diagnosis of the Barad?res-Cayemites Complex.

The survey carried out in 2018 indicated that the Complex?s population is composed of 53% men and 47% women, with household size ranging from 4 to 5 people. The average age of heads of household is 48 years old while 59% of the population is over 18 years old . The population lives in precarious conditions: more than 80% of houses are roofed with metal sheets; 59% do not have a latrine; none of them have access to electricity; and only 11% of households have direct access to drinking water. Moreover, within the Complex basic public services, such as healthcare, are of low quality and sometimes difficult to reach for households without motorized means of transportation. Access to health care is particularly difficult during the rainy season, when water-related diseases are more common. The overall conditions generate internal migratory movements, with people leaving the area in search of better living conditions, access to educational services, urban employment, or better environmental conditions for agricultural production. Some Haitians also choose to leave the country to emigrate abroad. As a matter of fact, 43% of the households surveyed reported that at least one member of the family had migrated either internally or externally .

Overall, the population of the Complex is highly vulnerable to the effects of climate change, due to high levels of poverty and low levels of livelihood diversification. This can be exemplified by the aftermath of hurricane Matthew in 2016, where all communes suffered significant damages. Barad?res was one of the most affected areas of the country. More than 4,000 structures were damaged or destroyed, including public buildings such as the police station and the Barad?res high school. In addition, the hurricane resulted in 50 deaths, 30,000 displaced people in temporary shelters, 1,500 flooded houses, almost 20,641 disappeared heads of livestock, and more than 95% destroyed gardens in the commune.

The populations of the communities visited during the PPG consultations are primarily involved in fishing, agriculture, and tree felling. In addition, depending on the locality, local knowledge, and available resources, they practice a variety of activities related to construction (masonry, maritime carpentry, cabinet making, mining and gravel production), transportation (motorcycle cabs and maritime transport) and small trade (bakery, charcoal). In addition, 44 clairin distilleries are located in the municipality of Barad?res. According to the interviewees, the revenues generated by these activities



follow broadly similar trends in the different communes. These results are similar to those of the 2018 survey, which showed in the Baraderes-Cayemites Complex that 56% of income comes from crop production, 14% from petty trade, 11% from livestock, 11% from fishing, and 8% from other activities (e.g. charcoal, handicrafts, etc), with sources of revenue varying throughout the year.

Agriculture remains the main activity in the various communes of the Complex, with the percentage of households living from agriculture varying from 50% (in the 1st section of Grand Boucan) to 99% (in 2nd section of Pestel, Roseaux). Agriculture remains largely rainfed. As presented in Table 1, the main crops grown vary commune, depending on local climate, topography, and water availability. They are spread over two agricultural seasons (March/April and July to September) .

Table 1: Main crops grown by commune (Source: Adapted from Grapes, 2018)

<b>Communes</b>	<b>Main crops</b>
Barad?res	Banana, Sugarcane, Yam, Peas, Maize
Grand Boucan	Cassava, Yam, Banana, Potato, Pea, Melon
Corail	Bitter cassava, Yam, Sweet cassava
Pestel	Coffee, Bean, Peanut, Banana, Yam, Masoko (air potato)
Iles Cayemites	Peanut, sweet cassava, yam

Among these crops, cassava represents a promising value chain, although production areas have been declining in recent years. Cultivated extensively in polyculture and resistant to drought, it contributes to the food and economic security of households. Indeed, despite low yields due to lack of access to inputs, technical training or credit facility, its transformation into popular products represents a real opportunity for resilient economic development for households.

Depending on the locality, other crops are grown. For example, lemons, cherries, coconuts and pigeon peas are produced more anecdotally in the commune of Grand Boucan, while peanuts represent an important value chain, particularly for women, on the Iles Cayemites.

All the people interviewed indicated a loss of income in recent years from the agricultural activity due to the climate trends (particularly episodes of drought), and the lack of training in climate-resilient farming techniques. Their incomes are also indirectly impacted by the political instability which commonly disrupts the transportation of goods to the markets. Finally, the farmers interviewed deplore their dependence on market prices, which have recently been very low. While most of the produce is destined for household consumption, only a small portion is sold on the markets. Some products are processed, but overall, the value chains lack efficiency in all their links.

Owning livestock serves as a financial risk management strategy for households to cope with unexpected situations, as selling animals can be done at any time to rapidly gain access to cash. The main production found in the Complex is goats, cattle, sheep, pigs, and poultry. However, only 60% of households keep livestock. The difficulties encountered in the breeding activity are numerous, including the lack of water for animals, the lack of fodder at certain times of the year, attacks by predators (especially when they are kept in isolated areas) and frequent diseases that reduce the number

of livestock. The livestock systems are not well diversified, are either open grazing (40%) or tethered grazing (60%), and have significant adverse environmental impacts in already denuded areas of the watershed (especially for goats).

Marine fishing is also an important activity for the communities of the Complex. There are approximately 4,500 families living fully or in-part from fishing activities in the Complex, which has 32 fish and seafood landing ports and 3,224 boats. These are mainly small boats (without motors) that do not allow the exploitation of resources far from the coast, resulting in the overexploitation of fish resources near the coast. Iles Cayemites is the commune of the Complex with the most landing ports. The survey conducted during the PPG consultation revealed that a portion of the volume landed is self-consumed by households and ensures their food and nutritional security by providing the majority of protein intake. The other part is sold through two marketing channels: wholesalers and local merchants (female activity practiced by fishermen's wives). The wholesalers collect and store the fresh fish in order to ensure its transportation to the most important markets in the country (Cayes, Port au Prince, Jeremie). The local merchants store the landed fish, manage the resale to local consumers, carry out processing operations (salting, drying), and sometimes ensure the transfer of goods to local markets. However, income generated from fishing has been decreasing over the last ten years. Fishermen reported a change in the composition of the lagoon populations, with the disappearance of commercially valuable species. The decrease of income is caused by many factors, including an overexploitation of the resource that has led to its depletion; the introduction of invasive species such as lionfish threatening other species; the degradation of mangroves and coral reefs which are critical habitats serving as nurseries for young fish populations; as well as the lack of regulation and awareness about good practices for sustainable fishing. With no storage facilities or processing infrastructure and limited means of transport to the markets, this value chain is fragile and poorly developed.

Regarding tree felling, the activity and associated income are in considerable decline due to the depletion of the resource and the progressive disappearance of mature forests. Some of the wood is used directly in households for energy supply, while the other part is transformed into charcoal or sold, notably to distilleries. Although faced with the progressive disappearance of the resource, the populations have few alternatives and are not educated in the sustainable management of forest ecosystems.

#### Macaya National Park buffer zone, Fond Cochon

The isolated population of Fond Cochon is also highly vulnerable to climate change and natural shocks. The housing and living conditions are extremely precarious: 69% of the roofs in Park Macaya are made of metal sheet and the rest of the roofs are made of straw, more than 80% of the population draws water from untapped sources also used by animals, and 80% of communities are without toilets. Regarding access to basic public services, most of the communities in the park live hours away from the nearest health facility, 34% of children go to schools more than two hours' walk from home, and 44% of the population in the Macaya area cannot read or write.

In terms of resources, the population relies almost entirely on the exploitation of natural resources for food, income, and medicinal plants. The main crops are maize, yams, bananas, beans, and sweet potatoes. Production is divided between home consumption and a portion that is sold at markets. Women also engage in castor bean processing, which provides significant additional income for their households. The community incomes derive mainly from agriculture, livestock, and small trade between villages (mainly the sale of agricultural products). Some of them also generate income from teaching and woodworking activities.

Residents, however, reported recent income losses related to repeated natural shocks affecting the area, including Hurricane Matthew in 2016 and the drought in 2018. They also reported the presence of new diseases and pests (on banana plantations and the severe attack on yam by weevil). When farmers have

agricultural surpluses, they have no storage infrastructure or processing equipment. They sell the raw materials directly on the market, to which they have limited access due to the remote location of the village. Despite recent training on climate resilient agriculture provided in the zone, production is largely impacted by natural hazards, and the goods produced are poorly valued due to a lack of storage and processing infrastructure as well as poor market access capabilities.

## Climate change in Haiti

### General climatic conditions

Haiti has a hot and humid tropical climate, with daily temperatures ranging between 19°C and 28°C in the winter and 23°C to 33°C during the summer months. Due to its physiography, there are significant contrasts in its climatic patterns across the island. Northern and windward slopes in the mountainous regions receive up to three times more precipitation than the leeward side. Annual precipitation in the mountains averages 1,200 mm and can reach more than 3,000 mm in the mountains of the southwest, while the annual precipitation in the lowlands is as low as 550 mm. The country is characterized by two rainy seasons, generally from March to May and August to October. There is significant inter-annual variability in precipitation, associated with El Niño and La Niña events; the former is associated with hotter, drier conditions, and suppressed hurricane activity, while the latter is associated with cooler, wetter conditions and enhanced Atlantic hurricane activity.

While both LDCF project sites are located on the Southwest peninsula of Haiti, they currently have different climates. The Baradères area has a mean annual temperature of 26.1°C and a mean annual precipitation of 1750mm/year, with high interannual variability (1200-2400mm/year). Its dry season lasts from January to April, while its wet season runs from May to December. On the other hand, temperatures at the peak Macaya range from 5°C in January to 20°C during the warm season. The annual rainfall is above 3200 mm / year due to the trade winds, easterly winds and northerly winds, but also to the frequent fog conditions at this altitude. Two wet seasons are well defined in the region, one from April to June and the other from August to November. Rain cycles are determined by the cycles of the North Atlantic high-pressure system, sea surface temperatures and the intertropical convergence zone.

### Observed climate change

Haiti's climate is already experiencing significant changes. Amongst key recent trends at national level are: a) less frequent rainfall; increased temperature and reduced daily temperature range; b) shorter wet season with more extreme rainfall and a consequently longer dry season; and c) accelerated sea-level rise.

A detailed study of the precipitation from 1981 to 2015 shows that the southwestern peninsula of Haiti presents the most important signals of climate change already observed in all the Greater Antilles region. While climate change is not detectable in the annual amount of precipitation, longer periods of drought, and an increase in the intensity of storms and amount of rainfall from hurricanes has been observed. Between 1990 and 2008, Haiti was the Caribbean country most affected by natural disasters (3 droughts, 22 floods, 23 storms and hurricanes), with USD53 billion in damages incurred, representing 39% of the damage suffered by the entire region. More specifically, recent trends in climate change show that Haiti's mean annual temperatures have already increased by 0.45°C since 1960, with warming most rapid in June-November, while precipitation amounts have not significantly changed. Flash floods are increasingly being recorded during the rainy months. The rainy season onset is increasingly late, leading to delays in planting, and affecting agricultural production. Droughts are also longer and more acute, with large parts of the country facing them every 5-7 years, including a severe drought from 2013-2015.

Since 1995, an increased thunderstorm intensity and rain volume has been observed in southwest Haiti. In addition, as presented in Figure 3, Haiti has in the past been on the trajectory of numerous hurricanes. While hurricanes and tropical storms routinely hit Haiti, with hurricane season lasting from June through November, their intensity has significantly increased over the past several decades, ;. These events often trigger flash floods and riverine flooding, with low plains and coastal zones being particularly vulnerable. For example, Hurricane Matthew, a Category 4 hurricane descended upon Haiti on October 4, 2016, in the departments Sud and Nippes (Nippes is one of the two departments in which the project will be implemented). It resulted in near complete crop damage in some zones, shortage and diversion of water resources, destruction of infrastructure and homes, extreme food insecurity, and mortality. The Post Disaster Needs Assessment (PDNA) conducted after the hurricane revealed USD 2.8 billion of losses in infrastructure and housing, in the environment, agriculture, livestock and fisheries sectors ? amounting to the entire national budget for the fiscal year . This also led to negative impacts on food security and poverty. While Hurricane Matthew galvanized some international resources to meet immediate disaster relief needs, the response from international donors was nowhere near enough to respond to the environmental degradation or to address the need for planning for future climate events.

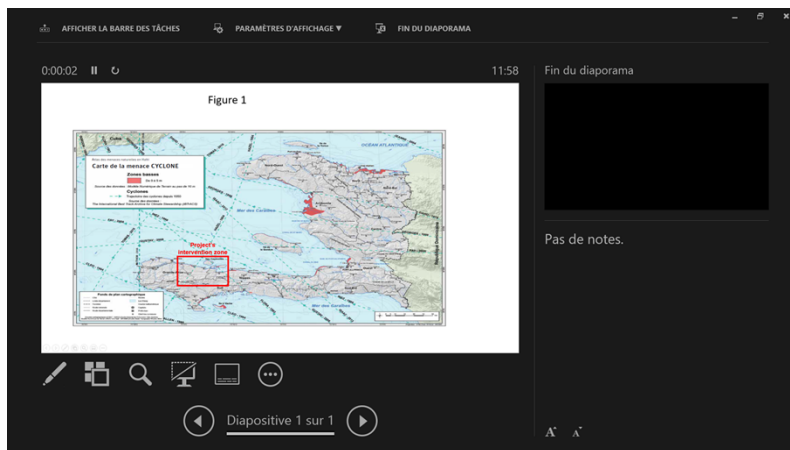


Figure 1

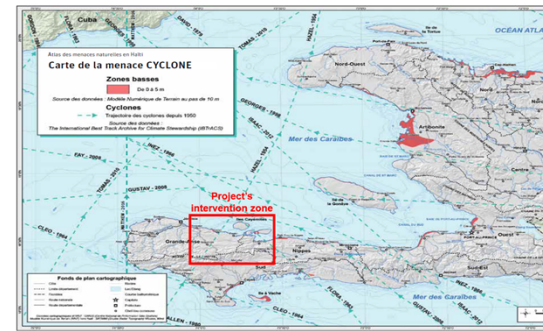


FIGURE 3 HURRICANE THREAT MAP (ADAPTED FROM TERRIER ET AL., 2015)

The Barad?res-Cayemites Complex is also at great risk from Sea-Level Rise (SLR), as was witnessed with Hurricane Matthew. The mean rate of SLR in the Caribbean region over the last 60 years has been similar to the global average of approximately 1.8 mm/yr according to the Intergovernmental Panel on Climate Change (IPCC). This has been accelerating, and according to the World Meteorological Organization (WMO), sea levels have been rising about 3 mm per year since 1993. The Grand?Anse coastal area counts among the spots that are most at risk in the country, in relation to SLR and flooding.

More specifically, within the project intervention zone, some changes have been perceived by community members and reported during the PPG consultation phase. While the data collected represents perceptions of climate change and related changes, these cannot always directly be linked to climate change and can also be attributable to other factors, such as increasing environmental degradation due to human activity. However, the changes stated follow the trends observed at national scale.

According to the interviewees, daily maximum temperatures have increased, and seasonal changes have been observed, including the increased frequency of droughts and extreme precipitation events

leading to more frequent and severe floods. Landslides, erosion, reduced water availability, and salinization of water sources as well as sedimentation of estuaries have been noted, as well as significant changes in the daily lives of the interviewees. The vegetative cover decreased together with the disappearance of certain animal and vegetal species, and the migration of certain birds. In the lagoon, corals have been bleached or have been destroyed, while fish populations and the overall lagoon biomass have been reduced. People consulted also reported losses in crop productivity as well as observing the emergence of new crop diseases leading to a general decrease in revenues, food insecurity, and famines. Hurricanes have also been mentioned several times as being responsible for major livestock and material losses, human injuries, and casualties which further confirms the sense of fear of the future of the populations living within the project areas and that sometimes drives them to migrate internally or abroad.

### Projected climate change

#### Monthly precipitation and temperature change

As presented in Figures 4 and 5, for the 2050s under Representative Concentration Pathway (RCP) 4.5, the multi-model ensemble median projections show monthly temperature increases between +1.1°C and +1.2°C, while under RCP8.5 these range between +1.4°C and +1.7°C. Moreover, under a high emissions scenario, temperature is projected to rise at an accelerated rate after 2030 and the number of hot days and nights are projected to increase throughout the country (compared with the reference period of 1986-2005). On the contrary, the number of cold nights is projected to steadily decrease or become rare.

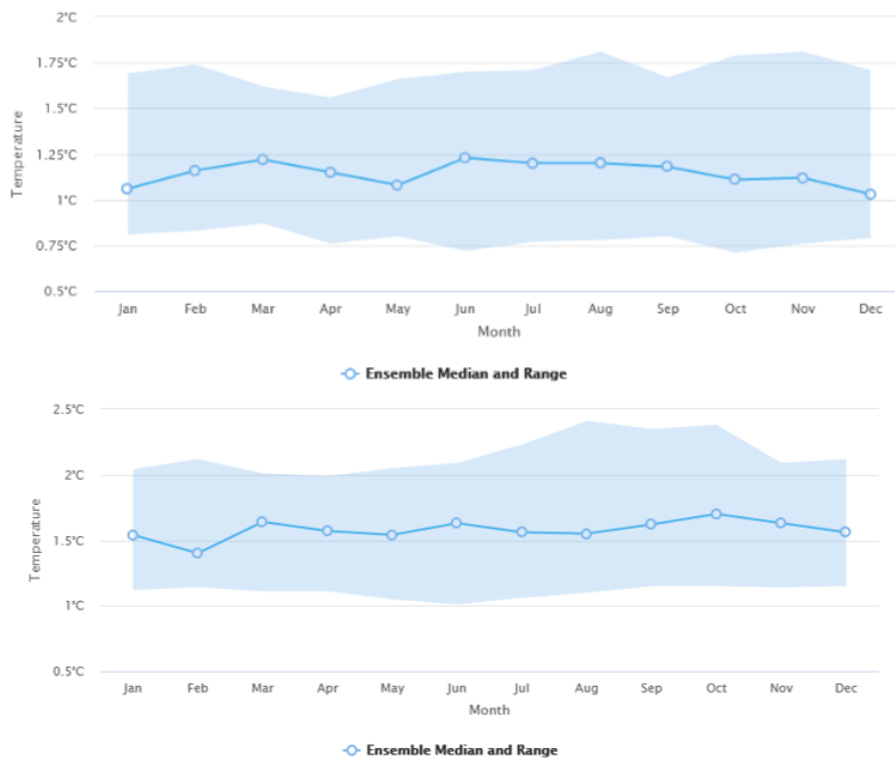


FIGURE 4 PROJECTED CHANGE IN MONTHLY TEMPERATURE OF HAITI FOR 2040-2059, RCP 4.5 (UP) AND RCP 8.5 (DOWN) WITH RESPECT TO THE 1986-2005 BASELINE PERIOD (SOURCE: WORLD BANK CLIMATE KNOWLEDGE PORTAL)

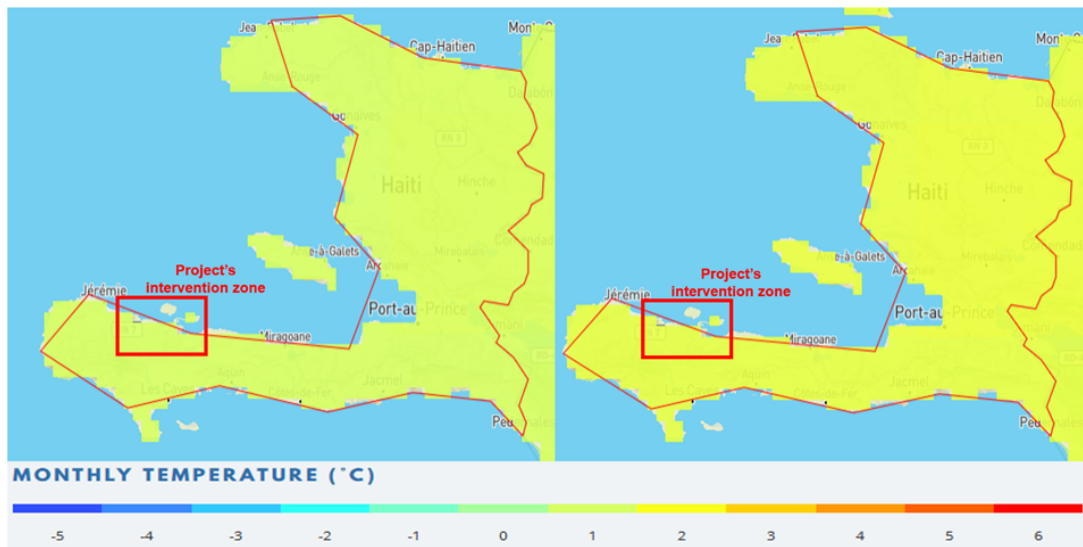


FIGURE 5 MEAN PROJECTED CHANGE IN MONTHLY TEMPERATURE OF HAITI FOR 2040-2059, RCP 4.5 (LEFT) AND RCP 8.5 (RIGHT) (SOURCE: WORLD BANK CLIMATE KNOWLEDGE PORTAL)

Regarding the number of days of consecutive dry spell, as presented in Figure 6, projections under RCP4.5 show no change with respect to the baseline for 2040-2059, while it may increase by +11 days/year in Baraderes under the RCP8.5 scenario.



FIGURE 6: PROJECTED CHANGE IN DAYS OF CONSECUTIVE DRY SPELL OF HAITI FOR 2040-2059, RCP 4.5 (LEFT) AND 8.5 (RIGHT) WITH RESPECT TO THE 1986-2005 BASELINE PERIOD (SOURCE: WORLD BANK CLIMATE KNOWLEDGE PORTAL)

As seen in Figure 7, there is a projected decrease in monthly rainfall at country level during June-August, while rainfall projections during the remainder of the year are less certain. Rainy seasons and extreme precipitation associated with tropical storms are projected to intensify and may intensify flooding and rain-triggered erosion. As presented in Figure 8, rainfall projections for the project's areas of intervention are overall highly uncertain. Under RCP4.5 projections, annual rainfall at mid-century is lower than the historical baseline, with small decreases in some months. Under RCP8.5 projections, the projection for annual rainfall at mid-century is rather an increase in the annual rainfall balance.

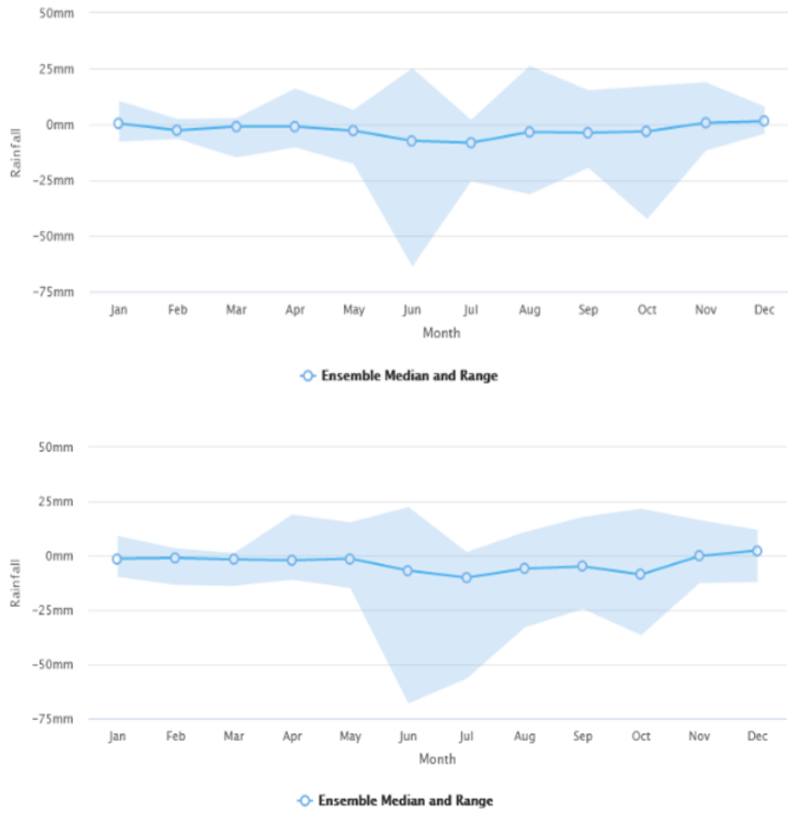


FIGURE 7: PROJECTED CHANGE IN MONTHLY PRECIPITATION FOR HAITI FOR 2040-2059, RCP 4.5 (UP) AND 8.5 (DOWN) WITH RESPECT TO THE 1986-2005 BASELINE PERIOD (SOURCE: WORLD BANK CLIMATE KNOWLEDGE PORTAL)



FIGURE 8: PROJECTED CHANGE IN ANNUAL RAINFALL RANGE OF HAITI FOR 2040-2059, RCP 4.5 (LEFT) AND 8.5 (RIGHT) WITH RESPECT TO THE 1986-2005 BASELINE PERIOD (SOURCE: WORLD BANK CLIMATE KNOWLEDGE PORTAL)

#### Hurricanes and tropical storms

The future intensity and frequency of hurricanes in the Atlantic are still a subject of research and it is thought that current climate models largely underestimate the intensity of future extreme events. However, according to the US Climate Change Science Program, increases in hurricane rainfall and wind speeds are likely in the Atlantic, with simulations showing that for each 1°C increase in sea surface temperatures, core rainfall may increase by 6-17% and surface wind speeds of the strongest hurricanes will increase between 1-8%, with associated increases in storm surge levels. Haiti's South, Grand-Anse, South-East, and West departments are particularly prone to risk from increased hurricane frequency and intensity, as they are statistically more likely to be in the direct paths of hurricanes and other tropical storms. This presents a dire forecast, as communities have often barely recovered from one weather event when another one strikes, creating an ongoing cycle of increasing poverty and devastation.

#### Sea-Level Rise

Interpolation of Sea-Level Rise (SLR) estimates for the Caribbean results in a projected increase of between 5cm and 22cm by 2030 in the Caribbean (from Global Facility for Disaster Reduction and Recovery (GFDRR) projections for 2090). Global sea level could rise by 13cm [RCP4.5] up to 40cm [RCP8.5] by 2030 (from a reference time period of 1971-2010) which is expected to exacerbate storm surges and coastal flooding and erosion. Communities in the low-lying coastal areas and islands of Baraderes-Cayemites could experience Sea-Level Rise of 16cm to 62cm by 2100.



## Projected impacts of climate change

Ecosystems: Projected rising average sea levels and storm surges, combined with river sedimentation and pollution, and ocean acidification, are expected to impact aquatic ecosystems, including fish populations and strategic ecosystems for fish reproduction, such as mangroves and coral reefs, therefore affecting fishing activities in Haiti's coastal areas .

Saltmarshes, mangroves, vegetated dunes, and sandy beaches can build vertically and expand laterally in response to SLR, though this capacity varies across sites. Within the project area, coastal ecosystems, while being adaptable, are not immune to the impacts of SLR. A recent study showed that mangroves in the Caribbean were particularly vulnerable to contemporary SLR , adversely affecting the health of that ecosystem and the fishing communities who depend on them.

Despite currently having healthy corals in the project intervention areas, there are extreme risks that this globally significant coral will be adversely impacted by climate change like other reefs in Haiti and the Caribbean at large. Coral reefs are extremely vulnerable to climate change because of the high sensitivity of corals to small changes in environmental conditions. Minor increases in water temperature can stress corals, leading to coral bleaching. If high temperatures persist, mass death of corals can occur. The stress caused by elevated water temperatures also leads to increased risk of disease in corals and many other species that engage with the coral reef system. Due to climate change, coral reefs under pressure will be less able to provide the services that support human communities, such as food and fisheries income, recreational opportunities and commercial tourism, and protection of vulnerable shorelines.

Terrestrial ecosystems are also highly vulnerable to the impacts of climate change. For instance, Hurricane Matthew caused significant damage to highly vegetated areas. In the coastal zone, the shrub layer was less affected than the tree layer, the herb layer being the least disturbed, as generally speaking taller trees are more susceptible to windthrow. Moreover, highly degraded ecosystems are less resilient to such climate shocks, and more frequent and more intense storms and rainfall could lead to irreversible land degradation and ecosystem destruction.

Agriculture: With more than 60% of the workforce employed in agriculture, climate change will have major impacts on food security in Haiti, with crop productivity projected to decline significantly due to increases in temperature and increasing precipitation variability. Changes in precipitation are particularly problematic since roughly 92% of the country's agriculture is rainfed . It could also impact livestock productivity in terms of growth rate or milk production. The changes in those parameters are also problematic since they are projected to increase the prevalence of pests and diseases and cause significant crop losses (including cash crops such as pineapple) and greater reliance on pesticides , . In addition, rising sea level also has the potential to cause seawater intrusion, contributing to salinization of agricultural soils in the coastal zone, thereby adversely affecting agricultural production. Climate change will have increasingly severe adverse implications food security and health risks.

Fisheries: PPG consultations in the Barad?res-Cayemites Complex revealed that fishing is one of the main economic activities in the zone, contributing both to household food supply and income generation for vulnerable coastal communities. Productivity of fisheries is very likely to be adversely

affected by climate change, in particular through the impacts described above related to ecosystem degradation.

In addition, Haitian fishers, including those with modern gear, face boat and equipment losses when severe storms strike. Overall, negative impacts on those livelihoods also cause fishers to seek alternative livelihoods, including pivoting to agriculture in poorly suited areas upstream, and further contributing to the degradation of those ecosystems.

Infrastructures and material losses: The projected increase in intensity of hurricanes as well as the increased frequency in extreme precipitations leading to floods and landslides will have dramatic impacts on infrastructures, in particular precarious and inadequate housing but also public infrastructures and equipment such as health and education infrastructures, transportations, energy, ports, etc., as well as impacting the already fragile private sector industries.

In addition, Sea-Level Rise will further exacerbate flooding events and storm surges in the coastal departments, especially Sud and Sud-Est, which lie in the direct path of tropical storms and hurricanes. There is also already evidence in the Baradères-Cayemites Complex of low-lying islands being submerged due to SLR. SLR will also cause accelerated beach and coastal erosion, potentially leading to inundation of low-lying communities especially in areas lacking a vegetated buffer (e.g. mangrove forests), once again impacting people's lives, security and livelihoods. This is expected to further accentuate the negative spiral of poverty and vulnerability, cutting off populations from physical access to basic state services and discouraging investment in the private sector in general.

Climate change is therefore a major concern not just for natural ecosystems, but also for food security, economic prosperity, and social wellbeing of communities that depend on them. Overall, the impacts of climate change could lead to further anthropogenic pressures on natural resources and ecosystems.

#### Institutional Context

In the baseline, Haiti has a complex, yet extremely weak, institutional framework in relation to climate change and natural resources management. It is described in more detail below.

#### National level

Three main ministries are involved in the management of natural resources, climate change, and disaster risks in relation to the project's objectives.

The Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR) is involved in strengthening the resilience of the agricultural and fisheries sector to climate change and thus reducing the risk of food insecurity.

The Inter-Ministerial Committee for Territorial Development (CIAT) was created to implement coherent and coordinated actions in land use planning. It is chaired by the Prime Minister and brings together the three above-mentioned ministries, as well as the Ministry of Economy and Finance (MEF), the Ministry of Planning and External Cooperation (MPCE) and the Ministry of Public Works, Transport and Communications (MTPTC). It defines the Haitian government's policy on land use

planning, watershed protection and management, water management, sanitation, urban planning and equipment. It has a major role to play in the coordination and cross-sectoral cooperation between ministries and economic sectors.

Haiti's institutional framework with regards to the environment is characterized by a conflicting sharing of competences between the different sectoral ministries that intervene in the environmental field. Here is a summary of the overlaps identified :

**Forests:** MARNDR is deeply involved in this area through its Forestry and Energy Resources Department. At the same time, a Directorate of Forests and Renewable Energies (DFER) exists within MDE. However, the law does not define the sharing of responsibilities between MARNDR and DFER.

**Watersheds:** MARNDR is deeply involved in this area through its Soil Conservation and Watershed Management Department. The Inter-Ministerial Committee for Territorial Development is also very active in this field. However, there is also a Directorate for Integrated Watershed Management and Development (DAGIBV) within MDE. Competences are not clearly shared between CIAT, MARNDR and MDE in this area.

**Water:** MDE intervenes here through its Water Resources Directorate (DRE). MARNDR also intervenes in the field of water through its Directorate of Natural Resources, which has an Irrigation and Water Use Department.

The Ministry of the Interior and of Territorial Collectivities (MICT) is the central agency responsible for conceiving, defining and implementing the policy of the executive branch with regard to local government, immigration and emigration and civil protection. In particular, it ensures the coordination and control of the departments and communes as administrative and decentralized divisions of the State. Within this ministry, the Directorate of Civil Protection (DPC) is mainly concerned with disaster risk management throughout the Haitian territory and synchronizes the activities of various ministries, committees, and organizations before, during and after a disaster or emergency.

In addition, this directorate is in charge of coordinating the National Committee for Disaster Risk Management (CNGRD) which is responsible for the establishment of a normative framework regarding disaster risk reduction (DRR). It also oversees the structuration and functioning of the National System of Disaster Risk Management (SNGRD) which ensures the implementation of the National Plan for Disaster Risk Management (PNGRD) .

The Ministry of Environment (MDE) is the main actor in charge of the management and protection of the environment . Its responsibility is to define and promote national policy on environmental management, including the establishment of environmental standards, the development and implementation of the Environmental Action Plan (EAP), the management and regulation of protected areas, and environmental awareness. Within the Ministry, the Climate Change Directorate's (DCC) mission is to monitor and communicate on climate change, and to produce and promote decision support tools for climate change mitigation and adaptation in a cross-cutting and cross-sectoral manner. It is also in charge of developing a national planning and research framework for appropriate response policies and strategies, in line with international climate agreements. It is also responsible for

interfacing with the National System of Disaster Risk Management (SNGRD), contributing in this framework to the formulation of measures and standards to reduce the vulnerability of the population to climate disasters .

These ministries, and others, are also part of the Interdepartmental Committee for Territorial Planning (CIAT). The CIAT's mission is to define the government's policy on land use planning, watershed protection and management, water management, sanitation, urban planning, and equipment. This institution was created in response to an alarming situation and the need for coherent and coordinated actions in land use planning.

In terms of climate change governance, the regional approach in the form of the APRIS system (Regional Inter-Sectoral Program Approach) was defined by the revised NAPA (2017) and is proposed to advance the National Adaptation Plan (NAP) at the regional level.

This approach groups the departments into seven regions with regard to the implementation of the NAPA (2017) programs and projects. The approach was proposed with the aim of better localizing efforts, finding the maximum complementarity and synergies, and better directing interventions in the regions. This grouping also takes into account the homogeneity of the departments in terms of ecology and the cultural and social differences of the communities. Region V (Grand Sud) of this framework consists of the departments of Nippes, South and Grand?Anse.

This approach is intended to complement existing approaches such as the watershed approach or the ecosystem division approach, which take into account biophysical, environmental and ecological characteristics before making any intervention in an area. It focuses primarily on the need to capitalize on what has been achieved, to work and act on what already exists and not to create parallel structures. To achieve this, it will be necessary to put in place a solid and integrated governance structure.

At the operational level, the proposed structure will be that of a Regional Consultation Table (TCR). This will bring together the Departmental Consultation Tables (DCTs), a structure that already exists at the level of each department for the environment sector. The TCR will be made up of a few appointed members, selected from existing DCT members. It will be chaired by one of the delegations and the chairmanship will be rotated every 2 or 3 years. The mandate of the members, renewable over 2 years, can also be renewed. The TCR will be made up of:

- ? Sectoral departmental directorates
- ? Local authorities
- ? Departmental environmental assessment units of the National Environmental Assessment Office
- ? Donors
- ? NGOs
- ? Private sector

- ? Civil society
- ? Universities
- ? Watershed management group.

At the strategic level, a central governance structure is also created, made up of the public sector, parapublic sector and private sector. This structure will be institutionally anchored in the Prime Minister's Office and will be coordinated by CIAT, given that this institution already coordinates the Green Table that exists in the Grand Sud. This is a role played by the National Climate Change Committee (CNCC). Its role is to provide strategic advice and steering functions on all climate-related issues at national level. It was recently revitalized, and its membership includes sectoral ministries, universities, parliamentarians, local authorities, civil society, private sector, and the media . It still lacks decentralized structures to coordinate with, including Regional Climate Change Committees (CRCCs).

#### Levels of local government

The Haitian state recognizes three levels of local government in descending order of importance: the department, the commune , and the communal section. The latter is the smallest administrative unit in the country (see Figure 9).

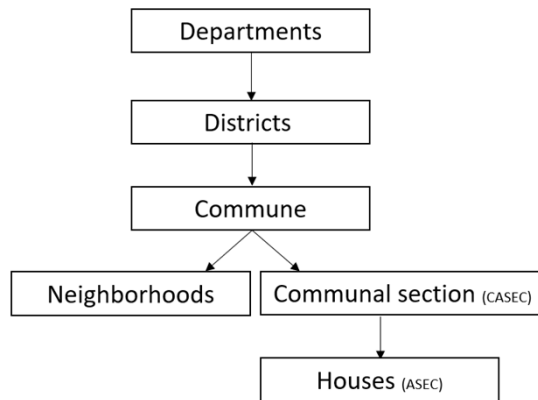


FIGURE 9 GEOGRAPHICAL DIVISIONS OF THE REPUBLIC OF HAITI

There are a total of 10 departments, 42 districts (a geographical rather than administrative division), 140 communes and 565 communal sections in the country. The department is a territorial authority with legal status and administrative and financial autonomy. It is also the largest administrative division of the State. The department's physical boundaries correspond to those of the administrative district, and includes the districts, communes and communal sections that make it up.

The department's role is to ensure the prioritization and harmonization of the collective interests of the communes that it groups together. It coordinates the definition and implementation of development and land-use policies drawn up by its constituent communities. It also contributes to the definition and implementation of territorial planning and economic, social, and cultural development policies at the national level .

Communes are administered by an executive body known as the Municipal Council or the Communal Council. It is assisted by a deliberative body called the Municipal Assembly (elected by the Communal Section Assembly (ASEC)) . Mayors are the lead representatives of the Communes as part of the Communal Council, which is responsible (amongst others) for the preparation of the communal development plans and communal land use planning, which are then ratified by the Municipal Assembly. The Mayor is further responsible for implementation of the measures taken by the national government within the framework of the National Development Plan drawn up in conjunction with the Interdepartmental Council, as well as the execution of laws adopted by the Communal and Departmental Councils.

The Communal Council's budget is submitted to the Departmental Council. If during the course of the budget year, the amounts provided for in the budget of the Communes is insufficient to meet expenditures, the Mayor shall make appropriation orders in an amount to be met either from the available balance, or by the granting of special appropriations by the central government or by the Departmental Council. If a communal government fails to fund its operating budget by less than 30%, it will receive a balancing subsidy from the central government over a period of five (5) years.

The communal section is administered by an elected Communal Section Board of Directors (CASEC). This board is assisted in its work by a Communal Section Assembly (ASEC), also elected. This assembly usually has 7, 9 or 11 members depending on the number of inhabitants of the communal section. Each member of this assembly represents a house or a group of neighboring houses in the communal section. A house is any tract of land bound to an owner's name .

#### Decentralized state services

From the management of civil protection point of view, the Civil Protection Directorate (DPC) has set up committees which are acting at different levels of governance: departmental, communal, and local (CDGRD, CCGRD, CLGRD). These structures benefit from common core trainings (tronc commun) through the DPC, enabling them to carry out actions to educate, raise awareness, and inform the population and coordinate response to emergencies linked to various disaster events. They also oversee the development and implementation of departmental, communal, and local hydrometeorological contingency plans (revised on an annual basis) aimed at providing procedures and mechanisms for responding to natural disasters . Capacity remains low for disaster preparedness at all levels. The National Disaster Risk Management Plan 2019 - 2030 considers the effects of climate variability and change in the analysis and definition of the vision and strategic directions of the new plan, given the country's high exposure to hydrometeorological hazards. It therefore sets as its fourth strategic direction to "Ensure effective post-disaster preparedness, response and early recovery by strengthening the technical, material and financial capacities of national, departmental, communal and local institutions in charge of disaster management" and sets targets to have contingency plans by 2030 for at

least four risks (earthquakes, hurricanes, epidemics, drought) at the national, departmental, communal and sectoral levels. To date, most of Haiti's communes have a summary risk assessment, covering mainly hydrometeorological threats, but these assessments need to be continuously updated alongside contingency plans.

The decentralized territorial services of the Ministry of the Environment constitute the extension of the ministry in the territorial and administrative divisions of the Republic. They are responsible for the implementation of sectoral policies and for carrying out the administrative operations of the ministry in the administrative territorial divisions. The technical decentralized services of the Ministry of the Environment are autonomous organizations placed under its supervision whose creation, organization and operation are governed by law. There are three of them: the National Protected Areas Agency (ANAP); the National Solid Waste Management Service (SNGRS); and the National Observatory of the Environment and Vulnerability (ONEV).

The National Protected Areas Agency (ANAP) is responsible for conserving, creating and managing the different categories of protected areas and for developing them in a perspective of sustainable and harmonious development on the social and economic level for local communities. This Agency will have to be involved in the process of elaboration and implementation of the Environmental and Social Management Plan for the project sites near protected areas.

More specifically, protected areas are administered by a director who manages all activities that protect and enhance these areas. Preservation of the environment but also promotion of the latter are at the heart of this function, including ensuring the preparation and the implementation of the PA management plan with a view to participatory governance and equitable benefit sharing . They are supported by a management unit, whose roles include to supervise the development, deployment and proper functioning of the park's landscape ecological monitoring system; security and environmental surveillance operations; ecotourism and economic valorization; information and environmental education; as well as administration and accounting. The PA management units are assisted in management and monitoring operations by the civil society, notably the Local Support Committees (CLA). Their goal is to strengthen existing community-based organizations. Among other things, they train their members in ecosystem monitoring and coordinate their activities with local authorities, in particular the Haitian National Police (NPH) as well as the Peace Courts.

PA Management Plans in Haiti vary widely in terms of contents and development processes. The recently developed Management Plan for Macaya Park includes a set of management programs, which identify the actions planned. These programs bring together in a chronological and coherent manner the actions to be carried out over five years to achieve the conservation objectives defined in the Management Plan. The identification of these programs was done in a participatory manner in five steps during workshops for the elaboration of the plan: 1) Characterization of conservation objects - This first step consists of the identification of conservation objects, whose safeguarding will make it possible to conserve all the natural wealth of the PA; 2) State of conservation - This consists of an analysis of the current state of conservation of the selected objects; 3) Description of the ecosystem services provided by each of the conservation objects, as well as the associated threats with the direct causes; 4) On the basis of the threats and their causes, conservation objectives are identified as well as

the actions that should be developed to achieve them; 5) The objectives and actions are grouped under pre-selected denominations corresponding to the different programs. Given the high vulnerability to climate hazards, one of the programs targets disaster risk reduction, with a particular focus on adaptation to climate change within the Park and its buffer zone.

In order to facilitate the search for consensus on issues related to sustainable development and the environment in Haiti, the Ministry of the Environment has established sectoral tables of the environment in all departments of Haiti. These structures allow for the establishment of a formal framework for consultation and dialogue between government entities, notably the ministries concerned, the private sector, civil society organizations, technical and financial partners, and non-governmental organizations, for better mobilization and use of resources relating to environment. They also facilitate inter-institutional strategic planning and coordination. Within these tables, sub-tables can be created to address certain topics in a more targeted way.

**Forest and Fruit Germplasm Centers (FGC):** A Forest and Fruit Germplasm Center (FGC) is a technical institution for the multiplication or propagation of superior varieties of forest and fruit species intended to positively influence, in a robust and intensive manner, the demand and supply of plant material for the production and planting of trees, and the reliability of wood and edible fruit supplies. Ten FGCs were announced in 2018, of which five had been inaugurated as of January 2021 (in the departments of North, Nippes, Grand-Anse, North-West, and South). These centers will also serve as the technical infrastructure necessary for the formulation of departmental and communal forestry plans, as a training facility for young entrepreneurs in the production and improvement of forest and fruit seedlings, and as a forest school for the pilot testing of tree and forest education for young students.

### Policy and Legal Context

The National Climate Change Policy (PNCC, 2019) was developed by the Ministry of Environment and was validated in 2019, with a vision to reduce the vulnerability of Haiti's population and economic sectors to effects of climate change by 2030. In line with Haiti's Strategic Development Plan (PSDH), the policy is based on four main pillars: i) institutional strengthening, ii) improved governance, iii) endogenous climate financing, and iv) effectiveness in the fight against climate change.

In terms of DRR, Haiti's sectoral laws (i.e., laws that seek to regulate specific sectors such as land use planning, construction, environment, water, or forestry) contain many provisions that are relevant to DRR. However, in many areas, laws and policies are not effectively implemented and enforced. Funding and capacity constraints also hinder the development of most of the institutional structures and procedures proposed by the law, particularly at the communal level .

The regulatory framework for environmental management in Haiti is characterized by few environmental laws which are sometimes redundant in content and associated with limited enforcement capacity. It is further defined by two main documents: the 1987 Constitution and the Environmental Management Decree, issued in 2006.



The present-day Constitution of Haiti (Constitution d'Haïti) was ratified in March 1987, suspended from June 1988 to March 1989, and fully reinstated in 1994. Article 253 of the constitution stipulates that the environment is the basis of life for all Haitians, and any practice that endangers its balance is prohibited. It defines the responsibilities of the state in the conservation of protected areas (article 254) and species (article 255). Finally, agriculture is recognized as the main source of wealth and as the guarantor of the well-being of the population and the socio-economic progress of the Nation (article 257).

In January 2006, the Haitian government produced a decree defining national policy on environmental management and sustainable development. The Decree recognizes that the quality of the environment directly affects the well-being of each individual and his fundamental right to quality of life. Further, the Decree recognizes that the degradation of the Haitian environment has reached alarming proportions, compromising the country's sustainable development, and that it is imperative that the State take appropriate measures to safeguard and protect the environment. It includes the creation of a National Environmental Information System (SIEHaïti) to serve as an instrument for decision-making and the establishment of environmental performance parameters and indicators. Through this system, the Ministry of the Environment will make the register of current and past environmental assessments accessible to the public at any point in the Republic, through appropriate channels (article 68, 70 and 72). This system was effectively launched in March 2021. The decree also defines, in its article 64, public and individual responsibilities for environmental monitoring and describes direct monitoring services co-managed by the Ministry of Justice and the Ministry of the Environment. These monitoring services, which are the direct responsibility of the Ministry of the Environment, include in their mandate the awareness raising of the public on the changes in attitude and behavior required for the protection and sustainable use of biodiversity, the physical protection and security of the protected areas, as well as the penalization of violators of the laws and regulations protecting them. It is the responsibility of the Haitian National Police to protect lives and property in and around PAs at the request of the Ministry of the Environment or the National Protected Areas Agency, and to conduct legal proceedings in cases of environmental offenses. Finally, the Decree includes climate change among the 9 priorities described in Chapter 2 regarding environmental planning, and stipulates that the prevention and mitigation of risks related to meteorological, climatic and seismic phenomena are declared of Public Utility.

The organic Law on the Organization and Functioning of the Ministry of the Environment and the Fight against Climate Change, finalized in February 2018, provides an opportunity to integrate adaptation concerns into MDE's functioning, including the structures of extension services at the sub-national levels. It defines the organization and functioning of the Ministry of the Environment and its missions. Article 34 describes the responsibilities and attributions of the Director General, particularly in his position as Chairman of the National High-Level Committee for the Fight Against Climate Change.

Other laws and decrees establish rules and prohibitions related to the management of Haiti's natural resources. They are presented in the table below.

TABLE 2 LEGISLATIVE FRAMEWORK REGULATING LAND AND NATURAL RESOURCE USE IN HAITI

Regulatory framework	Content
<b>Soils</b>	
Law of 24 May 1962: Rural Code. Articles 62, 63, 66, 69, 79.	Defines erosion. On sensitive lands, presenting specific characteristics of slope and climate: specifies the conditions for prohibiting deforestation, stipulates the obligation of reforestation or replanting or execution of soil protection works, prohibits the practice of certain crops (banana trees, pigeon peas, cotton, sisal).
<b>Irrigation systems</b>	
Law N°VII of the François Duvalier Rural Code: Establishing the regime of water, irrigation and drainage systems. Article 151, 152.	Defines irrigation systems and the responsibility of the Ministry of Agriculture in their management, control, and financing.
<b>Forests</b>	
Haitian Rural Code 1864. Article 7.1, 14, 191, 202	Prohibits all unauthorized cutting of wood and defines the judicial framework applicable to all offenders. It specifies the absolute prohibition of cutting on mountain ridges and near watercourses and the need for replanting to contain the land and maintain freshness.
Haitian Rural Code 1864. Article 193	Prohibition of fires in or near forests.
Arrêt? du 10 Janvier 1933 Article 1, 2	Prohibits unauthorized logging, particularly of certain species, in the vicinity of rivers. Also prohibits mutilations and skinning.
Law of 28 May 1936, article 1, 2	Prohibits felling near rivers, on mountain ridges, in cities and along public roads without permission.
Decree-Law of June 23, 1937, on the regulation of forests, article 1, 2, 3, 4	Prohibits clearing, damaging, cutting, uprooting; burning of trees, on sloping land, near springs, water reservoirs and rivers, prohibits annual crops on the same land, prohibits burning of savannahs and crop wastes, without permission. Prohibition of felling of certain species designated and protected by the competent authorities.
Decree-Law of 27 June 1945	Protects certain species from felling, debarking, incision.
Decree of 20 November 1972	Declares reforestation work to be in the public interest and of general utility.

Decree of July 7, 1987 Article 1, 2, 3, 4, 8	Submits timber and fruit tree cutting to the MARNDR for authorization. Organizes the processing of applications for authorization at the local level. Regulates the constitution of perimeters dedicated to the planting of trees in houses. Defines the responsibilities of the communal sections for the control of firewood leaving the settlements. Prohibits the use of wood for agro-industrial and construction purposes. Defines a time limit for the conversion of energy systems and guidelines for their financing to consuming activities.
<b>Fisheries</b>	
Decree 27 October 1978 on fishing, article 6, 29, 38.	Defines small-scale, commercial, scientific and sport fishing. Defines release conditions according to size and species. Defines strict protection zones. Prohibits activities that endanger fish breeding areas.
<b>Protected areas</b>	
Decree of 18 March 1968, article 1, 2, 3	Denomination National Parks, National Sites, Natural Sites all stretches of wooded lands or parks on which are established historical or historical or natural monuments. Defines their belonging to the public domain and the responsibility of the MARNDR and the National Tourism Office.
Decree of April 4, 1983, article 1	Defines Macaya Park as a National Natural Park.
Presidential Order of March 13, 2013	Establishes, among other things, the new physical boundaries of the Macaya National Natural Park.
Presidential Order declaring the marine and coastal complex from Barad?re to Cayemites Islands "Protected Area of Managed Natural Resources of Barad?res-Cayemites? of 29 March 2017	Establishes, among other things, the new physical boundaries of the Barad?res-Cayemites PA
<b>Beekeeping</b>	
Law of 24 May 1962: Rural Code Article 216, 217, 218, 219, 220	Defines good beekeeping practices, distance of hives from public roads, sanitary conditions of production.

As this table shows, the laws regulating the protection and use of natural resources in Haiti are few in number and the coverage of related issues is patchy. Indeed, while the prohibition of deforestation is abundant in the country's regulations and common to several laws, regarding fishing, only commercial (exploited for profit by individuals, cooperative and commercial companies) and domestic fishing operations are regulated in terms of size or species of fish caught. Sport and recreative fishing is on the other hand not regulated. Furthermore, the instructions concerning domestic fishing are not clear.

Capture fisheries in Haiti remain exclusively artisanal, and no legislation exists on the sustainability or protection of seabeds and marine ecosystems . It was noted during the consultation phase that most fishermen in the project area practice small-scale fishing and sell their surplus informally. This hybrid activity between small-scale fishing and fishing for informal marketing on local markets can generate up to 90% of household income in villages. However, it is not taken into account by the current regulations. In addition, the fishermen interviewed stated that they had neither fishing permits nor knowledge of the regulations in force. This shows, on the one hand, the lack of knowledge of the populations of the legal framework that regulates their activities and, on the other hand, the weak capacity of the public authorities to enforce the laws to regulate and control the use of natural resources.

The Government of Haiti (GoH) has recognized the vulnerability and ecological potential of the zones targeted by the project, and has identified them as Protected Areas (PAs) through Presidential Decrees. The Macaya Park was declared a National Natural Park in 1983, but it was only in 2013 that a Presidential Order defined its new physical boundaries. The Baraderes and Cayemites? declaration was decided by the GoH on 29 March 2017, which is a fairly recent event and highlights the need to advance on this momentum. The declaration gives the parameters for demarcation; however, this needs to be translated into practical enforcement and climate-resilient sustainable practices, which would distinguish these protected areas from non-protected sites. Communities are often unaware that they live in a site deemed to be protected, and do not benefit from any protocols that would benefit their environment and build resilience.

On land tenure, in February 2019, a draft law was formulated to reform and secure land tenure . Furthermore, a draft law on territorial planning at the national level was prepared but was never adopted. At the time of the PPG, no further information was available on these draft laws.

### Development Planning

The approach to development planning was defined in the 1987 Constitution, and relies heavily on the concept of decentralization. It states that the communes and the departments are responsible for the development of their own territories, while the central government is in charge of defining the vision, strategic orientations, general objectives, and defining policies for the Country. Development planning processes are set by the Ministry of Planning and External Cooperation (MCPE), through the National Planning System (SNP). The national land-use strategy (SNAT) reflects the broad development guidelines that all other planning instruments must respect. The development planning process faces several challenges in Haiti, including obsolete legal and policy frameworks, lack of funds, poor governance, and competing priorities.

At the level of departments and communes, the responsibilities are to implement actions which will result in the achievement of the national level objectives, and increase the well-being of populations. The Local Development and Land Use Strategy (SLDAT) is the local equivalent of the SNAT, and is operationalized through Communal Development Plans (PCD) at communal level. The commune, according to its needs and its means, intervenes alone or in a complementary way in many areas on its territory . It plans its development and the management of its territory by prioritizing a rational zoning

of its space. The nomenclature of the different types of spaces includes zones of agricultural, industrial, commercial and easement activities, housing and ecological reserves.

In these conditions, planning as a technique for programming actions with regard to mobilizable resources and set objectives, is an essential step for the commune to develop its capacity for action. Indeed, through this technique, the commune can concretely

- ? Identify its needs, constraints, assets (resources) and potential;
- ? Choose its priorities and set its development objectives over a specific period of time (typically 5-year and 1-year PCDs);
- ? Define the measures and strategies to be adopted to reduce its constraints and/or satisfy its needs over the predetermined period in order to achieve the objectives;
- ? Verify the coherence and the adequacy between the means and resources.

The MCPE developed a methodology for the development of Communal Development Plans in 2012 through support from the Canadian government , to ensure better alignment between local priorities and the national framework in place. The approach includes technical and participatory diagnoses, prioritization of activities, and an investment plan.

While the PCDs are an essential component of development planning in Haiti, in practice they are often non-existent or outdated. Indeed, these plans can become outdated very rapidly, in a context of high vulnerability to disasters and rapidly shifting priorities. Few donors have focused on the development of PCDs, and most funds are allocated to immediate post-disaster recovery needs and disaster preparedness. That being said, over the years, USAID and Helvetas have been working on supporting communes in the preparation of PCDs in limited parts of the country, in collaboration with the MCPE.

#### Root causes

Widespread poverty: Haiti is the poorest nation in the Western hemisphere and most people seek to survive off scarce natural resources. The unemployment rate is 14% of the active population and reaches 36% among young people. Within the active population more than half of it are poor workers earning less than USD3.1 a day. About three out of five Haitians live below the national poverty line and one in four is in extreme poverty . This has pushed people to deplete natural resources such as mangroves, fish stocks, Non-Timber Forest Products (NTFP), and various species of animals. The lack of alternative livelihoods or vocational employment in the South of Haiti has restricted people's ability to support themselves. As a result, natural resources are often the only source of revenue for many. Moreover, people's heavy reliance on NTFPs for medicinal purposes, due to weak health infrastructure, is also contributing to their overexploitation. In fact, despite efforts and some improvement in certain areas over the last ten years, less than a third of Haitian population has access to basic housing services (electricity, treated water, improved sanitation, and waste collection). Households in rural areas are the most deprived of basic infrastructure. In terms of housing, habitats are

generally unsuited to the disaster risks that are likely to affect the country. Earthquakes and cyclones repeatedly impact the country resulting in damage and destruction of thousands of precarious housings as well as leading to massive human displacement and homelessness. Capacity to cope with climate variability, negative impacts of climate change and extreme weather events being highly dependent on the level of economic development, poor communities targeted by the project are thus highly vulnerable to climate change. In general, livelihood sources of the poor are more limited and more climate-sensitive. Extreme weather events often cause greater physical damage and substantial loss of life in poorer countries.

**Political instability and corruption:** Years of political instability and conflicts within the country have nurtured corruption and lack of confidence in government structures. This has also reduced the confidence of the people in the state, thereby limiting its enforcement capacity, and increasing communication challenges between the state apparatus and the local citizenry. The PPG consultations highlighted that communities have limited trust in the State, and are requesting that there be significant responsibility assigned to civil society organizations in the implementation of the project. Political transitions have led to a succession of governments with differing attitudes towards environmental management. For example, in 2006, the government adopted a series of decrees on decentralization. They included a description of local authorities' mandates in the management of natural resources and the environment. These ordinances were put on hold by the next government, which never fully fulfilled them. In the last three years there have been four Ministers of Environment, which creates challenges of continuity at the central level. The fifth one (the former head of the Climate Change Directorate) was appointed in July 2021 following the assassination of President Jovenel Moïse. The lack of political stability also exacerbates the negative impacts of environmental degradation and climate change. The lack of coordinated and consistent policies means that opportunities are lost to legislate effective adaptation interventions. With competing and at times conflicting mandates, government institutions are unable to coordinate the actions needed to mitigate the negative impacts of climate change.

**Demographic pressures and rising violence:** Haiti's population has tripled in the past 60 years and continues to grow steadily, putting pressure on natural resources across the country. On the one hand, precarious economic situation in rural areas combined with unfavorable conditions for agricultural activities, as well as inadequate infrastructure and essential services, has led to internal migrations and the expansion of large urban centers. On the other hand, uncontrolled urbanization results in further degradation of the environment, accentuated slumming, unemployment, pollution as well as pressuring already limited social infrastructure and basic services.

More importantly, with gang violence surging in the capital, more people adopt the opposite behaviour and seek refuge in other parts of the country. In June 2021, it was estimated that at that point in time more than 5,600 people were internally displaced from Port-au-Prince, moving to safer areas such as the project intervention areas to stay with relatives, with this number surging to over 19,000 by mid-July 2021. The displacements into these areas are, according to OCHA, creating a host of secondary issues, such as the disruption of community-level social functioning, family separation, increased financial burdens on host families, forced school closures, loss of livelihoods and a general fear among the affected populations. Criminality is also present, though at a lesser degree in the intervention areas,

and people face recurrent theft of livestock, fuel shortages, etc, which impact their ability to sustain their livelihoods. Moreover, individuals from outside targeted coastal communities were reported at the time of the PPG to be increasingly illegally exploiting natural resources in protected areas/state-owned land, including mangroves.

#### Direct non-climate drivers

The threats to Haiti's southwestern region's ecosystems are multiple, growing, and cause ongoing habitats destruction, degradation, and fragmentation, which in turn increase the vulnerability of communities and their livelihoods to the impacts of climate change. They are described below:

**Deforestation:** The production of timber, charcoal, and lime all contribute to deforestation, and Haiti is considered one of the most deforested countries in the world. Impoverished individuals have sought to sustain themselves by cutting down large amounts of forests, resulting in denuded mountains and high amounts of runoff and floods. In 1980, Haiti still possessed 25 percent of its forests, assisting the country to withstand extreme events such as 1979's Category 3 Hurricane David without any loss of life. However, recent estimates put forest cover at just 3.5 per cent, meaning that even strong tropical storms can cause devastating floods, increased risk of landslides, negative impacts on agricultural production and infrastructure, and ultimately a significant loss of human lives. The depletion of upstream forest resources results in the degradation of the soil, the decrease of the flow and the quality of springs and consequently of rivers, and ultimately also affects the health of marine ecosystems through sedimentation. Similarly, mangroves are increasingly suffering, being gradually destroyed, leading to increased vulnerability of coastal areas to extreme events, coastal erosion, and loss of livelihoods.

**Unsustainable fishing practices:** Small-scale artisanal marine fisheries are predominant in the area of intervention, with Roseaux being a key landing site, and are characterized by their general lack of oversight and poor management practices. Indeed, while the law technically requires fishing permits, fishers generally do not have them. Moreover, some fishing practices are highly damaging to the local ecosystems, including the fishing of juveniles and the use of spearguns. The most destructive fishing gear currently causing damage to coral reefs and wildlife are large nets (gillnets and mist nets) that are set on the bottom and left in place. These nets damage coral (often used to anchor them) and indiscriminately kill a wide range of species, including threatened and high-value species (e.g. turtles, whale sharks, and bony fish, to name a few). Overfishing is a widespread issue in the Barad-res-Cayemites Complex, while fish stocks are becoming critically low, especially those of commercially important species. Fisherfolks tend to be some of the most vulnerable in the country, with lower than average levels of education and living in physically remote locations.

**Unsustainable agricultural practices:** Agriculture is among the main causes of fires, destruction of endemic species' habitats, forest fragmentation, and erosion in the project areas. In addition, agricultural expansion does not take into account the risks associated with the area's rugged topography. In the cultivated areas, landslides are frequently observed and new gullies are constantly being formed, while old ones are widening. Other destructive practices include poor land use practices

such as tree cutting, overgrazing and cultivation without adequate soil conservation practices. The consequence of such a trend is the widespread silting of waterways and floods downstream, the decrease in the carrying capacity of the land (soil), and the deterioration of watersheds, which in turn lead to the observable downward economic and environmental spiral. Agricultural practices such as those being used in target sites impact ecosystem services such as pollination, nutrient cycling and regulation of pest and disease outbreaks, and can result in greater vulnerability in the face of climate change.

**Pests, diseases, and invasive species:** Climate change is known to impact the movement and distribution of pests and diseases worldwide. A strong core of healthy ecosystems and biodiversity can positively reduce the impact of pest and diseases. However, given that Haiti is experiencing biodiversity loss, habitat degradation and ecosystem deterioration, pests and diseases are likely to increase and may in turn further exacerbate biodiversity loss. Crops which once thrived, such as banana, have suffered from new diseases associated with changing climatic conditions and movements of plant and soil materials (resulting in the introduction of these diseases). Similarly, it is projected that invasive pests affecting pineapple will spread to Haiti, rendering this popular cash crop increasingly vulnerable. In the fisheries sector, widespread degradation of marine ecosystems has been attributed to the introduction of the highly invasive lionfish. Ongoing monitoring and systematic removal of lionfish from the Baraderes-Cayemites Complex's coral reef ecosystems, as well as from surrounding waters, should be a management priority.

#### Preferred solution

The preferred solution proposed is to (i) rehabilitate ecosystems so that they may buffer vulnerable communities from negative impacts of climate-induced hazards; and (ii) provide alternative livelihoods and economic opportunities through resilient value chains that are suited to project implementation zones. The project will aim to break the negative feedback loop of maladaptive and unsustainable livelihood practices resulting in ecosystem degradation and increased climate change vulnerability of populations.

The EbA model adopted by the project will be replicable to other areas of the country and the Caribbean region. This replication will be based on a strong knowledge management strategy, whereby transformational change (including behavioural change) and widespread adoption of EbA practices occur through increased awareness of climate change risks, of ecosystem adaptation services, of human activity's impacts and dependencies on nature, as well as of demonstrated socioeconomic benefits from strengthened climate-resilient value chains and market development.

Figure 10 below shows the Problem and Solution Tree for the project, explicitly presenting the linkages between root causes and non-climate drivers, climate drivers, and resulting environmental and socio-economic impacts, which ultimately contribute to the extensive climate vulnerability of communities in the areas of intervention of the project. The main impact pathways are detailed in the top purple arrow, while the lower purple arrows illustrate the negative feedback from the resulting impacts back to the



underlying drivers of vulnerability. The Figure then presents preferred solutions which the project intends to put in place (see Theory of Change for more details).

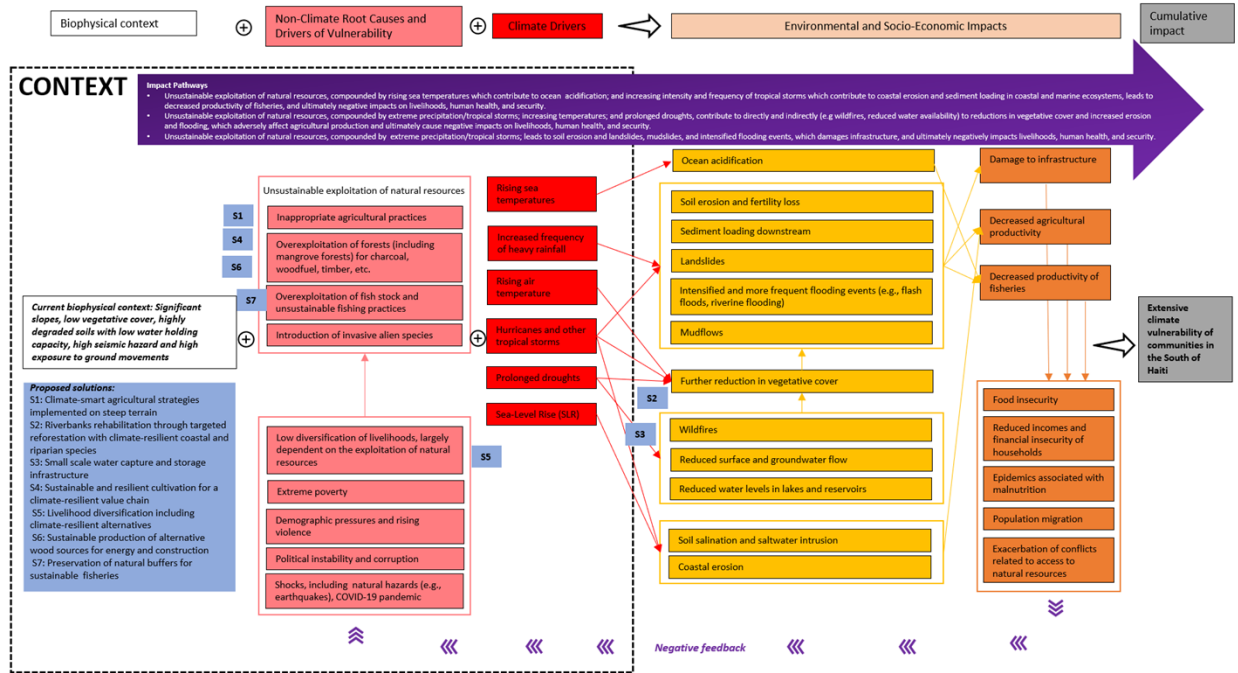


FIGURE 10 PROBLEM AND SOLUTION TREE FOR THE PROJECT

Details in the following table present a summary of information on the selected intervention sites and proposed interventions, as well as the targeted beneficiaries numbers.

TABLE 3: SUMMARY DESCRIPTION OF THE SELECTED INTERVENTION AREAS

Department	Commune	Communal Section	Total Population (2015)	Site description	Climate impacts and vulnerabilities	Proposed activities/communities identified priorities	Number of beneficiaries
Nippes	Baradères	1ère section, Gérin	5927	Degraded soils; Need for firewood for the distilleries; Strategic zone for the protection of the village of Baradères from the southern ravine;	Risk of landslides; High risk in relation to climatic shocks; Prolonged drought;	- Sustainable woodlots - DRR: training, risk assessment, warning system - Environmental education - Soil conservation and erosion control - Training and support for sustainable fishing practices, including	Landscape benefits: 5120 Livelihood benefits: 96 Training and awareness raising: 507

Department	Commune	Communal Section	Total Population (2015)	Site description	Climate impacts and vulnerabilities	Proposed activities/communities identified priorities	Number of beneficiaries
		2 <sup>e</sup> me section, T <sup>te</sup> d'Eau	8588	Urgent need for restoration of degraded slopes Upstream area of the Barad <sup>res</sup> River; Need for firewood for distilleries;	Risk of landslides; High risk in relation to climatic shocks; Prolonged drought;	provision of fishing materials and equipment - Mangrove protection and conservation	Landscape benefits: 7419 Livelihood benefits: 139 Training and awareness raising: 735
		3 <sup>e</sup> me section, Fond Tortue	10528	Urgent need for restoration of degraded slopes; Agroforestry potential; Need for firewood for distilleries;	High risk in relation to climatic shocks; Prolonged drought;		Landscape benefits: 9094 Livelihood benefits: 171 Training and awareness raising: 901
		4 <sup>e</sup> me section, La Plaine	7722	Flood zone; High agricultural potential;	High risk from climatic shocks; High risk of flooding; Prolonged drought;		Landscape benefits: 6671 Livelihood benefits: 125 Training and awareness raising: 661
		5 <sup>e</sup> me section, Rivi <sup>re</sup> Sal <sup>e</sup>	8480	Importance of mangroves; Strong pressure on mangroves Unsustainable fishing practices; Destruction of the fishery resources at the level of the coasts;	High risk in relation to climatic shocks; Prolonged drought;		Landscape benefits: 7325 Livelihood benefits: 137 Training and awareness raising: 726

Department	Commune	Communal Section	Total Population (2015)	Site description	Climate impacts and vulnerabilities	Proposed activities/communities identified priorities	Number of beneficiaries
							Total for Baradères: 39828
	Grand Boucan	1ère section, Grand Boucan	3739	Importance of mangroves; Strong pressure on mangroves; Unsustainable fishing practices; Destruction of the fishery resources at the level of the coasts; Fishery is main economic activity	Very high risk in relation to climatic shocks; High risk of flooding by rising sea water; Fresh water shortage; Prolonged drought;	- Support for the marketing of fishery products - DRR: capacitation of the CCGRD; training, risk assessment, warning system - Mangrove protection and conservation	Landscape benefits: 3230 Livelihood benefits: 61 Training and awareness raising: 320
		2ème section, Eaux Basses	2076	Importance of mangroves; Strong pressure on mangroves; Unsustainable fishing practices; Destruction of the fishery resources at the level of the coasts; Fishery is main economic activity	Very high risk in relation to climatic shocks; High risk of flooding by rising sea water; Fresh water shortage; Prolonged drought;		Landscape benefits: 1793 Livelihood benefits: 34 Training and awareness raising: 178
							Total for Grand Boucan: 5615

Department	Commune	Communal Section	Total Population (2015)	Site description	Climate impacts and vulnerabilities	Proposed activities/communities identified priorities	Number of beneficiaries
Grand-Anse	Pestel	1 <sup>re</sup> section Bernagousse	6595	High cassava production and limited processing capacity	Prolonged drought; Fresh water shortage; High risk in relation to climatic shocks;	- Support for fisheries value chain (storage in particular) - Support for cassava value chain - Support for climate resilient agricultural value chains	Landscape benefits: 5697 Livelihood benefits: 107 Training and awareness raising: 565
		2 <sup>me</sup> section Espere	10740	Existence of an agricultural cooperative ; Agroforestry potential; Unsustainable fishing practices; Destruction of the fishery resources at the level of the coasts;	Prolonged drought; Fresh water shortage; High risk in relation to climatic shocks;	- Land restoration and climate-smart agriculture/soil conservation measures - DRR: training, risk assessment, warning system - Jardins lakou - Reforestation of coastlines - Erosion control schemes, especially for ravines in the 4th section - Sustainable woodlots	Landscape benefits: 9278 Livelihood benefits: 174 Training and awareness raising: 919
		4 <sup>me</sup> section, Tozia	12203	Existence of an agricultural cooperative ; Agroforestry potential; Need for restoration of degraded slopes;	Prolonged drought; Fresh water shortage; High risk in relation to climatic shocks;		Landscape benefits: 10541 Livelihood benefits: 198 Training and awareness raising: 1045
		5 <sup>me</sup> , Duchity	6019	Existence of an agricultural cooperative ; Agroforestry potential;	High risk in relation to climate shocks;		Landscape benefits: 5199 Livelihood benefits: 98 Training and awareness raising: 515

Department	Commune	Communal Section	Total Population (2015)	Site description	Climate impacts and vulnerabilities	Proposed activities/communities identified priorities	Number of beneficiaries
							Total for Pestel: 34336
	Iles Cayemites	6 <sup>me</sup> section, Iles Cayemites	5231	Importance of mangroves; Strong pressure on mangroves; Unsustainable fishing practices; Destruction of the fishery resources at the level of the coasts; Absence of a Communal Disaster Risk Management Committee	Very high risk in relation to climatic shocks; High risk of flooding by rising sea water; Fresh water shortage; Prolonged drought;	- Support for the marketing of fishery products - DRR: capacitation of the CCGRD; training, risk assessment, EWS - Mangrove protection and conservation	Landscape benefits: 4518 Livelihood benefits: 85 Training and awareness raising: 448
							Total for Iles Cayemites: 5051
	Corail	1 <sup>re</sup> section, Duquillon	11262	Importance of mangroves; Strong pressure on mangroves; Unsustainable fishing practices; Destruction of the fishery resources at the level of the coasts;	Prolonged drought; Fresh water shortage; High risk in relation to climatic shocks;	- Agricultural adaptation - Small-scale irrigation / jardin lakou. To be accompanied by training - Transformation and valorization of cassava - Soil conservation - Beekeeping - Fishing: training, materials, Fish Aggregating	Landscape benefits: 9728 Livelihood benefits: 183 Training and awareness raising: 964

Department	Commune	Communal Section	Total Population (2015)	Site description	Climate impacts and vulnerabilities	Proposed activities/communities identified priorities	Number of beneficiaries
		2 <sup>e</sup> me section, Fonds d'Icaque	6021	Agroforestry potential Recharge and feeding zone of the Lacombe River;	Prolonged drought; Fresh water shortage; High risk in relation to climatic shocks	Devices (very important for the area. It is also the only community where there is an association of women fishers) - Reforestation	Landscape benefits: 5201 Livelihood benefits: 98 Training and awareness raising: 515
		3 <sup>e</sup> me section Champy	2283	Importance of mangroves; Strong pressure on mangroves; Unsustainable fishing practices; Destruction of the fishery resources at the level of the coasts;	Prolonged drought; High risk in relation to climatic shocks;		Landscape benefits: 1972 Livelihood benefits: 37 Training and awareness raising: 195
							Total for Corail: 18894
	Roseaux	2 <sup>e</sup> me section, Fond Cochon	11740	Heavily cultivated area; Degraded slopes;	Risk of landslides; High risk in relation to climatic shocks; Fresh water shortage; Prolonged drought;	- Erosion control schemes - Jardin lakou	Landscape benefits: 10141 Livelihood benefits: 190 Training and awareness raising: 1005

Department	Commune	Communal Section	Total Population (2015)	Site description	Climate impacts and vulnerabilities	Proposed activities/communities identified priorities	Number of beneficiaries
		4 <sup>me</sup> section, Gomiers	8477	Groups of fishermen trained in Fish Aggregating Device fishing; Possibility of partnership for the training of fishermen from Coral and Pestel-Cayemite Islands;	High risk from climate shocks; Fresh water shortage; Prolonged drought; Strong degradation of the coast;	- Fishing: Training, fishing gear, conservation system - DRR: training, risk assessment, warning system	Landscape benefits: 0 Livelihood benefits: 137 Training and awareness raising: 726
							Total for Roseaux: 12200
							<b>Total beneficiaries for all project sites: 115924<sup>[1]</sup></b>

[1] Of the 115,924 total beneficiaries at the project sites, 104,999 are direct beneficiaries (landscape and livelihood benefits) (Core Indicator 1), and 10,925 are beneficiaries of training (925) and awareness raising (10,000). The total project beneficiaries number of 115,974 also includes 50 national level training beneficiaries (35 extension officers and 15 officials from line ministries). As such, the total number of training beneficiaries is 975 (Core Indicator 4).

#### Barriers

The PPG consultations and review of national policies and strategies relating to climate change contributed to the identification of key barriers to adaptation, which the project will address to implement the preferred solution .

Barrier 1: Limited institutional capacity for cross-sectoral and cross-jurisdictional coordination for adaptation planning and implementation

Responsibilities for addressing climate change are shared across several institutions, at all levels, as illustrated earlier. These institutions are often weak, with limited capacity for cross-sectoral and cross-

jurisdictional coordination for adaptation planning and implementation. Amongst those, the Directorate for Climate Change (active under MDE) and the Directorate of Civil Protection (under MICT), have extremely low capacity to engage with regional and local stakeholders. The recently revitalized National Climate Change Committee (CNCC), whose primary role is to provide strategic advice and steering functions on all climate-related issues at national level, still lacks decentralized structures to coordinate with, including Regional Climate Change Committees (CRCCs).

At the sub-national level, there are no operational structures in place to allow for a formal cross-sectoral and cross-jurisdictional (i.e. central ministries, departments, communes, communal sections) framework for consultation and dialogue on climate change, facilitating better mobilization and use of resources relating specifically to climate change. This role is usually played by sectoral sub-tables on different thematic areas, which exist both at national and sub-national level on the environment more generally, and on other sub-topics.

Indeed, the 2017 revised NAPA states that a strong and coherent governance structure must be put in place, and that the lessons learned from the 2006 NAPA evaluation demonstrated a need for coordination and decentralization of information, and the strengthening of governance in the implementation of programs such as the NAPA. At the operational level, the proposed structure in the 2017 NAPA is that of a Regional Consultation Table (TCR) (this Project Document will hereon forth refer to these as Regional Sectoral Sub-tables on Climate Change, SSRCC), which will bring together the Departmental Consultation Tables (DCTs), a structure that already exists at the level of each department for the environment sector.

At this time, however, there are no dedicated Regional Sectoral Sub-tables on Climate Change (SSRCCs), including in the Grand Sud region. This structure would constitute a dedicated space for sharing knowledge, experiences, successes, and failures on ongoing and past adaptation initiatives. The Grand Sud region does have experience with the CIAT Table Verte (Green Table), an effective operational structure in place, whose positive experience can be built on and replicated for the SSRCC.

In terms of planning and implementation of adaptation at the local/communal level, as the DPC is the authority mainly concerned with disaster risk management throughout the Haitian territory, and as disaster risk management is closely related to climate change in the country, the decentralized operational units of DPC have been identified as a competent multistakeholder body for local climate risk management through DRR communal committees (i.e. CCGRD). However, the PPG consultations showed that the Iles Cayemites DRR communal committee has particularly low human, technical, and financial capacities to ensure efficient coordination of their activities.

**Barrier 2: Limited access to information on climate risks, vulnerabilities, and ecosystem functioning to help inform adaptation decision-making**

There is clear political interest in improving environmental management and engaging in EbA, as manifested by the demarcation of protected areas, the 2019 PNCC, and the ongoing NAP process. In July 2021, the head of the Directorate for Climate Change was named Minister of the Environment, promising to rapidly elevate climate change issues nationally. However, the PPG consultations indicated that knowledge on climate change risks and vulnerabilities, and available adaptation solutions



(including EbA and Eco-DRR) is low amongst various bodies such as MDE, MARNDR, ANAP, SEMANA, CLA, and DPC, which is affecting their ability to effectively integrate those aspects in decision-making.

Indeed, planning for Ecosystem-based Adaptation (EbA) approaches relies on a good understanding of the underlying climate risks and their impacts on local communities and ecosystems. This type of information is very limited in Haiti and is impeding adaptation decision-making at all levels of governance, and even more so at the community level where EbA is implemented. Standardized risk and vulnerability assessment tools and the technical skills to implement them at a local scale are largely absent. Hence, it is difficult to systematically assess climate risks and make evidence-based decisions for adaptation, including for mainstreaming adaptation into communal development plans.

Where information exists, it is not always properly disseminated and accessible. Up-to-date information on the state of ecosystems, and their ability to provide adaptation services, is still limited. This being said, significant steps are beginning to take place. In Haiti's 2006 Decree on Environmental Management, the country officially set the scene for the establishment of Haiti's Environmental Information System (SIEHa?ti), and its launch finally occurred in March 2021 through the National Observatory of Environmental Quality and Vulnerability (ONQEV) of MDE. SIEHa?ti is an online platform designed to collect data on the environment in Haiti, in order to assess, inform and monitor its state. The platform is accessible to: (1) any citizen interested in accessing the data and information on the impact of human activities on the environment in Haiti; (2) technicians/specialists of the environmental sector; (3) researchers, professors, academics, students for their scientific work; and (4) experts and national/international entities interested in contributing to the collection and processing of information on the environment in Haiti. It complements another online platform of geospatial data, [haitidata.org](http://haitidata.org), which is populated with Disaster Risk Reduction (DRR) information, including data layers on climate change induced risks. However, both data platforms lack a consistent input of up-to-date data, and the data as presented may not be accessible/exploitable for all decision-makers.

**Barrier 3: Limited capacity to manage Protected Areas and enforce regulations relating to the protection of ecosystems**

Sustainable natural resources management practices are widely recognized as being a low cost and effective way to improve the resilience of coastal communities to climate change by ensuring the long-term provision of ecosystem services, including for adaptation. In 2017, the Haitian government declared the marine and coastal zones ranging from Barad?res to Cayemites Islands as a protected area considering the ecological interest of natural sites and the need to protect them. While the nomination of this park represents a great opportunity to protect local biodiversity and enhance the socio-economic conditions, the expected results depend on the effective management of the area, relying on a well-structured governance body, as well as efficient and equipped operational management teams. In this regard, the consultation of the Baraderes-Cayemites complex management team revealed a lack of management plan. This plan should include an integrated and holistic view of landscape and watershed management, taking into account the vulnerabilities of the populations and allowing for the regulation of the use of ecosystems and natural resources. The consultation also revealed that existing CCGRD contingency plans are rarely updated or implemented. This does not allow up-to-date climate change risks to be taken into account in the contingency plans, as well as exposing local populations to severe

material damages, human injuries and loss of life. The establishment, updating and implementation of these management and contingency plans has to be sustained in order to provide a legal and operational framework for sustainable, concerted management of space, improve local populations security and infrastructures.

In addition, in terms of enforcement of environmental law, the judicial system is poorly equipped, perceived as biased and unable to ensure application of environmental norms guaranteeing socio-economic and environmental rights of all citizens. Hence, there are numerous local level initiatives, often led by youth and small associations, to monitor the illegal exploitation of some ecosystems (e.g. mangroves) which are highly valued by local communities. However, they have limited knowledge of adaptation and EbA, and are not always formally organized or legally recognized. During the PPG phase it also became clear that while local communities of Barad?res-Cayemite have good awareness of the role of mangroves in protecting them from extreme climate events, they continue to be illegally exploited by actors coming from outside local communities. In fact, as mangroves are located on public land, local communities have little legitimate control over their surveillance and management, and the state still lacks the capacity to fulfill those roles.

**Barrier 4: Limited capacity and resources (human, technical, inputs) to implement sustainable land management (SLM) and EbA practices at the community level**

In order to effectively adapt to climate change, communities need to be aware of the challenges they may face (Barrier 2) and the adaptation options available to them (Barrier 4). Furthermore, they need to be supported throughout the implementation of the proposed solutions, as they often lack the experience and know-how to put in place EbA measures and SLM as they begin to face unprecedented conditions. At the local and institutional level, there remains a lack of knowledge on how best to adapt to climate change. For instance, while communities observe that the onsets of the rains are not as expected and have experienced droughts and hurricanes very late in the season, the planting and harvesting seasons are still being carried out as they used to. Indeed, access to an evidence base of adaptation options is limited, as there has been little experience to date in implementing adaptation strategies in the area of intervention. CLAs and other extension services have few resources (human and financial) to effectively integrate climate change concerns into the interventions they support. There is a clear need for local training programs to be developed around protected areas, to introduce better management practices to natural resources users, and support them technically throughout the adoption process of the proposed EbA and SLM measures. There is evidence from PPG consultations that awareness raising and educational interventions are effective in promoting the adoption of better practices, and that the direct beneficiaries of these activities continue to advocate in their communities for their long-term adoption. Unfortunately, past interventions have not always effectively transferred the required technical skills to local stakeholders, and good practices are hardly transferred from pilot sites, preventing coastal communities from increasing their resilience to the impacts of climate change.

**Barrier 5: Limited capacity to develop sustainable and climate-resilient value chains**

Small producers are highly vulnerable to climate shocks, as they often rely on small incomes from single sources. They are limited in their ability to expand their income sources, as there are limited opportunities for livelihood diversification. Moreover, there are several constraints to accessing

markets, such as: limited access to affordable finance; poor rural infrastructure (e.g. roads, water, electricity); low levels of organization of producers; and limited access to knowledge on modern techniques and technologies for production and transformation/value addition. Producers struggle to get loans or credit from financial institutions, and the challenge is often even more prominent for women. The poor organization of producers also affects access, as they have limited power in setting fair prices for their products. With low production levels, most sales remain focused on local markets, with few products ever reaching regional or international markets. In addition, there is a lack of equipment and infrastructure to engage in transformation of primary products for value addition. Hence, there is an urgent need to identify sustainable and resilient value chains, and provide the required capacity-building activities to support their uptake by coastal communities. To this end, the project will support the organization of producers, their capacitation on improved techniques, as well as provide support in developing sustainable business plans that take into consideration climate change.

**Barrier 6: Limited awareness of the negative environmental and socio-economic impacts of unsustainable ecosystem-based livelihoods and value chains**

In part due to underlying socio-economic conditions, climate change and long-term sustainability are not often on the minds of local communities when they begin, and continue, to engage in different ecosystem-based livelihoods. In fact, some of the most important value chains in the area of intervention are both detrimental to the environment and exposed to climate hazards, resulting in increased vulnerability of people to climate change impacts. For instance, deforestation, both upstream and in coastal dry forests and mangroves, is driven largely by the inelastic demand and ongoing supply of charcoal, which is predominantly used as fuel across the country.

Overall, lack of environmental awareness continues to contribute to deforestation, soil erosion, pollution through poor waste management, overfishing and habitat destruction, among other environmental impacts. Without adequate environmental awareness, people are unable to see the links between their day-to-day activities and impacts on the environment. There is also limited knowledge on the environmental value of maintained and healthy ecosystems and little comprehension on how environmental degradation and unsustainable livelihoods practices will in turn negatively impact individual households, and contribute to vulnerability in light of climate change. While the PPG consultation revealed that fishermen observe a depletion of lagoon's biomass and diversity in recent years, they lack alternatives to decrease their impact on the ecosystem as well as being unable to fight against the main invasive alien species currently threatening the whole Caribbean sea and increasingly present within the project area. Opportunities to build resilience and to cope with climate change are thereby lost.

The table below provides a summary of how the barriers outlined above will be addressed by the project.

<b>Barrier to adaptation solutions</b>	<b>Project outputs addressing the barrier</b>

<p>Barrier 1: Limited institutional capacity for cross-sectoral and cross-jurisdictional coordination for adaptation planning and implementation</p>	<p>Output 1.1: Two regional multisectoral climate change adaptation coordination mechanisms established in the Grand Sud region</p> <p>Output 1.3: Six community-led climate change vulnerability assessments undertaken and six communal adaptation plans developed</p> <p>Output 1.4: EbA and Eco-DRR considerations integrated into six communal and two departmental contingency (disaster risk management) plans</p>
<p>Barrier 2: Limited access to information on climate risks, vulnerabilities, and ecosystem functioning to help inform adaptation decision-making</p>	<p>Output 1.2: 175 people in 13 institutions trained on climate change risk, vulnerability, and adaptation in the context of Haiti, targeting national, regional, departmental and local stakeholders</p> <p>Output 1.3: Six community-led climate change vulnerability assessments undertaken and six communal adaptation plans developed</p> <p>Output 1.6: A Knowledge Management and Communication Strategy for the project developed and implemented, informing the development of an Upscaling Strategy for EbA and Eco-DRR in Haiti</p>
<p>Barrier 3: Limited capacity to manage Protected Areas and enforce regulations relating to the protection of ecosystems</p>	<p>Output 1.5: A climate-sensitive management plan for the Baradere-Cayemites PA developed</p>
<p>Barrier 4: Limited capacity and resources (human, technical, inputs) to implement sustainable land management (SLM) and EbA practices at the community level</p>	<p>Output 1.2: 175 people in 13 institutions trained on climate change risk, vulnerability, and adaptation in the context of Haiti, targeting national, regional, departmental and local stakeholders</p> <p>Output 2.1: Erosion control techniques implemented with two pilot communities on 200 hectares of agricultural land on steep terrain</p> <p>Output 2.2: 30 km of coastlines and 35 km of riverbanks rehabilitated through targeted reforestation with climate-resilient coastal and riparian species</p> <p>Output 2.3: Three pilot sustainable woodlots of fast-growing tree species established on 100ha, with sustainable exploitation plans, to reduce destruction of mangroves and endemic trees for charcoal production</p> <p>Output 2.4: Two fishers' associations established, trained and supported for the adoption of sustainable fisheries management practices</p>

<p>Barrier 5: Limited capacity to develop sustainable and climate-resilient value chains</p>	<p>Output 3.1: At least 15 local climate-resilient cooperative businesses established and capacitated through training and technical support, for at least three value chains</p> <p>Output 3.2: At least 800 people benefitting from technical support and equipment for climate-resilient production and transformation technologies provided for at least three value chains</p> <p>Output 3.3: Partnerships (including with private sector) and financing schemes established to mobilize investment to strengthen resilient value chains and market access for at least 30 small businesses</p>
<p>Barrier 6: Limited awareness of the negative environmental and socio-economic impacts of unsustainable ecosystem-based livelihoods and value chains</p>	<p>Output 1.2: 175 people in 13 institutions trained on climate change risk, vulnerability, and adaptation in the context of Haiti, targeting national, regional, departmental and local stakeholders</p> <p>Output 1.5: A climate-sensitive management plan for the Baradere-Cayemites PA developed</p> <p>Output 1.6: A Knowledge Management and Communication Strategy for the project developed and implemented, informing the development of an Upscaling Strategy for EbA and Eco-DRR in Haiti</p> <p>Furthermore, all outputs under Components 2 and 3 integrate awareness raising as part of the implementation of EbA / Eco-DRR approaches and value chain strengthening.</p>

2) The baseline scenario and any associated baseline projects

The baseline scenario, as it relates to each outcome of the proposed project, is described below.

Outcome 1: Strengthened institutional governance and capacity to reduce vulnerability of physical assets, natural systems, and livelihoods in Macaya buffer zone and Baraderes-Cayemites

Baseline scenario

Adequate governance and coordination mechanisms for climate change adaptation are currently limited in the areas of intervention, and the Regional Inter-Sectoral Program Approach (APRIS) to support the NAPA 2017 (and ultimately NAP) implementation is not operational. The recently revitalized National Climate Change Committee (CNCC) still lacks decentralized structures to coordinate with, including Regional Climate Change Committees (CRCCs). The Regional Sectoral Sub-tables on Climate Change (SSRCC) envisaged in the 2017 NAPA revision have also not yet been established. As such, at the sub-national level, there are no operational structures in place for a formal cross-sectoral and cross-jurisdictional framework for consultation and dialogue on climate change, facilitating better mobilization and use of resources relating specifically to climate change (Barrier 1).

In the current context, there is no national or decentralized leadership explicitly supporting climate change adaptation at the local level (i.e. in the context of communes, mayors, CASECs, and ASECs) . Without effective governance, there is a lack of guidance, support and enforcement of adaptive practices, and the numerous international donors/NGOs active in the area continue to lack the relevant platforms to effectively coordinate interventions. At the local level, poor governance inhibits adaptation planning, and maladaptive practices continue to take place, thereby increasing people's vulnerability in the face of climate events.

There are difficulties at all governance levels in accessing climate risk, vulnerability, and adaptation information. While some data does exist, it is not always effectively disseminated. The larger-scale implementation and upscaling of successful adaptation approaches is hindered also by the lack of recorded experiences and lessons learnt from past initiatives. Similarly, knowledge on existing environmental policies, strategies, and laws (including those related to climate change), and responsibilities for adaptation is scarce at many levels. This means that key planning documents, such as contingency plans at the departmental and communal levels, do not effectively integrate up-to-date climate risk and vulnerability information.

Moreover, a PA management plan for Baraderes-Cayemites does not yet exist, meaning that these fragile ecosystems are still facing unabated threats from overexploitation and lack of enforcement of environmental laws, and that the potential adaptation benefits of those ecosystems are not being leveraged. The project intervention areas have been devastated by Hurricane Matthew and the August 2021 earthquake, and communities are relying on scarce natural resources for their survival, and simultaneously contributing to further environmental degradation. Climate-resilient management plans are needed for articulating the ecological and socio-economic values of the protected areas, as well as for identifying sustainable measures that communities can undertake to protect their livelihoods and futures in the face of climate unpredictability. Similarly, more needs to be done to provide local capacity to enforce environmental laws. This is yet another challenge to adaptation planning and implementation.

Outcome 2: Enhanced climate-resilient land management, environmental protection and rehabilitation practiced by local authorities and communities

Baseline scenario

The consultations conducted during the PPG phase revealed ongoing severe environmental degradation, exacerbating climate vulnerability in the areas of intervention. Individuals are engaging in damaging practices, including the overexploitation of forest resources, poor agricultural land management, and overfishing and other unsustainable fishing practices, to fulfill their energy, construction material, and food needs. In addition, due to an insufficient monitoring of public land where mangroves grow, they suffer some illegal deforestation from individuals from outside the local communities, who are less aware and concerned than locals by their ecosystem and adaptation value.

Without the project, communities will lack knowledge on the potential of restored or conserved ecosystems to reduce their vulnerability to climate impacts and the applicability of available EbA

approaches for degraded areas. Moreover, with limited resources, there is a high risk that communities will continue to undertake maladaptive measures for short-term sustenance, which will be followed by haphazard development as has been witnessed in the aftermath of other natural disasters in Haiti. Given the extent of food and water insecurity, competition for scarce resources can also lead to social issues such as conflict and displacement. With increased frequency and intensity of tropical storms, floods and droughts, these underserved regions of Haiti will therefore continue to suffer the devastating impacts of climate change on agriculture, infrastructure, water resources and food security, resulting in greater levels of poverty and social tensions. They will continue to experience loss of assets, lives, and food security following climate disasters at higher rates than anywhere else in the Caribbean.

While an increasing amount of work on EbA has been done in the areas of interventions, including the recently closed UNDP EbA project (GEF ID 5380) and UNEP Ecosystem Approach to Haiti Cote Sud (GEF ID 5531), it remains insufficient to fully address the scale of the problem. A key lesson from the Strengthening Adaptive Capacities to Address Climate Change Threats on Sustainable Development Strategies for Coastal Communities in Haiti Project (GEF ID 3733) was that indeed, more focus needs to be given to coastal and marine areas in future projects, as coastal ecosystems and the key adaptation services they provide to those communities are particularly threatened.

Outcome 3: Strengthened climate-resilient agricultural value chains with improved access to markets in Macaya and Baraderes & Cayemites

Baseline scenario

In the areas of intervention, livelihoods are poorly diversified and are extremely vulnerable to frequent shocks and natural hazards. Agricultural and fishery products are mostly sold without prior value addition processes, including basic transformation/processing, and are vulnerable to post-harvest losses, in particular when access to markets and post-harvest storage is limited. Communities cannot leverage higher prices due to lack of organization, transportation, and knowledge of quality. Community members are unaware of the potential of certain climate-resilient value chains and how to protect others from increasing climate hazards.

Specifically, the PPG phase identified gaps in key value chains present in the project areas, including the following: i) limited technical knowledge on climate resilient production methods; ii) limited financial literacy; iii) limited availability of equipment and infrastructure to store and transform agricultural and fishery products for value-addition; iv) limited availability of funds to individually or collectively invest in materials that can improve production yields and transformation processes; v) limited availability of dedicated spaces where entrepreneurs can exchange, associate, and build capacities by sharing experiences; and vi) limited business structuration and cooperative businesses to enhance negotiation power for fair market prices.

Several interventions have worked on agricultural value chains in the area, though with limited emphasis on climate resilience. High value crops, such as cacao, banana, and coffee, which are vulnerable to climate hazards and pests and diseases, have received and continue to receive greater attention. The yam value chain is, however, also a central focus of several projects, including the

development of an operational plan for the value chain and establishing plant-health control . Nevertheless, there remains unmet demand for post-harvest storage and transformation technology, as part of a process of value addition. Numerous individual projects have also addressed urgent needs in a post-disaster context with a focus on women, including market gardening, although at small scales and without consideration for long-term climate resilience in particular due to the urgency of the needs being fulfilled.

Without the project intervention, the producers will continue being isolated, with poor market access and limited income sources. They will also continue using traditional and climate sensitive crops, and unsustainable production practices. They will continue being disadvantaged in market negotiations, missing appropriate tools to assess fair market value for their products. They will therefore also carry on selling raw materials at low prices, because of the lack of funds to finance transformation units or other necessary investments. All of these factors will continue to contribute to the vulnerability of local communities to adverse climate events and other shocks.

#### Co-financing plan

The proposed LDCF project will benefit from several sources of co-financing, which will increase the impact of the LDCF funds. These sources of co-financing are: Project to Strengthen Agricultural Opportunities Through Training and Technological Investment (PROFIT Project) with USD1,650,000 co-financing; the Haiti Rural Accessibility and Resilience Project with USD6,094,444 in co-finance; the Strengthening Disaster Risk Management and Climate Resilience Project with USD278,571 in co-finance; the KLIMA Grand Sud project with USD181,796 co-financing; the PITAG Program with USD2,315,803 in co-finance; the AVETI Project with USD6,606,325 in co-finance, and USD7,215,000 from FAO.

The Strengthening Disaster Risk Management and Climate Resilience Project is implemented over the period 2019-2025, with a total budget of USD35M from the International Development Association (IDA). The implementing agency is the Ministry of Interior and Local authorities (MICT). It is being implemented at national scale in the 140 communes of Haiti. The Project Development Objective is to improve: (i) early warning and emergency evacuation capacity in selected municipalities in high climate risk-prone areas, and (ii) the provision of and accessibility to safe havens. As such, the project's activities fall under three substantive components: Component 1: Strengthening Disaster Preparedness and Emergency Response Capacity and Promoting Building Regulation and Resilient Construction Practices (Total Cost USD8 million); Component 2: Construction and Rehabilitation of Safe Havens; and Component 3: Contingent Emergency Response (as well as Component 4: Project Management and Implementation Support). The activities under Component 1 will support the LDCF project objective, in particular through strengthening 140 CCGRDs' emergency preparedness and response capacities, improved EWS, and strengthened management of the CCGRD and shelter networks. This is complementary to the LDCF activities in its six communes of intervention, which will focus on integrating EbA and Eco-DRR concepts into CCGRDs' and CLGRD's contingency plans, and on providing additional training on several issues relating to climate change and adaptation planning. Close coordination between the two projects will be ensured so that the training provided is complementary, and the interventions of both projects can benefit from information generated and



capacities built by the other project (e.g. through the CRiSTAL climate risk and vulnerability assessments to be undertaken by the LDCF projects).

The Post-earthquake 2021 recovery: resilient agriculture and sustainable school feeding in the Grande Anse department project will be implemented over the period 2022-2026, with a total budget of USD11.1M from the European Union. The implementing agency is FAO, who will implement the actions across the Grand Anse department. The project objective is to respond to the needs of agricultural recovery in the Department of Grand Anse following the 2021 earthquake, including agricultural recovery and the return to school. There are further four specific objectives: 1. Household agricultural production is boosted; 2. The availability of locally produced nutritious food in local and regional food markets is increased; 3. The enrolment of children in schools with school canteens is improved; and 4. A monitoring and evaluation system is put in place throughout the project. As such, the project will directly support the LDCF project objective. Firstly, it will contribute to a better understanding of vulnerability to climate hazards and the prioritization of actions which have adaptation benefits, and which can be integrated in the adaptation planning processes supported by the LDCF project. Moreover, agricultural extension officers capacitated through the EU-funded project will be better placed to provide advice to farmers supported by the LDCF project on climate-smart agriculture. The increased access to agricultural inputs (seeds, tools, fertilizers, small livestock, etc) through the EU-funded project will also enable the successful implementation of LDCF activities targeting productive agricultural systems. Thirdly, the EU-funded project will help increase the resilience of agricultural systems to natural hazards, complementing efforts of the LDCF project, and enabling more producers to benefit from downstream activities geared towards marketing and value addition through the LDCF project. Synergies can be exploited and scaling up achieved through the implementation of rehabilitation activities at different sites, in particular with cash for work, for the benefit of the affected households.

The KLIMA Grand Sud - Konbit pou Lite kont Chanjman klimatik nan Grand Sud d'Haïti project is implemented over the period 2020-2023, with a total budget of USD1,090,775 from the Quebec Government and CECI. The implementing agencies are CECI and the Organisation pour la R?habilitation de l'Environnement (ORE). The project is being implemented in the departments of Grand Anse and Sud. The project aims to: (a) increase the resilience of Haiti's Grand Sud through sustainable reforestation of the area, by establishing sustainable energy forests (SEFs) on 180 ha of fragile land and reducing the pressure on the collection of fuelwood in agroforestry plots; (b) provide a range of sustainable economic opportunities for approximately 1,300 women and youth related to climate change adaptation and resilience: the establishment of SEFs for income generation on non-productive land; the transition of charcoal production practices to a more efficient, energy-efficient and carbon-neutral process; the valorization of organic waste into compost and biochar; and the analysis of the potential for the establishment of a carbon crediting system; (c) reduce GHG emissions by 26,485 t CO<sub>2e</sub> over the life of the project: 5,072 t CO<sub>2e</sub> sequestered in SEFs and agroforests, 4,232 t CO<sub>2e</sub> avoided through improved wood energy processing, and 1,013 t CO<sub>2e</sub> avoided through organic waste being composted or pyrolyzed into biochar; and (d) Strengthen the expertise of local organizations ORE, ODEFKAGA and FAMV by sharing and improving with them technical innovations such as direct seeding and substrate improvement in reforestation; efficient transformation of carbon neutral wood-energy, biochar and compost; and carbon crediting processes. The KLIMA Grand Sud project

will contribute to the Outcome 2 of this LDCF project and reduce pressures on the environment associated with the overexploitation of forested areas for woodfuel. Moreover, work done by KLIMA Grand Sud on the economic valuation of adaptation and resilience to climate change actions will support scaling up the LDCF project work towards green economic growth in the areas of intervention.

The PITAG Program (Programme d'Innovation Technologique en Agriculture et Agroforesterie; Technological Innovation for Agriculture and Agroforestry Program) is implemented over the period 2018-2023, with a total budget of USD76.9M from IDB, GAFSP and IFAD. The implementing agencies include CECI, SOCODEVI and UPA, who implement the actions of PITAG Component 2 in the department of Grand'Anse. The main focus of the PITAG Program is to boost up small agricultural producers' revenues and food security. In particular, the program seeks to raise farm productivity and improve the use of natural resources with the creation and transfer of sustainable agricultural and agroforestry technologies. The Component 2 of PITAG intervenes in the department of Grand'Anse through applied research and training for the development and adaptation of sustainable agricultural technologies. The new knowledge and technologies produced by PITAG will support the LDCF project activities, who will be able to leverage the new adaptation technologies and scale up those interventions. Furthermore, the LDCF project can support the strengthened integration of climate change considerations in PITAG program activities through the new knowledge generated (e.g. from the climate risk and vulnerability assessments), as well as through its training activities and sharing of experiences and lessons learnt.

The AVETI Project (Adaptation climatique et valorisation économique des filières agricoles en Haïti; Climate Adaptation and Economic Development of Agricultural Sectors in Haiti) project is implemented over the period 2020-2025, with a total budget of USD10.7M from the Canadian Government. The implementing agencies include CECI, SOCODEVI and UPA, who implement the actions in the department of Grand'Anse. The AVETI Project works on increasing the resilience to climate change of agricultural production, in particular for the benefit of women and youth, including a focus on the yam value chain. As such, it will support the work of the LDCF project in this area. For instance, the LDCF project will be able to leverage the results of AVETI analyses for key value chains, as well as the increased access to financial services for cooperative businesses.

The PROFIT Project (Project to Strengthen Agricultural Opportunities Through Training and Technological Investment) is implemented over the period 2021-2023, with a total budget of USD3.3M from the Government of Norway. The implementing agency is ILO. The project intervenes in the departments of Grand'Anse and Sud. It has three intended outcomes, as follow: 1) Capacity of producers to produce more and better quality (refined) products corresponding to increasing market demand is improved (tailored technical and managerial training, producers better structured), with a particular attention to gender specificities and needs; 2) The technological capacity of agriculture and applied research along the value chains for selected products is improved (traceability, fermentation, post-harvest equipment); as well as 3) Revenues and financial capacity of beneficiaries farmers are improved, and green and decent jobs are created in support of the three agricultural value chains. As such, PROFIT outputs will support increased access to credit and saving schemes, and support the long-term financial sustainability of LDCF-supported enterprises. Similarly, improvements along

agricultural value chains will contribute to LDCF Outcome 3 in particular, and contribute to increasing the availability of technological innovations to support adaptation enterprises.

The Haiti Rural Accessibility and Resilience Project received initial funding of USD75M and an additional grant of USD33M from IDA for the implementation period 2018-2024. The implementation arrangements include the Unit? Technique d?Ex?cution of the Ministry of Economy and Finance (UTEMEF) as an implementing partner and the Executive Secretariat of the Inter-Ministerial Committee for Territorial Development (CIAT-es) as a technical partner. The department of Nippes is one of three targeted departments for intervention. The Project Development Objectives are to: (i) increase all-weather road access in selected sub-regions; and (ii) improve the resilience of selected segments of the road network. As such, the LDCF project will benefit from the infrastructural improvements, aimed at increasing their resilience to adverse climate events. These outputs will be essential to reduce the climate and disaster risks facing the long-term sustainability of activities under this LDCF project, as well as to ensure increased market access for remote communities and possible additional revenue streams from the value-added products.

Breakdown of budget by donor / co-financing:

	USD	%
<b>LDCF</b>	<b>4,327,857</b>	<b>15.1%</b>
PROFIT Project	1,650,000	5.8 %
Rural Accessibility and Resilience Project	6,094,444	21.3%
Strengthening DRM and Climate Resilience Project	278,571	1%
KLIMA Grand Sud	181,796	0.6%
PITAG Program	2,315,803	8.1%
AVETI Project	6,606,325	23%
FAO (Post-earthquake 2021 recovery)	7,215,000	25.2%
<b>Subtotal co-financing</b>	<b>24,341,939</b>	<b>84.9%</b>
<b>Total</b>	<b>28,669,796</b>	<b>100%</b>

Other baseline projects and initiatives (not co-finance) related to this project, which it is proposed to build on and coordinate with, are presented in the Table below.

TABLE 4 NON-GEF-FUNDED BASELINE INITIATIVES TO COORDINATE WITH

Project name	Description	Years	Donor	Complementarity
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<p><b>Ecosystem-based Adaptation and forest restoration in vulnerable rural communities within the Caribbean Biological Corridor</b> (BIOECO; USD22M)</p>	<p>The project uses ecosystem-based adaptation (EbA) measures to increase the resilience and adaptability of the people and ecosystems in the partner countries, thus improving the livelihoods of the rural population at the same time. In participatory processes, the project develops strategic EbA plans, based on which targeted afforestation and soil improvement measures are implemented. It supports farmers in applying adapted production techniques and optimising the value chains of agricultural, agroforestry and silvopastoral systems. In addition to supporting the mainstreaming of EbA in local and national plans, the project also trains and networks key players, helping them to plan EbA measures.</p>	<p>2019-2027</p>	<p>BMU</p>	<p>The present LDCF project will build on the lessons learnt and best practices from the IKI project including but not limited to:</p> <ul style="list-style-type: none"> <li>- the community vulnerability assessments that will be performed to develop local EbA plans and implement existing strategic planning documents;</li> <li>- the woodlots planting in South-Eastern Haiti;</li> <li>- the erosion control techniques in the North of the country;</li> <li>- the identification and optimization of profitable climate-resilient value-chains;</li> <li>- capacity building on climate risks and risks management.</li> </ul>
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<p><b>Increasing resilience of vulnerable farmers in Southern Haiti</b></p> <p>(FAO; USD22M)</p>	<p>The project seeks to increase the resilience of ecosystems and of the livelihoods of vulnerable farmers to climate change impacts, using the Ridge to Reef (R2R) approach. The project interventions will result in improved food, nutrition and water security in the face of climate change related challenges compared to the baseline scenario.</p>	<p>Concept note approved in 2019</p>	<p>GCF</p>	<p>The present LDCF project will build synergies with the Ridge to Reef approach implemented in the GCF project to address climate vulnerabilities impacting the South department of Haiti, including:</p> <ul style="list-style-type: none"> <li>- erosion control activities including restoration and management of hilly catchment areas and lowland terrain to reduce runoff and soil erosion;</li> <li>- restoration and management of mangrove fishing areas;</li> <li>- promotion and development of climate resilient agricultural practices and technology as well as promoting activities allowing for revenue sources diversification;</li> <li>- building capacities and supporting the institutional coordination at national level of climate changes issues and associated risks.</li> </ul>
<p><b>USAID Reforestation Project in Haiti</b></p> <p>(Chemonics International; USD 39,305,099)</p>	<p>The USAID Reforestation Project, based in Cap-Haitian, is a 5-year project aimed at improving the resilience of targeted populations by reversing longer term trends of environmental degradation and loss of tree cover in the Nord and Nord-Est departments of Haiti. It works to empower target communities and build their capacities and assets for improved tree cover and landscape management, thereby enhancing their ability to withstand environmental and other shocks and stresses.</p>	<p>2017-2022</p>	<p>USAID</p>	<p>The present LDCF project will bring complementarities to the efforts deployed in the USAID project as the latter aims at fighting against deforestation implementing the following actions:</p> <ul style="list-style-type: none"> <li>- improving access to energy services to reduce pressures on trees and forests;</li> <li>- tree planting campaigns;</li> <li>- promotion of improved agroforestry production and drought adaptation techniques;</li> <li>- development of territorial management plans.</li> </ul>

<p><b>Empower Municipalities in Haiti to plan for, manage and respond to the impacts of climate change</b></p> <p>(Caribbean Community Climate Change Center; USD 449,149)</p>	<p>This proposal aims to strengthen the capacities in five municipalities across the Republic of Haiti (i.e., Bazinet, Belle-Ansa, Iron Coast, Jamel and Margot) to strategically plan for, respond to and manage the impacts of climate change. It will assist them in prioritizing climate related activities and to be able to access climate finance from the GCF and other sources. Additionally, support will be given to increase municipalities awareness and knowledge of local vulnerabilities. As such, these actions will aid in the advancement of Haiti's National Determined Contributions (NDCs) and National Policy to Fight Against Climate Change (PNCC).</p>	<p>Proposal approved in 2020</p>	<p>GCF</p>	<p>The activities proposed under this LDCF project should find complementarities with the GCF project as the latter will:</p> <ul style="list-style-type: none"> <li>- build capacities on climate knowledge to guide the planning development and implementation of adaptation and mitigation actions at national, regional, and local scale;</li> <li>- conduct comprehensive vulnerability and needs assessments in key sectors at the community level;</li> <li>- Develop climate risk/disaster management plans.</li> </ul>
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The proposed project is also designed to build upon and align with on-going GEF initiatives. The key GEF projects relevant to this project, and with whom close coordination will take place to share lessons learnt, scale up interventions, and avoid duplication of efforts, are described in the Table below.

Table 5 Ongoing/planned GEF projects to coordinate with

GEF ID	Project	Budget	Description	Timeline	Coordination
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10684	Improving the flow of ecosystem services in biologically-rich watersheds of the Southern region of Haiti (IA: UNDP; EA: MDE)	USD 5,055,479; GEF TF - BD	The project will restore degraded biodiversity hotspots and improve the flow of ecosystem goods and services in degraded watersheds of southern Haiti, which will lead to reducing poverty and improving food security.	2022-2028	Coordination with this project, with was started during the PPG phase, will continue to take place during implementation. Tools for spatial planning, for instance, could be useful to disseminate to the LDCF project beneficiaries, especially those involved in PA management.
10320	Strengthening the climatic resilience of the drinking water sector in the South of Haiti (IA: UNDP; EA: MDE)	USD 4,504,563; LDCF	TBD ? PIF document not accessible at time of writing.	TBD ? PIF approved	Coordination with this project will take place, as deemed relevant during implementation.
10318	Strengthening National Institutions in Haiti to meet the Transparency Requirements of the Paris Agreement (IA: UNDP; EA: MDE)	USD 1,320,000; GEF TF CC	To establish a national Measuring, Reporting, and Verification system to track GHG emissions and the impact of mitigation actions, as well as indicators as part of the M&E systems on adaptation.	2022-2026	The project will keep abreast of progress done through this project, and any evolution in the M&E systems on adaptation, and how it could/should contribute to it. The coordination mechanisms created through this project may have a role to play, which should be explored jointly.

10195	<p>CSIDS-SOILCARE Phase 1: Caribbean Small Island Developing States (SIDS) multicountry soil management initiative for Integrated Landscape Restoration and climate-resilient food systems (IA: FAO; EA: Partnership Initiative For Sustainable Land Management (PISLM) in Caribbean Small Island Developing States (SIDS))</p>	<p>USD 8,155,205; GEF TF LD SCCF</p>	<p>The project objective is to strengthen Caribbean SIDS with the necessary tools for adopting policies, measures and best practices and support review of legal and institutional frameworks to achieve Land Degradation Neutrality (LDN) and Climate Resilience</p>	2021-2025	<p>The project will ensure coordination with this complementary initiative, and where possible seek to capitalize on the Outputs, such as the Caribbean Soil Support Group for SLM, and replicate good practices as they relate to participatory strategies for rehabilitation and restoration and intervention plans.</p>
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9803	<p>Managing the Human-Biodiversity Interface in the Southern Marine Protected Areas of Haiti - MHBI (IA: IADB; EA: MDE)</p>	<p>USD 1,826,485; GEF TF CC and BD</p>	<p>The general objective of the project is to contribute to improving the conservation and management effectiveness of the Grosse Caye/Zone humide d'Aquin and Olivier/Zanglais MPA. The specific objectives are to: (i) improve fishery management in MPAs; and (ii) mitigate climate change through critical ecosystems restoration.</p>	2018-2022	<p>This project may have closed by the time this LDCF project begins implementation. However, it will be important for the project to review the KM products generated, and the TE to extract lessons learnt. Moreover, the project having focused on MPA management and EbA, critical lessons learnt should be integrated and approaches could be replicated, for instance to strengthen MPA management and supporting fishers' associations. It will be relevant to ensure that mangrove restoration activities do not overlap with this LDCF project, even if at first glance they should not.</p>
9777	<p>Sustainable Management of Wooded Production Landscapes for Biodiversity Conservation (IA: UNDP; EA: FAO)</p>	<p>USD 6,186,964; GEF TF CC and BD</p>	<p>The Project Objective is the generation of multiple environmental and social benefits through the integrated and sustainable management of wooded production landscapes with globally significant biodiversity in the North and North East departments of Haiti</p>	2021-2028	<p>While implemented in the North and North East departments of the country, there will be important lessons to be shared between the two projects, including on decision-making tools developed by the GEF/FAO project and environmental monitoring and information management at landscape level.</p>

9750	Resilient Productive Landscapes in Haiti (IA: WB; EA: Ministry of Agriculture, Natural Resources and Rural Development, Ministry of Environment, Ministry of Economy and Finance)	USD 6,210,046; LDCF	The Project Development Objectives are: (i) to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds; and (ii) to enable the Government to respond promptly and effectively to an eligible emergency.	2018-2023	This LDCF project will seek to learn from, and replicate or use, relevant approaches and products developed from this WB project. Of particular relevance are the planned operationalization of a spatial decision support tool for the prevention and / or management of climatic risks
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### 3) The proposed alternative scenario with a brief description of expected outcomes and components of the project

The proposed Theory of Change (ToC) of the project highlights the relationships between activities, outputs and outcomes (sphere of control), medium-term outcomes and the main impacts (sphere of influence) that the project seeks to contribute to.

The proposed ToC diagram in Figure 11 shows the pathways taken by the project to address the underlying problem, as illustrated in the arrow on the left of the diagram. To reach a solution to this problem, several barriers need to be addressed. Those barriers that the project will directly address are:

Barrier 1: Limited institutional capacity for cross-sectoral and cross-jurisdictional coordination for adaptation planning and implementation

Barrier 2: Limited access to information on climate risks, associated vulnerabilities, and ecosystem functioning to help inform adaptation decision-making

Barrier 3: Limited capacity to manage Protected Areas and enforce regulations relating to the protection of ecosystems

Barrier 4: Limited capacity and resources (human, technical, inputs) to implement sustainable land management and EbA practices at the community level

Barrier 5: Limited capacity to develop sustainable and climate-resilient value chains and associated business plans opportunities

Barrier 6: Limited awareness of the negative environmental and socio-economic impacts of unsustainable ecosystem-based livelihoods and value chains

The project, within its sphere of control, has as its main objective to increase the adaptive capacity and resilience of communities residing amongst fragile ecosystems and vulnerable to recurring climate disasters. It does this through a range of activities, which are supporting outputs and project-level outcomes. Underlying the ToC are several assumptions, which must be fulfilled in order for the project to successfully achieve its objective. These are:

A1: Implementation partners are active, willing, and able to take the lead in project implementation

A2: SIEHaiti continues to be funded, information is gathered and shared to relevant stakeholders

A3: Communities are willing and able to partake in the project activities

A4: Restoration efforts are not threatened/undermined by local conflicts or climate change impacts (e.g. hurricanes), and are supported by significant local buy-in from all local actors through the community-based approach

A5: Business initiatives and climate-resilient value chains developed respond to local, national and global markets needs

A6: National and regional political situation is sufficiently stable to enable the implementation of project activities as planned

The project also contributes to medium-term outcomes (MTOs), within its sphere of influence, but outside of its full control. These MTOs are enabled by several impact drivers, including but not limited to:

D1: Participatory/community-based development/land-use planning processes

D2: International legal obligations, including SDGs, UNCCD, UNFCCC, CBD

D3: Community-led enforcement of laws and by-laws related to Eco-DRR/NRM

Ultimately, it demonstrates how the project can contribute to transformational impacts (or a new state of the system) which include:

? Global environmental and adaptation benefits: contributing to SDGs (among others SDG 13, 14, 15 and 9), Paris Agreement and UNFCCC, UNCCD, CBD objectives

? Socio-Economic Co-Benefits:

? Improved food security

? Diversified livelihoods and higher reliability in sources of income;

? Reduction in violence;

? Increased social equity and gender inclusivity

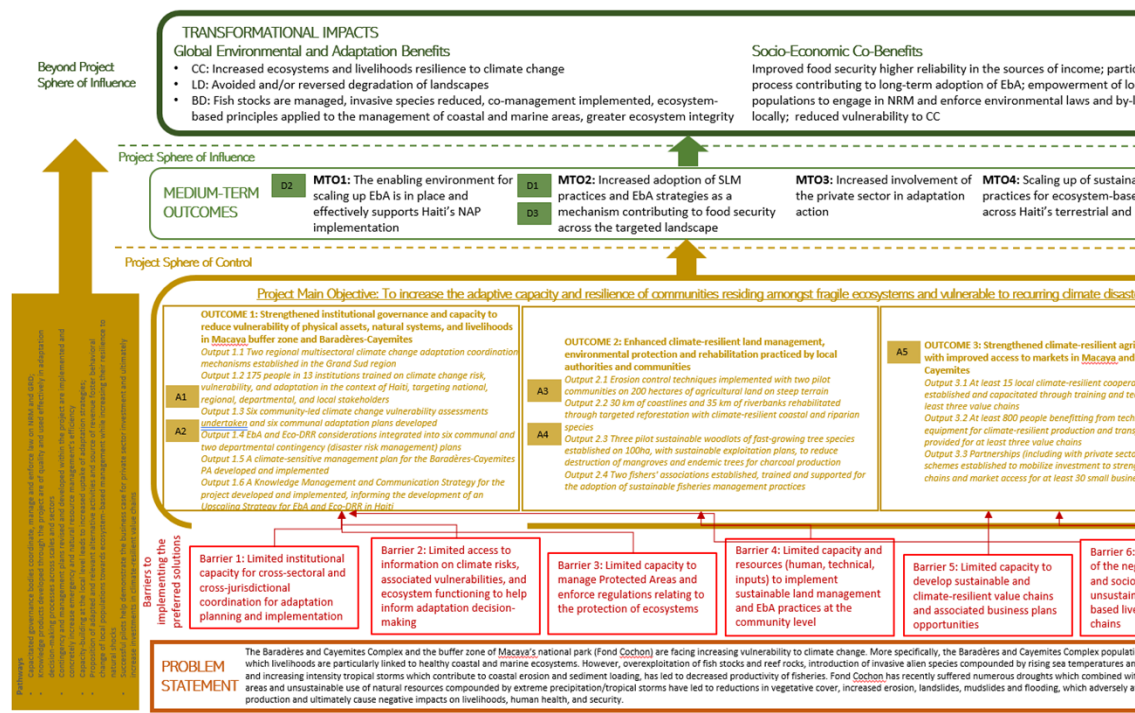


FIGURE 11 PROJECT THEORY OF CHANGE (TOC)

The project focuses on Ecosystem-Based Adaptation (EbA) and Ecosystem-Based Disaster Risk Reduction (Eco-DRR) approaches in addressing the climate change challenges and the compounding baseline drivers of vulnerability outlined above. EbA approaches use biodiversity and ecosystem services to help people and communities adapt to the adverse effects of climate change, whereas Eco-DRR entails the sustainable management, conservation, and restoration of ecosystems intended to reduce disaster risk, including in the face of extreme climate events, with the aim to achieve sustainable and resilient development. Although Eco-DRR and EbA approaches have much in common in practice, they are different ways to express the relationship between risk management and development strategies, and they often operate under different policy fora, have slightly different foci, and are often undertaken by different institutions. The project will appeal to both sets of policy actors and will integrate the language and concepts of EbA and Eco-DRR in order to build a stronger constituency of support for adaptation interventions.

Considering the importance of ecosystem-based livelihoods and the broader importance of ecosystem services in protecting and enhancing the resilience of communities to climate change impacts in rural Haiti (agriculture, fisheries, tourism), natural recovery is a key process contributing to socio-economic resilience of the population affected. Taking into account these lessons learned, this project is designed to further strengthen environmental resilience and fortify

natural buffers in order to protect and build the resilience of local communities and economic assets.

Given the topography of the targeted areas composed of mountains and coastal areas, the specific challenges communities in these sites face, and the interconnections between marine and terrestrial ecosystems, the project proposes to take a ridge-to-reef approach. This approach takes into account the impacts and flows that activities have on the varying ecosystems. UNEP has applied this approach to all its initiatives in Haiti's Southern region, as it recognizes the environmental and economic interconnectedness among upland and coastal activities and livelihoods. There are several factors which contribute to strong interconnections between these upland and coastal areas and thus to a ridge-to-reef approach, including the following:

- ? Steep topography which results in rapid and devastating run-off;
- ? Rising seas, damaging storm surges, coastal deforestation and sand mining contribute to land loss, and retreat of shoreline, with implications for upland communities and settlements;
- ? Agricultural practices and deforestation upland result in soil erosion and land degradation, with impacts on coastal communities; and
- ? Strong interlinkages (both environmental and economic) between fisheries and agriculture. Most fishing communities cannot survive on fishing alone and practice some form of small-scale agriculture upland. Poor agricultural practices and soil erosion negatively impact fisheries, forcing people into agriculture upland.

Below is a brief description of the project components and outcomes.

#### Component 1: Climate-Resilient Governance and Planning

Outcome 1: Strengthened institutional governance and capacity to reduce vulnerability of physical assets, natural systems, and livelihoods in Macaya buffer zone and Baraderes-Cayemites

Under its first component, the project proposes to strengthen adaptation governance, planning, and enforcement capacities at the regional (Grand Sud), departmental, communal, and local levels, as well as to support vertical decision-making by creating platforms to coordinate adaptation action. The project proposes to support the establishment of regional multisectoral adaptation coordination mechanisms, the development of a climate-sensitive Baraderes-Cayemites PA management plan, as well as the updating of six communal and two departmental contingency plans with a focus on hydrometeorological risks, so that there is better coordination between the management of natural resources, development of livelihoods, and rehabilitation of ecosystems, with resilience-building as a central unifying theme.

Moreover, the project will contribute to six climate change risk and vulnerability assessments at commune level, as well as the participatory identification of priority adaptation measures, which will form the basis for communal adaptation plans to be developed with support from the project. These adaptation plans could ultimately feed into communal development plans, as part of an effort to mainstream climate change adaptation. However, at this time only one of six communes of intervention of the project (i.e. Pestel) has a communal development plan in place.

Under the alternative scenario, government staff have an understanding of climate change risks, and ministries have the capacity to integrate climate resilient practices into their work programs. Community members are aware of adaptive measures that can help them cope with future climate events and put into place measures that make their livelihoods and natural resources more resilient. Communities understand how ecosystem services can be sustainably used for adaptation purposes and play a leadership role in their adaptation processes, including in enforcing environmental laws. Disaster risk-reduction measures are improved and include adaptation (EbA) measures that render communities more resilient. People become aware of how they can utilize ecosystem services to better buffer themselves from future events.

To support the upscaling of successful project approaches, a comprehensive and coherent Knowledge Management and Communication Strategy will be put in place and implemented. A systematic approach to knowledge management will ensure that lessons learnt from the project are captured and disseminated efficiently, and that good practices can be replicated and scaled up, while also integrating lessons from other projects and initiatives in the design of interventions and adapting unsuccessful practices as required to ensure future success. An Upscaling Strategy for EbA and Eco-DRR in Haiti will be developed in the last year of the project, drawing on the experiences and lessons learnt from this and other relevant projects.

Component 2: Ecosystem-based adaptation and disaster risk reduction in response to climate risks

Outcome 2: Enhanced climate-resilient land management, environmental protection and rehabilitation practiced by local authorities and communities

Under the alternative scenario, the project will have:

- ? Reduced vulnerability to climate change impacts on agricultural and fisheries productivity, and water availability;
- ? Built resilience to climate disasters to reduce loss of life, livelihoods, and infrastructure; and
- ? Engaged communities and supported community-based adaptation to promote the wider adoption of the resilience-building practices.

To achieve this, the second component of this project will focus on promoting the implementation of ecosystem-based adaptation and disaster risk reduction measures at the local level through environmental rehabilitation interventions, supported by increased environmental monitoring and surveillance (Output 1.5), as well as the development of sustainable management plans. While the first component seeks to build capacity for integrating EbA and Eco-DRR at the institutional level, the

second component will focus on environmental rehabilitation and adaptive interventions on the ground that can support communities to respond to urgent needs. The project will undertake ecosystem rehabilitation in the coastal zones of Baraderes-Cayemites, and in the buffer zones of Macaya PA, and address unsustainable soil management practices upstream which have contributed to flooding and erosion.

Component 3: Green Economy Approach for Resilient Ecosystem-based Livelihoods

Outcome 3: Strengthened climate-resilient agricultural value chains with improved access to markets in Macaya and Baraderes & Cayemites

Under the alternative scenario, community members are aware of which agricultural value chains are more resilient to climate change and are able to cultivate them more sustainably, and maintain their quality. They have greater access to markets and can transform agricultural and fisheries products to increase incomes. Communities can enjoy greater economic security in times of climate insecurity, which provides the incentive to continue with sustainable livelihood practices and to discontinue destructive practices which undermine resilience to climate change.

With GEF financing, the third component will focus on the development of a Green Economy for resilient ecosystem-based livelihood opportunities in the project areas. For resilient livelihood alternatives to be successfully implemented and adopted, it is necessary for them to result in tangible socioeconomic benefits for local populations?especially in a context where livelihoods are shrinking.

The project will take a socially inclusive approach, as the importance of integrating community and cultural buy-in into the development of green infrastructure for agricultural production and alternative livelihoods was highlighted during PPG consultations. Indeed, given the extremely important role of women in local agriculture and sustainable management of natural resources in the project sites, it is crucial to raise awareness of climate-smart agriculture among the entire community by taking into account the gender dimension in agricultural adaptation strategies and actions by training women and youth, informed by the project?s Gender Action Plan.

The proposed project?s output and activity plan is provided in the table below.

Project output and activity plan

Outcome	Output	Proposed Activities
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1. Strengthened institutional governance and capacity to reduce vulnerability of physical assets, natural systems, and livelihoods in Macaya buffer zone and Baraderes-Cayemites

Output 1.1 Two regional multisectoral climate change adaptation coordination mechanisms established in the Grand Sud region

Environmental sectoral tables are existing structures at the level of all the departments of Haiti. They are important joint coordination mechanisms, allowing the establishment of a formal framework for consultation and dialogue between state entities, notably the ministries concerned, the private sector, civil society organizations, technical and financial partners, and non-governmental organizations, for better mobilization and use of resources related to environmental management. There are also sub-sectoral tables offering a space to discuss specific environmental themes, including climate change. However, there are currently no dedicated Regional Sectoral Sub-tables on Climate Change (SSRCCs), including in the Grand Sud region, something the project will therefore support through the creation and operationalization of an SSRCC for the region. It will also support the creation and operationalization of a Regional Climate Change Committee (CRCC) for the Grand Sud.

The new structures will have complementary roles (i.e. a strategic and steering role for the CRCC, and an operational role for the SSRCC). The CRCC will be the counterpart of the CNCC at the regional level, and will help communicate national priorities to the regional level and provide strategic guidance for adaptation prioritization. The SSRCC will engage multisectoral stakeholders cited above for the region; facilitate dialogue and coordination among them on climate change issues, including between ANAP and DPC; support the validation and ownership of national policies and plans on climate change; participate in the monitoring and evaluation of environmental management; serve as a platform to disseminate climate information; and support the development of a communication strategy to promote the consideration of climate change (including EbA and other adaptation approaches) in projects and other initiatives.

The establishment of these structures is described in the 2017 revised NAPA and was proposed again during the PPG phase by MDE's Climate Change Directorate, as it is part of the strategy of the ministry to promote discussions on climate change at the regional level. To sustain this activity, these structures will be integrated directly under the purview of the Directorate of Climate Change (MDE), and this project intends to limit its intervention to supporting the initial creation and capacitation of the sub-table and committee (Outputs 1.1 and 1.2).

While under the purview of the MDE, the DPC will have a central role in the SSRCC and CRCC. Haiti's National Risk and Disaster Management System (SNGRD) is made up of a central coordinating body (the National Committee for Risk and Disaster Management, CNGRD), 10 departmental coordinating bodies (Departmental Risk and Disaster Management Committees, CDGRD) and local coordinating bodies located at the commune and communal section levels (CCGRD and CLGRD). The system is decentralized and is made up of different actors with shared responsibilities between the central government, local authorities, civil society and the general population. In this regard, the CCGRD and CLGRD will be an integral part of the adaptation coordination mechanism in the Grand Sud as

Activity 1.1.1. Draft the Terms of Reference for the Regional Sectoral Sub-table on Climate Change (SSRCC) Grand Sud and the Regional Climate Change Committee (CRCC) Grand Sud.

Activity 1.1.2. Support the establishment of a SSRCC in the Grand Sud region, made up of representatives of all sectors and actors involved in the fight against climate change in the region.

Activity 1.1.3. Support the establishment of a CRCC in the Grand Sud region.

Activity 1.1.4. Conduct a survey to assess the capacity of the members of the SSRCC Grand Sud and the CRCC Grand Sud to feed into the development of capacity-building activities under Output 1.2.



Output 1.2 175 people in 13 institutions trained on climate change risk, vulnerability, and adaptation in the context of Haiti, targeting national (MDE, MARNDR, ANAP, SEMANA, and DPC), regional (SSRCC, CRCC), departmental (decentralized services of ANAP, MDE, MARNDR), and local (CLA, CLGRD, CCGRD) stakeholders

Actors at all levels have low levels of knowledge on climate change risk, vulnerability, and adaptation requirements, which is affecting their ability to effectively integrate those aspects in decision-making. During the consultations conducted as part of the PPG phase, the following themes were identified as having critical gaps in knowledge: overall climate change risks and vulnerability; governance mechanisms to enable mainstreaming of climate issues; and the EbA approach.

The multi-stakeholder coordination bodies established under Output 1.1 will act as an interface coordinating between national, regional, and local stakeholders on climate issues (addressing Barrier 1). However, they will not immediately be sufficiently equipped to carry out this new role. Hence the need to strengthen the capacity of these actors on effective climate governance, understanding risk and vulnerability assessments, and how to achieve adaptation mainstreaming in practice. Other training needs may be identified through the capacity survey undertaken under Output 1.1, and will be addressed as needed here.

The DPC, as an active member of the climate change sub-table (SSRCC), will be in charge of disseminating and coordinating the implementation of the decisions taken by the SSRCC to its communal and local committees (CCGRD and CLGRD), hence the importance of having committees with sufficient capacity for planning and implementation. While all CCGRDs will benefit from capacity-building and trainings, particular focus will be given to the CCGRD of the Iles Cayemites. The Iles Cayemites CCGRD has lower capacity than other CCGRDs in the region, because the communal section recently became a commune, and its CLGRD was elevated to the status of CCGRD, which has different roles and responsibilities (i.e. greater emphasis on planning, as opposed to implementation). Hence, additional training is required for committee members to be more effective in the planning and coordination of EbA and Eco-DRR activities.

Moreover, these local actors responsible for communal adaptation planning will gain knowledge of the National Climate Change Policy (PNCC), the National Adaptation Plan (NAP) and the National Plan for Disaster Risk Management (PNGRD), in order to ensure coherence between national priorities and those of local plans (see Output 1.3).

A capacity needs analysis of key actors will be conducted in order to develop and deliver fully adapted content. A preliminary list of trainings is proposed on the following topics:

At national level (MDE, MARNDR, ANAP, SEMANA, DPC):

- Knowledge management for climate risks and vulnerability, generation and use of data, including use of

Activity 1.2.1. Conduct a capacity needs analysis to assess key actors? knowledge on climate change-related issues to inform the formulation of a training and awareness raising program.

Activity 1.2.2. Develop and deliver training modules on climate adaptation and key national policies and plans (i.e. National Climate Change Policy (PNCC), the National Adaptation Plan (NAP) and the National Plan for Disaster Risk Management (PNGRD)); accessing and contributing to SIEHaiti; climate risks and risk reduction measures (EbA and Eco-DRR) to improve skills and knowledge needed for climate-resilient decision-making, planning and implementation of risk management measures and EbA; and any other topic, as per capacity needs analysis, adapted to the needs of different stakeholders.

Output 1.3 Six community-led climate change vulnerability assessments undertaken and six communal adaptation plans developed

Building on the increased knowledge and awareness regarding climate risks, vulnerability, and adaptation in the context of Haiti for key stakeholders at the commune level (Output 1.2), this Output will engage in the development of communal adaptation plans for the six communes of intervention.

The project will support the generation of commune-level information on climate risk and vulnerability necessary for evidence-based adaptation decision-making. To achieve this, the project proposes to use the "Community-based Risk Screening Tool ? Adaptation and Livelihoods" (CRiSTAL), a simple and effective community-based risk analysis tool, to help communal authorities and CCGRDs, to conduct risk assessments without the continued need for expert inputs. CRiSTAL is also a project planning and management tool that helps users integrate risk reduction and climate change adaptation into their work at the community level, with livelihoods as the key entry point.

Within the framework of these studies, it is planned to train all the members of the CCGRDs on the use of the tool and to carry out with them the risk study of their respective communities by respecting the analytical stages of CRiSTAL, so that the process can be periodically replicated and adaptive management ensured, should local system characteristics (e.g. livelihoods, climate projections, ecosystem functioning) change over time. Through a participatory approach, in particular through community consultations and focus groups, the approach entails the gathering of information in the following steps: 1) Identify resources important to livelihoods, including state of ecosystems; 2) Summarize information on observed and projected climate change; 3) Describe current and potential future climate hazards; 4) Analyze climate risk; and 5) Identify and assess existing, proposed, and other potential response (adaptation) strategies.

As a second step, the project will support the participatory prioritization of adaptation options in each commune, including budgeting/investment plan, to form a central part of the communal adaptation plans. It will ensure that priorities set at communal level are aligned with national adaptation priorities. At this level, the different proposed project interventions will be assessed, revised as needed, and endorsed.

Activity 1.3.1. Provide training to CCGRDs on the use of the CRiSTAL tool for climate risk and vulnerability assessments.

Activity 1.3.2. Undertake detailed community assessments using the CRiSTAL tool to facilitate the identification and analysis of climate risks and vulnerability at the community level.

Activity 1.3.3. Develop communal adaptation plans, including prioritized adaptation options/strategies, with a focus on EbA and Eco-DRR, and budgeting.

Activity 1.3.4. Disseminate the results of the assessments and final communal adaptation plans directly to SSRCC, CLAs, and other relevant stakeholders, and contribute results of the CRiSTAL assessments to the SIEHaiti platform for wider accessibility.

Output 1.4 EbA and Eco-DRR considerations integrated into six communal and two departmental contingency (disaster risk management) plans

Technical support is needed to help the CDGRDs and CCGRDs update their contingency plans on an annual basis according to the risks related to climate change. The results of the assessments conducted under Output 1.3 at communal level will feed into the initial revisions of the plans, and the CRiSTAL module on climate risk analysis will be used to inform subsequent annual updates. In updating these plans, it is also planned to carry out simulation exercises (one simulation exercise per commune), which is a crucial element of emergency preparedness and, when carried out regularly, is a valuable tool to validate and test emergency response plans and related procedures. Also, these simulation exercises are essential to regularly train the members of the CLGRDs and CCGRDs and the population to react appropriately to disaster risk, including extreme climate events.

Activity 1.4.1. Adapt and continuously update the contingency plans of the 6 targeted communes in order to integrate risk reduction related to climate change.

Activity 1.4.2. Adapt and continuously update the contingency plans of the 2 targeted departments in order to integrate risk reduction related to climate change.

Activity 1.4.3. Provide training for CLGRDs and CCGRDs on local procedures, preparedness and management of climate risks, and an introduction to locally suitable EbA and Eco-DRR approaches, including simulation exercises for emergency preparedness.

Output 1.5 A climate-sensitive management plan for the Baraderes-Cayemites PA developed

The project proposes to support the development of the management plan of the Baraderes-Cayemites Complex PA, in a participatory manner, and to mainstream EbA and Eco-DRR throughout the document. Close coordination will be undertaken with IDB to adopt best practices and approaches, as per their experience in developing the PA management plan of the Macaya PA.

The Baraderes-Cayemites PA management plan will be complemented by an environmental monitoring plan, developed with the participation of MDE, PNH, peace courts, local authorities and CLA members.

To support the implementation of these plans, the project also proposes to build on the recently closed UNDP EbA project (GEF ID 5380), which facilitated the creation of local support committees (CLAs) as part of its intervention in the Baraderes-Cayemite Complex. The Terminal Evaluation of the project found that CLAs were a very good local tool for monitoring the implementation of activities and the sustainability of the results with a view to better impact in the long term, but that the project had only succeeded in creating one fully functional CLA in Baraderes. Therefore, in the interest of continuity, this project intends to strengthen these already existing structures, and to support their integration under ANAP and local authorities. Thus, the CLAs will be technically equipped and trained to fulfill their role in the monitoring (and protection) of the PA and will be one of the key elements of the governance mechanism of the PA.

The project will support the elaboration of the TOR that will establish the selection criteria for the environmental officers, whose primary responsibilities will be to monitor the PA and enforce relevant environmental laws. The project will then proceed to their recruitment from the list of volunteer candidates. Then, the project will build the capacities of these officers according to the selected training themes, such as environmental laws, leadership, and conflict management, as well as a focus on EbA. The project will prioritize the establishment of checkpoints in strategic areas in mangroves, with regular patrols by the environmental officers. Enhanced surveillance/monitoring capacity will be the core of the strategy to support Assisted Natural Regeneration (ANR) of mangroves in the Baraderes-Cayemites Complex, over an estimated area of 1,846ha. The equipment required to enable ANR through the work of the environmental officers will be provided through the project.

To support the long-term sustainability of the intervention, the project will conduct awareness raising of the general public, with a particular focus on youth (high school and university), members of CBOs, and the population in general through local radio stations. The main objective of this activity is to enable the local population to have a good understanding of the importance of the protected area as well as its ecosystem benefits, and the role of effective PAs in improving the resilience of biodiversity and local communities. Special attention will be given to the promotion of mangroves and other conservation priorities identified in the Baraderes-Cayemites complex, highlighting their benefits at the local and national level. In order to reach

Activity 1.5.1. Develop the climate-sensitive management plan for the Baraderes-Cayemites Protected Area, including micro-zoning in consultation with ANAP, other stakeholders and local communities; and an environmental monitoring plan for the Protected Area with the participation of MDE, PNH, peace courts, local authorities and CLA members.

Activity 1.5.2. Provide PA management training to strengthen CLAs in the Baraderes-Cayemites Complex.

Activity 1.5.3. Provide training and equipment for 24 CLA officers at 12 strategic checkpoints of mangrove areas on the role and duties of an environmental officer, environmental laws, leadership, and conflict management.

Activity 1.5.4. Deploy an awareness campaign through local media, schools, universities, and CBOs to raise awareness communities of the purpose and importance of the Baraderes-Cayemites Complex PA and its sustainable management.

Output 1.6 A Knowledge Management and Communication Strategy for the project developed and implemented, informing the development of an Upscaling Strategy for EbA and Eco-DRR in Haiti

The project will develop, in its first year, a comprehensive Knowledge Management and Communication Strategy. The Strategy will outline the way in which the project will address all issues pertaining to generating new knowledge; capturing and disseminating experiences and lessons learnt; and communicating effectively with all relevant stakeholders including disseminating knowledge products, successful coordination with other projects and initiatives, and raising awareness of issues relevant to achieving the project objective. The Knowledge Management and Communication Strategy will ensure that knowledge generation and management will be systematically integrated across the project.

The project's knowledge management approach will support the identification of lessons learnt, which will feed directly into the development of an Upscaling Strategy for EbA and Eco-DRR in Haiti in the last year of the project. The Upscaling Strategy will draw on the experiences and lessons learnt from this and other relevant projects.

Activity 1.6.1. Develop and regularly update a Knowledge Management and Communication Strategy for the project, including knowledge generation, packaging and dissemination.

Activity 1.6.2. Capture new knowledge and lessons learnt from the project, develop and disseminate knowledge products, organize awareness-raising and outreach events, and undertake other knowledge management and communication activities as identified in the Strategy developed under Activity 1.6.1.

Activity 1.6.3. Undertake a stocktaking of lessons learnt on EbA and Eco-DRR from this and other recent projects, and develop an Upscaling Strategy for EbA and Eco-DRR in Haiti, identifying possible governance mechanisms as well as public, private, national and international financial sources for its implementation.

2. Enhanced climate-resilient land management, environmental protection and rehabilitation practiced by local authorities and communities

Output 2.1 Erosion control techniques implemented with two pilot communities on 200 hectares of agricultural land on steep terrain

Recent tragedies have created some awareness in Southern Haiti that thriving ecosystems can reduce the risks that people face. Hence, in the context of a ridge-to-reef approach, it was established over the course of consultations during the PPG phase that there is a need to address the main causes of soil erosion that occur on the plateaus.

Small local organizations in Southern Haiti have begun, through support from UNEP, reforesting ravines and gullies so as to protect coastal communities, which directly experience sedimentation and runoff given the rains or winds. Several other organizations (e.g. UNDP, MARNDR) have also undertaken initiatives involving soil conservation and restoration techniques, and water and soil conservation (e.g. stone lines, cropping along contour lines, dikes, reforestation, terraces), and there is therefore a wealth of experience and lessons learnt that the project will seek to build on.

Building on good practices identified through the vulnerability assessments and the experience of other initiatives in the region, the project will focus on reducing erosion upstream from coastal areas on agricultural land. Erosion control schemes for the Fond Cochon and Pestel areas will be developed and implemented. The process to be undertaken to develop these will include:

- a. Initial diagnostic (a) expert/technician identifying priority intervention areas based on maps, statistics, climate, etc. and identification of lessons learnt/good practices from other interventions in the area, and (b) self-diagnostic of local agricultural producers/producer organizations;
- b. Participatory selection of anti-erosion measures to be implemented, based on climate risk (as assessed through vulnerability assessments in Component 1), biophysical site characteristics, availability of materials, evidence of success in similar sites, possibility of co-benefits for local livelihoods such as introduction of crops and trees with revenue generating potential, costs, etc.;
- c. Identification of the implementation strategies, including identifying the organizational set-up, and establishment of roles and responsibilities for the maintenance of the works, as well as clarifying ownership (e.g. if there is no individual ownership, whether there is a need for new management rules for exploitation of newly-planted trees; or if the producer is the owner of the plantations)

This will consolidate and scale out on these plateaus good practices for the restoration of the landscape and reduce erosion, gullying, and flooding exacerbated by the variability of rainfall and extreme weather events resulting from climate change. This will in turn increase/restore soil productivity, reduce sedimentation and runoff downstream, and reduce the vulnerability of the population of Pestel and Fond Cochon, which were particularly affected by the devastating earthquake of August 14<sup>th</sup> 2021.

At the time of the PPG, it was envisioned that the organizational set-up around the implementation of the works will be based primarily on High Intensity Labor

Activity 2.1.1. Conduct an initial diagnostic study to inform the development of the erosion control schemes in Fond Cochon and Pestel.

Activity 2.1.2. Develop erosion control schemes in Fond Cochon and Pestel.

Activity 2.1.3. Implement soil conservation and restoration techniques in Fond Cochon and Pestel.

Output 2.2 30 km of coastlines and 35 km of riverbanks rehabilitated through targeted reforestation with climate-resilient coastal and riparian species

The project will proceed to the reforestation of 30km of coastlines and 35km of riverbanks in the areas of intervention. The selection of the intervention sites and identification of suitable climate-resilient coastal and riparian species will be conducted as a first step through a diagnostic study, including a participatory component to help engage local communities. Good practices, where they exist, will be replicated and scaled out, including those from the UNDP EbA project and those piloted by UNEP in the region. At least one nursery will be set up to provide the seedlings necessary to the reforestation works.

The rehabilitation work of coastlines and riverbanks will take a similar approach to that of Output 2.1, with priority on Barad?res, Corail, Roseaux, and Pestel. For this purpose, working groups of 20 people will be formed to carry out the work in the different areas selected. Each group of people will be composed of 7 women and 13 men (including young people).

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Activity 2.2.1. Undertake a diagnostic study for the identification of priority coastline and riverbank rehabilitation sites and intervention types.

Activity 2.2.2. Develop an action plan for the rehabilitation of coastlines and riverbanks.

Activity 2.2.3. Establish a nursery to provide seedlings of climate-resilient coastal and riparian species for the reforestation works.

Activity 2.2.4. Implement appropriate soil stabilization approaches (vegetation) to stabilize 30 km of coastline and 35 km of riverbanks and reduce water and wind erosion, including providing necessary equipment to working groups.

Output 2.3 Three pilot sustainable woodlots of fast-growing tree species established on 100ha, with sustainable exploitation plans, to reduce destruction of mangroves and endemic trees for charcoal production

Under this output, the project will tackle the issue of charcoal production, which is at the heart of deforestation and increasing people's physical vulnerability to climate events. To date, attempts to cope with chaotic and unregulated forest energy supply chains, especially charcoal, often include strict legal directives aimed at banning charcoal production and trade without supporting alternatives. These are unenforced and do little to impact the volume of charcoal produced or the pressure that it puts on Haiti's natural resources. Recognizing the continued demand for charcoal, the project will establish community-managed woodlots for sustainable charcoal production by planting fast-growing, climate-resilient native trees on deforested land. This type of initiative has been piloted by a local NGO (OREB) and producers' association in Maniche at a small-scale level with great success, and by the Organization for the Rehabilitation of the Environment (ORE) in Port-a-Piment. It is following an analysis of this model by UNEP, who have monitored this for over three years, and investigation of its possible replication at a larger scale, that this intervention is being proposed[7]<sup>2</sup>. The local knowledge, experience and potential skills do exist for necessary capacity building and training within the region of the South.

There is a strong gender component to issues related to charcoal. Generally, women are responsible for selling charcoal in small retail quantities for daily consumption. Women may also be heavily involved in the production and wholesale of charcoal, including trade to depots and coordination of sales amongst multiple producers. These women tend to rely heavily on charcoal as their main source of income. Through the establishment of woodlots and support for alternative livelihoods in the target areas, the project intends to improve their economic options and direct them towards alternative livelihoods where possible, as well as to provide a sustainable option for involvement in the charcoal supply chain. During the implementation of the woodlots, 50 percent participation of women will be targeted during the nursery, planting, maintenance and harvesting phases.

The project proposes to plant 100ha of land with fast-growing endemic forest trees for the sustainable production of charcoal, energy wood, and timber to cope with the deforestation of mangroves by charcoal makers, as well as the extensive deforestation which occurred as a result of Hurricane Matthew in 2016. The woodlots will be established in the commune of Barad'res, where there is very high demand for firewood linked to rum and clairin production (preliminary identification of potential sites presented in Figure 1). The project proposes to take the following approach in each of the sites for the production of seedlings:

a) Identification of sites for the establishment of nurseries. The choice of the sites constitutes a preliminary step and can be done only through field visits in all the communes and targeted sections to identify the suitable zones (accessibility, presence of a water point, local manpower etc.) for the

Activity 2.3.1. Undertake a diagnostic study for the identification of intervention sites.

Activity 2.3.2. Establish nurseries for fast-growing endemic species and provide required planting materials.

Activity 2.3.3. Develop sustainable exploitation plans for the woodlots.

Activity 2.3.4. Establish community-managed woodlots for sustainable charcoal, energy and timber production by planting 100 hectares of fast-growing, climate-resilient native trees on deforested land in Barad'res.

Activity 2.3.5. Provide community training for the operation and maintenance of the woodlots.



Output 2.4 Two fishers' associations established, trained and supported for the adoption of sustainable fisheries management practices

Fishing is a central economic activity in the area, yet it is suffering setbacks from unsustainable practices. Overfishing and destructive fishing practices (especially on coral reefs) are commonplace, accentuated by the use of inadequate equipment, lack of knowledge on sustainable techniques, and low prices obtained for products. To address this, the project proposes to assist the creation of fishers associations/cooperatives, which will form a platform to develop sustainable management plans in a participatory manner, promote appropriate practices, and enhance the price negotiation power of fisherfolk. When relevant, these will be integrated into the Baraderes-Cayemite PA Management Plan under Output 1.5.

In order to increase the adoption of sustainable fisheries management in the Baraderes-Cayemites complex, the project will focus on providing training to local fishers, by leveraging local knowledge. Indeed, in the commune of Roseaux, fishing is well organized compared to the other communes of the Baraderes-Cayemites complex. The association of fishermen of Roseaux will be supported to provide training to the other fishermen of the communes of the complex, especially Corail.

The invasion of lionfish has been felt in all the sites of the Baraderes-Cayemites complex for more than twenty years, according to the fishermen, which is adversely affecting fish populations, biodiversity, and incomes of local populations. Fishermen do not currently have adequate knowledge on how to catch this species. With time, they use their own techniques to capture them through fishing with nets, lines and guns. The fish causes a lot of damage to the marine ecological balance by eliminating the herbivorous fish that clean the coral reefs. To fight against this phenomenon, fishermen intend to mobilize across the six coastal municipalities of the complex to form well-trained groups against lionfish. In fact, in a report published in December 2020, UNDP identified the ongoing monitoring and systematic removal of lionfish from the Baraderes-Cayemites Complex coral reef ecosystems, as well as from surrounding waters, as a top management priority to increase the resilience of the ecosystem and the communities that depend on it for their livelihoods.

Activity 2.4.1. Support for the establishment of two fishermen's cooperatives/associations in the Baraderes-Cayemites Complex.

Activity 2.4.2. Develop and implement a training program on all aspects of the sustainable fisheries management plans, including sustainable catches, less destructive fishing practices, and use of the new equipment provided.

Activity 2.4.3. Develop sustainable fisheries management plans.

Activity 2.4.4. Provide improved fishing gear and equipment for the commercialization of products (e.g. scales) and training on their use.

Activity 2.4.5. Training of fishermen and communities in lionfish management.

<p>3. Strengthened climate-resilient agricultural value chains with improved access to markets in Macaya and Baraderes &amp; Cayemites</p>	<p><u>Output 3.1 At least 15 local climate-resilient cooperative businesses established and capacitated through training and technical support, for at least three value chains</u></p> <p>Under this output, the project will support the establishment of climate-resilient cooperative businesses, as well as the development of key business management skills, as identified as key needs in the intervention areas during the PPG phase. The project will support at least three value chains, which are at the time of the PPG proposed to be:</p> <p><b>Yam:</b> Yam is the country's fourth most important cash crops. Nearly 30,000 hectares are cultivated with yams in the country, of which Grand?Anse is one of the main production basins. According to the population, it is a crop that is very resilient to climate change and the passage of hurricanes. In the yam value chain, strengthening the organization of producers and their managerial capacity is essential to increase product quality and access to markets. For this activity, a series of training sessions will be undertaken with the producers of Pestel, Corail, Roseaux and Barad?res on the functioning of agricultural markets, the calculation of the operating account, and the determination of fair prices for agricultural products.</p> <p>At the time of the PPG, it was identified that <b>market gardening</b> (see description under Output 3.2 below) would also require support to the organizational and financial aspects of the producers (operational accounting).</p> <p>Moreover, to facilitate a wider contribution of the <b>cassava</b> value chain (see description under Output 3.2 below) in the economy of the area, the project intends to provide technical support to business plans which integrate the issue of marketing of products.</p>	<p>Activity 3.1.1. Develop a strategy to engage with the private sector in a value chain-specific manner, where the role of the private sector, producer organizations, and community-based organizations will be identified and coordinated at various stages of production, according to their expertise.</p> <p>Activity 3.1.2. Provide technical support for establishing cooperative climate-resilient businesses to support the organization of producers.</p> <p>Activity 3.1.3. Provide technical support for the development of sustainable business plans for selected cooperative climate-resilient businesses through local business advisors.</p> <p>Activity 3.1.4. Deliver a training program on financial literacy and business management skills for selected cooperative climate-resilient businesses.</p>
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Output 3.2 At least 800 people benefitting from technical support and equipment for climate-resilient production and transformation technologies provided for at least three value chains

As a first step, to build interest and understanding on climate-smart agriculture (i.e. climate-resilient production in the agricultural sector), the project will provide 5-day training sessions, which will be planned, coordinated and implemented by the MARNDR through its extension services and other specialists according to the following topics that will be addressed: i) Definition of CSA and its history; ii) Climate change, its causes and consequences and its links with agriculture; iii) Climate smart agriculture ? general presentation and examples of good practices; and iv) Review of the main agricultural value chains in the area and pre-identification of climate-smart agriculture options.

Below the specific activities relating to three key value chains, as identified during the PPG phase, are presented:

**Market gardening:** Consultations with women's groups in the Barad?res-Cay?mites Complex highlighted the need to support increasing household income through the introduction of new cultivation techniques and the diversification of market garden crops best suited to the changing climate. The objective of this activity is to strengthen the knowledge of the farmers on the climate-smart cultivation techniques. Within the framework of this project, 120 families will benefit from the establishment of 120 ?*Jardin Lakou*? of 100 m<sup>2</sup> (one garden per family). The *Jardin Lakou* is a local multi-purpose, multi-layer agroforestry system. The persons in charge of the gardens will be exclusively women. This activity will be carried out in several stages: a) Identification and selection of beneficiary families (in collaboration with the communes? state commissions), based on the following criteria: be in need of support and show interest in engaging in market gardening; commit to the use of agroecological products (less use of chemical products); have the human resources to manage the production and marketing of products; have an adequate perimeter for market gardening (close to a water source, suitable for vegetable production - loose, non-toxic seedbed, sheltered from prevailing winds and flat against erosion, easily accessible); b) Diagnosis to identify the support needs in each perimeter (development, inputs and materials, technical capacity building of beneficiaries, etc.); c) Development and installation of water towers for rainwater collection; d) Provision of small agricultural equipment consisting of market gardening kits (hoes, connectors, transplanters, rakes, watering cans, etc.) and seeds for all the beneficiary families selected. On the basis of local experiences, the seeds that can be distributed will generally include tomatoes, African eggplants, potatoes, onions, carrots, turnips, cabbages, calaloes, okra, peppers, spinach, cucumbers, etc.; e) Organization of training sessions for beneficiaries, and f) Close technical monitoring at the perimeter level.

During the implementation of the project, the women beneficiaries could be trained on cultivation techniques, grafting techniques, soil fertility management, composting, bio-pesticide production and organizational dynamics. This knowledge will help improve plot management and crop yields. The training will emphasize learning by doing.

Activity 3.2.1. Administer 5-day training sessions for small-scale producers, planned, coordinated and implemented by the MARNDR through its extension services and other specialists on climate-smart agriculture.

Activity 3.2.2. Undertake the participatory identification of beneficiaries and their support needs for three value chains with respect to technical support and equipment for climate-resilient production and transformation technologies.

Activity 3.2.3. Technical support, training, and provision of equipment for climate-smart vegetable production through the creation of 120 x 100m<sup>2</sup> *Jardins Lakou* and the installation of rainwater storage systems.

Activity 3.2.4. Support the establishment of cassava processing facilities (one large facility and 30 small family cassava processing units), and strengthen the existing facility in Corail.

Activity 3.2.5. Equip and develop with groups of fishers and fish traders solar storage and processing technologies.

Output 3.3 Partnerships (including with private sector) and financing schemes established to mobilize investment to strengthen resilient value chains and market access for at least 30 small businesses

Savings and credit groups based on the solidarity mutual (MuSo) model have been developing in rural Haiti for the past fifteen years. Designed to provide basic financial services to their members, who are largely excluded from the traditional financial system, these mutuals are also intended to promote the structuring of the environment in which they develop. More specifically, a MuSo is a group of people from the same locality who have decided to join to manage a simple, flexible and supportive system, based on three clearly identified funds: a green fund collects contributions, the accumulated amount of which constitutes the credit fund. These savings are recoverable, particularly at the time of retirement. A red fund collects non-recoverable contributions and serves as an emergency fund (fire, illness, etc.). A blue fund can (among other services) receive external financing. This project will technically support the creation of two MuSo in the two cassava processing communities (see Output 3.2) to support the financial needs of these community and individual enterprises. As part of the creation of these MuSo, the project intends to provide a small operating fund to increase the volume of loans that the MuSo will grant to its members.

Moreover, the project will organize a forum to connect small businesses across different value chains with different value chain actors, including potential private sector investors. The project will perform through this platform negotiation and advocacy functions with banks and microfinance agencies to obtain lines of credit for the financing of working capital necessary for the implementation of production, collection, processing and marketing operations of products, for businesses which will have previously demonstrated having viable business plans for climate-resilient value chains.

Activity 3.3.1. Undertake a diagnostic study to assess the private sector partners, beneficiaries, needs, and relevant financing schemes for resilient value chains (referred to the Green Economy Assessment).

Activity 3.3.2. Establish two solidarity mutuals for cassava processing communities.

Activity 3.3.3. Organize a forum to connect small businesses to potential private sector investors (in line with private sector engagement strategy developed under Output 3.1).

The LDCF project is aligned with the GEF Programming Strategy on Climate Change Adaptation for the LDCF and SCCF (2018-2022). The Table below shows the following objectives and outcomes addressed in the project.

TABLE 6: LDCF STRATEGIC OBJECTIVES MET BY THE PROJECT

LDCF strategic objective	Key project outputs	Description of the activities
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<p>1. Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation</p>	<p>2.1; 2.2; 2.3; 2.4; 3.1; 3.2; 3.3</p>	<p>Institutional capacities regarding climate change will be strengthened</p> <p>The proposed project plans to pilot improved EbA and Eco-DRR interventions to increase the resilience of vulnerable communities in areas prone to climate disasters. It seeks to upscale innovative approaches such as developing sustainable fast-growing wood production for charcoal consumption to counter deforestation. It will also establish native nurseries, the first of their kind in the target zones (Component 2). Technical support will be provided to develop climate-resilient value chains</p> <p>Investments in green economy initiatives seek to bolster people's livelihoods through sustainable means. The goal is to enhance people's incomes so that they do not have to rely on deterioration of resources to survive. Investments in green economy also seek to increase the value of ecosystems and what they provide, providing incentives to communities to protect them (Component 3).</p> <p>Strengthened marine and terrestrial ecosystems as supported by sustainable agriculture, improved soil management, and fishing practices seek to bolster natural resource assets so that they may be more resilient to climate change impacts, and recover more quickly from devastating climate events (Components 2 &amp; 3).</p>
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<p>2. Mainstream Climate Change Adaptation and Resilience for Systemic Impact</p>	<p>1.1; 1.2; 1.3; 1.4; 1.5</p>	<p>This project seeks to ensure that activities are anchored into governance structures to ensure sustainability. In order to do this, Component 1 will support the development communal adaptation plans, as well as of a climate-resilient community-based management plans for the protected areas, which will be drafted in collaboration with MDE and ANAP, and will integrate adaptation considerations. These interventions will also be geared to capacitate the fledgling Protected Areas agency so that they may replicate practices across different areas in the country, and harmonize approaches within their own activities.</p> <p>The PA management plan development will include cross-government parties such as MDE, MARNDR, DPC, MDT, as well as communal and departmental representatives, to promote climate-adaptive planning as part of their work and initiatives. Component 1 will provide training on EbA and Eco-DRR to key government staff at all levels, as well as communities.</p>
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The project will also contribute to GEF's Private Sector Engagement Strategy throughout its Component 3 (Output 3.3) by organizing a forum to connect small businesses to potential private sector investors fostering the establishment of multi-stakeholder platforms to drive systemic transformations.

The project is also in line with the United Nations Environment Programme Medium-Term Strategy for Tackling Climate Change, Biodiversity and Nature Loss, and Pollution and Waste (2022-2025). This project will contribute to the strategy objectives related to climate stability and living in harmony with nature. The project is therefore expected to contribute to the climate stability related outcome which is "government and non-government development actions are compatible with the long-term mitigation and resilience goals of the Paris Agreement" as well as helping to fulfil the Nature Action outcome "recovery of nature occurs and is contributing positively to human well-being".

5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

Below is a description of the additional cost reasoning, describing the LDCF investment and contributions from the baseline projects providing co-financing. Complementarities with other baseline projects, without co-finance, has been presented under the Baseline Scenario above.

Outcome 1: Strengthened institutional governance and capacity to reduce vulnerability of physical assets, natural systems, and livelihoods in Macaya buffer zone and Baraderes-Cayemites

Additional cost reasoning

To achieve Outcome 1, the project will as a first step address Barrier 1 and support the establishment of multisectoral climate change governance mechanisms in the Grand Sud region, which will help better plan and coordinate adaptation action in the areas of intervention. This will contribute to successfully promoting the adoption of adaptation actions and address the pressing needs of vulnerable communities, by anchoring the project's initiatives in effective governance structures. The project will enable the expansion of the presence of the Climate Change Directorate in the Grand Sud, whereas before there were little on-the-ground activities in the region. The investments to create a presence in the Grand Sud demonstrate the political will and the coherence of programming and funding that is taking place in the Grand Sud region of the country. Similarly, ANAP is in the process of establishing an 'ANAP Sud' office to directly manage the new protected areas, and will be an active partner of the project.

Subsequently, the project will assess institutional capacity-building needs, and develop training programs to address needs as they relate to climate risk, vulnerability, and adaptation mainstreaming (addressing Barrier 2). This will ensure there is sufficient technical knowledge within key institutions to take action on climate change, and support evidence-based decision-making.

At commune level, the project will support the development of adaptation plans. This will entail carrying out climate risk and vulnerability assessments to identify the impacts of climate change on food security, water, energy, security, and livelihoods, including a gender analysis. The studies will provide insights into communities' vulnerability to the adverse impacts of climate change and their adaptive capacity. The outcomes of the assessments will help to identify, assess, and develop management actions that can be implemented to reduce vulnerability and to identify best adaptation interventions according to each site. They will therefore also inform activities under Components 2 and 3 of the project.

EbA and Eco-DRR considerations will be integrated into DRR planning at the departmental and communal levels, through regular updates of relevant plans and inclusion of up-to-date climate information and risk assessments. This will ensure greater preparedness in case of emergencies, and capacity to respond accordingly to frequent climate hazards in the south of Haiti.

Finally, in response to needs for better management of ecosystems to ensure continued delivery of adaptation services (addressing Barrier 3), the project will contribute to developing the Baraderes-Cayemites PA management plan, and mainstreaming adaptation considerations within it. Furthermore, it will support enforcement of relevant environmental regulations by capacitating 24 environmental officers at 12 strategic checkpoints of mangrove areas. This will in turn help reduce the vulnerability of coastal communities and their livelihoods to climate threats.

#### Co-financing

Co-financing for Component 1 will come from:

? The IDA project entitled 'Strengthening Disaster Risk Management and Climate Resilience Project' will provide USD278,571 in co-financing through its Component 1: Strengthening Disaster Preparedness and Emergency Response Capacity and Promoting Building Regulation and Resilient

Construction Practices (Total Cost USD8 million). The project's Sub-Component 1.1 ? Strengthening Disaster Preparedness, and Emergency Response Capacity, and Disaster Risk Data Management (Total Cost USD6.5 million) will strengthen 140 CCGRDs' emergency preparedness and response capacities, improve EWS, and strengthen the management of the CCGRD and shelter networks. This will be done by, inter alia: (i) building the capacity of the country's CCGRDs through the provision of a standardized training program to respond to disasters with integrated emergency response plans and protocols; (ii) designing a national early warning system and communication strategy with approved and adopted protocols adapted to local conditions; (iii) carrying out school-based risk education technical assistance and simulation exercises targeted to children, teachers and school directors to encourage appropriate behavior; and (iv) carrying out capacity building activities and development of risk data management tools for the DPC aimed at improving CCGRDs' and shelter management. All of these activities will include awareness raising on the long-term effects of climate change and the different adaptation and mitigation measures available. These activities, when implemented in the 6 communes of intervention of this LDCF project, will contribute to the achievement of Outcome 1, in particular as it relates to increased capacity for emergency preparedness, training programs and protocols, and complement the LDCF project's awareness raising on the risks and vulnerabilities to climate change and the adaptation and mitigation measures available at community level. The training provided by the LDCF project will be designed to complement that of the IDA project, and can strengthen it in particular through a focus on EbA and Eco-DRR approaches. Furthermore, the information generated by the CRiSTAL climate risk and vulnerability assessments can support the enhanced integration climate change aspects in the interventions of the IDA project in the 6 shared communities.

? The project entitled "Post-earthquake 2021 recovery: resilient agriculture and sustainable school feeding in the Grande Anse department" will contribute USD1,428,570 in co-financing for LDCF project Component 1. It is well aligned with the LDCF project through its first objective (?Household agricultural production is boosted?), in particular with respect to its Activity 1.1.1 ?Consolidation of the diagnosis of the effects of recent natural disasters (< 5 years) on agricultural production in Grande Anse?; and Activity 1.1.2 ?Identification of priority rehabilitation or reconstruction works of productive assets and marketing means of communities?; which contribute to the understanding of vulnerability to climate hazards and the prioritization of actions which have adaptation benefits and can be integrated in the adaptation planning processes supported by the LDCF project. Moreover, the FAO project will provide training for departmental and communal agricultural staff, in order to enhance their capacity to support agricultural producers, in complement to the work done by the LDCF project on climate adaptation.

Outcome 2: Enhanced climate-resilient land management, environmental protection and rehabilitation practiced by local authorities and communities

Additional cost reasoning

Under Component 2, the project will seek to build resilience to climate change hazards and risks through an ecosystem-based adaptation and disaster risk reduction approach, which will promote solutions that improve local livelihoods while reducing disaster risk and vulnerability to climate



change. The piloting of climate-resilient management and rehabilitation activities under Component 2 will be undertaken through a participatory process. The activities will complement Component 1 activities (e.g. identification of specific climate risks and hazards, current failures in managing them, and possible strategies to address them), and focus on training (including on the benefits of the rehabilitation activities), awareness-raising, and learning-by-doing approaches, to encourage the wider uptake and up-scaling of these practices. The Component 2 activities will be fine-tuned according to the findings of the vulnerability assessments conducted under Component 1, to ensure that specific risks are being addressed by the interventions proposed.

#### Co-financing

Co-financing for Component 2 will come from:

? The ?KLIMA Grand Sud - Konbit pou Lite kont Chanjman klimatik nan Grand Sud d'Ha?ti? project will provide USD89,989 of co-finance to Component 2, through work in the Grand?Anse department on the restoration of resilient ecosystems "carbon sinks" through the establishment of sustainable energy forests (EDF) on lands too fragile and exposed to climate risks and the transition to a carbon-neutral energy supply. This will contribute to Outcome 2 of this LDCF project and reduce pressures on the environment associated with the overexploitation of forested areas for woodfuel. Exchange of experiences and lessons learnt between the two projects in this area will be of particular relevance for the implementation of LDCF project Output 2.3 on the establishment of sustainable woodlots to reduce deforestation for charcoal production.

? The ?PITAG Program? (Programme d'Innovation Technologique en Agriculture et Agroforesterie; Technological Innovation for Agriculture and Agroforestry Program) will provide USD1,146,322 in co-financing to Component 2 through interventions in the department of Grand'Anse through applied research and training for the development and adaptation of sustainable agricultural technologies. PITAG program Component 2 finances: (i) applied and adaptive agricultural research projects developed and implemented by national and/or international institutions, in order to create, improve and/or adapt innovative, profitable, and sustainable agricultural technologies that will enhance the supply of technological options available to farmers; and (ii) strengthening of the higher education curriculum to improve applied and adaptive research and technology transfer capabilities. The LDCF project will be able to leverage the new adaptation technologies and knowledge created through PITAG, and scale up those interventions. The results of Component 2 of PITAG will progressively provide input for the approaches promoted by Component 2 of the LDCF project. Furthermore, the LDCF project can support the strengthened integration of climate change considerations in PITAG program activities through the new knowledge generated (e.g. from the climate risk and vulnerability assessments), as well as through its training activities and sharing of experiences and lessons learnt.

? The ?AVETI Project? (Adaptation climatique et valorisation ?conomique des fili?res agricoles en Ha?ti; Climate Adaptation and Economic Development of Agricultural Sectors in Haiti), which works in Grand'Anse department will bring USD3,270,131 in co-financing to Component 2 through its work on increasing the resilience to climate change of agricultural production, in particular for the benefit of women and youth, in full alignment with the work of this LDCF project on climate-smart agriculture.

? The project entitled "Post-earthquake 2021 recovery: resilient agriculture and sustainable school feeding in the Grande Anse department" will contribute USD2,857,140 in co-financing to LDCF project Component 2. Specifically, it has as Results 1.1 ?Productive assets of households and communities as well as their means of marketing agricultural and food products damaged by recent natural disasters are sustainably rehabilitated?; and 2.1 ?Food production and its accessibility is increased, diversified and less subject to natural hazards?. It will therefore work on complementary or similar activities, where synergies can be exploited and scaling up achieved. These include, in particular, Activity 1.1.3 Organization and implementation of the selected rehabilitation worksites, in particular with cash for work, for the benefit of the affected households (priority to vulnerable households and women and youth) and communities; 1.2.1 Purchase and distribution of targeted agricultural inputs (seeds, tools, fertilizers, small livestock, etc.) to households and communities affected by recent natural disasters; 1.2.2 Technical assistance to producers affected by the earthquake to increase the efficiency of the use of the distributed inputs; 2.1.1 Identification of promising commodity chains for local and regional food security and marketable agricultural production adapted to the environment, based on an agro-ecological approach, with income potential; 2.1.2 Identification of support activities to be provided to households to increase production in the selected sectors and their implementation; 2.1.3 Identification of the developments, works and cultivation practices to be carried out to increase the resilience of the agricultural system; 2.1.4 Organization and implementation of the development worksites related to Activity 2.1.3, in particular with the possibility of cash for work for the benefit of the households (priorities to vulnerable households and women and youth) and affected communities; 2.1.6 Training in agroecology/organic farming and/or ecosystem restoration methods; and 2.3.1 Identification and implementation of infrastructure and equipment improvement works for the Departmental Directorate of Agriculture (DDA) and the Communal Agricultural Offices (BAC). Synergies between the two projects can be exploited and scaling up achieved through the implementation of rehabilitation activities at different sites, in particular with cash for work, for the benefit of the affected households.

Outcome 3: Strengthened climate-resilient agricultural value chains with improved access to markets in Macaya and Baraderes & Cayemites

Additional cost reasoning

Poor agricultural management practices are central to the climate vulnerability of farmers in the areas of interventions. PPG consultations highlighted the need to build the capacity of local organizations and agricultural producers climate-smart agricultural production, and on climate-resilient agricultural value chains more broadly. Moreover, the PPG phase underscored the limited understanding of the potential economic value of climate resilient livelihoods linked to ecosystem services, in particular for agriculture.

Training and technical support will be provided for strengthening selected value chains in the project areas, with the view of improving land management practices and access to markets. The project will also work all along the value chains to ensure that resilient practices are incorporated at all levels. The project will support the production of by-products that can be used and transformed along the value chain. The intervention strategy under this outcome will be to provide Green Economy opportunities

for communities to develop not just immediate agricultural markets, but also to promote transformation of by-products to yield higher returns, providing an incentive to manage and sustain natural resources. This will respond to the urgent need for livelihood opportunities, decreasing levels of poverty, and reducing pressures on natural resources.

Under Output 3.3, the project will foster partnerships and financing schemes necessary for the strengthening of the selected resilient value chains and market access. Partnerships with private sector actors, including banks and micro-finance providers, will be value chain-specific and will involve an inclusive strategy of intervention where the role of the private sector, producer organizations, and community-based organizations will be identified and coordinated, according to their expertise.

During the PPG phase, the team identified relevant resilient value chains through extensive consultations with actors in the intervention areas. Specific needs for each identified value chain were then selected for interventions by this project, keeping in mind the need to avoid duplication with other ongoing and planned interventions.

#### Co-financing

Co-financing for Component 3 will be realized through:

? The ?KLIMA Grand Sud - Konbit pou Lite kont Chanjman klimatik nan Grand Sud d'Ha?ti project will provide USD89,989? of co-finance to Component 3, through work in the Grand?Anse department on the economic valuation of adaptation and resilience to climate change actions leading to green economic growth within communities, associative enterprises, the private sector and local elected officials for the benefit of a better resilience to climate change and the agro-forestry sector. This is fully aligned with Outcome 3 of this LDCF project, and will support scaling up ambition towards green economic growth in the areas of intervention.

? The ?PITAG Program? will provide USD1,146,322 in co-financing for Component 3 of this project, through its Component 2 which will finance the adoption of innovative, profitable and sustainable agricultural technologies that will improve long-term farm profitability and generate positive environmental externalities. The component will be implemented through the agricultural incentives program conducted by the MARNDR and the technologies will be adapted to the different agro-ecological environments, local context and climate change perspectives. The technology menu may include: small irrigation equipment, harvest and post-harvest equipment, as well as the application of sustainable agricultural practices (agro-forestry systems, sustainable soil and water management techniques), which are also proposed technological innovations for adaptation under Component 3 of this LDCF project. As such, knowledge, tools and experiences from the PITAG Program will inform the planning and implementation of the LDCF project activities under this component.

? The ?AVETI Project? which works in Grand'Anse department will bring USD3,270,131 in co-financing to Component 3 through its work on increased added value of targeted agri-food sectors, in particular for the benefit of women and youth, including a focus on the yam value chain. The project, amongst other things, supports analyses for key value chains; the development of climate resilient products and services from cooperative businesses; and the increased access to financial services for

those same cooperative businesses. This is fully aligned with Component 3 outputs and Outcome 3 of this LDCF project, and the AVETI Project will therefore support the work of the LDCF project in these areas. For instance, the LDCF project will be able to leverage the results of AVETI analyses for key value chains, as well as the increased access to financial services for cooperative businesses.

? The ?PROFIT Project? (Project to Strengthen Agricultural Opportunities Through Training and Technological Investment) will provide USD1,633,500 in co-financing to Component 3 through its interventions in the Grand'Anse department with three intended outcomes as follow: 1) Capacity of producers to produce more and better quality (refined) products corresponding to increasing market demand is improved (tailored technical and managerial training, producers better structured), with a particular attention to gender specificities and needs; 2) The technological capacity of agriculture and applied research along the value chains for selected products is improved (traceability, fermentation, post-harvest equipment); as well as 3) Revenues and financial capacity of beneficiaries farmers are improved, and green and decent jobs are created in support of the three agricultural value chains. As such, PROFIT outputs could support increased access to credit and saving schemes for the LDCF project?s beneficiaries as well, and enhance the long-term financial sustainability of LDCF-supported enterprises. Similarly, improvements along agricultural value chains will contribute to LDCF project Outcome 3 in particular, and contribute to increasing the availability of technological innovations to support adaptation enterprises.

? The IDA project entitled ?Haiti Rural Accessibility and Resilience Project? will provide USD6,033,500 in co-financing to Component 3 through the enhancement of rural connectivity in the Nippes department (one of the three target departments of the IDA project), as well as improving resilience of transport connecting infrastructure to climate change and extreme weather events on primary and secondary roads. These outputs will be essential to reduce the climate and disaster risks facing the long-term sustainability of activities under Component 3 of this LDCF project, as well as to ensure increased market access for remote communities and possible additional revenue streams from the value-added products.

? The project entitled "Post-earthquake 2021 recovery: resilient agriculture and sustainable school feeding in the Grande Anse department" will contribute USD2,857,140 in co-financing to LDCF project Component 3. It is well aligned with the LDCF project, as it works towards Result 1.2 ?Access to agricultural inputs is restored? and Result 2.2 ?Producers' capacities to access local and regional markets of the selected sectors are improved?. As such, the following activities are particularly relevant to this LDCF project: Activity 1.2.3 Strengthening and institutionalization of identified Village Savings and Credit Associations (VSCAs), allowing to contribute to the capitalization in households; 2.1.5 Identification of support activities for producers' associations, entrepreneurs and private sector (value chain management, rural entrepreneurship, etc.) and their implementation; 2.2.1 Diagnosis of supply channels and access to local and regional food markets of the selected commodity chains; and 2.2.2 Technical and material assistance to producer associations and the private sector to improve the competitiveness of food products (processing, storage, packaging, marketing, business plans, organization of fairs, etc.). The interventions of the two projects will closely coordinated to maximize synergies. In particular, the co-finance project can support more producers to benefit from downstream activities geared towards marketing and value addition through the LDCF project.

## 6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The project will generate a number of global environmental and adaptation benefits. The project will enhance the resilience of communities and ecosystems in areas of extremely high climate vulnerability, through an Ecosystem-based Adaptation approach. It is anticipated that the project will directly benefit approximately 115,974 people, through training, awareness raising, access to climate-related information, restored ecosystems, and enhance climate-resilient planning.

The proposed EbA approach will yield other global environmental co-benefits. It is anticipated that the project will support the Assisted Natural Regeneration of 1,846ha of mangrove forests, which will have climate mitigation co-benefits. Restored, well managed, and well monitored mangrove ecosystems will provide the habitats for various species, with biodiversity benefits, and provide not only increased protection from storm surges to local communities, but also a sustainable source of food and fuel.

Similarly, the project will contribute to the better management of Protected Areas. It will also focus on the reduction of soil erosion, which is associated with a reduction in agricultural yields and degradation of downstream marine and freshwater ecosystems through the implementation of erosion control measures on steep agricultural land. These interventions will have both co-benefits in terms of land degradation neutrality and contribute to achieving a nature positive world by 2050.

## 7) Innovativeness, sustainability and potential for scaling up

### Innovativeness

The project provides an innovative approach to climate change adaptation in Haiti, particularly through its focus on the creation and capacitation of climate change coordination mechanisms at regional scale. To date, there has been no platform for coordinating adaptation actions at the sub-national level, which has resulted in inefficiencies, overlaps, and missed opportunities for synergies. The project is learning from the success of CIAT's Table Verte (?Green Table?) in the region, to provide a space for the exchange of information, prioritization and collaboration on adaptation issues in Grand Sud.

The project is also innovative as it combines disaster risk reduction and climate change adaptation planning, and bridges across the two communities of actors and practitioners. This is expected to generate multiple benefits, especially since Haiti is particularly exposed to climate-related shocks, including hurricanes. The country thus needs to enhance coordination efforts between the two complementary communities. For example, with project support, CCGRDs and CLGRDs will be trained on the use of the climate risk assessment and ecosystem-based risk reduction measures. Contingency plans will be updated and communal adaptation plans developed. to integrate innovative EbA and Eco-DRR approaches and strategies.

Moreover, the purpose and importance of the Barad?res-Cayemites Complex PA and the sustainable management natural resources in the mitigation of climate change impacts will be promoted in an awareness raising campaign at local level through local media, schools, universities, and CBOs. Information and education are essential components to reinforce coastal communities ownership and willingness to protect their natural capital.

The use of the CRISTAL tool to assess climate risk and vulnerability at the community level is innovative in the Haitian context, with its full engagement of communities themselves in the assessment and in the identification of adaptation options. Furthermore, the findings of the assessments on climate risks, as well as other information and knowledge products produced by the project, will be added to the recently launched National Environmental Information System (SIEHaiti) platform for

wider accessibility and informed decision making. This platform is a result of longstanding efforts by the Haiti government and its partners, and is an innovative tool in the country. The project will contribute to its success by populating it with information, supporting it to become a useful tool for knowledge management and sharing of good practices.

Involving the private sector, producer organizations, and community-based organizations in the development of value chains which have specifically been selected for their climate-resilience is innovate in Haiti. The project aims at supporting the establishment of businesses anchored in locally established climate-resilient practices and livelihoods, matching the needs of local markets.

#### Sustainability

The project includes considerations that promote the continued achievement of its objective and outcomes long after implementation. One of the challenges of many international development projects in Haiti is the lack of continuity once the project concludes. In order to ensure that the investments of the project do not meet the same challenges, several key principles that support sustainability will be espoused.

#### Country ownership:

- ? Partnering with public institutions including national, departmental and local governments and structures;
- ? Working with community-based organizations, associations and cooperatives, and supporting them to establish their own effective management structures during implementation;
- ? Supporting interventions that reinforce government plans and activities, and that can be integrated into government policies through inter alia the regional coordination mechanisms, which are being promoted by MDE and thus are promising in terms of sustainability and potential for continued funding. As another example, the project promotes the management of protected areas; this is in conjunction with the recent laws demarcating the protected areas. The national government is currently considering management/enforcement options, and interventions under this project will help inform long-term plans for protected areas.

#### Knowledge management to support increased adoption of EbA:

- ? A learning by doing approach will allow beneficiaries of the project to put into practice the activities and strategies proposed in the project (e.g. alternative agricultural or fisheries practices, sustainable woodlots).
- ? Training programs for government ministries will be conducted with the expectations that some of the capacity built will be retained in institutions? corporate memory and reflected in policymaking.

The project will also be adaptive to identify the activities that are most sustainable and beneficial leading to improved livelihoods, which community members will have an incentive to maintain.

Overall, the main strategies selected by the project to support the long-term sustainability of interventions include:

- ? raised awareness and ownership through improved information and planning capacity development, both at the community and institutional levels;
- ? increased returns from land exploitation (through climate-smart agriculture) and increased incentives for better stewardship of the land; and
- ? alternative livelihoods to decrease pressure on ecosystem degradation processes.

## Potential for scaling up

The project has been designed to be replicated and scaled up, so as to mainstream an understanding of climate change adaptation. Several aspects lend themselves to replication of the project:

- ? Piloting of climate-resilient management and rehabilitation practices, which will include training, awareness-raising, and learning-by-doing approaches to encourage the wider uptake, and up-scaling of these practices.
- ? The project intervenes on value chains which could bring socioeconomic benefits that others may replicate, and upscale at a national level for greater production and market development.
- ? Integration of adaptation and resilience into disaster management; such training and capacity building is anticipated to be replicated in other coastal regions, and become a part of the DPC core training.
- ? Capacity will be created at the central government level to apply trainings and knowledge to other parts of the country. Trainings on EbA and Eco-DRR, enhanced public awareness on climate change adaptation, effective dissemination of information on environmental threats and strategies to manage these through sustainable interventions will be provided to both central level units and departmental officers.
- ? The establishment of regional adaptation governance and coordination mechanisms, if successful, could be replicated elsewhere, and could thus become a vehicle for the upscaling of successful project approaches in other regions of the country.

There will be connectedness among different Protected Areas and sharing of experiences with other projects and the National Agency for Protected Areas (ANAP) working on similar issues. The use of Protected Areas and how ecosystem goods and services are managed to build resilience will be scaled up to support national conservation efforts and avert the continued degradation of the coastal environment. Institutional structures such as the newly formed SSRCC for the Grand Sud region, and its higher level counterpart Tables Sectorielles de l'Environnement, will be used to share information and successes, which then can be taken on by other members and partners in their projects and geographic areas of operation.

To support the upscaling of successful project approaches, a comprehensive and coherent Knowledge Management and Communication Strategy will be put in place and implemented. A systematic approach to knowledge management will ensure that lessons learnt from the project are captured efficiently, and that good practices can be replicated and scaled up. An Upscaling Strategy for EbA and Eco-DRR in Haiti will be developed in the last year of the project (Output 1.6), drawing on the experiences and lessons learnt from this and other relevant projects.

Activities in Haiti also offer the potential for scaling up in the broader Caribbean region (EbA and Eco-DRR). Factors such as similar climate and oceanographic conditions, units of connectivity, similar fisheries and geographic proximity, lend themselves well to regional scaling up.

## 1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

The project will be implemented in two departments in Southwestern Haiti (Nippes and Grand?Anse). The first project area is located in the buffer zone of the Parc Macaya National Park, while the second is the Barad?res-Cayemites Complex (see Figure 12). The project proposes to operate within the following six communes: Roseaux (Grand?Anse ? Fond Cochon in the Macaya buffer zone and the low-lying coastal area); Barad?res (Nippes); Grand Boucan (Nippes); Iles Cayemites (Grand?Anse); Corail (Grand?Anse) and Pestel (Grand?Anse).

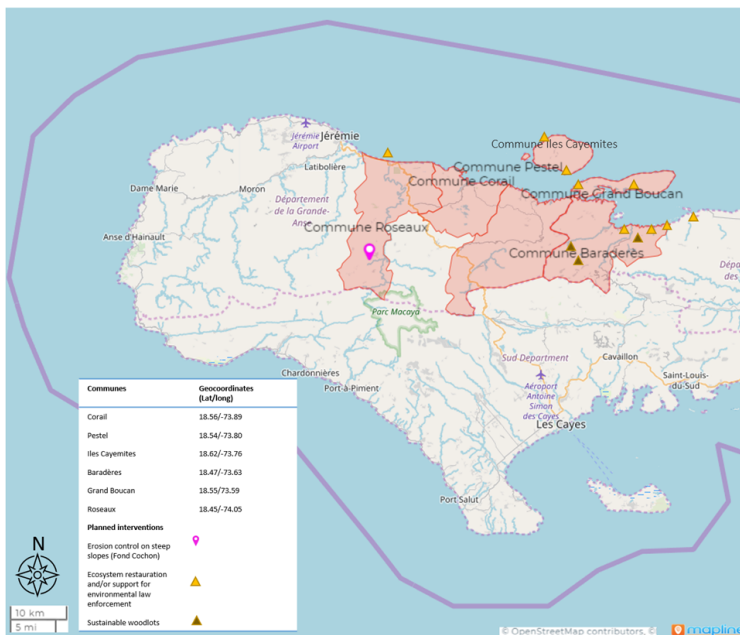




FIGURE 12 MAP OF HAITI INDICATING AREA DEPICTED IN LOWER MAP (TOP) AND PROJECT INTERVENTION ZONE AND PRELIMINARY SITE SELECTION (BOTTOM)

**1c. Child Project?**

**If this is a child project under a program, describe how the components contribute to the overall program impact.**

**2. Stakeholders**

**Select the stakeholders that have participated in consultations during the project identification phase:**

**Civil Society Organizations** Yes

**Indigenous Peoples and Local Communities**

**Private Sector Entities** Yes

**If none of the above, please explain why:**

During the PPG phase, multiple stakeholders were consulted to understand their needs and priorities, to inform them about this project, and to understand any concerns they may have regarding the proposed activities.

Overall, there were three missions to the field: a prospection mission in April 2021 where communities, local authorities and civil society organizations were met to get a better understanding of the current situation; a second mission in June 2021 to present the project and gather views on its intended interventions; and a third mission in February 2022 to fill remaining information and data gaps, and to validate proposed interventions with local stakeholders.

National governments were consulted mainly through the inception (June 2021) and validation (March 2022) workshops of the PPG phase. Several individual interviews with key informants were also conducted. The reports of all the stakeholder consultation missions and workshops conducted are included in the CEO Endorsement Request document.

Figure 13 below presents primary government stakeholders who will provide institutional support and receive capacity building and training to support climate change adaptation at local, regional, and national levels. They will also receive information on lessons learned during project implementation so that they may include adaptation-related considerations in their own projects and activities.

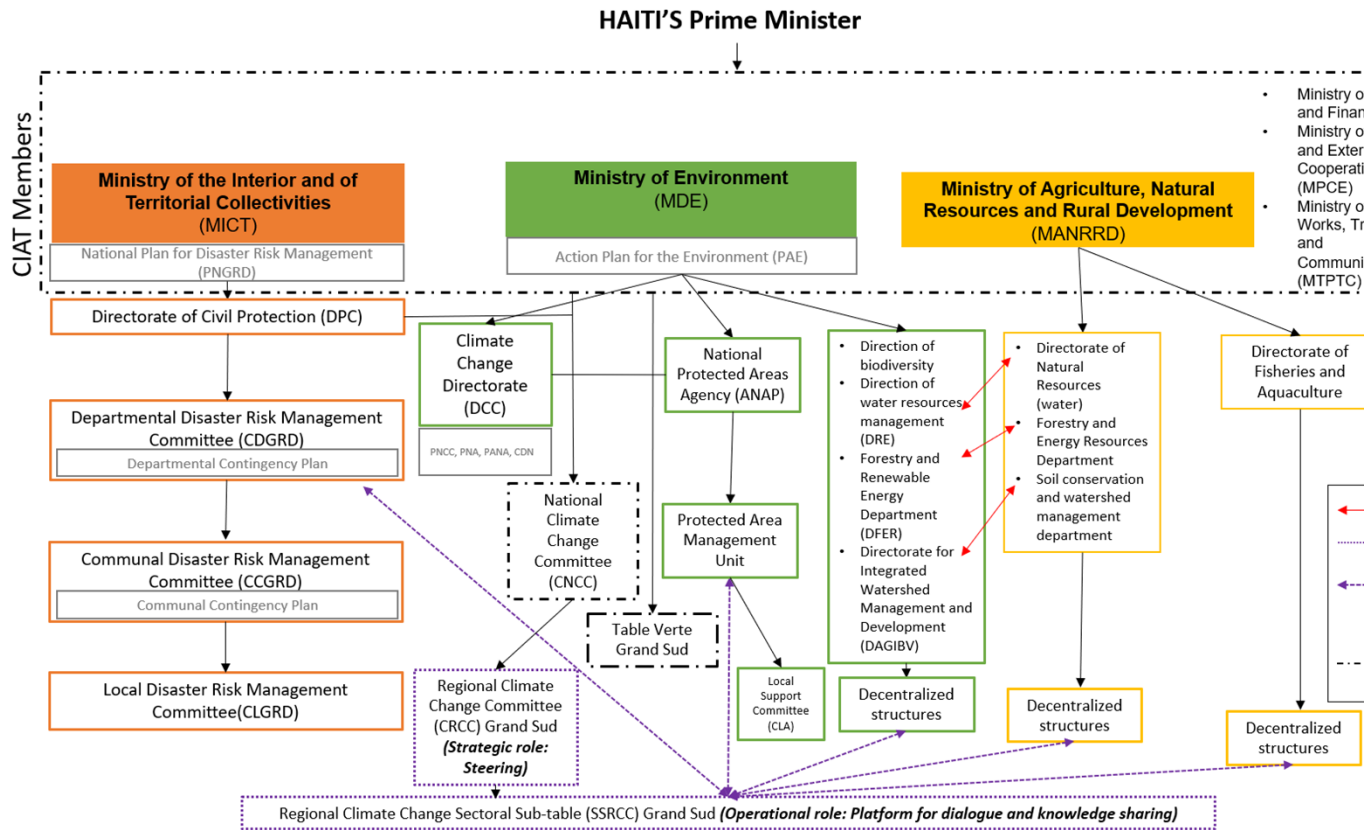


FIGURE 13 INSTITUTIONAL FRAMEWORK RELATED TO NATURAL RESOURCES AND RISK MANAGEMENT IN HAITI

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
Ministry of Environment (MDE)	Partners	<p>This ministry prepares and implements national environmental laws, policies and strategies.</p> <p>In charge of several relevant directorates:</p> <ul style="list-style-type: none"> <li>- <i>Climate Change Directorate (DCC)</i>: monitors and communicates about CC; plans, develops and implements appropriate responses, laws and strategies including adaptation and mitigation interventions to cope with climate change at national scale; focal point of the UNFCCC;</li> <li>- <i>National Agency for Protected Areas (ANAP)</i>: manage and coordinate the national system of protected areas throughout the national territory;</li> <li>- <i>Biodiversity directorate (DB)</i>: coordinates and implement national policies regarding protection and conservation in situ and ex situ of the national biological diversity.</li> </ul> <p>As part of the <i>Interministerial Committee for Territorial</i></p>	<p>Field mission (April 2021)</p> <p>Inception workshop (June 2021)</p> <p>Workshop (February 22)</p> <p>Phone interviews with the DCC</p>	<ul style="list-style-type: none"> <li>- At national scale, CC issues are not enough considered in an integrated and coordinated manner in national and sectoral policies development neither in the planification and disbursement of the national budget.</li> <li>- The government, ministries and the CIAT have low level of awareness and knowledge about climate change, adaptation and EbA.</li> <li>- The DCC lacks financial means to efficiently animate and dynamize coordination governance tools such as the environmental sectoral table at regional scale.</li> <li>- Climate information and related vulnerabilities and risks at national scale are poorly available and difficult to access.</li> </ul>	<p>Overall, the MDE will be responsible for the planning and implementation of all environmental and landscape management activities of the project, reporting its progress directly to the Government of Haiti and the CIAT.</p> <p>The DCC will be directly involved in supporting the current sectoral table of the environment while establishing internally a Regional Climate Change Sectoral Sub-table (CRCCS) under Output I.1. It will also oversee the vulnerability assessment that will be undertaken at community level and ensure the dissemination of the results at national level through the SIE</p>

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Ministry of Agriculture, Natural Resources and Rural Development (MARNDR)</b>	Partner	<p>This ministry prepares and implements national agricultural, breeding and renewable natural resources laws, policies and strategies.</p> <p>The ministry is also responsible for the <i>directorate of Fisheries and Aquaculture (DPA)</i> which aims at modernizing fishing activities in Haiti through the development of an improved and sustainable artisanal fishery.</p> <p>See Institutional Context for more information.</p>	<p>Field mission (April 2021)</p> <p>Inception workshop (June 2021)</p> <p>Workshop (Feb-22)</p>	<p>The Haitian Strategic Development Plan (PDSH) gives an important priority to the modernization and dynamization of the fishing sector. However, according to the interviewees, the minister fails in meeting its commitment and fulfilling its objectives in terms of supporting technical, economical and normative aspects of of the sector.</p> <p>According to the consultation, the ministry's support to the overall agricultural sector including yam and cassava production is insufficient.</p>	<p>Overall, the MARNDR will be responsible for the planning and implementation of all fishing, agricultural and agroforestry activities.</p> <p>The ministry will plan, coordinate and implement training to local communities on climate-smart agriculture for small-scale producers under output III.2. It will also supervise the implementation of reforestation activities under Output II.3.</p>

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Ministry of Interior and Territorial Communities (MICT)</b>	Partner	<p>This ministry prepares and implements the policy of the executive branch with regard to local government, immigration, emigration and civil protection.</p> <p>In particular, it is responsible for the <i>Directorate for Civil Protection (DPC)</i> which is mainly concerned with disaster risk management throughout the Haitian territory. The DPC synchronizes the activities of various ministries, committees, and organizations before, during and after a disaster or emergency.</p> <p>See Institutional Context for more information.</p>	<p>Field mission (April 2021)</p> <p>Inception workshop (June 2021)</p> <p>Workshop (Feb-22)</p>		<p>Overall, the MICT will be responsible for the planning and implementation of all disaster risk management activities of the project, reporting its progress directly to the Government of Haiti and the CIAT.</p> <p>The DPC's senior staff of will be trained to climate-resilient decision-making, planning and implementation of risk management measures and EbA under Output I.2.</p> <p>The DPC will oversee the training of CDGRD, CCGRD, CLGRD to local procedures, preparedness and management of climate risks, introduction to locally suitable EbA and Eco-</p>

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Ministry of Planning and External Cooperation (MPCE)</b>	Partner	This ministry administers the state's investment budget.	Workshop (April 2021)		Within the scope of this project, the ministry will oversee the establishment and implementation of the disbursement schedule planned accordingly to the project's workplan and timetable.
<b>Departments</b>	Partner	Higher level of decentralized local government.	Field mission (April 2021)	According to the PPG consultation, in the vast majority of cases, departments collaborate in the planning of projects.	Departments will be direct beneficiaries of the project under Component 1 and 2.

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
Management Unit of the Baraderes-Cayemites protected area	Partner			<ul style="list-style-type: none"> <li>- The management plan of the Baradere-Cayemite complex is missing.</li> <li>- While complex's inhabitants are aware of the boundaries and ecological value of the protected areas some foreigners from communities outside the zone are performing environmental degradation, including in mangroves.</li> </ul>	The Management Unit of the Baraderes-Cayemites complex will oversee the implementation of all activities performed within the scope of this project in the boundaries of the protected area under all components of the project: development of management plan, environmental monitoring and surveillance, restoration.

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Departmental delegation of the MDE (Nippes et Grand?Anse)</b>	Direct beneficiaries	Ensure the implementation of the MDE policies and interventions at the regional, departmental, and local levels.	Field mission (April 2021)	According to the PPG consultation, in the vast majority of cases, the departmental directors of the ministries concerned collaborate in the planning of the projects. However, weaknesses in departmental coordination have been observed with relevant institutions involved in the environmental field. Although sectoral tables have been implemented, most of them are not operational.	Overall, the delegation will oversee the implementation of all environmental and landscape management activities at departmental level.
<b>Departmental delegation of the MARNDR (Nippes et Grand?Anse)</b>	Direct beneficiaries	Ensure the implementation of the MARNDR policies and interventions at the regional, departmental and local levels.	Workshop (April 2021)	According to the PPG consultation, in the vast majority of cases, the departmental directors of the ministries concerned collaborate in the planning of the projects.	Overall, the delegation will oversee the implementation of fisheries, agricultural and agroforestry activities at departmental level.



Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Departmental, communal and local committees DPC (CDGRD, CCGRD, CLGRD)</b>	Direct beneficiaries	Ensure the implementation of the DPC policies and interventions at the regional, departmental and local levels.	Workshop for CDGRD, CCGRD and focus group for CLGRD (April 2021)	<ul style="list-style-type: none"> <li>- CCGRD of Grand Boucan and Iles Cayemites needs capacitation, trainings and risk assessment as well as implementing a warning system.</li> <li>- Contingency plans need to be updated.</li> </ul>	<p>Overall, the delegation will oversee the implementation of all disaster risk management activities at departmental, communal and local level.</p> <p>CDGRD, CCGRD, CLGRD will be trained to local procedures, preparedness and management of climate risks, introduction to locally suitable EbA and Eco-DRR approaches under Output I.2. It will also supervise the development and implementation of contingency plans at local and departmental level under Output I.4 based on vulnerability assessments performed under Output I.3.</p>

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Communes</b>	Direct beneficiaries	The commune is the third level of administration divisions of Haiti after department and districts. Communes targeted during the consultation and beneficiaries from the project: Barad?res, Grand Boucan, Corail, Pestel, Roseaux, Iles Cayemites, Fonds Cochon.	Mayor Corail, Pestel, Iles Cayemites ? focus group (April 2021)		Communes will be direct beneficiaries of the project under Component 1 and 2.
<b>ASEC/CASEC</b>	Direct beneficiaries	Elected Communal/Communal section assembly.			ASEC/CASEC will be direct beneficiaries of the project under Component 1 and 2.
<b>Local Support Committee (CLA)</b>	Direct beneficiaries		CLA Barad?res, Corail ? workshops (April-2021)	The Terminal Evaluation of the UNDP EbA project (GEF ID 5380) found that CLAs were a very good local tool to support their integration support ANAP and local authorities in implementing environmental monitoring and surveillance activities.	Overall, CLA will be direct beneficiaries of the project under Component 1 and 2.  In particular, CLA of the Barad?re and Cayemites Complex will be capacitated under Output I.V.

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
Reef Check	Partner	Reef Check is a non-profit organization leading citizen scientist to promote stewardship of sustainable reef communities worldwide.	Workshop (Aug-2021)	The NGO has been involved in the EbA GEF/UNDP ?ridge to reef? project characterizing the health status of coastal and marine ecosystems (coral reefs, mangroves and seagrass beds) and performed fish population assessments in three complexes including the Baraderes ? Cayamites.	<p>The NGO published a public report which have been used to establish this UNEP/GEF project?s baseline. It has also been consulted to develop the result framework of this project document.</p> <p>A partnership will be explored for the development of the Baraderes-Cayemites Protected Area under Output I.5 or for the training of fishermen and communities in lionfish management under Output II.4.</p>

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Fishing project Anse-D'Hainault, Dame-Marie, Irois (PADI)</b>	Partner	PADI is a non-profit organization disseminating sustainable fishing practices to fishing communities at local level as well as communicating climate alerts in collaboration with the DPC.	Workshop (Feb-22)		PADI will be involved in providing training on sustainable fisheries as well as supporting the development of fishermen associations under Output II.4. It will also work with the DPC to support the development and implementation of contingency plans under Output I.4.
<b>Concerted Actions for the Integrated Development of the Barad?res (ACDIB)</b>	Partner	ACDIB is a non-profit organization disseminating sustainable agricultural practices within the communities.	Workshop (April-2021) Workshop (Feb-2022)		A partnership could be explored for the development of agricultural climate resilient businesses under Output III.1 or III.3.

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
Soil conservation community-based organizations	Indirect beneficiaries	Local association dedicated to soil conservation. Stakeholders identified: <ul style="list-style-type: none"> <li>- Community Development and Facilitation Center (CEFADEC)</li> <li>- Network of Baradero Organizations (ROB)</li> </ul>	Workshop (Feb-22)		These organizations will indirectly benefit from the knowledge disseminated throughout the project's activities under Outputs II.1 and II.2.
Agriculture and breeding community-based organizations	Indirect beneficiaries	Local association dedicated to agriculture and breeding development. Stakeholders identified: <ul style="list-style-type: none"> <li>- Organization for the Development and Advancement of Pestel (ODAP)</li> <li>- Association of Farmers for the Development of the 3rd section of Pestel (ASOPAD)</li> <li>- Professionals in Action for the Development of Nippes (PADIN)</li> <li>- Tet Kole Ti Peyizan Ayisyen</li> </ul>	Workshop (Feb-22)		<p>These organizations will indirectly benefit from the knowledge disseminated throughout the project's activities under Outputs III.1, III.2 and III.3.</p> <p>A partnership could be explored for the development of agricultural climate resilient businesses under Output III.1 or III.3.</p>

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Sanitation and gully correction community-based organization</b>	Indirect beneficiary	Local association dedicated to Sanitation and gully correction. Stakeholder identified: - Youth Committee for the Beautification and Progress of Pestel (COJEP)	Workshop (Feb-22)		The organization will indirectly benefit from the knowledge disseminated throughout the project's activities under Outputs II.1, II.2, II.3.
<b>Fisheries community-based organization</b>	Direct beneficiaries	Stakeholders identified: - Union of Fishermen of Pestel for the Development of Aquatic Environments (UPEPA) - Cayemite Islands Fishermen's Association (APIC) - Association of Young Fishermen of Pointe Sable (AJPPS) - Solidarity for Barad?res? Fishermen Development (SOPEC/2BB) - Solidarity for Barad?res? Fishermen Development (SOPEC/2BB)	Workshop (Feb-22)  Focus group (April 2021)  2 in-person interviews	<ul style="list-style-type: none"> <li>- Fishermen are not aware about fisheries laws and regulations.</li> <li>- Few intrans, gears and equipment are available at local scale.</li> <li>- Training modules on sustainable fisheries are rare.</li> <li>- There is no financial structure support fisheries stakeholders.</li> <li>- Fisheries are climate-resilient and represent a great opportunity for young and women employment.</li> </ul>	These organizations are direct beneficiaries of the project interventions under Outputs II.4, III.2.

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
	Indirect beneficiaries	Stakeholder identified: - Grande-Hanse Fishermen's Association (AP Grandes-Anses)	Workshop (Feb-22)		The organization will indirectly benefit from the knowledge disseminated throughout the project's activities under Outputs II.4, III.2.

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
Communities	Direct beneficiaries	<p>Communities interviewed throughout the PPG phase. They are mainly farmers and fishermen living in conditions of high vulnerability to climate change and natural hazards.</p> <p>Communities consulted:</p> <ul style="list-style-type: none"> <li>- Barad?res</li> <li>- Grand Boucan</li> <li>- Iles Cayemites</li> <li>- Corail</li> <li>- Pestel</li> <li>- Roseaux</li> <li>- Fond Cochon</li> </ul>	<p>Focus group and community consultation (April 2021)</p> <p>Community consultation (June 2021)</p> <p>Workshop (Feb-2022)</p> <p>8 fishermen in-person interviews</p>	<ul style="list-style-type: none"> <li>- Mangrove conservation is a major concern for those communities, but they are missing means to protect it.</li> <li>- Fishing is also a key source of revenues and the productivity of the activity as well as the associated value chain needs to be improved.</li> <li>- Communities don't consider beekeeping as an appropriate EbA intervention considering the limited water availability and the failure of past projects in the region.</li> <li>- Fishing is one of the main sources of revenues for coastal communities.</li> <li>- Yam and cassava production occupy an important place in households? agricultural revenues and nutritional intake.</li> </ul>	<p>Communities have been interviewed to perform a baseline analysis of the situation and develop the result framework of the project. They are the main beneficiaries of project investments, under Components 2 and 3 of the project.</p>



Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Yam producers</b>	Direct beneficiaries		Focus group and community consultation (April 2021)  Community consultation (June 2021)  Workshop (Feb-2022)	<ul style="list-style-type: none"> <li>- Farmers need yam seeds and phytosanitary products which are both poorly available.</li> <li>- There is no financial institution or investors from the private sector supporting yam producers.</li> <li>- Yam production is climate-resilient and represent a great opportunity for young and women employment.</li> </ul>	Yam production will be supported throughout the different steps of the value chain from production to processing including commercial valorization under component III.2 and III.3.
<b>Cassava producers</b>	Direct beneficiaries		3 in-person interviews	<ul style="list-style-type: none"> <li>- Cassava value chain needs support including processing material.</li> </ul>	Cassava production will be supported throughout the different steps of the value chain from production to processing including commercial valorization under component III.2 and III.3.
<b>Fondation Nouvelle Grande Anse (FNGA)</b>					

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
Aquadev	Indirect beneficiaries	Haitian NGO promoting water related activities including technical support for shipbuilding as well as contributing to environmental protection through restoration of marine environment projects.	Workshop (Feb-2022)		The organization will indirectly benefit from the knowledge disseminated throughout the project's activities under Outputs II.2, II.3, II.4, III.1.
PADI	Indirect beneficiaries	Haitian NGO dedicated to food security issues.	Workshop (April-2021)  Workshop (Feb-2022)		The organization will indirectly benefit from the knowledge disseminated throughout the project's activities under Outputs II.4, III.2, III.3.
AAHAMES	Indirect beneficiaries	Haitian NGO dedicated to mangrove restoration, fisheries, community education and agriculture issues.	Workshop (Feb-2022)		The organization will indirectly benefit from the knowledge disseminated throughout the project's activities under Outputs I.5, II.2, II.4, III.2.

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
<b>Local police stations</b>	Indirect beneficiaries		Police station Corail ? focus group (April 2021)	Mangroves are degraded and deforested by foreigners coming from communities outside the Complex. Police services lack means to support CLA in protecting and monitoring the mangrove status.	The police stations will indirectly benefit from the capacity building for environmental monitoring and surveillance provided throughout the project's activities under I.5.
<b>Food and Agricultural organization of the UN (FAO)</b>	Partner	The Food and Agriculture Organization of the United Nations is a specialized agency of the United Nations that leads international efforts to defeat hunger and improve nutrition and food security.	-		FAO will be the executing agency for this project.

Stakeholder Name/Institution	Stakeholder Type (partner, beneficiary, other)	Stakeholder description	Date and type of PPG consultation (e.g. focus group, interview, workshop, etc)	PPG Findings/Comments	Role in implementation and/or type of engagement with the project (e.g. involvement in PSC, beneficiary of activities, workshop participant, etc)
Local Radios Barad?res-Cay?mites Complex	Partner		-		An awareness campaign through local media, schools, universities, and CBOs to raise awareness communities of the purpose and importance of the Barad?res-Cayemites Complex PA and its sustainable management under Output I.5.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

The engagement of various stakeholders in project execution is outlined in the Stakeholder Engagement Plan (included here).

**Select what role civil society will play in the project:**

**Consulted only;**

**Member of Advisory Body; Contractor;**

**Co-financier;**

**Member of project steering committee or equivalent decision-making body; Yes**

**Executor or co-executor; Yes**

**Other (Please explain)**

### **3. Gender Equality and Women's Empowerment**

**Provide the gender analysis or equivalent socio-economic assesment.**

A Gender Analysis and associated Gender Action Plan (both attached below) were prepared during the PPG phase. The analysis identifies potential negative impacts of the project to gender equality, as well as opportunities to contribute to it. As such, the analysis recommends that the project adopt a transformative approach to ensure that the promotion of gender equality (shared control of resources and decision-making) will be at the heart of all interventions.

To define actions likely to correct the inequalities and structural imbalances that generate them, it is necessary to:

? Satisfy practical needs of women in the short term: immediate improvement of living conditions and conditions of access to resources; and

? Target the longer-term strategic interests of women: progress in terms of social status, better participation in decision-making spaces, etc.

The Gender Action Plan (attached below) describes actions to mainstream gender in the components and results of the project through specific activities. Its results will be monitored through included gender indicators. The plan focuses on four areas of empowerment:

? Access to information on current environmental and climate issues as well as possible future threats;

? Development of alternative livelihood skills for women;

? Participation in the conservation of natural resources; and

? Leadership development and participatory problem solving

**Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?**

Yes

**Closing gender gaps in access to and control over natural resources;**

**Improving women's participation and decision making** Yes

**Generating socio-economic benefits or services or women** Yes

**Does the project's results framework or logical framework include gender-sensitive indicators?**

Yes

### **4. Private sector engagement**

**Elaborate on the private sector's engagement in the project, if any.**

During consultations, it was apparent that there are strong private sector interests and linkages for the success of this project. Private sector actors have also highlighted the need for more diversified agricultural products that have undergone some processing. This interest provides an opportunity to include private sector participation in sustainable practices.

Private sector will be engaged in a phased approach. During Phase 1, one of the objectives of the green economy assessment will be to map the private sector actors, and identify their strengths, weaknesses, opportunities, and constraints, in supporting the proliferation of sustainable value chains. Phase 2 will engage the private sector partners identified in Phase 1. The approach undertaken to engage with the private sector will be value chain-specific, and will involve an inclusive strategy of intervention where the role of the private sector, producer organizations, and community-based organizations will be identified and coordinated at various stages of production, according to their expertise. While the focus of the project will be on reinforcing cooperatives and associations, efforts will be made to cover the overall value chain by facilitating the development of private sector partnerships for sustainable production and consumption schemes, and seek to scale up private sector financing for adaptation action.

Moreover, the Chamber of Commerce and Industry of Haiti (CCIH) and the Private Sector Economic Forum have demonstrated an interest in supporting sustainable development through the support of specific value chains. The project will liaise with them in the implementation phases to seek opportunities for private-sector investments in supporting post-harvest supply chains, specifically in the areas of collection, transportation, and distribution to markets.

**5. Risks to Achieving Project Objectives**

**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):**

To achieve the project's objective, it is necessary to identify and assess the risks to implementation (Table 7). Effective risk identification and assessment will allow appropriate mitigation measures to be taken.

Risks	Type	Risk and Impact	Possible Mitigation Strategies

<p>COVID-19 pandemic during project implementation, resulting in restrictions on congregation of people and on international and national travel. This could result in implementation delays through impacts on capacity building activities and adaptation interventions.</p>	<p>Environmental</p>	<p>Risk: High  Impact: Medium</p>	<p>The project will adhere to Government regulations related to COVID-19 at all times. COVID-19 related risks will be closely evaluated at inception, and the mitigation measures will be integrated in planned project activities and budgets. The following mitigation strategies have been employed successfully by UNEP throughout the pandemic. They will be applied when relevant, to minimize negative impacts on project design and implementation.</p> <p>To mitigate the impact of restrictions on congregation of people, affecting the organization of capacity building activities and consultations, UNEP has adopted various arrangements allowing to maintain deployment of activities and projects, while ensuring the protection of beneficiaries and duty of care of implementing partners. Such arrangements include:</p> <ul style="list-style-type: none"> <li>? Meetings and workshops organized outdoors, with strict social distancing and hygiene measures (when possible and permitted).</li> <li>? Meetings and workshops organized in smaller groups (with fewer participants), with a larger number of events to reach the same total number of beneficiaries.</li> <li>? Physical meetings replaced or complemented (as necessary) by virtual meetings and consultations, organized through a variety of user-friendly platforms (including e.g. Zoom or Skype, but also WhatsApp and/or telephone calls for one-on-one and small group discussions). Provision of equipment, internet access and training on the use of virtual platforms.</li> <li>? For capacity building activities, physical workshops substituted through the development of online training modules, videos, webinars and/or podcasts.</li> <li>? Implementing partners and beneficiaries provided protective equipment and access to sanitation points.[2]</li> </ul>
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<p>Climate change risks</p>	<p>Environmental</p>	<p>Risk: Medium</p> <p>Impact: Medium</p>	<p>The project reforestation and agricultural interventions are potentially vulnerable to the impacts of climate change, including increased average temperatures, reduced rainfall (in particular during the summer months), droughts, floods and hurricanes. The strategic approach to mitigating these risks will consist of factoring the conditions for climate change resilience within the restoration and agricultural models promoted by the project. For instance, SLM will help mitigate the adverse impacts of reduced rainfall, as well as droughts and floods (increased capacities to absorb and store water in the soil and above-ground ecosystems). Similar techniques will be expanded to restoration of natural ecosystems, for similar results.</p> <p>The species to be planted will be selected carefully to ensure they are suitable to the climate of the specific site, as well as resilient to climate variability. Appropriate planting protocols (including timing of planting activities using meteorological forecasts) will also significantly mitigate impacts of climate change on the activities and outputs of the project. Techniques to assist plant growth particularly in the seedling/sapling phase and to reduce risk of damage from extreme climate events will be employed as needed. Seedling survival rates will be closely monitored, so that any issues can be identified early, and corrective actions implemented. These measures will be integrated within the project approaches, rather than added as stand-alone mitigation measures.</p> <p>The technical and institutional capacity in the country to mitigate climate risks remains relatively low. Technical support and expertise to ensure the identification and implementation of appropriate mitigation measures will therefore be provided by the project through the engagement of consultants and/or relevant organizations.</p> <p>At the beginning of project implementation, climate change risk and vulnerability assessments will be undertaken in the six communes of intervention (Component 1), which will further enhance understanding of the potential impacts of climate change on project outputs and outcomes.</p>
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<p>Extreme weather and natural events (hurricane, earthquake)</p>	<p>Environmental</p>	<p>Risk: High Impact: High</p>	<p>As presented in the project document, the project areas lie on the path of hurricanes that frequently strikes the Caribbean and on an earthquake fault. Therefore, the project is highly vulnerable to natural disaster that could lead to destructions and degradation of materials and equipment but also project activities such as tree planting or agricultural interventions.</p> <p>To limit the impacts of these extreme events, the project will perform vulnerability assessments to choose areas to implement the project, among other things, where the impacts could be limited. The project interventions are designed to reduce vulnerability of the populations to climate-related hazards.</p> <p>The project reforestation and interventions to support the development of yam and cassava value chains are potentially vulnerable to the impacts of climate change, including droughts, floods and hurricanes. The potential adverse impacts from extreme climate events on project activities and the necessary mitigation and monitoring actions are identified in the ESPM. The strategic approach to mitigating these risks will consist of factoring the conditions for climate change resilience within the restoration and agricultural models promoted by the project. Similar techniques will be expanded to restoration of natural ecosystems, for similar results. Careful selection of tree species as well as planting of hedges and landscaping will also significantly mitigate impacts of hurricanes on the activities and outputs of the project. These measures are integrated within the project approaches, rather than added as stand-alone mitigation measures. Within the project scope, it is also foreseen to strengthen the national system of disaster and risks management, integrating vulnerability assessments in emergency protocols.</p>
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<p>Capacity needs on fiduciary management, unwillingness to collaborate or to share information, and disagreement among stakeholders on the distribution of roles in the proposed project</p>	<p>Financial/Organizational</p>	<p>Risk: High</p> <p>Impact: High</p>	<p>Given the political turmoil and potential for political change, the risk associated with low capacity for fiduciary management is high. However, the project implementation arrangements will ensure to both empower and strengthen the government institutions involved, while providing the necessary oversight and accountability measures. The roles and responsibilities of each participating actor will be further discussed and validated with the concerned institutions at the project inception phase. Synergies and collaboration between all project stakeholders will be facilitated by the PMU at national, regional and local levels. The project will include a wide partnership of various ministries on the Steering Committee. This cross-government oversight will allow greater accountability among institutions.</p>
<p>Lack of uptake of project interventions</p>	<p>Implementation</p>	<p>Risk: Low</p> <p>Impact: High</p>	<p>Project interventions have been devised with urgent and pressing needs in mind, following extensive consultations with local communities. Livelihoods are at the heart of the project, thereby providing a socio-economic incentive for participation. During implementation, the awareness of community members will be raised with regards to climate risks and vulnerability, as well as adaptation options. Through participatory processes, local communities will be involved in the design and implementation of adaptation actions and adoption of technologies, which will be implemented in an equitable manner. Particular attention will be paid to working with local community leaders to ensure their support. Interventions generating tangible economic benefits will be planned for the first year of the project to ensure optimal community buy-in.</p>

<p>Political changes and high turnover of government staff</p>	<p>Political</p>	<p>Risk: High Impact: Medium</p>	<p>Haiti is a fragile state and as such, working there means accepting this risk as part of operations. It is important to work closely with local authorities who are less subject to radical changes. The anchoring of the project within the communities as much as possible is key as can influence local authorities' decisions. The team has to communicate and promote the successes gained at local level to encourage continuity of existing activities in case of change in government leadership. Continuous monitoring of the situation is also necessary to mitigate impacts of predictable issues. The project has been designed to support local level communities and influence the value chains that are some of the most significant in Haiti. It is anticipated that any government will have an interest in engaging in activities that impact these value chains. The Executing Agency, FAO, has a longstanding presence in Haiti, and will ensure continuity by maintaining a network of primary and secondary focal points in each relevant government institution during project implementation. Moreover, the project will work to develop a strong Knowledge Management strategy from the onset, including disseminating through the SIEHaiti platform all products developed by the project. This platform is a result of longstanding efforts by the Haiti government and its partners, and was in effect created through the 2006 Decree defining national policy on environmental management and sustainable development, which should ensure its long-term sustainability.</p>
<p>Lack of coordination among donor interventions and international projects</p>	<p>Organizational</p>	<p>Risk: Low Impact: Medium</p>	<p>The project will contribute to ensuring better coordination between donors, through the SSRCC. In addition, FAO will continue to foster its relationships with other partners, and keep abreast of other initiatives, and will communicate any significant developments to the PMU for action, as necessary.</p>

<p>Limited technical capacity to develop and implement the project interventions leads to delayed and/or poorly designed project interventions, and insufficient capacity to address potential implementation challenges.</p>	<p>Organizational</p>	<p>Risk: Medium</p> <p>Impact: Medium</p>	<p>Under the oversight of the Executing Agency, FAO, the project will recruit a strong team of experts to lead the PMU. Supplemental support will be sought through national and international consultants, as required. The project will also partner with local organizations (CSOs, NGOs), with extensive experience in the areas of intervention, to lead the implementation of several project activities.</p> <p>The capacity of national and local stakeholders will be significantly strengthened to enable the planning and implementation of EbA measures through the capacity building and training activities of project Component 1.</p>
<p>Procurement delays due to inefficient or overly complex administrative procedures have a negative impact on the timely delivery of project activities</p>	<p>Organizational</p>	<p>Risk: Medium</p> <p>Impact: Medium</p>	<p>FAO will support the PMU in the procurement and acquisition of goods and services. Strict deadlines will be set for each stage of the procurement process, and progress will be closely monitored by the PMU.</p>
<p>Limited participation of women in project activities and/or limited access to its benefits by women, leads to limited impact of the project on increasing women's capacity to adapt and their adoption of climate-resilient livelihoods</p>	<p>Implementation</p>	<p>Risk: Medium</p> <p>Impact: Medium</p>	<p>The project has developed a Gender Action Plan (GAP), which identifies potential challenges and the actions the project will take to ensure gender is fully taken into account during implementation. As such, dedicated PMU staff for ESS will be in charge of the monitoring and implementation of the GAP.</p>

<p>Physical displacements: socioeconomic activities carried out in the buffer zones of protected areas may provide incentives to populations living in highly vulnerable and degraded zones to move, particularly, those living in makeshift camps after the loss of their home and source of income during the last earthquake. The inclusion of non-local people in the list of beneficiaries might create tensions and impact the delivery of activities</p>	<p>Socio-economic</p>	<p>Risk: Medium</p> <p>Impact: Medium</p>	<p>The project will promote sustainable socioeconomic activities. These activities will primarily target the local communities who are exploiting the natural resources. Robust and transparent selection criteria will be designed and managed under community governance mechanisms that will take into consideration current uses of these resources and ownership. They will also be designed in a manner to avoid discrimination and inequalities and hence reduce conflict.</p> <p>Furthermore, project grievance redress mechanism provides a way to address any specific community concerns and resolve conflicts.</p>
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<p>Insecurity/security incidents for project staff, stakeholders and equipment.</p> <p>Insecurity issues due to armed gang proliferation and social unrest have been on the rise in Haiti. This can translate into (i) movement restrictions for staff and executing partners (ii) staff, implementing partner or service provider injuries, and (iii) damages to equipment, inc. boats and roads that can severely impact the project delivery plan. Such situation can also be problematic considering that project staff will need to travel regularly to the capital to ensure full synergies between national and local government. In such a context, those travels (4 to 5 hours? drive) can be at risk.</p>	<p>Physical safety</p>	<p>Risk: Medium</p> <p>Impact: Medium</p>	<p>The Project Team will develop an incidents plan and related procedures, and keep a close watch on the situation to predict as much as possible when and where there will be turmoil.</p> <p>Local law enforcement on implementation sites will be involved in the design of mitigation measures. Compliance with UN procedures for UN staff and safety and security planning for partners are key.</p> <p>Particular focus will be placed on roads security (road cuts, traffic accidents), marine security (drug trade, fisheries enforcement) and boating incidents (bad weather, collisions, grounding).</p>
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## 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.**

The project will be implemented over a four-year period (see Appendix 5 of the Project Document for the Project Workplan and Timetable). The process of hiring project staff will begin shortly after the

signing of the Project Cooperation Agreement (PCA) between UNEP and FAO, and the internalization of the project.

During the inception phase of the project, the following steps will be undertaken: *(i)* organization of the inception workshop to inform existing and new stakeholders about the project and to identify or confirm the roles of each stakeholder during the implementation phase; *(ii)* continued consultation with national and local stakeholders (see Section 5) to finalize and validate the selection of sites for specific project interventions; and *(iii)* the launch of the baseline study at the selected sites to measure the baseline values of the indicators selected for the project Results Framework (see Annex A).

UNEP will be the Implementing Agency for the project. It will oversee the project and provide the technical assistance required to achieve its objective, and to ensure consistency with GEF and UNEP policies and procedures. This supervision will be the responsibility of the Task Manager (TM), who will be appointed by UNEP. The TM will formally participate in the following: *(i)* Project Steering Committee (PSC) meetings; *(ii)* mid-term review and final evaluation; *(iii)* the clearance of Half Yearly Progress Reports and Project Implementation Reviews (PIRs), expenditure reports, and budget revisions; and *(iv)* the technical review of project outputs.

The project management structure is presented in Figure 14. This structure will comprise: *(i)* the PSC; *(ii)* the Executing Agency (EA), which will house the Project Management Unit (PMU) consisting of the Project Manager (PM); Monitoring and Evaluation specialist (part-time); Gender and Safeguards Specialist (part-time); and Administrative and Financial Assistant. The project will adopt the principle of flexibility in terms of the mobilization of capacities and skills to support its implementation. It will rely on MDE and DPC, and their relevant decentralized services (such as CLAs and CCGRDs), where their mandate, skills and experience are aligned with the project's support needs, as well as on services beyond those of the government, including local contractors (mainly NGOs) where justified by their comparative advantages for carrying out the various activities, on a case-by-case basis.

The PSC will include national representatives from MDE (ANAP, DCC, DRE, DFER, DAGIBV, Directorate of Biodiversity), MARNDR, MPCE and MICT (DPC), as well as representatives from UNEP and FAO. Representatives of the Grand Anse and Nippes departments will also be included in the PSC composition. Members of implementing NGOs and relevant community-based organizations, local authorities, as well as representatives of targeted local communities and community leaders, will also be invited to participate in the PSC, in order to provide grassroots inputs and to offer more opportunities for participation, which will contribute to ensuring local ownership and guidance for the project. The composition and mandate of the PSC will be formalized at the project inception phase. PSC Terms of Reference are included in Appendix 11 of the Project Document.

MDE will chair the PSC. The PSC will meet twice a year, and additional *ad hoc* meetings will be held, if necessary, to discuss key project performance indicators and to provide guidance on project direction. Coordinating structures at the level of the communes and lower-level government structures will be determined during the project inception phase.

FAO will be the Executing Agency (EA) for the project. A PM will be hired by FAO to lead the PMU and execute the day-to-day management of the project. He/she will operate in a transparent and

efficient manner, in line with approved budgets and work plans. In addition, the PM will report monthly to the TM on progress and challenges encountered on the ground in carrying out project activities. In particular, the PM will: *(i)* lead the day-to-day planning and implementation of the project in close collaboration with the EA; *(ii)* provide on-the-ground information for UNEP progress reports; *(iii)* engage with stakeholders; *(iv)* organise the PSC meetings; *(v)* provide managerial support to the project, including measures to address potential external and internal project implementation issues; *(vi)* manage the project budget and resource allocation; and *(vii)* participate in training activities, report writing and facilitation of consultant activities related to his/her area of expertise. In addition, the PM will meet with the co-finance and partner projects twice a year, or more often if necessary. The focus will be on sharing lessons learned and preventing duplication of activities.

The PM will be assisted in the implementation of the project by a part-time international Chief Technical Advisor (CTA) whose key role is to provide technical assistance for project activities under the LDCF project, including those related to planning, monitoring and site operations, and assuming quality control of interventions.

The PM will also be supported by a Monitoring and Evaluation Specialist, whose tasks will include: *(i)* launching and overseeing the baseline study, *(ii)* establishing a performance monitoring framework to set bi-annual and mid-term targets for the project to meet the targets, outcomes and objectives defined in the project document by the end of the implementation phase; *(iii)* measuring project and GEF Climate Change Adaptation Results Framework indicators at least twice per year to assess the project's progress in achieving its targets; and *(iv)* reporting to the PMU and PSC on project performance, based on planned project outputs and outcomes, as well as the project indicators. As part of his/her responsibilities, the Monitoring and Evaluation Specialist will oversee and monitor the application of gender disaggregated indicators, together with the Environmental and Social Safeguards Specialist which will also be part of the PMU.

The Gender and Safeguards Specialist will be responsible for developing (or revising) and implementing the ESS plans, including the ESM Plan, the Gender Action Plan (GAP), the project Grievance Mechanism, and the Stakeholder Engagement Plan.

In addition, an Administrative and Financial Assistant will be recruited on a full-time basis to support the PMU. The Administrative and Financial Assistant will assist project staff in procuring equipment, logistics, and administration, manage the project's accounts and prepare expenditure reports to UNEP standards. The procurement of services, goods and works for the project will be done in accordance with FAO procurement regulations.

In the field, the PM will be supported by two Field Officers. Their essential tasks on the ground will be to support the PM as follows: *(i)* support the timely execution of activities and the achievement of expected results; *(ii)* promote dialogue between stakeholders, particularly at the local level; *(iii)* monitor and analyse the consideration of gender issues in project activities; and *(vi)* facilitate the participation of rural communities in project activities. To achieve this, they will be required to visit the intervention sites regularly and to work closely with stakeholders, including communal and departmental structures and with the PM.



Consultants will be hired for specific tasks requiring specific expertise and which cannot be undertaken by PMU staff. International technical assistance will be provided for specialized tasks only where existing national capacities are insufficient. Appropriate international expertise will be sourced with the support of UNEP's network for procurement of consulting services, in collaboration with the PM.

The project staff and key consultant ToRs are presented in Appendix 9 of the Project Document. FAO will support the work of project staff and consultants by providing office space and other logistical support in the areas of intervention of the project during the implementation phase.

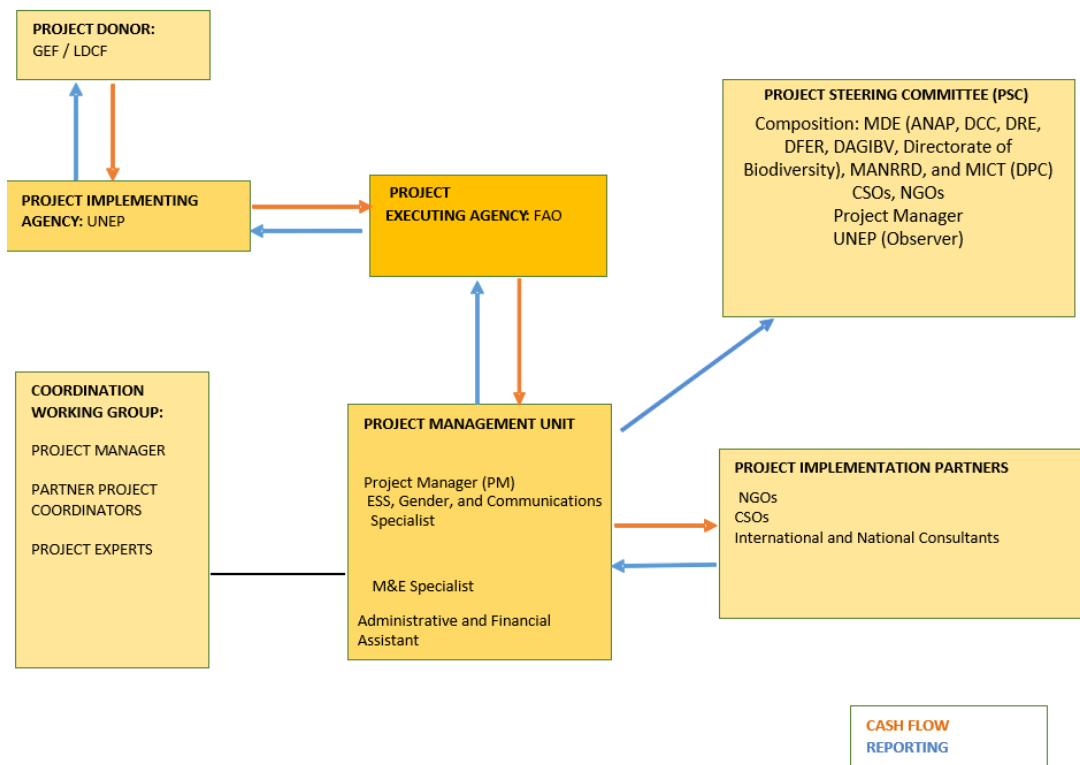


FIGURE 14 DECISION-MAKING FLOWCHART AND ORGANIZATIONAL CHART

For details on the planned coordination with other relevant GEF-financed projects and other initiatives, please consult Tables 2 and 3 in the Section "The baseline scenario and any associated baseline projects".

## 7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

A 2019 review of climate finance in Haiti identified that the vast majority of funds are invested in projects focusing in just three of Haiti's twenty-three articulated priorities (from the 2015 NDC, 2017 revised NAPA, and 2019 PNCC) for combatting climate change: food security, renewables, and integrated water system management. However, the following Haitian priorities appear to be relatively neglected: agricultural adaptation, afforestation, agroforestry, coastal-zone management, capacity building, development of a green economy, institutional strengthening, and mangrove protection. Hence, this project proposes to make significant contributions in these woefully underfunded areas.

Some notable national strategies, plans, and programs which this project will contribute to are presented below:

The Plan of Action for the Environment (PAE, 1999) presents an action plan for sustainable development focused on good environmental management. It was proposed by the Interministerial Commission on the Environment, whose executive secretariat is provided by the Ministry of the Environment (MDE). This plan aims to take charge of the management of the environment and natural resources by establishing infrastructure and national systems to promote sustainable development actions in the communes and to facilitate its implementation through the restructuring and creation of environmental agencies. A new version of the PAE for 2021-2030 is currently being developed.

The National Plan for Disaster Risk Management (PNGRD, 2001) was developed by the Directorate of Civil Protection. Its objective is to act on the causes and factors that generate the state of risk in order to reduce the possibility of disasters and to strengthen the response capacity in case of disasters at all levels: central, departmental and local. It establishes a framework for action and inter-institutional coordination to carry out risk management actions, as well as identifying and determining the degree of vulnerability of territories. The application of this plan includes the creation of the National Risk and Disaster Management System (SNGRD) which implies the development and implementation of contingency plans at each administrative management level in a participative mode, fostering awareness of the risks and ownership of the measures by the populations.

The PNGRD for 2019 - 2030, is the version updated in 2019 by the Directorate of Civil Protection. This review was carried out and built around the Sendai Framework for Action on Disaster Risk Reduction. To achieve the expected results, this global framework adopted in March 2015 by the United Nations World Conference on Disaster Risk Reduction, has set the following priority areas on which state authorities should work: i) understanding disaster risk; ii) strengthening disaster risk governance to better manage disaster risk; iii) investing in disaster risk reduction for resilience; and iv) strengthening disaster preparedness to effectively respond and "build back better" during the recovery, rehabilitation, and reconstruction phase. Component 1 of this project is fully in line with the objectives of this national plan by helping to diagnose the risks of climate-related disasters as well as strengthening disaster (in particular climate) governance. In addition, this version integrates climate change as the first emerging theme to be considered in the analysis, vision and strategic direction of the new plan.

The Haitian Strategic Development Plan (PSDH, 2012)'s end goal is to make Haiti an emerging country by 2030. The PSDH presents the vision and strategic guidelines for the country's long-term development. The major areas of work for the recovery and development of Haiti comprise development and reorganization of the territory; and the economic, social, and institutional reform of the country. The plan presents a framework for the planning, programming, and management of Haitian development, and the vision and the strategic guidelines for the country's development. The PSDH was drawn to i) structure development initiatives in Haiti to extract the country from its current state of poverty; ii) to mobilize and bring together actors around a common strategy; and iii) to better coordinate and ensure coherence between the numerous initiatives supporting Haiti's development. In its current form, the PSDH does not have a strong component on climate change. Considering that the strategic plan is already at its midway point, Haiti needs to effectively and efficiently integrate climate change adaptation into the PSDH based on the National Climate Change Policy (PNCC) vision in order to meet its priority of protection and improvement of the environment. The PNCC's vision is to reduce the vulnerability of Haiti's population and economic sectors to the effects of climate change by 2030, and is based on four main pillars: i) institutional strengthening, ii) improved governance, iii) endogenous climate financing, and iv) effectiveness in the fight against climate change.

Haiti's National Adaptation Programme of Action (NAPA, 2006) indicates environmental degradation and climate change as undermining the country's economic development by affecting many of its productive sectors, such as agriculture, livestock, fisheries, energy, coastal zones, human health, habitat and infrastructure related sectors, and tourism. These are in addition to observed impacts of climate change in: i) increase in periods of drought, ii) change in water regime, iii) loss of human lives, iv) reduction in available freshwater, and v) increase in soil erosion. Revision of the 2006 program was undertaken in 2017 with the support of FAO. It proposes a number of programs and projects, and institutional mechanism to facilitate their implementation on a country-driven and participatory basis. Within the program, agriculture, food security and water management are considered as priorities. The implementation strategy of the program is expected to be used as an entry point for the implementation of the NAP. During the revision and assessment of the NAPA, lack of funding, weak capacity of public institutions and lack of coordination have been identified as major obstacles to adaptation planning.

Haiti has submitted two National Communications on Climate Change (2001, 2013) related to its engagement in the United Nations Framework Convention on Climate Change, and is in preparation for the third one. The latter is supported by UNEP and is focused on greenhouse gas inventory and vulnerability assessment. The document also proposes adaptation-mitigation gender responsive measures, projects and financing opportunities.

Haiti having signed the Paris Agreement in 2017, the country has put in place its Nationally Determined Contributions (NDC, 2015). The NDC lists the priorities for climate change adaptation as i) integrated management of water resources and watersheds; ii) integrated coastal areas management and infrastructures; iii) preservation and strengthening of food security; and iv) enhanced information, education, and awareness about climate change. It further aims for Haiti to integrate the effects of climate change into sectoral development strategies by 2030. To maintain the temperature below 2 °C or 1.5 °C and respect the various commitments resulting from international initiatives related to climate change, the

document states it is essential to carry out a reinforced action for adaptation and mitigation, double funding, increase technology transfer and build human and institutional capacity.

The Government and MDE's Roadmap (2017) aligns MDE's actions with the Government's policies, and contains a section on climate change.

The elaboration of the National Land Use Plan (SNAT) started in 2018. This plan aims at steering the economic, social, cultural land use plan and environmental development of Haiti. It will include short-, medium-, and long-term objectives for the implementation of these broad directions and will identify priority projects.

The development of the National Adaptation Plan (NAP) was launched by the Ministry of Environment (MDE) and the Ministry of Planning and External Cooperation (MPCE) in 2019. This plan, which is not yet available and validated, aims at strengthening institutional and technical capacities for participatory development and for effective integration of climate change adaptation into the national planning and budgeting coordination process. This plan will have 3 components: i) strengthening the coordination mechanism for multi-sectoral adaptation planning and implementation, including the Health, Energy, and Agriculture sectors at different levels, ii) strengthening the evidence base for adaptation planning, compilation of the NAP and integration of adaptation priorities into the National Land Use Plan (SNAT), the National Plan for Disaster Risk Management (PNGRD) and the Strategic Development Plan of Haiti (PSDH), and iii) establishing a financing framework for medium and long-term climate change adaptation measures. The difference between this plan and the NAPA lies on the time scale. The NAPA has current and short-term objectives, while the NAP plans for a long-term vision of adaptation.

In August 1996, Haiti ratified the Convention on Biological Diversity (CBD, 1996). As a signatory of this convention, Haiti has the obligation to report internationally on its contributions to global efforts to safeguard biodiversity and, at the national level, to better manage all its resources and natural areas that constitute all ecosystems and living areas for flora and fauna. Under the aegis of this convention, parties adopted the National Biodiversity Strategy and Action Plan (NBSAP 2011-2020) at the tenth Conference of the Parties (COP10) in Nagoya, Japan in 2010. This strategy is articulated around 20 targets called Aichi Biodiversity Targets (ABTs), to be achieved by 2020 at the global level. Despite an attempt by the government to put in place its NBSAP 2011-2020, it was never implemented due to the suspension of World Bank operations in the country as a result of the controversial elections of May 2000. In this context, the government of Haiti is also required to submit regular reports on the country's biodiversity. Of the 6 reports expected to date, only 3 have been submitted; the last one was in 2019.

The National Biodiversity Strategy and Action Plan, also named Haiti Biodiversité 2030 was developed and published by the Directorate of Biodiversity of the Ministry of Environment in 2020. Haiti Biodiversité 2030 embraces a new vision for the country to conserve and sustainably use the country's biodiversity and natural and cultural heritage to ensure Haitian people's well-being, making it resilient to extreme shocks in order to ensure its success in the quest for sustainable development. The policy lies on twenty-three objectives in line with the Aichi targets and aiming to i) tackle underlying factors of biodiversity loss, ii) reduce pressures, iii) improve its conservation status and iv) increase the sharing of its benefits.

Haiti also ratified in 1996 the United Nations Convention to Combat Desertification (UNCCD). The convention having emphasized the need for the development and implementation of National Action Programs to Combat Desertification (NAP-CCD), Haiti has published a first NAP-CCD in 2009. It aimed to i) improve knowledge on land degradation; ii) influence mechanisms and actors for the adequate integration of the fight against desertification in public and sectoral policies; iii) develop and strengthen local and national capacities; iv) improve the institutional and legislative framework for the fight against land degradation; v) create synergies between actors and stakeholders; and vi) rehabilitate areas affected by land degradation. Six years later, as part of the UNCCD's request to adapt the NAP-CCDs to strengthen the implementation of the convention through the establishment of strategic and operational objectives, Haiti aligned with the convention's "10-year strategic plan and framework 2008-2018". Four strategic objectives have been added: i) improving the living conditions of populations, ii) improving the state of ecosystems, iii) generating benefits from the implementation of the convention, and (iv) mobilizing resources through the establishment of partnerships between national and international actors. This updated version takes into account the issues related to climate change and proposes joint actions to combat desertification and adapt to climate change, in particular through the agricultural sector, by investing in flood control systems or promoting sustainable agricultural practices.

## 8. Knowledge Management

**Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.**

Overall, the proposed project has been designed while taking into consideration lessons learnt from past projects and, wherever possible, replicating and scaling up good practices. Past projects funded by the GEF of particular relevance are presented in the following table, with the key lessons relating to implementation arrangements and community engagement, adequate planning in light of existing political and security risks, as well as the need to replicate good practices in relation to ecosystem management and EbA, in particular in the South and Grand?Anse departments.

TABLE 8: LESSONS LEARNT FROM RELEVANT PAST PROJECTS OF THE GLOBAL ENVIRONMENT FACILITY

Project	Period	GEF Grant (USD)	Description	Lessons learnt of relevance	Integration of the lessons learnt in LDCF project

<p><b>Ecosystem Approach to Haiti Cote Sud</b> (IA: UNEP; EA: Ministry of Environment &amp; UNEP, PADI, ORE, AyitiKa; GEF ID 5531)</p>	<p>2015-2022</p>	<p>6,216,000</p>	<p>The project objective is increasing resilience to climate change risks and decreasing disaster risk using an ecosystem management approach targeting protected areas and fragile ecosystems in the southwestern peninsula of Haiti.</p>	<p>?The involvement of the government, local organizations, communities and other agencies shows a good coordination between stakeholders that have different interests in ecosystem management. Currently, several organizations working in environment are increasingly interested in the approach of ecosystem-based solutions for disaster risk reduction. <b>The involvement of local civil society organizations as execution partners has been and will remain a key factor in successful project implementation and community participation.</b> These partners are rooted in the local communities, have built a wealth of knowledge and capacities directly relevant to local needs, and are recognized as legitimate agents of development in their respective fields and zones of intervention. Similarly, the <b>engagement of the decentralized organs of relevant ministries</b> is highly beneficial, resulting in adaptative, fast and efficient decision-making.?(UNEP GEF PIR Fiscal Year 2021)[1]<sup>3</sup></p>	<p>All UNEP projects in the South of Haiti have a very strong approach of local inclusion and engagement in implementation, and this project is designed in line with this. It continues the tradition of UNEP projects of implementing activities through local organizations that have representation from the villages in which they are operating. During implementation, local CSOs and other non-governmental partners will play a key role in sharing lessons learned, helping local communities to pilot their interventions, and as vehicles for information dissemination. The project will also fully engage decentralized government services, including through their strengthening and capacitation. Further details are provided in the Stakeholder Engagement Plan (Section 2).</p> <p>To mitigate the risk of political instability and civil unrest leading to security and logistical challenges, the Project Team will develop an incidents plan and related procedures. The situation will be continuously monitored to predict as much as possible when and where there will be turmoil. This will allow for contingency measures to be put in place quickly, as needed.</p>
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<p><b>Increasing Resilience of Ecosystems and Vulnerable Communities to CC and Anthropogenic Threats Through a Ridge to Reef Approach to BD Conservation and Watershed Management (IA: UNDP; EA: Ministry of Environment; GEF ID 5380)</b></p>	<p>2015-2020</p>	<p>9,135,068</p>	<p>This project delivered help to reduce the vulnerability of poor people in Haiti to the effects of climate change, while at the same time conserving threatened coastal and marine biodiversity. Investments in climate-proofed and socially-sustainable BD conservation strategies, within the context of the National Protected Areas System (NPAS), were to enable coastal and marine ecosystems to continue to generate Ecosystem-Based Adaptation (EBA) services; while additional investment of adaptation funds in the watersheds which drain into these ecosystems were to serve to maximize BD benefits and ecosystem functions, as well as generating EBA benefits for the populations living in the watersheds themselves.</p>	<p>Lessons from the FY2017 PIR[3]<sup>4</sup> include:</p> <p>? <b>Confusion of watershed management institutional entities</b> hinders successful intervention (including the MDE, Ministry of Interior Affairs, Ministry of Planning, the CIAT ? Secretariat of the Inter-Ministerial Committee on Spatial Planning)</p> <p>? There is a need to ensure that interventions avoid mishaps of a traditional top down approach and ensure instead that they <b>match with the existing local institutional capacities</b></p> <p>In addition, lessons from the 2020 Terminal Evaluation[4]<sup>5</sup> include:</p> <p>? The project spent a lot of time consulting with stakeholders, which may have compromised the ability to achieve the planned results.</p>	<p>The regional coordination and information exchange structures to be established by the project (CRCC and SCRCC) will help to clarify the roles of different entities in the planning and implementation adaptation-related interventions.</p> <p>Continuous consultation and engagement of local institutions in the planning and implementation of the project activities will ensure that the interventions respond to their specific needs and are aligned with their capacities.</p> <p>The need for a balance between strategy/planning/consultation and implementation will be considered the project implementation phase.</p> <p>The Project Steering Committee members will be actively informed of and engaged in project implementation, beyond the PSC meetings, to build ownership and encourage participation.</p> <p>A project operations manual will be developed at project inception phase.</p> <p>A knowledge management and communications strategy will be developed in the first six months of the project.</p>
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<p><b>Strengthening Climate Resilience and Reducing Disaster Risk in Agriculture to Improve Food Security in Haiti Post Earthquake</b> (IA: FAO; EA: Ministry of Environment &amp; Ministry of Agriculture; GEF ID 4447)</p>	<p>2012-2019</p>	<p>2,727,000</p>	<p>The project aimed to increase the resilience of vulnerable farmers by strengthening the resilience of their livelihoods and agro-systems against the impacts of climate variability, particularly in post-disaster situations. Specifically, the project sought to introduce best practices for climate change adaptation to increase the capacity of communities and the government to respond in the event of a natural disaster.</p>	<p><b>? ?The inclusion of women in this type of project requires a real participatory approach.</b> Strong commitment from project administrators and communities is essential to any gender mainstreaming approach, including involving women in post-project activities.</p> <p><b>? An inter-ministerial dynamic was created through communication between local stakeholders.</b> The Ministry of Environment, FAO and Ministry of Agriculture, Natural Resources and Rural Development notably initiated the development of a joint Communication for Development structure to support family farming and rural development in Haiti. This communication was important for the project results, hence</p>	<p>The project's Gender Action Plan (see Section 3) outlines the measures for the full inclusion of women in the project activities. The project team will include a gender specialist, whose role will be to guide and oversee the implementation (and continued updating) of the Gender Action Plan.</p> <p>The project will contribute to strengthening inter-ministerial coordination and collaboration on climate change adaptation, in particular through the establishment and capacitation of regional-level governance and information-sharing mechanisms.</p>
				<p>As outlined in Section 2 (Stakeholders), all relevant stakeholders were engaged in the development of the project. Their involvement in project implementation is outlined in the Stakeholder Engagement Plan.</p> <p>Local authorities and committees such as CLGRDs, CCGRDs and CLAs will be closely involved in the implementation of the project, and will also be beneficiaries of its training and other activities.</p> <p>A larger scale impact is</p>	



<p><b>Strengthening Adaptive Capacities to Address Climate Change Threats on Sustainable Development Strategies for Coastal Communities in Haiti</b></p> <p>(IA: UNDP; EA: Ministry of Environment; GEF ID 3733)</p>	<p>2010-2018</p>	<p>3,500,000</p>	<p>The project followed from the findings and recommendations of Haiti's NAPA, which has identified the coastal development sector as a top national priority for climate change adaptation. It employed a programmatic approach to support climate risks management (CRM) in the most vulnerable Low-Elevation Coastal Zones (LECZ) of Haiti. LDCF resources were used specifically to meet the additional cost of building national and local adaptive capacities, enhancing the resilience of current coastal development policies and plans to climate change risks, as well as implementing an urgent set of pilot adaptation measures in response to the most pressing threats posed by climate change on coastal populations and economy.</p>	<p>? <b>Partnerships with NGOs and other technical partners</b> must be strengthened in future projects. More generally, <b>coordination with donors and other development and climate actors</b> in Haiti must be pursued, amplified and extended to new actors.</p>	<p>? The project will be implemented in close partnership with CSOs and other partners, as outlined in Section 2 (Stakeholders). The coordination with and between donors and other actors on adaptation issues will be strengthened by the project through the establishment of regional governance and coordination structures.</p> <p>The project responds to this need for more investment in resilience and reforestation projects, specifically in the South (including the department of Grand?Anse).</p>
				<p>? There is a need for <b>greater investment in resilience and reforestation project</b>. This project could be implemented in vulnerable zones in the South and Grand?Anse departments.</p>	<p>To enhance their sustainability, the regional governance structures to be established and capacitated with project support (CRCC and SSRCC), as proposed by MDE's Climate Change Directorate (DCC) as a priority, will be integrated directly under the purview of the DCC.</p>
				<p>? The greater institutional capacity triggered by the project must be sustained and enhanced. The DCC should support adaptation activities in departments but also with communes.</p>	<p>The project will support the mainstreaming of climate change adaptation into departmental and communal contingency plans, as well as in the Protected Area management plan of Baraderes-Cayemite PA. It will also enhance inter-ministerial cooperation on adaptation, in particular through the establishment of regional governance and coordination structures.</p> <p>The project takes a ridge-to-reef approach, and includes interventions both in coastal areas, as well as upstream (specifically on erosion control).</p>

<b>Establishing a Financially Sustainable National Protected Areas System</b> <b>(IA: UNDP;</b> <b>EA: National Agency for Protected Areas (ANAP), Ministry of the Environment, Ministry of Agriculture and Natural Resources;</b> <b>GEF ID 36</b>					
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Lessons learnt from past projects of other funds and actors, in this case IADB and UNEP, were also taken into consideration, as presented in the following Table.

**TABLE 9: LESSONS LEARNT FROM RELEVANT PAST PROJECTS OF OTHER FUNDS**

<b>Project</b>	<b>Period</b>	<b>Description</b>	<b>Lessons learnt of relevance</b>	<b>Integration of the lessons learnt in LDCF project</b>

<p><b>IADB project Natural Disaster Mitigation Programme in Priority Watersheds</b></p>	<p>2011- 2017</p>	<p>The project financed works to protect upper watersheds and payments for collective and individual incentives for anti-erosive measures in priority watersheds, while supporting the implementation of national policies that favor watershed management</p>	<p>? ?The sustainability of part of the small infrastructure built by the program is therefore compromised, particularly in light to the fact that the project did not develop <b>an adequate maintenance mechanism</b> in the framework of the institutional strengthening component.</p>	<p>The sustainability (including maintenance) of the project interventions will be enhanced by the full engagement of local stakeholders (including communities) in their planning and implementation, provision of adequate training, and development of participatory management plans where relevant.</p>
			<p>? Some lumber species showed good growth rates, such as Spanish cedar, cocoa, cashew, broadleaf mahogany and Cassia siamea. Species most at risk are coffee and citrus, which are subject to plant diseases. The results show <b>an average survival rate of 40%-60% in the South department</b>. The highest rates are obtained for fruit and lumber species. Coffee and cocoa are in the intermediate category (50%-60% survival rate). The lowest rates are for banana and yams, distributed only in the North, with rates between 26% and 36%. The differences in the survival rates can be explained by several factors: <b>unexpected droughts</b> affecting seedlings soon after planting, <b>poor quality of some seedlings and inputs, administrative delays</b> in processing incentives leading to delayed input delivery and therefore <b>planting at inadequate season, lack of interest</b> of few farmers that accepted the incentives only because they were free, among others. (Project</p>	<p>Lessons from this and other projects on challenges and solutions related to seedling survival rates and success factors for ecosystem rehabilitation interventions will be incorporated in the planning and implementation of the project activities. This will include measures to mitigate the impact of droughts (including careful planning of planting calendars, measures for reducing evapotranspiration, ensuring adequate watering, etc); procurement of best-possible quality seeds and other inputs; and the establishment of appropriate incentive structures for communities involved in the works.</p>

<p><b>UNEP projects in the Haiti Cote Sud Initiative Portfolio</b></p>	<p>2013-2015</p>	<p>The UNEP Haiti Country Office supports the implementation of a portfolio of projects in the Cote Sud region, a particularly disaster-prone part of the country. This includes a number of inter-related projects that were all completed within a common timeframe: Gouvernance Sud; Mer Sud; and Terre Sud.</p>	<p>?A number of interesting and useful lessons can be learned from this Project:</p>	<p>The project will have a strong element of collaboration among UN agencies, as its Executing Agency will be FAO.</p>
			<p>? <b>Collaboration among UN agencies</b> at the country level, dubbed as ?Delivery as One?, is a desirable objective, but one that can only be achieved if the said agencies are truly committed to such collaboration and if specific mechanisms are put in place to facilitate it.</p>	<p>The project?s intervention area is focused on six adjacent communes in two adjacent departments (in the Southwestern Haiti).</p>
			<p>? Impact is sometimes more likely with <b>a highly targeted focus of resources and effort</b> than if investments and interventions are spread over an entire country.</p>	<p>The project has a strong geographic focus on Southwestern Haiti, with interventions in two departments (and engagement of three departments through the regional-level governance mechanisms).</p>
			<p>? While UNEP aims to build capacity and promote change at a national level, certain programmatic benefits can be gained <b>from a specific geographic focus</b></p>	<p>The project implementation plan foresees the concurrent implementation of a range of activities.</p>
			<p>? Efficiency and effectiveness can be increased when <b>a range of activities are executed concurrently</b>.</p>	<p>The project will focus on strengthening and capacitating decentralised structures at all levels, including the creation of the regional governance mechanisms. Adaptive management (including vis-?-vis partnerships) will be a key approach in the implementation of the project, and any challenges or inefficiencies with administrative processes (including</p>
			<p>? Where governance is weak, the decentralised structures of public institutions may be more stable than their parent institutions at national level, and investments at local level can therefore be more productive. In contexts of weak organisational capacities, political uncertainty and high</p>	

## **9. Monitoring and Evaluation**

### **Describe the budgeted M and E plan**

The project will follow UNEP standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Appendix 5. Reporting requirements and templates are an integral part of the UNEP legal instrument to be signed by the executing agency and UNEP.

The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Appendix 3 includes SMART indicators for each expected outcome as well as mid-term and end-of-project targets. These indicators along with the key deliverables and benchmarks included in Appendix 5 of the Project Document will be the main tools for assessing project implementation progress and whether project results are being achieved. The means of verification to track the indicators are summarized in Appendix 3 of the Project Document. Other M&E related costs are also presented in the Costed M&E Plan (Appendix 5), and are fully integrated in the overall project budget.

The M&E plan will be reviewed and revised as necessary during the project inception workshop to ensure project stakeholders understand their roles and responsibilities vis-à-vis project monitoring and evaluation. Indicators and their means of verification may also be fine-tuned at the inception workshop. Day-to-day project monitoring is the responsibility of the project management team but other project partners will have responsibilities to collect specific information to track the indicators. It is the responsibility of the Project Manager to inform UNEP of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

The project Steering Committee will receive periodic reports on progress and will make recommendations to UNEP concerning the need to revise any aspects of the Results Framework or the M&E plan. Project oversight to ensure that the project meets UNEP and GEF policies and procedures is the responsibility to the Task Manager in UNEP-GEF. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

Project supervision will take an adaptive management approach. The Task Manager will develop a project supervision plan at the inception of the project which will be communicated to the project partners during the inception workshop. The emphasis of the Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring. Progress vis-à-vis delivering the agreed project global environmental benefits will be assessed with the Steering Committee at agreed intervals. Project risks and assumptions will be regularly monitored both by project partners and UNEP. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The

quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

A mid-term management review or evaluation will take place as indicated in the project milestones. The review will include all parameters recommended by the GEF Evaluation Office for terminal evaluations and will verify information gathered through the GEF tracking tools, as relevant. The review will be carried out using a participatory approach whereby parties that may benefit or be affected by the project will be consulted. Such parties were identified during the stakeholder analysis (see Section 2). The project Steering Committee will participate in the mid-term review and develop a management response to the evaluation recommendations along with an implementation plan. It is the responsibility of the UNEP Task Manager to monitor whether the agreed recommendations are being implemented.

An independent terminal evaluation will take place at the end of project implementation. The Evaluation and Oversight Unit (EOU) of UNEP will manage the terminal evaluation process. A review of the quality of the evaluation report will be done by EOU and submitted along with the report to the GEF Evaluation Office not later than 6 months after the completion of the evaluation. The standard terms of reference for the terminal evaluation are included in Appendix 7 of the Project Document. These will be adjusted to the special needs of the project.

In-line with the GEF Evaluation requirements and the UNEP Evaluation Policy, the project will be subject to a Terminal Evaluation. The Evaluation Office will be responsible for the Terminal Evaluation (TE) and will liaise with the Task Manager throughout the process.

The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. The project performance will be assessed against standard evaluation criteria using a six-point rating scheme. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP staff and implementing partners. The direct costs of the evaluation will be charged against the project evaluation budget. The TE will typically be initiated after the project's operational completion. If a follow-on phase of the project is envisaged, the timing of the evaluation will be discussed with the Evaluation Office to feed into the submission of the follow-on proposal.

The draft TE report will be sent by the Evaluation Office to project stakeholders for comment. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The final determination of project ratings will be made by the Evaluation Office when the report is finalized.

The evaluation report will be publicly disclosed and will be followed by a recommendation compliance process. The evaluation recommendations will be entered into a Recommendations Implementation Plan template by the Evaluation Office. Formal submission of the completed Recommendations Implementation Plan by the project manager is required within one month of its delivery to the project team. The Evaluation Office will monitor compliance with this plan every six months for a total period of 12 months from the finalization of the Recommendations Implementation Plan. The compliance performance against the recommendations is then reported to senior management on a six-monthly basis and to member States in the Biennial Evaluation Synthesis Report.

The LDCF tracking tool is attached in Annex F. It will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report. As mentioned above the mid-term and terminal evaluation will verify the information of the tracking tool.

TABLE 10 COSTED M&E PLAN

Type of M&E activity	Responsible Parties	Budget USD (Excluding project team staff time)	Time frame
Inception workshop and report	PM CTA M&E Specialist UNEP TM	Indicative cost: USD7,392	Within the first two months of project implementation. Will be undertaken at the national and sub-national scales.
Baseline study	PM M&E Specialist UNEP TM	Indicative cost: USD40,000	At project inception.
Measurement of means of verification of project results	UNEP TM M&E Specialist PM	Indicative cost: USD40,000  (composed of USD20,000 at mid-term and USD20,000 at project completion).	Mid and end of project (during evaluation cycle) and annually when required.
Measurement of means of verification for project progress on output and implementation	UNEP TM PM M&E Specialist CTA	Indicative cost: USD32,000  (Travel for PMU monitoring missions to project sites)	Quarterly, including prior to PIR and to the definition of annual work plans.
Annual Project Implementation Report (PIR)	PM M&E Specialist UNEP TM UNEP FMO (Fund Management Officer)	None	Annually

Type of M&E activity	Responsible Parties	Budget USD (Excluding project team staff time)	Time frame
Half-yearly progress report (HYPR)	PM M&E Specialist CTA UNEP TM	None	Quarterly
Mid-term Review (MTR)	UNEP TM/UNEP Evaluation Office	Indicative cost: USD40,000	At the mid-point of project implementation.
Terminal Evaluation (TE)	UNEP Evaluation Office	Indicative cost: USD55,000	At least three months before the end of project implementation.
Project terminal report	PM M&E Specialist UNEP FMO UNEP TM	None	Upon completion of the terminal evaluation.
Visits to pilot intervention sites	UNEP TM M&E Specialist PM PSC representatives	For GEF supported projects, paid from UNEP's IA fees and operational budget.	Two annual supervision missions by UNEP.
<b>TOTAL indicative COST excluding project team staff time and UNEP staff and travel expenses</b>		<b>Estimated Cost: USD213,752</b>	

#### 10. Benefits

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

The project is also expected to generate several adaptation benefits. Amongst those, it is anticipated that the project will increase the knowledge on climate change vulnerability and impacts, and how to conduct such assessments in a streamlined manner. Risk reduction measures (EbA and Eco-DRR) will then be able



to be selected based on the best available evidence, in relation to local conditions. Adaptation will be also be mainstreamed into local planning and budgeting, ensuring adaptation options are effectively implemented as part of long-term resilient planning.

The project will bring several socio-economic benefits to the coastal communities of the Baraderes and Cayemites Complex and targeted rural communities of Fonds Cochon. This will include, among others: i) increased financial security through strengthened livelihoods, new business opportunities through value chain development, and improved access to financial services; ii) increased food security, associated the increased adoption of sustainable fishing practices and soil and water management practices, and strengthened food value chains aimed at reducing among other fishing surplus; and iii) women and youth empowerment. Indeed, the project will directly contribute to improving the livelihoods and resilience to climate change of 104,999 direct beneficiaries of which approximately 47% male and 53% female.

Women's needs and ambitions will be considered carefully by the project, and the project intends to provide them significant social and economic benefits from its interventions in terms of livelihood diversification and climate-resilient value chains, including supporting better organization and increased access to finance to ultimately increase access to markets, and supporting adaptation technology adoption. Finally, by strengthening adaptation capacities, reducing vulnerability, and increasing the resilience of Haitian populations and institutions in the face of climate change with a view to contributing to sustainable development, the project is in line with article 7 of the Paris Agreement. Indeed, throughout the project's components acting at all levels of governance, working with communities, restoring ecosystems, and enhancing the ecological services they provide, the project will make a significant contribution both to the long-term global and national response to climate change to protect people, livelihoods and ecosystems while taking into account the specific urgent and immediate needs of the country. The proposed project will particularly contribute to article 7.7, which promotes the strengthening of institutional arrangements and the production of knowledge on climate adaptation needs. It will also help meet the commitment set out in article 7.9 to engage in adaptation planning, implementing adaptation actions based on assessments of climate change impacts and vulnerabilities, while building the resilience of socioeconomic and ecological systems, including through economic diversification and sustainable management of natural resources.

With respect to longer-term global impact, this project is also expected to contribute to the following Sustainable Development Goals:

- SDG 13: Take urgent action to combat climate change and its impacts;
- SDG 14: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development;
- SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss; and
- SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

## **11. Environmental and Social Safeguard (ESS) Risks**

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

**Overall Project/Program Risk Classification\***

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	Medium/Moderate		

**Measures to address identified risks and impacts**

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

The UNEP Safeguard Risk Identification Form (SRIF) was used to evaluate the environmental and social risks for the project (see attached below). This internal assessment has helped to categorize it as a 'Moderate Risk' project. The UNEP Safeguard Standards 1, 2, 6 and 8 were identified during the assessment for the possibility of adverse impacts on the project or by the project. Of these, the risk level for Safeguard Standard 1 (Biodiversity, Ecosystems and Sustainable Natural Resource Management) was rated 'low', and risk levels for Safeguard Standards 2 (Climate Change and Disaster Risks), 6 (Displacement and Involuntary Resettlement) and 8 (Labor and Working Conditions) were rated 'moderate'.

The details of how the project proposes to assess, mitigate and monitor these risks is presented in the draft framework for an Environmental and Safeguards Management Plan (ESMP) attached below. This will be updated at the start of project implementation, with guidance and oversight from an environmental and social safeguards expert included in the project budget. In addition to risks under Safeguard Standards ranked as 'moderate' risk, also risks for those ranked 'low' have been included where further assessment or mitigation actions are recommended.

The project Executing Agency (FAO) will have the overall responsibility for ensuring that the required assessments, mitigation measures, monitoring and reporting are undertaken. This responsibility will be reflected in the legal instrument to be signed between UNEP and FAO. FAO will report to UNEP on these aspects in biannual project progress reports.

Stakeholder consultation, engagement and participation in project management and monitoring throughout the project (see Section 2) is an important aspect of avoiding or minimizing the identified

safeguard risks. Furthermore, a grievance mechanism for the project will be put in place, and access to it provided through the UNEP project website, government website, as well as information to be made available at the community level.

**Supporting Documents**

Upload available ESS supporting documents.

Title	Module	Submitted
<b>ESMP Framework</b>	<b>CEO Endorsement ESS</b>	
<b>Safeguard Risk Identification Form (SRIF)</b>	<b>CEO Endorsement ESS</b>	

**ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).**

<p><b>Impact:</b> Strengthened climate resilience of ecosystems, livelihoods and communities of the South of Haiti contributes to the achievement of the SDGs and MEAs</p>				
<p><b>Intermediate outcomes:</b> Strengthened enabling environment to scale up EbA; increased adoption of SLM and EbA contributing to food security in the target landscape; increased involvement of the private sector in adaptation action; and scaling up of sustainable management practices for ecosystem-based livelihoods across Haiti's terrestrial and marine areas</p>				
<p><b>Project objective: To increase the adaptive capacity and resilience of communities residing amongst fragile ecosystems and vulnerable to recurring climate disasters</b></p>				
<p><b>Project objective indicator:</b> # direct project beneficiaries disaggregated by gender (individual people)</p>				
<p><b>Target:</b> 115,974 direct beneficiaries, of which 60,940 men and 55,034 women[1]</p>				
PROJECT OUTCOME	OUTCOME INDICATORS	BASELINE	TARGETS	MEANS OF VERIFICATION
Component 1	Climate-Resilient Governance and Planning			

<p><b>Outcome 1</b></p> <p>Strengthened institutional governance and capacity to reduce vulnerability of physical assets, natural systems, and livelihoods in Macaya buffer zone and Baraderes-Cayemites</p> <p><b>Output 1.1</b> <i>Two regional multisectoral climate change adaptation coordination mechanisms established in the Grand Sud region</i></p> <p><b>Output 1.2</b> <i>175 people in 13 institutions trained on climate change risk, vulnerability, and adaptation in the context of Haiti, targeting national (MDE, MARNDR, ANAP, SEMANA, and DPC), regional (SSRCC, CRCC), departmental (decentralized services of ANAP, MDE, MARNDR), and local (CLA, CLGRD, CCGRD) stakeholders</i></p> <p><b>Output 1.3</b> <i>Six community-led climate change vulnerability assessments undertaken and six communal adaptation plans developed</i></p> <p><b>Output 1.4</b> <i>EbA and Eco-DRR considerations integrated into six communal and two departmental contingency (disaster risk management) plans</i></p> <p><b>Output 1.5</b> <i>A climate-sensitive management plan for the Baradere-Cayemites PA developed</i></p>	<p><b>Indicator 1:</b></p> <p>Degree to which the capacity of targeted institutions is strengthened to identify, plan, implement and monitor adaptation (including EbA) interventions</p> <p><i>(measured with a capacity scoring methodology)</i></p>	<p>Baseline study to be conducted at the project inception stage to define the baseline level of capacity of targeted institutions to identify, plan, implement and monitor adaptation (including EbA)</p>	<p>Increase of 5 in the capacity score of each institution</p>	<p>Verified through scoring methodologies developed by the TAMD and PPCR and adapted from the GEFSec - AMAT (2014)[2].</p> <p>The indicator is based on a five-step capacity assessment framework (expressed as questions):</p> <ul style="list-style-type: none"> <li>? Are the institutions in the process of identifying climate change risks and appropriate adaptation interventions?</li> <li>? Are the institutions prioritising adaptation interventions and specifying budget allocations and targets for these interventions?</li> <li>? Have the institutions defined clear roles and responsibilities for the coordination and implementation of adaptation interventions?</li> <li>? Is there evidence of effective implementation of adaptation interventions by the institutions?</li> <li>? Is there evidence of adequate institutional capacities for the continuous assessment, learning and review of adaptation strategies and measures??</li> </ul> <p>Each question is answered with an assessment and score for the extent to which the associated criterion has been met: not at</p>
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Component 2	Ecosystem-based adaptation and disaster risk reduction in response to climate risks			
<p><b>Outcome 2</b> Enhanced climate-resilient land management, environmental protection and rehabilitation practiced by local authorities and communities</p> <p><i>Output 2.1</i> Erosion control techniques implemented with two pilot communities on 200 hectares of agricultural land on steep terrain</p> <p><i>Output 2.2</i> 30 km of coastlines and 35 km of riverbanks rehabilitated through targeted reforestation with climate-resilient coastal and riparian species</p> <p><i>Output 2.3</i> Three pilot sustainable woodlots of fast-growing tree species established on 100ha, with sustainable exploitation plans, to reduce destruction of mangroves and endemic trees for charcoal production</p> <p><i>Output 2.4</i> Two fishers' associations established, trained and supported for the adoption of sustainable fisheries management practices</p>	<p><b>Indicator 2:</b> Estimated number of individuals adopting climate-resilient land management, environmental protection and rehabilitation practices (disaggregated by gender)</p>	0	<p><b>Target:</b> 7,352 individuals adopt climate-resilient practices (5% of coastal population in the intervention area)</p>	<p>List of beneficiaries</p> <p>Surveys</p>

Component 3	Green Economy Approach for Resilient Ecosystem-based Livelihoods			
<p><b>Outcome 3</b></p> <p>Strengthened climate-resilient agricultural value chains with improved access to markets in Macaya and Baraderes &amp; Cayemites</p> <p><i><b>Output 3.1</b> At least 15 local climate-resilient cooperative businesses established and capacitated through training and technical support, for at least three value chains</i></p> <p><i><b>Output 3.2</b> At least 800 people benefitting from technical support and equipment for climate-resilient production and transformation technologies provided for at least three value chains</i></p> <p><i><b>Output 3.3</b> Partnerships (including with private sector) and financing schemes established to mobilize investment to strengthen resilient value chains and market access for at least 30 small businesses</i></p>	<p><b>Indicator 3:</b></p> <p>Increase in the income of value chain actors as a result of the introduction of market access support activities (gender disaggregated)</p>	<p><b>Zero</b></p>	<p><b>Target:</b></p> <p>Target to be established by the baseline study</p>	<p>Survey of beneficiaries of cooperatives</p>

[1] This figure of 115,974 is composed of: 104,999 direct beneficiaries (landscape and livelihood benefits) (Core Indicator 1), and 975 beneficiaries of training (Core Indicator 2), and another 10,000 beneficiaries of awareness raising.

The target was estimated based on 2015 IHSI data, for the communal sections of intervention. The total population of the targeted areas was 127,631 in 2015, projected to be 147,041 by 2023-2027 project implementation phase. Women represent 47% of the total population, and men 53%. However, where relevant, the project will seek to benefit 55% of women and 45% men (e.g. under Component 3 activities). It is estimated that the project activities will directly reach approximately 70% of the commune's population in terms of direct benefits from more resilient physical and natural assets, and all community members should indirectly benefit from the project through increased availability of information to all, restored ecosystems bringing adaptation benefits upstream and downstream, etc. The details of the calculations are available in the LDCF CCA Results Framework.

[2] Adapted from TAMD (2013) and PPCR (2014) scorecard indicators.

## **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).**

Responses to Comments from Council:

Haiti: Building Resilience in the Wake of Climate Disasters in Southern Haiti - UNEP - GEFID=10175

Comment by Kordula Mehlhart, GEF Council Member, Head of Division on Climate Finance, Council, Germany made on 1/7/2021

Comment:

Germany approves the following PIF in the work program but asks that the following comments are taken into account:

Germany welcomes the proposed project which aims to increase the adaptive capacity and resilience of communities in two areas in Southern Haiti, Macaya and Barraderes et Cayemites. Both project zones, recently declared as protected areas by the Government of Haiti, are highly vulnerable and exposed to frequent and severe climate events that threaten livelihoods and food security. Germany appreciates the emphasis on Ecosystem-based Adaptation (EbA) and Disaster Risk Reduction (Eco-DRR) applied throughout proposed activities, including (i) development of policy tools based on climate risk and vulnerability assessments, (ii) on-the-ground adaptation measures such as targeted reforestation with climate-resilient species, and (iii) activities aimed towards more climate-resilient livelihoods. The latter include innovative approaches e.g. by piloting sustainable woodlots to reduce the destruction of mangroves and native trees for charcoal production. Overall, Germany sees scale-up potential for this project in the Caribbean region.



Suggestions for improvements to be made during the drafting of the final project proposal:

? Core Indicators: The proposal refers to several project outputs that can be linked to GEF Core Indicators (e.g. Area of land/wetlands restored; Number of direct beneficiaries disaggregated by gender). These outputs are also included in the Theory of Change but not in the Table ?Core Indicators? (p.12-15). To provide a structured overview, Germany suggests linking the outputs to the corresponding Core Indicators and updating the table.

**Response:** As this is an LDCF project, the project will not be reporting on GEF Core Indicators but will report on CCA Indicators from its respective Results Framework. The CCA Tracking Tool is included in the CEO Endorsement Request as Annex F. Specifically, the project will have 104,999 direct beneficiaries (CCA Core Indicator 1), restore / manage for climate resilience 2,046 hectares of land (Core Indicator 2), mainstream climate change in 8 plans (Core Indicator 3), and train 975 people (Core Indicator 4).

Furthermore, mention has been added in Section 1a.6 of the CEO Endorsement Request of the co-benefits from the LDCF project in areas of climate change mitigation, biodiversity, and land degradation in particular.

Executing Partner: The proposal lists the Ministry of Environment in Haiti as an Executing Partner for the LDCF project. In the PIF Review document, the GEF Secretariat encourages the agency to reconsider the proposed execution arrangement. We recommend clarifying the current situation on this proposed arrangement.

**Response:** The proposed implementation arrangements have been clarified and FAO has been identified as the executing partner for this project.

Comment by Tom Bui, Director, Environment, Global Issues and Development Branch (MFM), Global Affairs Canada, Council, Canada made on 1/11/2021

Comment:

This project shares similarities with ?Haiti, improving the flow of ecosystem services in biologically-rich watershed of the southern region of Haiti? (5055479 USD). It would be important to avoid a duplication of work and seek synergies between the two where possible.

**Response:** The above-mentioned project was consulted during the PPG phase to ensure no duplication of efforts, and synergies and complementarities with this project are highlighted in Table 5 of the CEO Endorsement Request.

**Responses to STAP comments:**

<p>1. STAP commends the comprehensive descriptions on how lessons from several past and on-going initiatives will influence the design of this LDCF project. STAP encourages the project to apply the same rigor in the development of the causal pathways. This process entails backward mapping of, and supporting with evidence, the causal links between objectives, outcomes, outputs, and activities. In this regard, STAP looks forward to a refined theory of change in the final project document that demonstrates a backward mapping of causality, and builds in the assumptions, the barriers, and enablers, of change. STAP also recommends identifying barriers and opportunities to scaling up results in the theory of change. Currently, the proposal falls short of building scaling into causal pathways. Additionally, STAP recommends for the project developers to consider one, or two, additional simple pathways in the theory of change. Haiti faces significant climate risks and stressors, which are likely to require the</p>	<p>The project's ToC has been refined and includes the elements requested by STAP (impact pathways, drivers, assumptions, barriers, etc).</p>
<p>2. The problem statement is well-articulated. STAP appreciates that the description of climate trends reflects a range of possible climate outcomes, but notes that different climate futures are not reflected in the project design. To ensure a project is robust across a range of plausible futures, STAP suggests the project consider two or more plausible futures (perhaps drawing on different RCPs) and use that information to assess the challenges the project might face in achieving durable outcomes. At this point, the range of plausible variability appears quite large. For example, sea level rise between 16 and 62 cm reflects very different impacts on the project area which would likely require different activities or produce different expectations of project outcomes.</p> <p>The PIF also notes that climate variability is a significant challenge in the project area. However, there is no discussion of trend with regard to variability. It would be useful to know if variability was increasing or steady over time to ensure project design is managing the risks that such variability might pose to project outcomes.</p>	<p>This is well noted, and data has been added on RCP 4.5 and 8.5.</p> <p>Please note that UNFCCC CoP Guidance is that the LDCF should address urgent and immediate adaptation needs of vulnerable communities, which this proposal does. Furthermore, the urgency of the needs in Haiti, and the extent of land degradation, mean that actions undertaken on the ground need to immediately address current climate hazards and their impacts on communities and the environment in the framework of Eco-DRR, while ensuring to additional support for long-term adaptation planning. This is therefore the approach taken by the project, which recognizes the high level of uncertainties associated with climate projections, and the need to engage the country in more robust adaptation planning.</p>

<p>3. STAP notes that the PIF mentions co-financing from the World Bank 'Strengthening Hydro-Meteorological Services' project that ends in 2020. As this project is still at the PIF stage, it seems that the World Bank project will be completed before the proposed project starts. STAP recommends revising this in the PIF and considering the impact of this lost financing on project outcomes.</p>	<p>Additional co-financings were mobilized during the PPG phase, which will therefore positively affect the LDCF project outcomes. The total value of co-finance identified for the project has been increased to USD24,341,939 (from USD 12,650,000 at PIF stage).</p>
<p>4. STAP notes that this baseline is not articulated in a manner that allows for measurement. For example, it does not lay out current trends in land degradation or invasive fish species impacts that would allow for the establishment of at least notional measurements of the baseline scenario. Such measurements would be useful for then identifying expected outcomes under the alternative scenario, and the indicators and measures needed to monitor progress towards those outcomes.</p> <p>STAP notes that such robust baselines appear to be planned for development as part of project activities under Components 1 and 2. STAP suggests the project ensure these baselines provide robust measures to inform both project design and project monitoring.</p>	<p>Well noted and this advice has been integrated to highlight how elements of the different diagnostic/baseline studies will feed into project design (e.g. identification of specific sites and technology needs) and monitoring.</p>
<p>5. Partly. The PIF briefly mentions lessons from some of the initiatives listed under the baseline scenario. In the project document, suggest elaborating on the lessons, including lessons on scaling, and how they will contribute to this LDCF project.</p>	<p>Lessons learnt were extracted from several projects and are presented in the Knowledge Management section of the CEO Endorsement Request, in Tables 8 and 9. They have also informed the design of the project activities.</p>
<p>6. In component 2, it will be valuable to consider the social structures (e.g. gender, culture, values, norms, among others) when designing the rehabilitation measures using EbA and Eco-DRR. Often, not accounting for social structures have constrained the impact of EbA and Eco-DRR approaches.</p>	<p>This is well noted, and the project proposes to build on best practices to ensure a participatory process, which will amongst others support the identification of the implementation strategies, including identifying the organizational set-up, and establishment of roles and responsibilities for the maintenance of the works, as well as clarifying ownership (e.g. if there is no individual ownership, whether there is a need for new management rules for exploitation of newly-planted trees; or if the producer is the owner of the plantations). Furthermore, the Gender Action Plan identifies specific activities for integrating gender aspects in project implementation, while fully considering the prevailing gender norms in the project areas.</p>

<p>7.The discussion of scaling up is vague, simply noting that there are several aspects of the project designed to be replicated and scaled up. There is an assumption that piloting climate-resilient management and rehabilitation practices; implementing value chains; integrating climate resilience and disaster risk management across governing sectors; among other interventions, will lead to innovation and scaling. STAP strongly suggests that the project articulate the mechanisms for scaling-up behind these opportunities at the PPG stage to ensure that it engages productive practices that multiply the impacts of the project.</p>	<p>The scaling up approach has been refined, and is now anchored in a strong and comprehensive Knowledge Management and Communication strategy, to be put in place at project start and implemented (under Output 6.1). A systematic approach to knowledge management will ensure that experiences and lessons learnt from the project are captured and disseminated efficiently, which is crucial for the replication and scaling up of good practices. Furthermore, the establishment of regional adaptation governance and coordination mechanisms, if successful, could be replicated elsewhere, and could thus become a vehicle for the upscaling of successful project approaches in other regions of the country.</p> <p>To further facilitate scaling up of successful project approaches, an Upscaling Strategy for EbA and Eco-DRR in Haiti will be developed in the last year of the project (Output 1.6). This will draw on the experiences and lessons learnt from this and other relevant projects.</p>
<p>8.STAP suggests describing stakeholders? roles, particularly at the outcome level. Additionally, amend stakeholder plans as needed after ensuring during the project design that the relevant stakeholders have been identified.</p>	<p>This can now be found in the Stakeholder Engagement Plan, which is included in Section 2 (Stakeholders).</p>
<p>9.There is no discussion of how climate risk might affect the project?s outcomes over the 2020-2050 period. STAP strongly suggests the project consider how such risks will impact the project outcomes. STAP further suggests the project consider more than one plausible future climate scenario when assessing this risk to ensure a range of plausible impacts on the project are considered and addressed.</p>	<p>Please refer to response 2. Haiti faces high levels of risks to natural hazards, including climate hazards. The project takes those into consideration in its draft Environmental and Social Management Plan (ESMP).</p>

**ANNEX C: Status of Utilization of Project Preparation Grant (PPG).  
(Provide detailed funding amount of the PPG activities financing status  
in the table below:**

<p>PPG Grant Approved at PIF: <b>USD 150,000</b></p>	
<p><i>Project Preparation Activities Implemented</i></p>	<p><i>GETF/LDCF/SCCF Amount (\$)</i></p>

	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
National consultants	55,649	0	55,649
Workshops, meetings and local travel	39,401	23,761	15,640
International consultants	54,950	10,950	44,000
<b>Total</b>	<b>150,000</b>	<b>34,711</b>	<b>115,289</b>

#### **ANNEX D: Project Map(s) and Coordinates**

**Please attach the geographical location of the project area, if possible.**

Please see Section 1b (Project map and geo-coordinates).

#### **ANNEX E: Project Budget Table**

**Please attach a project budget table.**

The detailed project budget is uploaded in the supporting documents.

#### **ANNEX F: (For NGI only) Termsheet**

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

#### **ANNEX G: (For NGI only) Reflows**

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agency is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

#### **ANNEX H: (For NGI only) Agency Capacity to generate reflows**

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required

clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).