



# REQUEST FOR MEDIUM-SIZED PROJECT APPROVAL (1-STEP PROCEDURE)

TYPE OF TRUST FUND: GEF Trust Fund

## PART I: PROJECT IDENTIFICATION

Project Title:	Managing the Human-Biodiversity interface in the southern Marine Protected Areas of Haiti - MHBI		
Country(ies):	Haiti	GEF Project ID: <sup>1</sup>	9803
GEF Agency(ies):	IADB (select) (select)	GEF Agency Project ID:	HA-G1036
Other Executing Partner(s):	Ministry of Environment	Submission Date:	05/16/2017
GEF Focal Area(s):	Biodiversity	Project Duration (Months)	48
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>		
Name of parent program:	[if applicable]	Agency Fee (\$)	173,515.00

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

Focal Area Objectives/programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
BD-4 Program 9	<b>Outcome 9.2</b> Sector policies and regulatory frameworks incorporate biodiversity considerations	GEFTF	838,242	10,350,000
CCM-2 Program 4	<b>Outcome A.</b> Accelerated adoption of innovative technologies and management practices for GHG emission reduction and carbon sequestration	GEFTF	988,243	250,000
<b>Total project costs</b>			1,826,485	10,600,000

## B. PROJECT FRAMEWORK

**Project Objective:** The general objective of this project is to contribute to improving the conservation and management effectiveness of the Grosse Caye/Zone humide d'Aquin and Olivier/Zanglais Marine Protected Areas.. The specific objectives are to: (i) improve fishery management in MPA (ii) mitigate climate change through critical ecosystems restoration.

Project Components	Financing Type <sup>3</sup>	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
<b>Component 1</b> Integrating Marine Protected Areas (MPAs) management into local fishery sector	TA	1.1 Marine Protected Areas administration strengthened in promoting biodiversity conservation into local fishery sector  <i>Indicator:</i> <i>Fishery Managed Access Plan complied with by 5 fishermen associations</i>  <i>5 Fishermen associations strengthened and structured</i>	1.1.1/ 10 technical employees of the MPAs administration trained in managing MPAs	GEFTF	500,000.00	10,100,000.00
			1.1.2/ Guidelines elaborated on best practices in implementing fishery regulation tool in MPA			
			1.1.3/ 12 awareness campaigns conducted towards local communities on MPA's ecosystems value			
			1.1.4/ Fishery Managed Access Plan developed and implemented with 5 fishermen associations			
			1.1.5/ 5 experimental fishery replenishment areas equipped and monitored			
	TA	1.2 Sustainable alternative economic activities	1.2.1/ A study to characterize the value of services provided by		250,000.00	250,000.0

<sup>1</sup> Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

<sup>2</sup> When completing Table A, refer to the GEF Website, [Focal Area Results Framework](#) which is an *Excerpt from GEF-6 Programming Directions*.

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

		developed for communities depending on MPAs' ecosystems.	MPAs' ecosystems conducted			
		<b>Indicator:</b> <i>Income share generated from natural resources exploitation among beneficiaries of the pilot projects: from 26% to 20%.</i>	1.2.2/ 2 alternative economic pilot projects led by local communities implemented			
<b>Component 2</b> Increasing CO2 storage capacity in Marine Protected Areas	TA	2.1 National and local authorities strengthened in monitoring CO2 storage.	2.1.1/ Methodology to characterize the current and future potential storage capacity of mangroves, seagrass and reef ecosystems developed and implemented	GEFT F	150,000.00	0
		<b>Indicator:</b> <i>4 Annual monitoring reports issued by the Ministry of Environment</i>	2.1.2/ National and local authorities trained on the use of CO2 storage monitoring tools			
	TA	2.2 CO2 storage capacity of MPA ecosystems increased	2.2.1/ Plantation plan for the mangrove developed		750,000.00	250,000.0
			2.2.2/ 100ha of mangroves restored (30% of the current surface)			
		<b>Indicator:</b> <i>Incremental CO2 stored: 2,985 Teq CO2</i>  <i>80% of targeted mangroves effectively restored</i>	2.2.4/ 2 pilot projects for coral reef and sea grass beds restoration conducted			
Subtotal					1,650,000.00	10,600,000.00
Project Management Cost (PMC) <sup>4</sup>				GEFTF	176,485	0
<b>Total project costs</b>					1,826,485	10,600,000.00

If Multi-Trust Fund project :PMC in this table should be the total and enter trust fund PMC breakdown here ( )

<sup>4</sup> For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

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

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Donor Agency	Inter-American Development Bank	Grant	10,500,000
Recipient Government	Ministry of Environnement	In-kind	100,000
Total Co-financing			10,600,000

### D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee <sup>a)</sup> (b)	Total (c)=a+b
IADB	GEF TF	HAITI	Biodiversity	Biodiversity	838,242.00	79,633.00	925,000.00
IADB	GEF TF	HAITI	Climate Change	Climate Change	988,243.00	93,882.00	1,075,000.00
<b>Total Grant Resources</b>					1,826,485.00	173,515.00	2,000,000.00

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

## E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS<sup>5</sup>

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<b>18 527 ha</b>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>Not concerned</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins; 20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	Number of freshwater basins <i>Not concerned</i> Percent of fisheries, by volume <i>Not concerned</i>
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO <sub>2e</sub> mitigated (include both direct and indirect)	<b>2,985 Teq CO<sub>2</sub></b>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>Not concerned metric tons</i>
	Reduction of 1000 tons of Mercury	<i>Not concerned metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>Not concerned ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	Number of Countries: <i>Not concerned</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	Number of Countries: <i>Not concerned</i>

## F. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? No

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

NO

## G. PROJECT PREPARATION GRANT (PPG)<sup>6</sup>

Is Project Preparation Grant requested? Yes ☐ No ☒ If no, skip item G.

### PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS\*

GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee <sup>7</sup> (b)	Total c = a + b
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0
<b>Total PPG Amount</b>					<b>0</b>	<b>0</b>	<b>0</b>

<sup>5</sup> Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the *GEF-6 Programming Directions*, will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

<sup>6</sup> PPG of up to \$50,000 is reimbursable to the country upon approval of the MSP.

<sup>7</sup> PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

## **PART II: PROJECT JUSTIFICATION**

### **1) PROJECT DESCRIPTION**

#### **1.1. The global environmental problems, root causes and barriers that need to be addressed.**

#### **Biodiversity**

##### *Problems*

##### Local communities depending on natural resources exploitation

The communities concerned by this project are concentrated around two coastal cities: Aquin and Saint-Louis du Sud. The total population is about 170 000 inhabitants<sup>8</sup>. A third (31%)<sup>9</sup> of these communities is living in extreme poverty with less than 2USD per day. In 2011, in accordance with the national trend, the agriculture was the main economic activity with 55% of the active population concerned. The second sector of the local economy is the exploitation of natural resources (charcoal, wood and fishery). However, agriculture represents only 4% of the total incomes of the people whereas the exploitation of natural resources represents 26% of the incomes. In 2011, the GDP per capita of 50% of the population is 330USD, which is half of the national average.

##### High Natural capital under pressure

A total of 31 Key Biodiversity Areas (KBAs) have been identified in Haiti, of which 14 are marine or coastal. While just the east part of the MPA Saint -Louis is considered as a KBA, The MPA Grosse Caye is entirely considered as a KBA (Maducaque KBA). According the KBA<sup>10</sup> study and to the IUCN Red List of Threatened species, in these two targeted MPAs there are:

- 5 Critically Endangered species (CR): reptiles (*Dermochelys coriacea*, *Eretmochelys imbricate*), fish (*Hyporthodus nigritus*) and corals (*Acropora cervicornis*, *Acropora palmata*).
- 3 Endangered species (EN): reptiles (*Caretta caretta*, *Chelonia mydas*), fish (*Epinephelus striatus*).
- 16 Vulnerable species (VU): reptiles (*Cyclura cornuta*), fish (*Balistes vetula*, *Hippocampus erectus*, *Hyporthodus flavolimbatus*, *Lachnolaimus maximus*, *Lutjanus analis*, *Lutjanus cyanopterus*, *Mycteroperca interstitialis*, *Thunnus obesus*), shark (*Isurus oxyrinchus*) and corals (*Agaricia lamarcki*, *Dendrogyra cylindrus*, *Dichocoenia stokesii*, *Montastraea annularis*, *Mycetophyllia ferox*, *Oculina varicosa*).

This high value has been recognized by the International Coordinating Council of the Man and the Biosphere (MAB – UNESCO ) in 2015 when it declared the “Massif La Hotte” a biosphere reserve which encompass the two targeted MPA (See Annex C). Despite this high natural capital, Haiti remains at the last position of the Environmental Performance Index (EPI 2014<sup>11</sup> ) for the Latin America and Caribbean Regions.

In 2012, The Nature Conservancy<sup>12</sup> has carried out a rapid ecological assessment of the marine environment of the South Coast Line of Haiti including the two targeted MPAs. The main conclusions that characterize the environmental problems are as follow:

- Coral reef: heavy sedimentation is occurring in the coastal bays near the mainland and has significantly impacted remaining reefs. This sedimentation combined with overfishing of herbivore fishes prevents the development of alga over reefs and generates an important threat for the survival of the reef. However, there are some regeneration signs that show that with proper management and protection the coral reef could still be regenerated.
- Fish: The fish stock is overfished and thus the fish biomass is very low. Although reliable fisheries statistics do not exist for Haiti, available evidence shows a catch reduction per fishing trip in coastal waters<sup>13</sup> indicating that inshore stocks are either fully exploited or depleted, therefore threatening the sustainability of the sector and the

<sup>8</sup> IHSI 2015

<sup>9</sup> Plan de co-gestion de l'Unité Hydrogéographique Aquin/Saint Louis du Sud – PNUD - 2012

<sup>10</sup> Les zones clés de la biodiversité d'haïti, Société Haudubon - 2011

<sup>11</sup> Environmental Performance Index, EPI, Yale Center for Environmental Law & Policy (YCELP) and the Center for International Earth Science Information Network (CIESIN) - 2014

<sup>12</sup> Ministry of Environment, UNEP, CSI, TNC. Habitat and Fisheries Baseline Assessment, September 2012

<sup>13</sup> IRAM, 2007.

resource. According to the observations made for the study, most of the juvenile fish (2-3 inch) are regularly captured. The research team has observed only one fish of 30cm during their survey along the southern coastline in shallow water.

- Mangroves: Between 1990 and 2000, in the South, the mangrove has decreased (140ha) in some part of the coast but also increased in other (87ha) for a total of 4 000ha. Overall, the total surface of mangroves is slightly decreasing. It is important to note that the Aquin MPA is one of the areas where the mangrove has decreased the most due to charcoal production and urban development towards the coast line.

### *Causes*

#### Lack of Marine Protected Areas Management

In 2010, Haiti has committed to achieving Aichi's goals<sup>14</sup> regarding the declaration and management of terrestrial and marine protected areas. To date<sup>15</sup>, 4.2% of the terrestrial surface and 4.3% of the marine surface have been declared as PA. However, most of MPA remain without management plans and without local managing authorities; the targeted MPAs are, so far, "paper parks". Furthermore, the enforcement of MPAs remains a challenge as the enforcement unit of the Ministry of Environment does not have sufficient staff and is not equipped for marine surveillance.

#### Lack of Fishery sector regulation and organization

Artisanal fishing remains the main type of marine fishery in Haiti. Fishing is a diversified and largely unrestricted artisanal activity, with the relative importance of main fishing practices varying considerably among localities<sup>16</sup>. According to a rapid socio-economic study<sup>17</sup> conducted in 2012 in the southern coast of Haiti; the fishery sector in the targeted areas is as follow:

- Unstructured sector: 5 500 Fishermen in the south with only 15% of them organized in association. Nearly half of these fishermen (2600<sup>18</sup>) are located in the two targeted MPAs. During the survey, more than half of the fishermen have denied answering questions about their perception of fishermen associations.
- A seasonal and part-time activity: Only 42% of the fishermen have only fishery as their income-earning activity. Most of them combine fishery with agriculture and livestock.
- Lack of fishery equipment: Only 2% of the fishermen have motorized embarkations. Most of them (51%) use pirogues that conduct to unsafe working conditions and force them to overexploit the resource in continental water. This is particularly accurate in Aquin, where 75% of the fishermen fish in continental water whereas in Saint-Louis 45% of fishermen fish in shallow-water.
- Damaging fishing practices: failure to respect closed seasons for lobsters, the use of purse seines, compressor fishing, night fishing on drums, and the use of small net gauges which result in the capture of immature individuals that have not reached reproductive age.
- Lack of regulation: As there is no enforcement, the fishery gears and practices are uncontrolled (no season regulation, no minimum catchment size and no managed catchment areas) thus the pressure on marine resources is very high, especially in shallow waters.

### *Barriers to be addressed*

Lack of / no capacity of the local MoE to manage MPAs and integrate local communities: PA management is a relatively new challenge in Haiti (started in 2006). Up to date, there is no implemented management plan of MPA in the country. Moreover, the marine environment is not well known by public authorities and the MoE has not skilled staff with strong expertise in marine ecosystems management.

In addition, The MoE and especially the National Agency for Protected Areas have very limited capacity to get effectively involved in the management of PA: this includes technical capacity for monitoring as well as the availability of means to establish proper participatory enforcement systems in collaboration with local populations.

<sup>14</sup> 17% of terrestrial and 10% of marine country surface declare protected areas. Plan stratégique pour la diversité biologique 2011-2020 et les Objectifs d'Aichi – CBD - 2011

<sup>15</sup> Etat d'avancement du Système National des Aires Protégées d'Haïti au 1er Janvier 2016 et suivi de l'atteinte de l'Objectif II d'Aichi, ANAP / GIZ - 2016

<sup>16</sup> Célestin 2004, Damais et al. 2007, Favrelière 2008

<sup>17</sup> Évaluation de la situation de la Pêche sur la Côte Sud d'Haïti (Saint Jean du Sud à Aquin y compris Ile-à-Vache), PADI - 2012

<sup>18</sup> Inventaire Préliminaire Du Secteur Pêche Saint Jean du Sud, Torbeck, Cayes, Cavaillon, Saint Louis du Sud, Ile à Vache, Aquin, UNEP - 2011

Lack of integrated approach between fishery sector and MPA management: The management of fishery depends on the Ministry of Agriculture whereas the management of PA depends on the MoE. Over the years, these two Ministries have faced challenges in working together due to a different vision of natural resources management: production vs conservation.

Difficulty to sustainably involve local communities: in the two targeted areas the fishermen, that will be the main community involved in MPAs management, are not structured in working communities or associations. There is not yet a habit of community involvement in the sector.

Furthermore, as local populations have no alternative livelihoods sources due to the high level of risk they are already facing, the management and enforcement of marine natural resources can be unaccepted locally.

## **Climate Change**

### *Problems*

#### High vulnerability to climate change and natural disasters

Haiti is one of the most vulnerable countries to climate change<sup>19</sup>. Its potential consequences such as natural disasters, the scarcity of water resources, loss of biodiversity and loss of food sovereignty already have a huge impact on populations. Due to its location, the south coast of Haiti is exposed to extreme weather events and natural risks. Those extreme climatic events increase losses in agriculture by negatively impacting crop yields and farmers' income, and therefore increase the already high pressure on land and water to produce staple food and cash crops. For instance, the Hurricane Matthew that hit the southern coast of Haiti in October 2016 caused severe damages and resulted in an estimated 603.8 million USD loss in the agricultural sector alone and a 11.2 million USD loss in the environmental sector<sup>20</sup>. Yet, in the two MPAs considered, mangrove forests and ecosystems are currently undergoing sharp environmental deterioration<sup>21</sup>. If the current rate of destruction of Haiti's mangroves is unknown, however it is believed to be extreme as charcoal is the primary fuel used in the country and hardly can a single mangrove site be found in which there is not wood harvesting and/or charcoal production<sup>22</sup>. This destruction reduces critical ecosystem services such as fisheries production, shoreline protection/stabilization, storm protection, and carbon sequestration<sup>23</sup>.

### *Causes*

#### Weak institutional capacity and low financial resources in the field of Climate change

Climate Change policies are relatively new in Haiti and there is no clear national strategy to protect and increase carbon stocks. There are some isolated initiatives led by the Ministry of Environment mainly through GEF projects (see list of projects in the area in Table A.7) but Climate Change mitigation is not a priority for the Haitian government as opposed to Climate Change adaptation. Besides, weak institutional capacity and financial resources limit Haiti's ability to coordinate effective responses to natural disasters and to take sufficient mitigation and adaptation measures.

#### Economic dependence of local communities on charcoal production

Mangrove and dry forest ecosystems in the two MPAs are undergoing a process of high environmental degradation, especially since their natural resources have been so far a source of revenues for many people. There is therefore a strong pressure not only on mangroves trees but also all other resources (molluscs, fish, wildlife) impacting coastal and marine ecosystems, and thus their blue carbon stocks potential. Charcoal is an effective means of generating revenue to respond to pressing economic needs, such as school fees, ceremonies such as weddings and funerals, or health care costs. In particular, production and sale of wood fuels are one of the main means of earning much needed cash<sup>24</sup> income in Haiti's

<sup>19</sup> Global Climate Risk Index 2016 Who Suffers Most From Extreme Weather Events? Weather-Related Loss Events in 2014 and 1995 to 2014. Kreft, Sönke, David Eckstein, Lukas Dorsch, Livia Fischer, and Germanwatch. 2015.

<sup>20</sup> République d'Haiti, Ministère de l'Economie et des Finances, 2016, Evaluation rapide des Dommages et des Pertes occasionnés par l'Ouragan Matthew et éléments de réflexion pour le relèvement et la reconstruction.

<sup>21</sup> Plan de gestion de la mangrove et de la forêt sèche dans le département du Sud, Unité Hydrographique Aquin-Saint Louis du Sud, MDE, 2016.

<sup>22</sup> Haiti South Department Forest Energy Supply Chain, UNEP Haiti, 2016

<sup>23</sup> Rapid Assessment of Haiti's Mangroves, Fondation pour la Protection de la Biodiversité Marine FoProBiM, 2014.

<sup>24</sup> Haiti South Department Forest Energy Supply Chain, UNEP Haiti, 2016

rural South Department. Mangrove forests are then frequently targeted and can account for up to 20% of wood used for charcoal production in certain areas of the two MPAs.

#### *Barriers to be addressed*

##### Lack of systematic Carbon stock monitoring in Haiti and reporting at the national level

Along with the fact that Climate Change mitigation policies are not a priority in Haiti and are relatively recent, there is no systematic carbon stock monitoring in Haitian forests, and no institutional and technical capacity to do so, at the national as well as at the local level. In particular, there is a lack of governance framework and policy instruments to monitor and report carbon mitigation. As of today, the chain of command is not clear, and the roles and responsibilities of all involved stakeholders in carbon monitoring at the local and national level are not defined.

##### Lack of mangrove restoration strategy

If a management plan for Mangrove forests was recently released by the Ministry of Environment in May 2016<sup>25</sup>, there is no strategic action plan defining precisely where and to what extent the different kinds of mangrove forests should be restored and extended. As of today, there are only isolated plantation initiatives that are not coordinated and there is no long term vision for mangrove restoration and protection along with local communities economic activities.

Charcoal needs: According to a recent study carried out by the United Nations Environment Program (UNEP),<sup>26</sup> Haiti's constant demand for wood energy resources has kept consistent pressure on the remaining forest resources in the country. In coastal areas, mangroves and other coastal tree and shrub species are targeted. As of today, there is lack of initiative to regulate and tackle the use of mangroves for wood fuels.

#### 1.2. The baseline scenario and any associated baseline projects

##### **Biodiversity**

Protected Areas Management: As mentioned before, most MPAs in Haiti remain “paper parks”. The MoE does not have the proper resources to manage them. To improve the management of the two targeted MPAs, the IADB is supporting the MoE in drafting and implementing a management plan for these MPAs. This support is done through the “sustainable coastal tourism program” (US\$36 million).

Fishery sector regulation and organization: The IADB is carrying out a fishery project, “Artisanal Fisheries Development Program” (US\$15 million) that promotes the improvement of the income of small fishers in three southern regions of Haiti (South, South-East and Grande Anse), through the sustainable development of artisanal fisheries. In the South Department, Aquin and Saint Louis are part of the targeted areas.

Watershed and Urban planning: The IADB is also conducting a “sustainable coastal tourism program” in the south of Haiti that aims at increasing tourism employment and income for local population and Low Income People in the South Coast. The two targeted MPAs represent a high potential for the development of the tourism in the South.

To cope with the lack of management of the Aquin/Saint Louis Watershed, the UNDP has been supporting the MoE in drafting and implementing a regional watershed management plan. This project is now closed but the guidelines and action plans are taken into account in the design of the proposed GEF project.

##### **Climate Change**

Climate change adaptation: Until October 2016, the UNDP is supporting the MoE in strengthening adaptive capacity of local communities to climate change in the framework of the Increasing resilience of ecosystems and vulnerable communities to CC” project. The outcomes of this closing project, which include the improvement of forest and land use climate resilient practices in five protected areas and the increase of ecosystem and livelihood resilience, are integrated in the design of the proposed GEF.

<sup>25</sup> Plan de gestion de la mangrove et de la forêt sèche dans le département du Sud, Unité Hydrographique Aquin-Saint Louis du Sud, MDE, 2016.

<sup>26</sup> UNEP Haiti, 2016, Haiti South Department Forest Energy Supply Chain



Moreover, to assess the vulnerability of Aquin towards natural disaster, the IADB is supporting the GoH in carrying out a vulnerability study within the “sustainable coastal tourism program”.

Climate change mitigation through mangroves protection and restoration: Along with UNDP, the Haitian Ministry of Environment created in 2013 a center for nature interpretation (CINA), as part of the Co-Management Plan for the Hydrographic Unit (U.H) of Aquin and Saint Louis du Sud. CINA is the first nature interpretation center in Haiti and is a strategic tool for the protection of existing mangrove and dry forest ecosystems in Haiti, particularly in the communes of Aquin and St -Louis du Sud. The objectives of the center are to highlight the ecological values of the Hydrographic Unit of Aquin / Saint-Louis du Sud; to raise awareness among local people on the importance of natural resources in the area; to contribute to the protection of natural resources; to strengthen the knowledge of schoolchildren and students about the importance of ecosystems.

### 1.3. The proposed alternative scenario, with a brief description of expected outcomes and components of the project.

The two targeted areas supported by this GEF project have been chosen regarding a complementary approach that do not duplicate to UNEP and UNDP GEF funded interventions for Marine Protected Areas management in South peninsula. Indeed, the Ministry of Environment (MoE) through its National Agency for Protected Areas (NAPA) has formed a regional (South) coalition involving all MPA stakeholders in order to manage and create synergies among all internationally funded interventions in the southern MPAs. The IADB, was chosen to support the NAPA in managing the Grosse Caye/Zone humide d’Aquin and Olivier/Zanglais MPAs for the following reasons:

- The IADB is already involved in supporting the management of these two MPAs through two ongoing projects aiming at i) developing sustainable tourism in the south of Haiti (through the elaboration of MPAs management plans elaboration and the implementation of eco-tourism activities) and ii) supporting an artisanal fisheries development program in the South of Haiti (fish stock studies, improvement of legal framework and innovative fishing techniques).
- In the westernmost part of the South of the country, both UNDP and UNEP are already supporting the management of MPAs with GEF funding while the easternmost part haven’t had a specific intervention on MPA management yet.

#### **Objectives of the proposed project**

The general objective of this project is to contribute to improving the conservation and management effectiveness of the Grosse Caye/Zone humide d’Aquin and Olivier/Zanglais Marine Protected Areas. The specific objectives are to: (i) improve fishery management in MPA (ii) mitigate climate change through critical ecosystems restoration.

The values added of this project are:

- Local communities will be involved in decisions making and in the management of the two MPAs. This approach will insure ownership and warranty the sustainability of the intervention once the project closed;
- Management and enforcement of MPA will be enhanced;
- Incomes for local population from natural resources exploitation will be sustainably managed and diversified;
- Integrated approach between biodiversity conservation and economic development (complementarity of the 2 components);
- Integrated approach between the two focal strategy of the GEF (biodiversity and climate change): restoring the mangrove will increase CO2 storage capacity, restore marine ecosystems and protect the coast line from natural disasters;
- Shared methodology and approach with other GEF funded projects in the south of Haiti promoting sustainable management in MPAs.

The long term solution to the threats listed before requires an integrated approach between biodiversity conservation and local economic development which recognizes the links between i) the local populations depending on natural resources and ii) the vulnerable and endangered marine ecosystems. In other words, it is essential to **have an integrated management of the human-biodiversity interface** in the two targeted MPAs. This starts with the implication of the population and communities at every step of the decision making process to insure the ownership of the intervention and,

in the long term, go over the project driven approach. The next step is to work with local communities and MPAs authorities in designing regulation, management and enforcement tools that benefit to both the communities and to ecosystems.

## **Component and Outputs**

### Component 1 Integrating MPA management into local fishery sector

The first component aims at integrating the conservation of the marine and coastal ecosystems into the local fishery sector by regulating the access to marine resources while supporting economic growth of coastal communities that depend on these resources. The integration and participation of local communities is a key factor for the ownership and success of this component.

#### **Outcome 1.1 MPA administration strengthened in promoting biodiversity conservation into fishery sector**

Under the baseline scenario, a management plan will be developed for the two targeted MPAs. The project will contribute to its implementation by regulating the fishery sector with the goal to protect and restore marine and coastal ecosystems while.

The project will invest in strengthening MPAs administration capacities in cooperating with the fishery sector to sustainably manage marine and coastal ecosystems. In order to do so, MPAs staff will be trained in managing MPAs and especially in integrating biodiversity protection into production sector with a focus on the fishery sector. Exchanges with other MPAs administration throughout the country and in the Caribbean region will be organized.

Local communities will also be trained on MPA's ecosystem values. Once again, while preserving the biodiversity the objective is to encourage sustainable initiatives that rely on ecosystems valorization and production.

Regarding the fishery sector, lessons learned throughout the country in PAs management show that the regulation of the access to natural resources can only be done if local communities are involved. Therefore, to achieve this outcome, 5 fishermen associations will be strengthened and supported by the MPAs administration in developing mechanisms and capacities for environmental management decision-making. This will result in the development of a Fishery Manages Access Plan (FMAP). This FMAP includes:

- Characterization of current fishing zones;
- Identification a registration of fishermen and their equipment;
- Definition of fishing zones and associated regulations (catchment sizes and seasons);
- Implementation of 5 experimental fishery replenishment areas (no take zones);
- Definition and implementation of MPAs surveillance and monitoring.

Trainings will be provided to local fishermen associations in order to build local capacities in managing marine resources. Regional exchanges with other fishermen association involved MPAs management will be organized (particularly with the GEF supported projects in the southern peninsula).

At the end of the project, the MPA administration will develop national guidelines on best practices in implementing fishery regulation tool in MPA.

#### **Outcome 1.2 Sustainable alternative economic activities developed for communities depending on MPAs' ecosystems.**

While regulating the fishery sector and protecting the mangrove, the project will support the development of alternative sustainable activities for communities depending on MPAs' ecosystems. First, a study to identified all services provides by MPAs' ecosystems and their economic value will be carried out. This study will also identify possible alternative activities (ecotourism, salt production, mariculture) that could be implemented by local coastal communities. A focus on mangroves ecosystems will be made to assess possible alternatives to the use of mangrove trees for wood fuels. Secondly, the project will support the development and implementation of 2 pilot projects that have been identified. A specific attention will be made towards woman associations (local fish vendors for example).

## Component 2 Increasing CO2 storage capacity in MPAs

The main objectives of this component are to strengthen national and local capacities in monitoring the mangrove forests CO2 carbon stock and to restore 100 ha of mangrove forest in order to increase their actual storage capacity. The restoration will be done through natural regeneration in mangrove forests not affected by human activities and plantation of mangrove trees in most impacted areas.

### Outcome 2.1 National and local authorities strengthened in monitoring CO2 storage.

This activity will help strengthening national and local authorities' capacities in monitoring CO2 storage through the financing of several activities:

- First, the roles and responsibilities of national and local stakeholder for carbon stocks monitoring and reporting will be defined and documented in a procedures manual.
- Second, a methodology to characterize the current and future potential storage capacity of mangroves, seagrass and reef ecosystems will be developed.
- Finally, trainings will be provided to national and local authorities in order to build national and local capacity in CO2 storage monitoring and reporting. The developed methodology will be implemented to monitor ecosystems and their CO2 storage capacity, mainly in Mangrove forests but also marine ecosystems. In particular, this activity will finance the establishment of sample plots, their surveillance and sampling measurement for mangrove forest inventory data. The monitoring tool will not only be developed at the MPA administration level but also integrated into national MRV systems. For instance, trainings (output 2.1.2) will be conducted for both local and national staff. National staff will include MRV specialists from: the National Protected Area Agency, the Climate Change division of the MoE in charge of the national CC monitoring, the Forest Division of the MoE and the Environmental Observatory of the MoE. Procedures will be elaborated by the General Direction of the MoE to facilitate coordination among these technical directions. Furthermore, the monitoring methodology (output 2.1.1) will follow national monitoring standards elaborated by the CC division and the Environmental Observatory.

### Outcome 2.2 CO2 storage capacity of MPA ecosystems increased

This activity will consist in increasing carbon stock potential of mangrove forests and marine ecosystems.

More precisely, it will finance:

- An assessment of ecosystems and restoration options
- Training and Working sessions with local partners to implement tree nurseries;
- The development of a plantation plan for the mangrove and the publication of communal decrees to regulate the protection and exploitation of the mangrove.
- The restauration of 100 ha of mangroves (30% of the current surface).
- Pilot projects for coral reef and sea grass beds restoration.

The analysis of current available cartographic data, associated to an on-site mission permitted to have a first characterization of the two MPAs in terms of mangroves distribution (see maps Annex B). From that characterization (see Annex D for more details on the methodology used), it is estimated that the productivity of mangroves in the project area can vary between 5 and 15 t / ha / year (2.5 to 7.5 T C / ha / year = 9,2- 27.5 Teq CO2). And with a 30% increase of mangrove areas (through regeneration and planting measures) it is estimated that this carbon stock potential could increase by up to 746 Teq CO2 per year<sup>27</sup>.

### GEF focal area<sup>28</sup> and/or fund(s) strategies, eligibility criteria and priorities

<b>GEF Biodiversity Focal Area</b>	<b>BD 1: Improve Sustainability of Protected Area Systems:</b> the project will contribute in effectively manage two MPA in the Southern peninsula of Haiti.
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<sup>27</sup> IGN FI, 2016, *Etude des potentiels de stockage en carbone des mangroves en Haiti*, IGN France International, Banque Inter Américaine de Développement.

<sup>28</sup> For biodiversity projects, please describe which Aichi Target(s) the project will directly contribute to and what indicators will be used to track progress towards achieving these specific Aichi target(s).

<b>Strategy</b>	<u>BD4: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/ Seascapes and Sectors</u> : this project aims at setting up a community based management of marine resources for both natural protection and sustainable human development.
<b>Aichi Goals</b>	<p><u>Strategic goal B. Reduce the direct pressures on biodiversity and promote sustainable use</u></p> <ul style="list-style-type: none"> <li>○ Target 6: By 2020 all stocks managed and harvested sustainably, so that overfishing is avoided.</li> <li>○ Indicator: 100% of the MPAs perimeter is covered by a fishery managed access plan / 5 experimental fishery replenishment (no take) zones are implemented</li> </ul> <p><u>Strategic goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity</u></p> <ul style="list-style-type: none"> <li>○ Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas are conserved through systems of PA.</li> <li>○ Indicator: 100% of the MPAs perimeter is covered by an effective management plan.</li> </ul>
<b>GEF Climate Change Focal Area Strategy</b>	<u>Program 4 Climate Change Mitigation Focal Area strategy</u> as the project supports mitigation-focused management practices that will lead to enhanced carbon stocks by (i) securing and increasing blue carbon reservoirs through the protection and restoration of coastal (mangroves / output 10 & 11) and marine ecosystems (reefs and seagrass / output 12); and by (ii) promoting an integrating approaches combining public policies and their implementation, technologies and management practices (largely involving local communities). On the other hand, it will strengthen the MoE in monitoring, accounting and evaluating CO2 through innovative carbon tracking tools (outputs 8 & 9 ) to meet national mitigation goals.
<b>GEF cross-cutting intervention</b>	Climate Change Mitigation intervention draws direct linkages with the Biodiversity Focal Area Strategy and aims at promoting climate change adaptation at the same time, as it is one of the top priorities for Haiti.

1.4. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF/SCCF and co-financing.

This GEF project specifically targeted the two MPAs that are not concerned by other projects in the region (mainly UNEP and UNDP projects). Therefore, the proposed project is additional and unique in what it addresses climate change mitigation and biodiversity conservation in an area where otherwise there would be no investments/ activities.

The incremental and additional benefits to be generated by this project cut across the Biodiversity and Climate Change Focal areas, as follows:

#### **Biodiversity**

Under the business as usual scenario, the two MPAs will be officially established and their management plan will be released but will face a lack of regulation (catchment size, seasons and regulated equipment) and enforcement of the fishery sector. Therefore, the pressure on fish stocks and marine ecosystems will remain high. Moreover, the MPAs administration will have low capacities in integrating biodiversity conservation in the fishery sector. Finally, as coastal communities will not have the technical and economic support to develop alternative economic activities in MPAs the use of natural resources will remain uncontrolled and unsustainable.

Under the GEF alternative, with GEF financing, the two targeted areas will benefit from an integrated approach between biodiversity conservation and the sustainable use of natural resources. This will include the development of a Fishery Managed Access Plan developed and endorsed by local fishery organizations including the establishment of 5 experimental fishery replenishment areas (no take zones). In addition, the project will support the development of two pilot projects led by local communities that aim at promoting the sustainable use of natural resources in the two MPAs (eco-tourism, salt production, mariculture etc.). Finally, the project will strengthen capacities of both MPAs staff and local communities in promoting biodiversity conservation and the value of ecosystems.

#### **Climate Change**

Under the business as usual scenario, the two MPAs will be officially established and their management plan will be released but will lack the capacity and resources to effectively manage the protection and restoration of mangrove forests. The Government of Haiti will not be able to enforce their protection, and the sites will be gradually left to the unsustainable exploitation of local communities. As a result, the communities residing in the sites will not be able to implement sustainable natural resource management practices, leading to a further degradation of the environment, and as a result, to their subsequent impoverishment and increased exposure to climate change. Land use practices will continue to soil fertility loss, erosion, and to the emission of GHGs through deforestation and removal of soil cover.

Under the GEF alternative, with GEF financing, technical employees of the two MPAs will benefit from appropriate management techniques in order to involve local communities in the sustainable management of mangrove and marine ecosystems. National and local authorities will acquire the capacity to monitor and enforce the protection of the natural carbon stocks contained in mangroves and marine ecosystems. In addition, the project will develop cross-site management strategies for targeted ecosystem features, such as reefs, mangroves, sea grass beds and sand dunes, all of which serve as ecological buffers against sea level rise and climate induced disasters. The government, communities and local authorities will acquire the necessary tools, knowledge, data and awareness to adequately manage the two MPAs natural resources, and to take advantage of sustainable and resilient economic development opportunities within their boundaries. Alternatives to the most unsustainable land use practices, including mangrove deforestation for charcoal production and coral mining for lime production will also be explored.

1.5 global environmental benefits (GEFTF, NPIF) and adaptation benefits (LDCF/SCCF);

### **Biodiversity**

Conservation of globally significant biodiversity: First of all, the project will improve the **effective coverage of managed Marine Protected Areas** in Haiti by restoring and protecting fish breeding sites, coral reefs and other marine biodiversity hotspots. The total area of intervention with effective management and protection will be **18,527 hectares** that will contribute to the national Protected Areas coverage target.

Sustainable use of the components of globally significant biodiversity: The project will contribute to the implementation of a Fishery Managed Access Plan including 5 experimental replenishment areas (no take zones) that will protect and enable increasing fish stocks while improving fishermen revenues. This participatory management and enforcement system could be replicable elsewhere in other MPAs.

### **Climate Change**

Conservation and enhanced carbon stocks in agriculture, forest, and other land use:

**Climate Change mitigation:** The project will create blue carbon sink through the rehabilitation of 100 ha of mangroves. It is expected to lead to carbon benefits of up to 2,985 tCO<sub>2</sub>eq over the project duration (4 years) and up to 18,658 tCO<sub>2</sub>eq during the monitoring period of 25 years. The project will also lead to the development of sustainable land and forest management practices by local communities.

Regarding **adaptation**, the project will be delivering benefits from the restoration of coastal and marine ecosystems and thus the ecosystemic-services that they provide. The rehabilitation of mangroves is expected to lead to increased resilience and reduced exposure to extreme events (sea level rise and waves impact). In addition, communities will benefit from added adaptive capacity through the promotion of sustainable fishery practices that will lead to increased productivity. Activities to target men's and women's livelihoods will be pursued differentially so that benefits can be accrued by both and that gender-specific vulnerabilities can be addressed.

1.6 Innovativeness, sustainability and potential for scaling up

### **Innovations**

The **Community based management** is well known in many countries for the management of PA, so it is not per say an innovative approach. However, in Haiti, there is a lack regarding the involvement of local communities in managing MPAs while the MoE does not have sufficient means to be present in MPAs. So, developing a fully integrated local management of MPAs from the design of the management plan to its implementation is an innovation for the National Agency for Protected Areas.

The project will also facilitate the development of a **managed access plans for fishery including no take zones**. So far in Haiti, there are no such regulation tools being implemented. Thus, this is an innovation but also a challenge which will be successful only if fishermen communities are involved. Through the development of these regulations tools, the MoE will have to work closely with the Ministry of Agriculture in charge of the fishery sector. With the preparation of this project, both ministries have agreed on the importance of working together in the regulation of fishery in MPAs.

Finally, the project will establish a **methodology permitting to estimate carbon storage potential** in mangrove forests using cartographic analysis (mapping systems using high resolution satellite imagery and allometric equations) and field surveys but also to monitor the carbon stocks in the mangroves forests throughout plantation activities, which is a first in Haiti regarding mangrove blue carbon.

### **Sustainability**

Involving local communities in managing the MPAs will insure the after project takeover. This will be possible thanks to the creation and empowerment of fishermen associations that will help in managing and enforcing MPAs.

The different technical innovations that will be developed to create alternative incomes for fishermen communities will insure sustainable revenues for these communities. Indeed, these activities will be developed based on a business plans approach and cost benefits analyses.

The project will also place emphasis on developing the park administration capacities. This local empowerment is of key importance in insuring the local institutional sustainability of the MPAs. The MoE will recover the cost related to the staffing of MPAs direction to insure continuity after project completion. Indeed, It has been agreed with the Ministry of Environment that technical staff recruited for the management of MPA (supported by the co-financing Tourism Program) will have the same benefits as technical staff within the MoE. This will facilitate their integration into the MoE staff after project completion and thus people trained will stay within the MoE once the project is closed.

### **Replicability and scaling up**

The development of a managed access plan for fishery, including no take zones, will be a first in Haiti. Building on this experience and future lessons learned, these regulation tools could be replicated in other MPAs. The elaboration of guidelines (output 2) on best practices in implementing fishery regulation tool in Marine Protected Areas will be largely shared among all stakeholders involved in MPA management and the fishery sector. These guidelines will be shared with the National Working Group on Protected Areas (more than 200 stakeholders) and incorporated into the National Guidelines for Protected Areas Management. In addition, the co-financing artisanal fishery program of the IADB and the Ministry of Agriculture has the financial means to support this replication in other Southern MPAs. Indeed, the program aims at supporting the regulation and structuration of the fishery sector, therefore best practices will be replicated in other MPA through the implementation of the program. It is also the case for alternative techniques that will be developed for the fishery sector. Finally, The MoE and MoA are currently working on establishing common guidelines for the management of fishery in MPAs, this GEF project will directly contribute to this initiative and lessons learned and best practices will be integrated. At the end, guidelines on regulation of fishery in MPA (output 2) will be integrated in the national fishery regulation currently under revision with the support of the artisanal fishery program.

Finally, once the methodology to estimate and monitor carbon stocks in the two MPAs mangrove forests is elaborated and mastered, it will be available for replication in the other mangrove forests of the country, thus strengthening the Haitian government capacity to monitor, at the national level, its climate change mitigation efforts through sustainable coastal management.

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

No.

3. Stakeholders Will project design include the participation of relevant stakeholders from civil society and indigenous people? (yes ☒ /no ☐ ) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation

The main stakeholders involved in this project, from design to implementation, are as follows:

Scale / Type	Name of the institution	Role in project design and implementation
<b>National: Government institution</b>	Ministry of Environment: National Agency for Protected Areas	Project leader
	Ministry of Agriculture, Natural Resources and Rural Development (MARNDR): Fishery department	In charge of the regulation of the fishery sector. Provide support in drafting regulations.
	Maritime and Navigation Service (SEMANAH)	Provide support in enforcing the MPAs
	National Centre for Spatial Information (CNIGS)	Support the MPA administration in monitoring CO2 storage capacity
	Ministry of Tourism	Provide support in valorizing MPA in the tourism industry
<b>National: AP stakeholders</b>	National Working Group on Protected Areas: Universities, International Donors, NGO...	Sharing lessons learned and facilitate the replication.
<b>Local: public authorities</b>	Local MoE and MoA districts in the South	Insure the link between this project and other related projects in the targeted areas
	MPAs administration	Executive agency
	Municipalities	Mobilization of local communities
<b>Local: NGO and private sector</b>	NGO, schools, churches, local associations and private sector (tourism and fishery) working in the targeted MPAs. Reefcheck and FoProBim that are the only 2 NGOs working in marine ecosystems management	Provide technical inputs and support in implementing project activities
<b>Local communities</b>	Fishermen associations, women associations, local concertation group, and the population in general	Beneficiaries and are involved in the draft, validation and implementation of the different project activities.

4. *Gender Equality and Women's Empowerment.* Are gender equality and women's empowerment taken into account (yes ☒ /no ☐)? If yes, elaborate how it will be mainstreamed into project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men.

Women are present in almost all agricultural value chains, and perform often difficult production functions in addition to their domestic and reproductive functions. Thus, the distribution of economic activity systems by sex shows that women are more active in agricultural and commercial activities, especially since the number of farms managed exclusively by women is important in the areas. In the two MPAs considered, the gender ratio between heads of households is 52% for women compared with 48% for men. So to the extent that male migration is accentuated, women have greater responsibilities in farm management. And when a farm does not farm, the woman has to spend more energy, make more sacrifices to meet all the needs of the household<sup>[1]</sup>. For instance, the lack of a drinking water point in the vicinity of the dwellings has a discriminating effect on women who have to devote a large part of their time to the water chore, which makes them less productive.

Women, to the extent that they depend very heavily on natural resources and the environment for all their activities and the household's vital needs, are highly vulnerable to climate change. They are at the center of an evolutionary dynamic that creates against them situations of strong vulnerability and sensitivity. These women are at the interface of a set of situations relating to the survival of the household. In the current context, any effort to sustainably manage, develop and profit women's sectors of activity without first thinking about a proper understanding of how households function, the main concerns, challenges, opportunities and Discriminatory issues in the community, may not produce the expected effects or impacts. It is then important to recognize that women, due to their social and

<sup>[1]</sup> Diagnostic et stratégie d'intégration et de participation genre, Projet de Renforcement des capacités adaptatives des communautés côtières aux changements climatiques en Haïti (ACC - PNUD/FEM/MDE), 2015.



economic vulnerability, are most affected by climate change. More specifically, in the two MPAs considered, the vast majority of women are merchants<sup>[2]</sup> depending on natural resources (fishery, agricultural crops, charcoal, etc.).

In order to mitigate these issues, the project will explore ways to support local initiatives for women empowerment, through woman association merchants, among other things. In particular, the study and action plan characterizing the value of services provided by MPAs' ecosystems will have a specific emphasis on women's role and involvement in local economic activities. Besides, of the two pilot projects led by local communities will be specifically targeted towards women. Support will include putting in place local regulations, underpinned by acknowledgement of the different needs of men and women. This would provide a framework to develop alternative economic activities specifically targeted for women such as the development of salt marches or management of tree nurseries.

**5. Benefits.** Describe the socioeconomic benefits to be delivered by the project at the national and local levels. Do any of these benefits support the achievement of global environment benefits (GEF Trust Fund) and/or adaptation to climate change?

The environmental and socioeconomic benefits of the project will be closely interlinked. The integration of biodiversity conservation into the fishery sector, through the implementation of the fishery managed access plan (component 1), will serve to sustain livelihoods in fisher communities of the two MPAs. It will also increase the sustainability of livelihoods of communities that depend on the fishery sector (women that sell fish) through the development of sustainable alternative economic activities (component 1).

In addition, the restoration of the mangrove (component 2) will increase the sustainability of livelihoods of coastal communities in targeted areas through the establishment and management of mangrove nurseries. Over the project time-life, the production of mangrove plants could become a sustainable livelihood for coastal communities. Furthermore, the restoration of the mangrove will buffer these coastal communities against the impacts of climate change (such as wave impact and sea level rise).

The design of the project recognizes the need to combine environmental protection with the satisfaction of the short term livelihood and income needs of impoverished local people. In other terms, the project seeks to implement "win-win" options. Therefore, the project does not only promote an exclusive biodiversity conservation approach (which would be impracticable regarding the Haitian context) but seeks to ensure that economic development and livelihood support initiatives are carried out with the minimum of impacts on BD and other natural resources. Example of ways in which these objectives will be achieved include the following:

- Improved MPAs management and regulation by controlling the access to fishery stock: while preserving the biodiversity this will increase fish reproduction and thus fishermen revenues;
- Improved technical options (for example diversifying into pelagic zones) for fishers in order to lessen the risk of them causing the fish stocks on which they currently depend to collapse by overfishing;
- Integrated coastal communities, that rely on mangrove charcoal production, in restoring the mangrove by increasing their access to alternative businesses (eco-tourism, mangrove nurseries, plantation). This constitute significant opportunities for women to participate in the resulting benefits;
- Maximization of the participation of local people (specific emphasis on women) in the formulation and implementation of the proposed natural resource management strategies, thereby ensuring their compatibility with sociocultural considerations and the functioning of existing livelihood support systems.

**6. Risks.** Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks:

Risk	Level	Mitigation strategy
<b>Environmental risks</b> due to both the natural vulnerability and to climate change, could impact the project and the communities within the project sites	High	The component 2 of the project is dedicated to the mangrove. By restoring the mangrove in strategic areas the project will contribute to the vulnerability reduction of the local communities towards extreme weather events.  All the techniques that will be developed for the fishery sector will be resilient to climate change and natural disasters.

<sup>[2]</sup> Unite hydrographique Aquin/St louis, du Sud. Caractérisation et diagnostic socio-économique.



<b>Operational risks</b> , due to limited government capacity and central and local level, could impact project delivery.	Medium	<p>Implicating all involved stakeholders from the design to the implementation of the project will ease institutional ownership. Furthermore, the project will work using a capacity development approach for all involved stakeholders.</p> <p>The executive agency will build on existing GEF executive agency experience at the beginning of the project. This will insure an effective launch of the different activities.</p>
<b>Sustainability risks</b> , due to a lack of integration of most fishermen, especially those not member of an association and to a lack of protection of restoration activities	Medium	<p>The Artisanal Fishery Program (co-financing) will support the structuration and expansion of fishermen associations in MPAs. The Ministry of Agriculture is also encouraging fishermen to join associations in order to benefit from the Fishery Program technical and financial mechanisms.</p> <p>Awareness campaigns will be conducted to encourage fishermen to join associations.</p> <p>All restoration activities will be conducted according to the management plan prerogatives. The restoration plan for the mangrove will assess the base conditions required for mangrove growth and delimit zones where mangroves should be planted and where natural regeneration should be supported.</p> <p>All restoration activities will be supported by awareness campaigns and environmental surveillance will systematically take place according to the surveillance plan of the management plan.</p>
<b>Post-project sustainability risks</b> , due to limited financial capacity to take over once the project has been closed and a lack of commitment of beneficiaries.	Medium	<p>The community based approach will maximize the likelihood of ownership and uptake at the local scale.</p> <p>To create local awareness, engagement and commitment multiple awareness raising campaigns will take place.</p> <p>Regarding the financial sustainability, the co-financing tourism sustainable program will support the generation of revenues for MPAs.</p>
<b>Project Overlap risks</b> , due to several ongoing interventions in the south of Haiti for the sustainable use of natural resources	Medium	<p>The project design and implementation is closely conducted with the existing coordination committee of the south led by the MoE.</p>

7. *Cost Effectiveness*. Explain how cost-effectiveness is reflected in the project design:

The project design relies on a strong participatory approach between all stakeholders involved in Protected Areas management throughout the country. A particular attention has been made to integrate best practices identified in other GEF projects that support the management of MPAs in the Southern Peninsula. For example, this document is built on baseline studies that have been developed in several different projects by different stakeholders. Only one study (CO2 baseline study) was carried out specifically for the purpose of the project design.

Furthermore, this project has been designed in order to be complementary to other ongoing projects in the targeted areas (co-financing projects). Therefore, co-financing projects' teams have been associated in the design (Ministry of Tourism and Ministry of Agriculture) so the outputs of the GEF supported project serve the achievement of their respective projects' goals. This approach was also carried within IADB sectoral teams that support co-financing projects in order to maximize synergies.

8. *Coordination*. Outline the coordination with other relevant GEF-financed projects and other initiatives:

In the southern region of Haiti, a number of environmental initiatives are underway (GEF, UNEP, UNDP and IDB). The proposed project will work in close coordination with the mentioned above projects especially regarding MPA management. The project will build and adapt on lessons learned and information generated within those projects.

This coordination already exists and has proven to be dynamic and effective for the project preparation.

Project	Agency	coordination
Sustainable land management of the upper watersheds of South western Haiti: Management of the Macaya PA	IDB/GEF/Norwegian Cooperation	Administrative cooperation to support the management of the GEF. Based on their experience and tools a mentorship will be established to ease the launch of the project.  The project will also build on their experience in managing PA especially regarding the involvement of local communities.
Increasing resilience of ecosystems and vulnerable communities to CC and anthropic threats through a ridge to reef approach to BD conservation and watershed management”.	UNDP/GEF	During the planning process, under the MoE leadership, the IADB, UNDP and UNEP have been working closely together in order to avoid project overlaps. While designing activities, all agencies have agreed in the necessity to have a joint harmonized ecosystem monitoring approach.
Ecosystem Approach to Haiti’s Cote Sud	UNEP/GEF	
Sustainable Coastal Tourism Program	IDB	The tourism program will finance the elaboration of the two targeted MPAs management plans. Thus, this GEF project will be complementary to this program by focusing on the implementation of conservation and restauration activities.  The tourism program will also develop touristic activities that will contribute to the funding of the MPAs and thus to the sustainability of the GEF activities.
Artisanal Fisheries Development Program	IDB	The Artisanal Fisheries Development Program will support the GEF project in implementing the fishery regulation activities. The GEF will benefit from the program regarding the involvement of fishermen communities into planning and management. It will also benefit from its experience and lessons learned on developing sustainable fishery techniques and tools.

9. *Institutional Arrangement.* Describe the institutional arrangement for project implementation:

**Implementing Partner:** The Ministry of Environment is the designated Implementing Partner through the National Agency for Protected Area. (NAPA) will execute the project on behalf of the Government of Haiti under implementation modality of IADB. The Implementing Partner is the entity responsible and accountable for managing a project, including the monitoring and evaluation of project interventions, achieving project outputs, and for the effective use of GEF/IADB resources. Furthermore, The MoE will set a Steering Committee that will meet twice a year to provide overall project guidance and validate the annual work plans and project reports. The Steering Committee will be composed by the MoE (chair), the Fisheries and Aquaculture Directorate of the Ministry of Agriculture, Natural Resources and Rural Development, local municipal authorities as well as representatives from local fishermen associations.

**Project Management Unit (PMU):** The PMU will implement project activities through a result based management approach. The PMU will be in charge of the technical and financial reporting and the M&E of the project. The PMU will also coordinate the project intervention with other on-going initiatives and will communicate with technical and financial partners as well as beneficiaries. The PMU will be administered by a full-time Project Manager and supported by a Technical Assistant and a full-time Administrative/Financial Assistant.

- Administrative unit: ANAP already has experience in managing GEF supported project (GEF project ID 3132) through the Macaya Park PMU. This executive unit, already trained and effective in managing GEF grant, will mentor and support the project coordinator of the proposed project.
- Technical unit: the technical implementation unit will be based within the MPAs administration. The MPAs director will be assigned as the Project Coordinator as part of government co-financing. The Project Coordinator. has the authority to run the project on a day-to-day basis on behalf of the Implementing Partner.

The Project manager's prime responsibility is to ensure that the project produces the results (outputs) specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

#### 10. Knowledge Management.

The knowledge Management (KM) approach has been a key component for the design of the proposed project by integrating recommendations of the National Working Group for Protected Areas that bring together state and civil society stakeholders on PA management for exchange of lessons learned throughout the country. Therefore, the proposed project outcomes are consistent with ongoing projects on MPAs and innovative (regulation of the fishery sector) in order to fill existing gaps in PA sector. This collaboration will continue during the implementation phase in order to make this knowledge available in a centralized, user-friendly fashion through the transparency coordination platform and coordination and outreach events will constitute an excellent manner to share knowledge, experiences, and expertise across a wide range of relevant stakeholders. Additionally, other tools such as networks supported by IADB or other GEF implementation agencies will be used depending on its appropriateness and relevance with the project. The main components of the KM management plan are:

Objectives	Strengthen the creation, dissemination and use of knowledge to support the implementation of the project and its replicability throughout the country. Support local, national and regional policy dialogues on MPA management
Stakeholders	Working Group on Protected Areas: 200 stakeholders (NGO, International Agencies, Ministries, CBO, universities), local steering committee, local population and authorities.
Main events	Workshops on MPA management and lessons learned in collaboration with other MPA throughout the country and, if possible, in the Caribbean Side events during annual meetings of the Working Group on Protected Areas Participation to the Aquin Festival every year (one of the most important cultural festival in Haiti) Local communication and awareness campaign with local partners (schools, churches, municipalities, NGO...)
Knowledge products	Development and dissemination of news and publications (Output 1.1.2) Conventions with Universities to facilitate research (internships) on MPA management Online article on the MoE and IADB websites Contribution to the existing online KM platform <a href="http://www.grandsudhaiti.ht/bibliotheque/">http://www.grandsudhaiti.ht/bibliotheque/</a>
Capacity development	Trainings for both local and national stakeholders Strategic use of technical assistance resources with the support of co-financing projects Comprehensive monitoring and evaluation plans for activities

11. Consistency with National Priorities. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no ☐ ).

Level	Focal Strategy	Strategies / Plans	Consistency
International	Biodiversity	United Nations Convention on Biological Diversity - First National Report (1998)	Conservation of biological diversity: sustainable use of natural areas providing water resources and buffering natural risks and hazards and valorization of genetic resources; Sustainable use of components of biological biodiversity: promote management and use of halieutic (fish) resources in a manner compatible with conservation issues.
	Climate Change	United Nations Framework Climate Change Convention The Second National Communication (SNC) 2013	Restoration and extension of forests, including mangroves, as a priority tool to mitigate climate change <sup>29</sup> .

<sup>29</sup> Deuxième communication nationale sur les changements climatiques, MDE, 2013

		<b>Paris agreement on climate change -2016)</b>	reduce CO2 emission by 31% in 2030 and adopt several adaptation measures to decrease its vulnerability to climate change.
<b>National</b>	<b>Biodiversity</b>	General Decree on Environment (2005)	Strengthening the National Agency for Protected Area at the national and local scale
		<b>National Guidelines for the Establishment of Protected Areas Management Plans (2016)</b>	integrated for the design of the project especially regarding the integration of local communities into the management of PA.
		<b>National Environmental Action Plan (NEAP) (2009)</b>	strengthen and rationalize the management of the National System of Protected Areas; restore the ecological balance of watersheds through the implementation of exploitation norms and best practices; improve the quality of life through a better management of urban and rural areas as well as the valorization and conservation of natural and cultural heritage; and provide a framework to reach a better coherence among plans and programs within the environmental sector.
	<b>Climate Change</b>	<b>National Adaptation Programme of Action (NAPA) 2006</b>	priorities 2: Strengthening and enforcement of the environment legal framework; 5: Preservation and strengthening of food security; 6: Valuation and conservation of natural resources; and 7. Coastal Zone management
		<b>National Contribution to the Paris Agreement (CPDN 2015)</b>	mitigation objective AFAT: Protect, conserve and restore mangroves and protect MPA of the southern coast.

12. M & E Plan. Describe the budgeted monitoring and evaluation plan.

Project Monitoring and Evaluation will be conducted in accordance with established IADB and GEF procedures. The Project Management Unit (PMU) will undertake monitoring and evaluation activities, with support from IADB-GEF, including the recruitment of independent evaluators for the mid-term and final evaluations. The project logical framework in Annex A provides a logical structure for monitoring project performance and delivery using SMART indicators during project implementation. The result matrix and the work plan in the project document provide additional information on the allocation of funds for expected project deliverables and the timing of project activities to produce these deliverables. The work plan is provisional, and is to be reviewed during the project inception phase. The project's M&E approach will be discussed during the project's inception phase so as to fine-tune indicators and means of verification, and to allocate M&E responsibilities to the project's staff.

The Monitoring and Evaluation System will rely on three components:

- i. **Day to day monitoring** of implementation progress will be the responsibility of the Project Management Unit based on the project's Annual Work Plan and its indicators. The Project manager will inform the IADB of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.
- ii. **Biannual and annual monitoring reports** During the grant disbursement period, the PMU will submit Annual Work Plans (AWP) no later than 30 days before the end of each calendar year; and semiannual Project Reports (PR) no later than 30 days after the end of the calendar semester. The AWP and PR will be prepared following a template agreed upon with the Bank, and consistent with the Bank's "Project Monitoring Report." The PR will indicate, among others, the level of fulfillment of the project's output indicators planned in the AWP, explanations of execution gaps and problems encountered; and indicate corrective measures. The PR will also include a section related to the maintenance of infrastructures and equipment. At the end of the project, the PMU will prepare a final report that will summarize project implementation and final evaluation findings.
- iii. **Mid-term and final independent evaluations** focusing on the project's effectiveness, efficiency, sustainability, relevance and coherence. Consulting firms will be contracted by the executing agency to carry out mid-term and final independent evaluations. The objective of this evaluation will be to determine whether execution is satisfactory and whether the project's strategy is generating the desired impact, or whether adjustments are

needed. For each Component, it will highlight the key issues that are faced and which require responses from the executing agency. It will also provide a set of preliminary insights about the project's design, implementation, and management. A final independent evaluation will be carried out a few months before the end of the project at year 4 to determine whether it has reached its objectives. The evaluation team will identify the lessons learned through the project and in particular its key successes and failures. The team will also assess the sustainability of the project's results and propose a set of recommendations to the various project's stakeholders in order to reinforce it.

**Data Collection and Instruments:** Monitoring data will be compiled from:

- On-site visual inspections;
- MPAs' technical reports from GEF project and other relevant projects (see section A7);
- Reports by external consultants hired by the project.

Type of M&E activity	Budget from GEF	Time Frame
Mid Term Evaluation	20,000	Two years after start of project implementation
Final Evaluation	30,000	At the end of project implementation
Project coordination and monitoring	130,000	Throughout the 4 years of project implementation
<b>Total M&amp;E Plan Budget</b>	<b>180,000</b>	


### **PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**A. Record of Endorsement<sup>30</sup> of GEF Operational Focal Point (S) on Behalf of the Government(S):**  
(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Moise Jean-Pierre	Haiti GEF Focal Point	Ministry of environment	11/24/2016

**B. GEF Agency(ies) Certification**

**This request has been prepared in accordance with GEF policies<sup>31</sup> and procedures and meets the GEF criteria for MSP approval under GEF-6.**

Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Juan Pablo Bonilla IDB-GEF Coordinator		05/11/2017	Bruno Jacquet	+509 2812-5031	brunoj@iadb.org

<sup>30</sup> For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

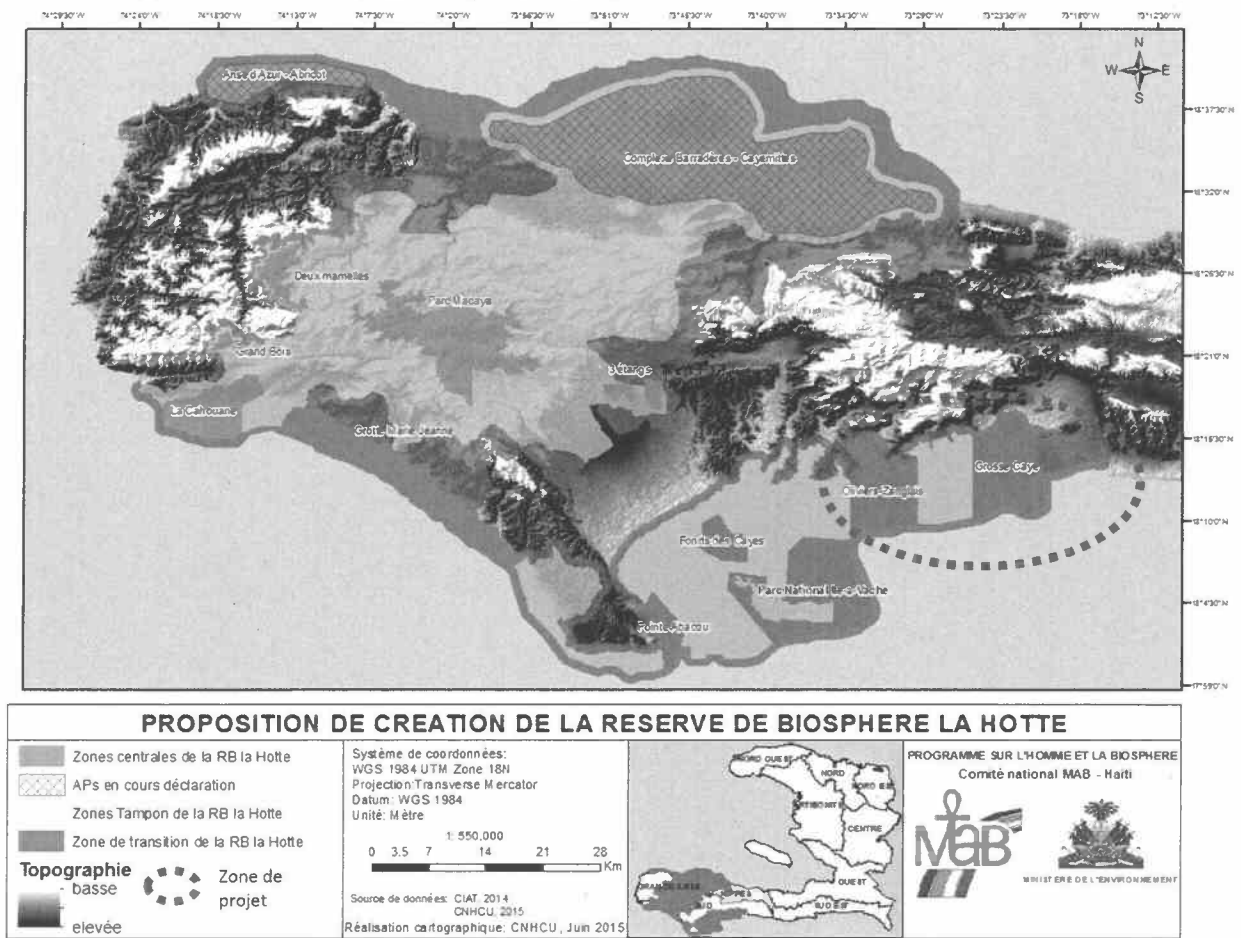
<sup>31</sup> GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

**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).

<b>Overall project objective:</b> contribute to improving the conservation and management effectiveness of the Grosse Caye/Zone humide d'Aquin and Olivier/Zanglais marine protected areas.				
<b>Specific project objectives:</b> (i) improve fishery management in MPA (ii) mitigate climate change through critical ecosystems restoration.				
Project impact indicator	Unit	Baseline 2016	Goal 2021	Source of verification
Fishers fishing exclusively on the shore out of total number of fishers	%	Aquin 25% Saint Louis 55%	Aquin 55% Saint Louis 75%	Project report / surveys
Incremental CO2 stored	T CO2	0	2,985 Teq CO2	CO2 monitoring report
<b>COMPONENT 1: INTEGRATING MPA MANAGEMENT INTO LOCAL FISHERY SECTOR</b>				
Project outcomes indicators	Unit	Baseline 2016	Goal 2021	Source of verification
<b>Outcome: 1.1 Strengthened MPA administration in promoting biodiversity conservation into fishery sector</b>				
indicator: Fishery Managed Access Plan complied with by fishermen associations	Association	0	5	MPA administration
indicator: Fishermen associations strengthened and structured	Association	0	5	MPA administration
<b>Outcome: 1.2 Developed sustainable alternative economic activities for communities depending on MPAs' ecosystems.</b>				
indicator: Income share generated from natural resources exploitation among beneficiaries of the pilot projects	%	26%	20%	Project report / surveys
Project outputs indicators	Unit	Baseline 2016	Goal 2021	Source of verification
1.1.1/ 10 technical employees of the MPAs administration trained in managing MPAs	Staff	0	10	Project report
1.1.2/ Guidelines elaborated on best practices in implementing fishery regulation tool in MPA	Report	0	1	Website of the National Agency for Protected Areas National Working Group on Protected Areas Newsletter
1.1.3/ 12 awareness campaigns conducted towards local communities on MPA's ecosystems value	Campaign	0	12	Project report
1.1.4/ Fishery Managed Access Plan developed and implemented with 5 fishermen associations	Plan	0	1	Project report
1.1.5/ 5 experimental fishery replenishment areas equipped and monitored	Areas	0	5	Project report
1.2.1/ A study to characterize the value of services provided by MPAs' ecosystems conducted	Study	0	1	Website of the National Agency for Protected Areas National Working Group on Protected Areas Newsletter
1.2.2/ 2 pilot alternative economic projects led by local communities implemented	Project	0	2	Project report

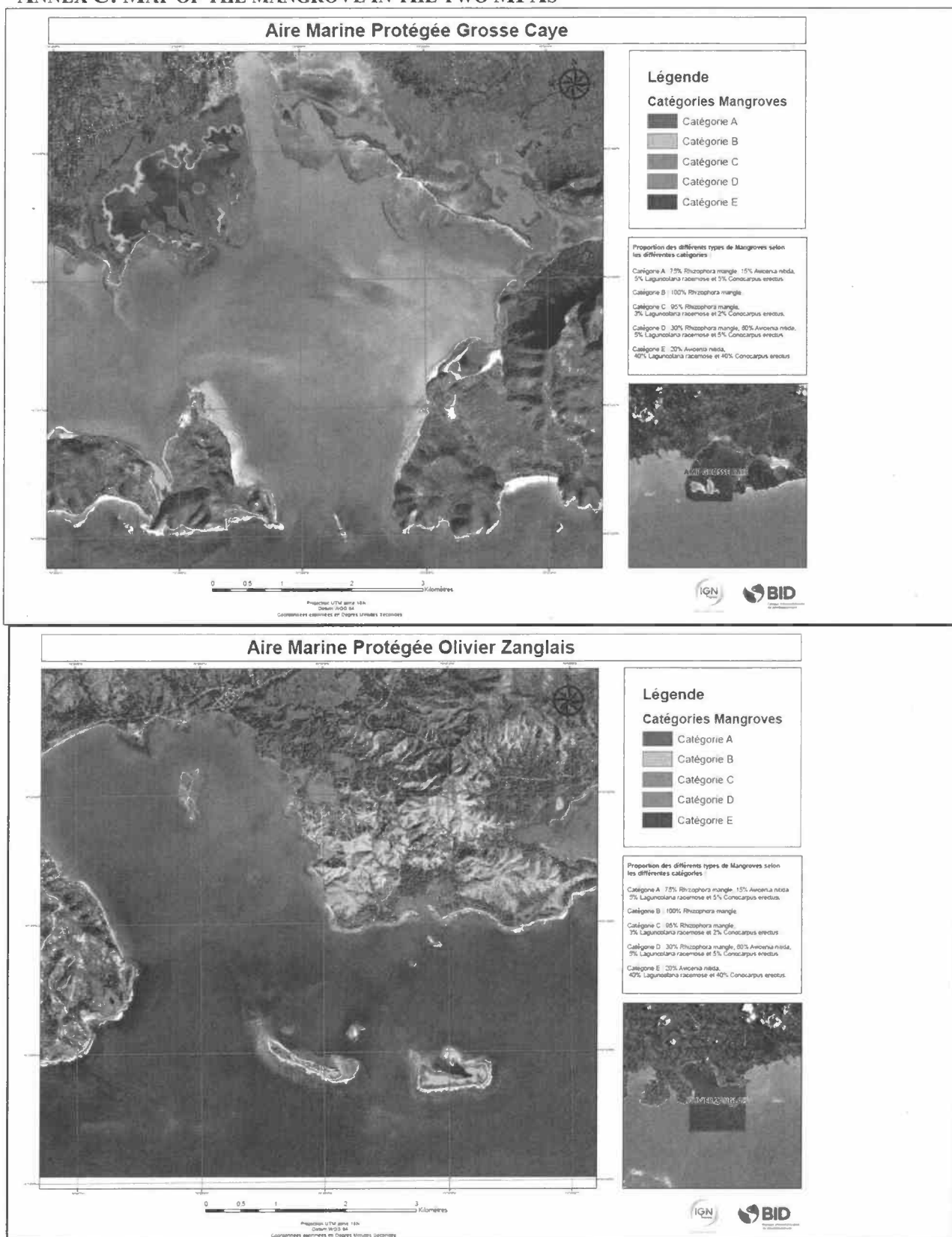
COMPONENT 2: INCREASING CO2 STORAGE CAPACITY IN MPAs				
Project outcomes indicators	Unit	Baseline 2016	Goal 2021	Source of verification
<b>Outcome: 2.1 Strengthened national and local authorities' capacities in monitoring CO2 storage.</b>				
indicator: Annual monitoring report issued by the Ministry of Environment	Report	0	4	CO2 monitoring report / website of the MoE
<b>Outcome: 2.2 Increased CO2 storage capacity of MPA ecosystems</b>				
indicator: Targeted mangroves effectively restored	%	0	80%	Project report / survey
Project outputs indicators	Unit	Baseline 2016	Goal 2021	Source of verification
2.1.1/ Methodology to characterize the current and future potential storage capacity of mangroves, seagrass and reef ecosystems developed and implemented	Methodology	0	1	CO2 monitoring report
2.2.1/ Plantation plan for the mangrove developed	Plan	0	1	Project reports
2.2.2/ 100ha of mangroves planted / regenerated (30% of the current surface)	Ha	0	100ha	Project environmental monitoring report
2.2.4/ 2 pilot projects for coral reef and sea grass beds restoration conducted	Project	0	2	Project reports

## ANNEX B: ZONE OF INTERVENTION (IN PURPLE)





## ANNEX C: MAP OF THE MANGROVE IN THE TWO MPAS



# **ANNEX D: Focus on the methodology used to establish the baseline scenario**

In order to estimate the current storage capacity of mangroves forests, we conducted a pre-study which objective was to make a first estimate of the storage capacity of carbon in Grosse Caye / Wetland Aquinas and Olivier / Zanglais MPAs mangrove forests. To do so, the objective was to (i) develop a simplified methodology to calculate, evaluate and monitor the carbon stock in mangrove areas (ii) Applying this methodology to determine the current and future capacity storage in the mangroves of the two MPAs considered.

The methodology consisted of: i) The elaboration of a typology of mangrove forests characteristics in the two MPAs; ii) The calculation of carbon stock capacity based on the typology. In order to do the typology, both cartographic analysis and field surveys were used. The entire Haitian territory is today covered by aerial photography at a resolution of 25cm, and all of the Haitian territory was the subject of a Lidar acquisition at a density of 0.4 dot / m2. The proposed methodology for the baseline scenario consists of several approaches ranging from global to local (beginning with the use of satellite with multispectral global coverage down to the air with a more precise resolution). The Lidar, in addition, provided information about canopy height and density to refine the criteria already issued by 25cm ortho imagery. Finally, a field campaign confirmed the observations in order to qualify cartographic products made in terms of accuracy.

Then the characterization of the mangroves was used in order to determine the Carbon stock potential. There are different methods for the determination of carbon stocks in vegetation. Most methods are based on the estimate of the biomass, that is to say the amount of organic matter (dry), as the biomass of plant tissues have a relatively constant carbon content. For the determination of biomass, there are two main approaches, the destructive method of collection, and technical (non-destructive) allometric equations. The use of allometric equations is a widespread technique; however their use involves having inventory information. Although we did not have the inventory information for the study area, it was possible to use the results of studies conducted in ecosystems with similar biophysical conditions, in order to determine the biomass stocks, depending on the mangroves ecosystems. The main results of this determination are in the Table below.

**Carbon stocks estimation in the study area**

Site	Surface (ha)		Plage de biomasse (t/ha)	Biomasse moyenne (t/ha)	carbone moyenne* t/ha	Total Carbone (t)	
	Grosse Caye	Olivier/Zanglais				Grosse Caye	Olivier/Zanglais
A	100,5		50-80	65	32,5	3 267	
B	51,5	12,4	70-150	110	55	2 830	679
C	131,2		20-70	45	22,5	2 952	
D		33,4	30-90	60	30		1 001
E	2,8		5-30	17	8,5	23	
Sous total par site						<b>9072,41</b>	<b>1680,16</b>

\* Il est supposé que la teneur de carbone dans la biomasse est de 50%.