



United Nations Development Programme
Project Document template for projects
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Project title: <i>Coastal Resilience to Climate Change in Cuba through Ecosystem Based Adaptation – “MI COSTA”</i>		
Country(ies): CUBA	Implementing Partner (GCF Executing Entity): <i>Environment Agency of the CITMA (AMA in Spanish)</i>	Execution Modality: <i>Partial NIM</i>
Contributing Outcome (UNDAF/CPD, RPD, GPD): Cooperation Framework and CPD – Outcome 3: Institutions, production and service sectors, territorial governments and communities improve the protection and rational use of natural resources and ecosystems, resilience to climate change, and comprehensive disaster risk reduction management		
UNDP Social and Environmental Screening Category: <i>Moderate</i>		UNDP Gender Marker: 2
Atlas Award ID: 00095204		Atlas Project/Output ID: 00099212
UNDP- PIMS ID number: 5994		GCF Project ID number: FP157
LPAC meeting date: 15 November 2021		
Planned start date: 30 November 2021		Planned end date: 12 September 2029
Expected date of posting of Mid-Term Review (GCF Interim Evaluation Report) to ERC: 12 December 2025		Expected date of posting Terminal evaluation report (GCF Final Evaluation Report) to ERC: 12 March 2030 Completion Report to GCF: 12 December 2029
Brief project description: <i>The Project responds to the coastal adaptation needs of Cuba due to slow onset events, including relative sea level rise and associated flooding arising from extreme weather events (hurricanes and extra-tropical storms). Cuba’s geographical characteristics and its marine and coastal ecosystems conservation status represent an optimal opportunity for wide scale ecosystem-based adaptation (EBA), an approach that has been favored through Cuba’s State Plan to Manage Climate Change “Tarea Vida”. This project will provide direct support to and will provide a baseline for the implementation of “Tarea Vida.”</i>		
<i>The project will enhance adaptive capacity by holistically rehabilitating coastal land-seascapes, their interlinked ecosystems and hydrology. This will be achieved by rehabilitating ecosystem functions and connections within mangroves and swamp forests and reducing anthropic pressures to marine coastal ecosystems, thus enhancing the services supplied by integrated coastal ecosystems. It will also strengthen the adaptive capabilities of coastal governments and communities’ by building their capacity to utilize and understand the benefits of EBA, enhancing information flow between stakeholders and strengthening the regulatory framework for territorial management in coastal areas. Cuba’s Southern Coast has been selected due its high vulnerability to climate change in the form of coastal flooding and saline intrusion. 1,300 km of coastline, 24 communities, and 1,324,114 people will directly benefit from the project implementation.</i>		

11,427 ha of mangroves, 3,088 ha of swamp forest and 928 ha of grass swamp will be restored, which in turn will improve the health of 9,287 ha of seagrass beds and 134 km coral reefs crests. Together these ecosystems will provide protection and regulation services along the targeted coastline. Climate Change Adaptation (CCA) and EBA training of trainers will target national and local decision makers, teachers, economic sector leaders and local communities aiming to provide training to 60% of the population within the targeted municipalities. Environmental information will be provided and integrated into existing information products to provide a fuller picture of coastal vulnerability and resilience and will be distributed through a knowledge platform, to ensure the strengthening of regulatory frameworks and continuous feedback to and from the communities to technical organizations and government.

FINANCING PLAN (only cash transferred to UNDPs bank account and included in the TBWP for this specific GCF project should be included under this section (1), all others should be included under section (2).

GCF grant	USD 23,927,294.00
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(1) Total Budget administered by UNDP	USD 23,927,294.00
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CONFIRMED (PARALLEL) CO-FINANCING (ALL OTHER CO-FINANCING THAT IS NOT CASH CO-FINANCING ADMINISTERED BY UNDP);
INDICATE ALSO FINANCIAL INSTRUMENT

Government Ministry of Science Technology and Environment (Cash)	USD 2,694,377.00
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Government Ministry of Agriculture (Cash)	USD 16,242,487.00
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National Institute of Hydraulic Resources (In Kind)	USD 1,435,071.00
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(2) Total confirmed co-financing	USD 20,371,935.00
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(3) Grand-Total Project Financing (1)+(2)	USD 44,299,229.00
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SIGNATURES

Agreed by Government:
(name and position)

TEORO PABLO SAN JOSE
DIRECTOR a.i. OOEI

Signature



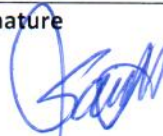
Date/Month/Year:

02/12/2021

Agreed by Implementing Partner:
(name and position)

José Fidel Santalucía Díaz
Viceministro CITMA

Signature



Date/Month/Year:

02/12/2021

Agreed by UNDP:
(name and position)

Maribel Gutiérrez
Rep. Res. Pnud/Cuba

Signature



Date/Month/Year:

02/12/2021

Disbursement: Government is aware of the conditions of disbursement ascribed to the first and subsequent tranches of the GCF funding as specified in the FAA (and in particular Clause 9 of the FAA). To the extent that these obligations reflect actions of the Government, the Government must ensure that the conditions are met and there is continuing compliance, as well as understanding that availability of GCF funding is contingent on meeting all conditions listed in the FAA.

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II. DEVELOPMENT CHALLENGE

Cuba, is a small island developing state located within an active tropical cyclone area. Its long and narrow configuration is such that no part of the country is very far from the sea. Over 57% of its population lives along coastal municipalities. Coastal municipalities are extremely vulnerable to climate change (CC) from increased storms and sea level rise that have resulted in increased coastal flooding due to extreme meteorological phenomena such as tropical cyclones¹, extratropical lows, and strong winds from *sures*². Sea level rise (SLR) is projected to increase aggravating coastal flooding particularly in low lying coasts. When combining increased storm surge and projected SLR, flooding of up to 19,935 km² (CC + Category 5 hurricane) and 2,445 km² (CC + normal conditions) can be expected by the year 2050.

Climate impacts from increased storms and SLR go beyond coastal flooding to include coastal erosion and saline intrusion into the country's sea facing coastal aquifers. An increase in the magnitude of extreme events and increasing SLR will accelerate erosion related to natural processes, which currently averages 1.2 m/year (calculated between 1956-2002). This erosion rate poses a danger to communities, infrastructure and natural habitats that are not tolerant to saline intrusion and provide services to landward communities. Saline intrusion into aquifers is the most common and extensive cause of freshwater degradation in Cuba's coastal zones. Most of these aquifers, located near and beneath the northern and southern coasts, are open to the sea, making them very susceptible and exposed to saline intrusion as a result of SLR, and potentially leading to water that is too saline for human consumption and increasing the salinization of agricultural fields .

Cuban coastal seascapes and landscapes are a succession of ecosystems that have coevolved under current climatic conditions, including current distributions of extreme events. The progression of coral reefs, seagrass meadows, beaches, coastal mangroves and forest or grassland swamps represents an equilibrium that confers resilience to each ecosystem separately but also to the coast as a whole. Functional relationships between coastal and marine ecosystems, including sediment binding and nutrient absorption, which combined with water retention, create equilibrium dynamics and coastal stability. Freshwater infiltration is favored by swamp forests reducing saline intrusion risk and, organic matter exchange facilitates favorable conditions for healthy seagrass beds and coral reefs.

Ecosystem capacity for providing protective services is currently being undermined by both CC effects (increased extreme events). This includes:

- High level of degradation of mangroves affecting their ability to colonize new areas, reduce wave impacts, accrete sediments and stabilize shorelines.
- Bleaching and degradation of coral reefs attributed to mangrove and sea grass degradation (including the alteration of hydrological natural flows, presence of invasive species, water contamination, and habitat destruction), climate-related increases in surface water temperature and to increased impacts of hurricanes.³

¹ From 2001 to 2017, the country has been affected by 12 hurricanes, 10 which have been intense (category 4 or 5), the highest rate in a single decade since 1791. In the past 10 years the percentage of intense hurricanes affecting the country has risen from a historical average of 26% to 78% with accompanying acute losses. These intense hurricanes impacting Cuba since 2001 coincide with very high sea surface temperatures (SSTs) in the tropical Atlantic recorded since 1998.

² Strong southerly winds

³ Alcolado et al., 2009. *Trend of change of live stony coral cover in Cuban coral reefs*. Serie Oceanológica No. 5. La Habana, Cuba.

SLR will further increase current vulnerabilities and stresses on ecosystems due to increases in water depth and wave energy which will increase coastal erosion, coastal flooding and saline intrusion risks.^{4,5} Without intervention, the projected inundation by hurricanes could reach 192,990 ha, 310,950 ha, and 440,540 ha for hurricanes categories 1,3 and 5 respectively, with an estimated range of cost of USD 97- 278 million per single event⁶. Moreover, projections show that if no intervention is made by 2100, up to 21 coastal communities will disappear with a further 98 being severely affected by climate related threats (flooding, coastal erosion and saline intrusion). Coastal communities have highlighted the consequent loss of infrastructure and reduced livelihood opportunities (both fisheries and agriculture) as a result of climate related impacts and degraded ecosystems.

The Southern Coast of Cuba due to its low lying nature and highly permeable karstic geology has been targeted as the project's area of intervention, with attention being paid to two coastal "stretches" (*Stretch 1: La Coloma – Surgidero de Batabanó and Stretch 2: Júcaro- Manzanillo*) totaling approximately 1,300 km of coastline, 7 provinces and 24 municipalities covering 27,320 km². Targeted areas have been selected due to their high vulnerability to climate change (open aquifers, low lying coastal plain, degraded ecosystems and concentration of settlements), particularly to storms, drought and sea level rise, which result in coastal flooding and saline intrusion. It is estimated that approximately 544,300 ha in the area of proposed interventions are already affected by saline intrusion.



Figure 1 - Targeted Coastal Stretches

Coastal ecosystems in the targeted coastal stretches are characterized mainly by swampy and mangrove-lined shores surrounded by an extensive, shallow submarine platform, bordered by numerous keys and coral reefs. In these areas mangroves and marshes can potentially act as protective barriers against storm surges, winds and waves and therefore reduce coastal erosion, flooding and salt intrusion associated risks. These ecosystem services can be enhanced with healthy ecosystems and functional connections and when adequately integrated into land/marine planning policies.

Traditionally, Cuba's tropical storms response and management strategies have focused on emergency preparation and attendance rather than on planning for disaster risk reduction. The GoC has successfully introduced early warning mechanisms and clear emergency protocols to reduce the impact of storms in the loss of lives. While these are important steps in the face of an immediate emergency, they are insufficient to manage multiple ongoing threats (some of slow consequence of climate change).

⁴ NU. CEPAL(Ed), 2018. Efectos del cambio climático en la costa de América Latina y el Caribe. Reconstrucción histórica y proyecciones del efecto del cambio climático sobre el oleaje en la costa de Cuba, 63pp.

⁵ Reguero, B.G., et al. (2019). A recent increase in global wave power as a consequence of oceanic warming. *Nat Commun* 10, 205 doi:10.1038/s41467-018-08066-0

⁶ Considering the cost of damages caused by extreme weather, taking into account Hurricane Matthew, Ike and Sandy. For breakdown cost see Section 3.2 in Feasibility Study p49-50.

In 2017, GoC approved its State Plan to Face Climate Change (“Tarea Vida”) in which identified and prioritized the impacts of saline intrusion, flooding and extreme events to the country coastal zones, focusing strategic actions for the protection of vulnerable populations and of key resources including protective ecosystems such as mangroves and coral reefs.

An EBA approach for managing climate impacts along vulnerable coastlines, provides an adaptation solution that can better adapt to the changing external conditions demanded by climate change, helping achieve more cost-effective resilience to a range of climate impacts in a manner that ingrates local conditions and needs for coastal protection and services while supporting in the operationalization of national directives under “Tarea Vida”. For EBA measures to be effective, these initiatives need to be based in sound knowledge and measures to ensure their functionalities through time, thus requiring the participation and enhanced capacities of communities and governments to maintain these systems. Knowledge, tools and capacities have been lacking to enable the development and implementation of actions with a longer-term vision focused on adapting to the full scale of challenges posed by CC through an integrated approach to coastal management that takes an enhanced view of the protective role of ecosystems. Thus, allowing local communities to incorporate adaptation solutions to a wide scale of impacts (saline intrusion, coastal flooding) rather than solely predicting and reacting to individual events. This project will shift the paradigm in climate resilience in coastal areas in Cuba, resulting in the full-scale, integrated and sustained application of an EBA approach together with building capacity and awareness among direct beneficiaries and government institutions at all levels for increased sustainability.

Identified Key Barriers that will be managed by the project implementation are:

1. Limited knowledge in vulnerable communities of CC drivers/threats and adaptation options,
2. Limited experience with effective and sustainable implementation of EBAs,
3. Physical barriers that reduce natural ecosystems response capacities,
4. Inadequate cross-sector mechanisms for Coastal Community Adaptation mainstreaming in policy and regulations,
5. Limited access to and availability of finance for technical equipment to mobilize large scale adaptation investments, and insufficient mainstreaming of projects’ outputs into public policies.

III. STRATEGY

The project's objective (outcome) is to strengthen coastal resilience to climate change along 1,300 km of Southern Coastline by reducing the main vulnerability drivers of ecosystems and 24 coastal communities. It will do so through an EBA approach, restoring ecosystems nexus and functionalities, and by strengthening adaptive capacity in local communities, sectors and national planning frameworks. The former will be achieved by restoring 11,427 ha of mangroves, 3,088 ha of swamp forest and 928 ha of grass swamp, which in turn will improve the health of 9,287 ha of seagrass beds and 134 km coral reefs crests. Together these ecosystems will provide protection and regulation services along the targeted coastline. Community adaptive capacity will be increased by enhancing a greater understanding of climate change, its consequences and adaptation options together with mainstreaming ecosystems management within territorial and coastal planning instruments and frameworks. 1,300 km of coastline, 24 communities, and 1,324,114 people will directly benefit from the project implementation through activities and measures designed to increase resilience to these identified climate impacts.

While the GoC has looked to prioritize through "Tarea Vida" a resilience model for coastal communities based on EBA, knowledge, tools and capacities as identified in the barrier section have been lacking to enable its development and implementation. This has resulted in communities and local governments with limited capacity to both implement and manage EBA measures through actionable measures to enhance coastal resilience beyond traditional risk management measures or through business-as-usual solutions including infrastructure-based solutions that have proven to be ineffective in these areas.

The project's goal statement can be summarized by the following: **IF** coastal ecosystems along Cuba's southern coastline and their complex interconnections are rehabilitated and adaptive capacity in stakeholders is increased **THEN** coastal ecosystems will provide valuable coastal protection services that will result in an increased climate resilience of coastal communities in low lying coastal settlements **BECAUSE** coastal ecosystem services to manage climate impacts will be restored and sustained through increased stake holder capacity and awareness as well as in the integration (mainstreaming) of EBA into development planning mechanisms, processes and budgets.

The project will complement and, in some cases, set the baseline for the implementation for *Tarea Vida*, with its implementation in target areas serving as strategic co-financing during the project. Local communities and stakeholders' outreach are a crucial component of the project, both during design and implementation stages, which are being and will continue to be implemented through consultations and the development of monitoring systems. Moreover, the project is fully aligned to assist Cuba's in meeting SDG's, particularly in relation to maintaining the availability of clean water to coastal populations, achieving climate action, reducing disasters risk, contributing to managing and protecting marine and coastal ecosystems and in reducing the loss of natural habitats and biodiversity. These will be achieved directly through EBA investments and sustained through the monitoring systems, tools and inter sector mechanisms developed through the project.

The project's goal will be achieved through the delivery of its two outputs: (1) Rehabilitated coastal ecosystems for enhanced coping capacity to manage climate impacts and (2) Increased CC Adaptation Capacity in Vulnerable Coastal Communities, Governments and Economic Sectors. The project has been designed so that project actions and investments are integrated into the government structures, increasing the participation of local actors throughout planning and implementation activities, creating adaptation initiatives ownership to guarantee their long-term sustainability. Project results will be measured by populations and economic assets protected as a result of EBA actions, the value of information products and trainings to local populations and their uptake and the integration of EBA measures within national regulations, local development and financial plans.

Output 1 will be focused on working with local and national actors to rehabilitate ecosystems along 1,300 km of Cuba's vulnerable southern coastline, through an integrated coastal ecosystem approach that will result in the increased protective capacity of vulnerable communities and populations along project target areas, as a result of EBA actions focused on restoring local hydrology and reducing local pressures. Restoration will be managed based on best practices and innovations developed through baseline experiences that will be integrated through a wider

marine-coastal landscape approach to account for effective EBA. The impact of the EBA actions will be monitored and evaluated to provide crucial quantitative data and knowledge to support the use of nature-based solution as flood defenses, mainstreamed in territorial planning and disasters reduction strategies. The knowledge from restoration activities will be ready for application, systematized and formatted in user-friendly products (output 2) thus, making possible for EBA to be up scaled and providing knowledge base support for EBA approaches at various levels, thus addressing knowledge and capacity barriers that have limited the capacity to implement EBA in a full scale and in an integrated manner. These actions will be complemented by a community-based monitoring system that will be developed through the project that will be unique to Cuba.

Output 2 will be focused on working with communities and local governments and economic sectors to increase local climate change adaptation capacity by providing technical trainings, systemizing information through a knowledge management platform and delivering information products that will allow communities to better identify and prioritize adaptation options including streamlining EBA within local governance planning frameworks budgets as foreseen in the GoC 2019 Constitution, which bestows greater responsibility to local actors in development and financial planning.

This project, through both outputs, will allow communities to adapt proactively and enhance coastal resilience by including them as active participants in monitoring and in generating coastal resilience that will be communicated through information products that will be enhanced and developed through the project making use of existing successful climate and environmental information systems. The proposed community-based monitoring system and the data analysis that will be developed through the project is considered unique for Cuba and will work at providing increased awareness of local populations to their ecosystems in their general everyday management. Data provided will be used to adjust the prognoses of the local CC-impacts/coastal drivers and to determine more accurately the role of EBAs in reducing CC related vulnerabilities. The project's approach follows the recommendation by IPCC to integrate the multiple coastal zones uses in planning for climate change.⁷ Approaches to increasing ecosystem capacity for resilience by reducing local stresses are considered feasible, cost-effective, and highly scalable. Combined with the advantages of using local knowledge to guide transitions, solutions will become more effective and sustainable as they are undertaken in partnership with local communities, cultures, and knowledge. The project will provide the support needed to shift the paradigm in climate resilience in coastal areas in Cuba resulting in the implementation of a full-scale, integrated and sustained application of EBA while integrating local communities and enabling inter-sector coastal planning.

Figure 2 summarizes the activities of the proposed project and explains how the activities will contribute to overcome the barriers leading to paradigm change.

⁷ IPCC **Special Report on Global Warming of 1.5°C**, October 2018 & Kelleway et al., 2017. Review of the ecosystem service implications of mangrove encroachment into salt marshes. [Volume23, Issue10](#) October 2017

Cuba: Coastal Resilience to CC through EBA “Mi Costa”

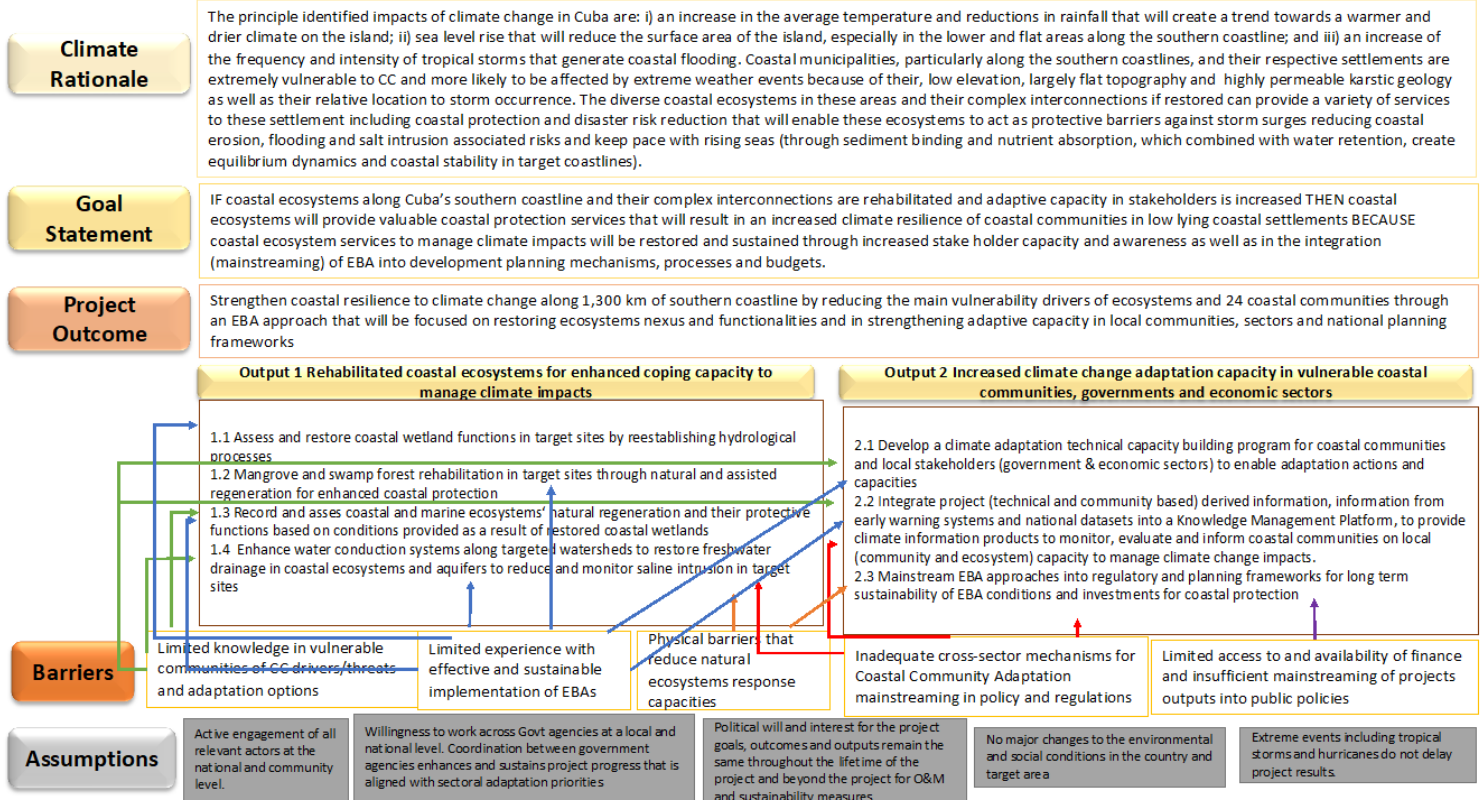


Figure 2 - Theory of Change and its baseline assumptions

IV. RESULTS AND PARTNERSHIPS

The project's objective is to strengthen coastal resilience to climate change along 1,300 km of Southern Coastline by reducing the main vulnerability drivers of ecosystems and 24 coastal communities to coastal flooding and saline intrusion from sea level rise and increased storms. 1,324,114 people will benefit from the project implementation of which 444,793 will be directly benefitted and 879,321 indirectly. Actions for project results will be achieved through the implementation of 2 project Outputs.

An EBA approach will be implemented including restoring ecosystems nexus and functionalities and strengthening adaptive capacity in local communities, sectors and national planning frameworks. 11,427 ha of mangroves, 3,088 ha of swamp forest and 928 ha of grass swamp will be restored through the project which in turn will improve the health of 9,287 ha of seagrass beds and 134 km coral reefs crests. Together these ecosystems will provide protection and regulation services along the targeted coastline. CCA and EBA training of trainers will target national and local decision makers, teachers, economic sector leaders and local communities aiming to provide training to 60% of the population within the targeted municipalities. Environmental information will be provided and integrated into existing information products to provide a fuller picture of coastal vulnerability and resilience and will be distributed through a knowledge platform, to ensure the strengthening of regulatory frameworks and continuous feedback to and from the communities to technical organizations and government.

Output 1: Rehabilitated coastal ecosystems for enhanced coping capacity to manage climate impacts

Output 1 will rehabilitate coastal wetland structure and functionalities along the wider marine-coastal landscape to address projected impacts along coastal zones consequence of relative SLR (coastal flooding and saline intrusion) and extreme events (increased erosion and coastal flooding) derived from climate change. The proposed activities are aimed at strengthening coastal wetlands and marine ecosystems' coastal protection and water regulation services as well as co-benefits that will increase the overall system resilience (including communities') to the identified climate change impacts.

Monitoring activities within this output will focus on assessing ecosystems' responses (including their health, connectivity and reduced pressures) to rehabilitated conditions as indicators of increased coastal resilience and will in turn provide evidence-based information and guidance for EBA approaches in areas where physical infrastructure measures are not feasible. Actions related to this Output will be implemented in 7 specific sites in the areas of La Coloma; El Cajío; Surgidero de Batabanó; Júcaro; Playa Florida; Santa Cruz del Sur and Manzanillo.

GCF will provide funding that will be directed for the purchase of equipment and technology required for the improvements (additionality to overcome the barriers) to restore and quantify the capacity of ecosystems to reduce climate change threats (erosion, flooding and salt intrusion). GoC co-financing will be provided by CITMA, MINAG and INRH for the implementation of restoration and monitoring.

Activity 1.1. Assess and restore coastal wetland functions in target sites by reestablishing hydrological processes

Activity 1.1. includes initial actions for the rehabilitation of coastal wetland functions through reestablishing the hydrological processes within the coastal ecosystems including clearing of existing water channels and favoring actions to restore the ecological flow of water including the removal of invasive species. Rehabilitation actions will be implemented by 6 Forest Enterprises (MINAG co financing) that will be hired through GoC co-financing and will make use of the equipment purchased through GCF funds.

This activity will also further invest in the monitoring of coastal wetland functions to verify baseline conditions and monitor the effectivity of the restoration actions (rehabilitating water flows, new plantings, increased in foliage etc.), which in turn will allow for steering accordingly to ensure the ecosystem's flows, nexus and functionalities for coastal protection are rehabilitated. Experts from the Institute of Ecology and Systematics (IES) and the Institute of Tropical Geography (ITG) will be hired by AMA to perform monitoring and develop the products that will be continually used to evaluate ecosystem health.

- *Sub activity 1.1.1 Validate local conditions in intervention sites and verify ecosystem coping capacities to CC impacts through in situ and spatial temporal analyses*

Coastal wetlands conditions' baseline validation and rehabilitation progress will be assessed in situ through transects and permanent plots and complemented with drone image and remote sensing analyses to better gauge impact to the ecosystem's general functionality and structure including hydrology, forest cover and reducing levels and sources of degradation. This will allow the project to determine if the conditions that were assessed during project design remain and select the best method for rehabilitation focusing on their functionalities to manage CC related risks.

Sampling and permanent plots will further allow comparison with initial data and assess survival conditions, species dominance and distribution, soil conditions and microbiota, and major zoological groups. Water salinity, quality, and flow into the ecosystems will also be monitored. These indicators are directly related to coastal ecosystems health and functionalities for resilience, and will provide information to assess the effectivity of the restoration actions in strengthening coastal resilience and overall ecosystem sustainability. These conditions will be monitored during the project's lifetime.

Actions from this sub activity will result in an updated forest profile and basic structure as well as an updated forest landscape map that will include indicators on hydrology within and across the ecosystems, health and functionalities related to protection and resilience capacity. Experts from IES/CITMA and ITG/CITMA will be hired by AMA to develop these products. GCF funds will be invested in monitoring equipment that will be shared amongst the various actors in charge of projects monitoring, Co-financing from the GoC will include all costs related to performing the monitoring and field verifications, developing information analysis including an updated forest landscape map and forest profile. This information will be integrated into Knowledge Management Platform created for this project and that will be managed by ICIMAR.

- *Sub activity 1.1.2 Restore the ecological flow of freshwater towards targeted mangrove ecosystems through cleaning of existing water channels and building small scale low impact infrastructure to facilitate the laminar flow of water during rainy seasons*

Forestry enterprises will perform the rehabilitation of the coastal wetland hydrology in each target site to ensure the ecological flow of freshwater towards the mangrove ecosystems (target of this activity) and favor the recovery and stability of coastal ecosystems including:

- Restoring the natural water flow through the cleaning of existing water channels;
- The establishment of small drainage channels (less than 50 cm wide) to allow the ecological water flow in the case of dams, or where natural drainage is obstructed. In these cases, the small drainage channels will pass through the natural meandering and water flow areas to allow the laminar flow of water.
- The construction of small- scale speed bumps (small earth mounts) to direct runoff storm water during rainy periods to mangrove areas will further facilitate the flow of water to wetlands.

GoC financing (parallel and co-financing) will be used in removing infrastructure barriers along the coastline and the cleaning of draining ditches and other drainage systems.

- *Sub activity 1.1.3 Invasive species management in target sites to reduce pressures on the coastal wetland and enhance ecosystem's coping capacity and resilience.*

Actions for the management of invasive species (IES) within the coastal wetlands include:

- Mangroves and swamp forests: IES include Casuarina and Terminalia catappa. Other species occasionally found in mangroves include Majagua Florida (Thespesia populnea), gray Guacalote (Caesalpinea bonduc) and the Asian colubrine. Interventions here will include the felling of individual trees followed by covering the base of the trunks to avoid regeneration or regrowth at stumps is suggested.
- In the case of Swamp Forest: disposal and management of these species by logging race, girdling, removal of sprouts, removing natural regeneration and immediate planting of several pioneer native species and/or management native natural regeneration.
- Swamp grasslands: IES include the vine (Ipomea alba), water lettuce (Pistia stratiotes), water hyacinth (Eichhornia crassipes), miriofilum (Myriophyllum pinnatum), Australian pine (Casuarina spp.), Leucaena

(*Leucaena leucocephala*) and melaleuca (*Melaleuca quinquenervia*). The disposal and management of these species suggested is by logging, girdling, removal of sprouts, removing natural regeneration for trees and shrubs, and extraction of aquatic herbaceous species.

Activity 1.2 Mangrove and swamp forest rehabilitation in target sites through natural and assisted regeneration for enhanced coastal protection

This activity will result in the rehabilitation of ecosystem functionalities in 15,443ha of degraded coastal wetlands through natural and assisted regeneration in target sites focusing on mangroves, swamp forests and grasslands. Rehabilitation activities will be coordinated by AMA and implemented by 6 national forestry enterprises with in situ expertise in forest management. Intervention actions include targeted ecosystems rehabilitation, reestablishing key species, restoring conditions for the sustainability of interventions including protective measures.

GCF funds for this activity will be specifically used for the acquisition of required equipment and software/hardware (Sub activity 1.2.1) that will be used in the restoration actions (Sub activity 1.2.2-1.2.3) by forest enterprises and its protective measures (Sub activity 1.2.4) by local forestry services and rangers (FS Table 22). Co-financing from the GoC includes the implementation of restoration actions as well as purchase of national insurance for the investment in mangroves rehabilitation during the initial 8 years of project implementation against climatic or accidental eventualities

- *Sub activity 1.2.1 Acquire forestry and evaluation equipment for restoration in target sites*

GCF funds will be used to acquire forestry equipment for restoration actions in target sites including the purchase of agricultural equipment difficult to access in Cuba that will be provided to each local forest enterprise (6) and is required for the implementation of restoration investments (Sub activity 1.2.2-1.2.4), this includes the establishment of nurseries along each project site as well as mobilization equipment for access to difficult areas of access along the wetlands. Equipment will be acquired through GCF funds during the project's first and second year and will follow UNDP's procurement process. Equipment will be provided to local forest enterprises and will provide the capital means for the maintenance of coastal ecosystem interventions throughout the project's full life time (30 years) while directly enhancing national capacities for EBA.

- *Sub activity 1.2.2 Implementation of natural regeneration management measures in target sites*

Forests rehabilitation of targeted mangroves and swamp forests will be based on their current degradation conditions as verified in the analysis provided in Activity 1.1. Actions for natural regeneration include the thinning of the canopy and removing branches or trees that impede the penetration of light for young mangrove trees to grow. In the case of swamp forests and grasslands, actions include the clearing of weeds as well as the management of natural regeneration of native species including controlled clearing of vegetation cover to stimulate the natural growth rate and the implementation of controlled extraction measures to reduce the concentration of dominant of pioneer species.

- *Sub activity 1.2.3 Red mangrove and native species planting in target sites for forest rehabilitation along the shoreline boundary of targeted coastal wetlands*

Actions within this sub-activity include the building of 7 forest nurseries (1 per project site) as well as planting along the shoreline border of wetlands. Mangrove restoration efforts will rehabilitate the protection strip that used to be dominated by red mangrove along the coastlines. Planting will be done in sections with very low mangrove density and with no evidence of sufficient presence of propagules. Planting will be done through the spreading of mangrove propagules/seedlings and will follow a best practice developed by the Manglar Vivo project for the protection of mangrove seedlings through a process of estaquillo (placing wooden sticks in the mud along the coastline to protect against wave impact).

Swamp forest rehabilitation actions will enhance native species diversity (often affected by illegal logging), with the objective of enhancing the ecological functionalities and connectivity for resilience and ecosystem services maintenance along the swamp forests that will in turn be monitored through Activity 1.1. Actions include increasing the rate of seed germination in native species located along the intervention areas. Seeds will be placed in nurseries

for propagation and planting once grown. Actions to stimulate growth along the wetlands will also be implemented including the use of arbuscular mycorrhiza fungi that is native to the coastal wetlands and has shown to be effective.

- *Sub activity 1.2.4 Implementing external risk management measures in target sites to ensure perdurance of target restoration investments including fire control management, illegal logging surveillance and climate insurance*

Actions under this sub activity will protect restoration investments from external risks (fires, illegal logging and loss from extreme storms). This will incorporate mitigation measures to ensure that coastal ecosystems have the opportunity to develop during their initial years to provide long term services to coastal landscapes. Protective measures to the sustainability of restoration actions include:

- The establishment of fire control systems (including firebreaks and fire trails) along swamp grass lands and active training of fire rangers in forest areas.
- The surveillance and protection from illegal logging and extraction (native species in swamp forests), increased support to forest rangers for general monitoring.
- Purchase of national insurance for the rehabilitated mangroves in project sites during the initial 8 years of project implementation against climatic eventualities (extreme weather).

Activity 1.3 Record and asses coastal and marine ecosystems' natural regeneration and their protective functions based on conditions provided as a result of restored coastal wetlands

This activity follows a functional landscape approach in which interventions across and along the watersheds and coastal wetlands (as described in Activity 1.1 and 1.2) will have a positive effect on the health and coping capacities of seagrass and coral reefs providing an opportunity for natural regeneration. The activity will assess and record the restored functional relationships between coastal and marine ecosystems to reduce key degradation drivers such as sediment loads, nutrients and domestic and industrial contamination (fisheries, food and pesticides industries), providing an opportunity for natural regeneration and enhancing ecosystems protective capacity against coastal threats particularly to extreme weather. A volunteer community network for the surveillance of sea grass and corals will also be created to provide support in the repair of corals during extreme weather events.

This activity will be led by AMA's ICIMAR with the support of 4 local Environmental Study Centers (CEAs) and of communities that will be trained through Activity 2.1.3 to support in the monitoring of seagrasses and coral reefs and their role in coastal protection. Monitoring agencies (INSMET, GeoCuba) will also provide monitoring support and will have access to the monitoring equipment. Information will be collected in the Knowledge Management Platform that will be created through the project (Activity 2.2).

- *Sub activity 1.3.1 Acquire and install monitoring equipment to evaluate enhanced water quality and environmental conditions for seagrass and coral reef natural regeneration*

This sub- activity considers the integrated nature of GCF and co-financing resources as critical inputs for action with GCF funds providing the necessary equipment while co-financing funds will implement sea water quality monitoring and evaluation activities (including the installation of the acquired equipment). Together these actions will assess coastal and marine environmental conditions (measured through water quality) as a consequence of the actions implemented in the wetlands for enhanced marine ecosystem's responsive capacity.

Monitoring capacity will be provided through the enhancing of 5 labs dedicated to sea water monitoring within the target sites and will provide information on the conditions for ecosystem recovery. Four of these labs will be located within local CEAs (Ecovida, University of Granma, CIEC and CIMAC) and one at ICIMAR that will serve as a central node. Physical, chemical and biological indicators will be monitored (Sub activity 1.3.3) through these labs and by marine expeditions coordinated by ICIMAR.

Actions will also include the installation of 36 monitoring stations (16 marine and oceanographic surveys, 10 weather stations, 4 wave stations and 6 sea level and terrain movement stations) to measure the marine ecosystem capacity for resilience and regeneration as measured through changes in water parameters. Equipment will be installed by experts (INSMET) hired by AMA based on best practices and international standards. Installation of the monitoring station will be done under two approaches to ensure sufficient coverage and parameters to monitoring including:

(1) the placement of stationary ocean stations to be located on the coast and along the keys "callerías" and (2) in the placement of stations within boats that operate under existing routes covering Batabanó-Isla de la Juventud and Júcaro-Cayo Anclitas (in the Jardines de la Reina). This will allow the use of measurements through transects located between the coast and the cays or islands. Placement of these stations and their operation will be done through committed GoC co-financing provided by CITMA. AMA will be responsible for their use through ICIMAR, INSMET and local CEAs. The GoC through co financing funds provided by CITMA will install the monitoring system including establishing the connectivity that will be required to connect them to the Knowledge Management Platform (Action 2.2).

- *Sub-activity 1.3.2 Acquire and install monitoring equipment to develop a monitoring system to measure marine ecosystem capacity for resilience and regeneration*

As in sub activity 1.3.1, this sub activity considers the integrated nature of GCF and co-financing resources to meet adaptation needs, with GCF funds providing the necessary equipment while co-financing funds will install this equipment through the use of national experts (INSMET, ICIMAR, GeoCuba) to implement a monitoring system that will measure the marine ecosystem's capacity for resilience and regeneration in relation to seagrass and coral reefs' recovery and increased resilience in targeted areas considering their role in wave energy dissipation.

Actions include enhancing capacity of ICIMAR through GCF funds for the collection and processing of data samples through marine expeditions. Coral reefs monitoring will be developed for all reef variables according to the standard AGRRA method that establishes three monitoring modules, (1) coral monitoring, (2) fish monitoring and (3) algae monitoring to establish the conditions of the reefs and their health status. Seagrass monitoring will be carried out through three transects parallel to the coast, 50 meters long each, which have been previously geo-referenced. The transects will be located at different distances from the coast on a perpendicular line. The transects will be located at different distances from the coast on a perpendicular line. In each transect 12 square frames of 25 x 25 cm will be used. The transects will be repeated at different distances from the coast to verify through them if the changes in the coastal wetlands are having the expected effect of reduction in suspended sediments, nutrients and turbidity are modified over time as a result of the application of the EBA methods. Additionally, the monitoring of the physicochemical variables (Activity 1.2.1) is intended to explain possible alteration to the seagrass beds.

- *Sub-activity 1.3.3 Implement a monitoring and surveillance system for coastal and marine ecosystem regeneration capacity and ecological resilience to extreme events, including a network for coral recovery*

The monitoring and surveillance system will include the implementation of sea water quality monitoring that will provide information on the improvement of seawater conditions as result of actions on coastal wetlands to assess the impact of these actions within the coastal seascape as well as record the environmental conditions that allow the natural recovery and regeneration of coral and sea grass to enhance ecosystem resilience and capacity. This will have a direct impact in enhancing the ecosystem's capacity for wave energy dissipation providing protection from extreme weather. The environmental conditions will be monitored through the monitoring stations installed in Sub activity 1.3.1 that will include the use of oceanographic and marine meteorological measurements from coastal stations, ships, and satellites.

Monitoring and surveillance of marine ecosystem regeneration and capacity for resilience will be done through coral and sea grass monitoring. Coral monitoring analysis and assessment will include the processing of criteria for resilience, developed through the TNC ground based research in Cuba relying on variables that include: Percentage of live coral with respect to the total and dead coral; Abundance of fleshy algae, versus abundance of goblet algae; Abundance of herbivorous species (parrot fish, and surgeon fish) both in relative and absolute terms, abundance of the Caribbean spiny hedgehog (*Diadema antillarum*); Structural profile of reef against depth; Presence or absence and frequency of whitening and other diseases; Frequency of whitening (to be identified by voluntary monitoring) and weekly monitoring of their condition and establish the speed of color recovery in the case of bleached coral.

Sea grass monitoring will rely on the use of transects as detailed in Sub activity 1.3.2. Variables to be monitored include: species of marine plants present; relative abundance (in percentage of the framework covered by each species); density (by counting the number of stems); average height of the vegetation; type of substrate (coarse sand, sand, mud-sandy, muddy); abundance of the associated fauna (mainly marine invertebrates); biomass and

presence of threats (erosion, turbidity, contamination, solid waste). Additionally, through the use of remote sensing systems, marine grazing distribution will be estimated if the distribution is compact and homogeneous or if patches and fragmentation of the ecosystem occur over time. The distribution in non-homogeneous patches is typically an indication of stress by limits in the penetration of light or by mechanical effects of waves and currents.

A volunteer network based on a methodology proven to be successful in Cuba (Sabana Camaguey/GEF/UNDP (1999-2007)) for the surveillance and the recovery of corals damaged after extreme events will also be mobilized as part of the monitoring and surveillance system. The network will include professional divers in tourism, marine protected areas technical staff, specialists from the environmental studies centers, and communities' rangers and volunteers involved in the project.

The implementation of the marine monitoring and surveillance systems will be funded by the GoC that will develop this activity through the mobilization of experts and research institutions (ICIMAR) and that will collect this information through the Knowledge Management Platform (Activity 2.2) created through this project.

Activity 1.4. Enhance water conduction systems along targeted watersheds to restore freshwater drainage in coastal ecosystems and aquifers to reduce and monitor saline intrusion in target sites

This activity will work to restore the natural hydrological process along the watersheds and aquifers in the project's area of influence. Ensuring enough freshwater drainage into these ecosystems will reduce saline intrusion by enhancing filtration to soils and aquifers. During the 8 years of GCF intervention, this project will result in the reduction of saline intrusion in 16,329 ha. From year 9 to year 30, Cuba will continue with actions to ensure aquifers recharging and to guarantee a sustainable reduction of the salt wedge to improve freshwater availability in 561,500 ha by reducing saline intrusion and improving freshwater recharge.

The monitoring program that will be enabled through this system will contribute to the identification of catchment areas, rainwater catchment and salt-wedge advancement/receding that will improve guidance to local adaptation actions hence providing an important backbone in linking EBA actions with water management for adaptation in coastal ecosystems and communities.

GCF funds to be used in the purchase of monitoring systems will ensure that the required quantity and quality of water drains into coastal ecosystems, particularly to swamp forest, during long drought periods, which are key instruments for aquifer recharge. GoC financing (parallel and co-financing) will be used to eliminate manmade barriers that have degraded/changed the hydrological process including clearing of physical waste from channels and eliminating polluted discharges into the coastal ecosystems. GCF will be solely funding climate risk reduction additionalities required to overcome climate change related threats and specifically salt intrusion; nonetheless, the monitoring system will also be key during droughts and floods both projected to be aggravated due to climate change.

- *Sub-activity 1.4.1 Remove obstacles along water channels and enable water conduction systems in target sites to increase water flow into coastal wetlands and aquifer recharge in drought affected aquifers*

GoC will implement this sub-activity through financing provided by the INRH that will include building wells and hydraulic restoration actions for recharging selected aquifers affected by long periods of drought including 19 wells established in Jucaro and another 38 that will be built in Camaguey. The infiltration of fresh water through these wells will use the following measures:

- Channels that collect rainwater locally and transport water by gravity through the existing natural topography towards the infiltration wells. GoC co-financing will be used to eliminate manmade barriers (abandoned roads and infrastructure) that have degraded/changed the hydrological process and improve the natural recharge of aquifers along the coastal wetlands.
- Water conduction systems from reservoirs/dams built for other purposes which transfer surplus water and infiltrate them directly into the wells. These will be enabled to flow into the aquifers along the target sites using secondary canals provided for irrigation of agricultural areas.

- *Sub-activity 1.4.2 Invest in monitoring equipment to develop a real time water flow control system in target areas for the monitoring of groundwater with a basin management approach to assess the evolution of saline intrusion and response capacity to climate impacts and EBA interventions.*

To evaluate the effect of the project interventions and monitor saline intrusion, GCF funds and GoC co financing funds provided by the INRH will be used for the establishment of a real time water flow control system for the monitoring of ground water with a basin management approach. Measuring stations will be acquired through GCF funding to allow an accurate estimate of the water balance (including the salt wedge) and provide relevant data on the quantity and quality of water reaching the coastal area. These will be installed by specialists provided through GoC co-financing funds along the basin, close to the boundaries of the basins and along coastal zones, upstream and downstream of the reservoirs This will enable the measurement of the following conditions:

- Hydrological variables' cycle will be measured based on the World Meteorological Organization and quality standards, including: fresh water quality, water quantity and temporal and spatial distribution within basins, ability to meet current and future demand, hydrologic and hydraulic flood simulation in real time, flood and drought forecasting through automated real time hydrologic and hydraulic simulation.
- Monitoring will include the following basic elements: i) wells measurements, water levels and quality (salinity, dissolved oxygen, hardness, heavy metals); ii) water discharged from the reservoirs to the rivers to ensure the ecological flow; iii) analysis and evaluation of the impact of the interventions.

The monitoring system will be integrated to the INRH's monitoring system who will be responsible for monitoring and maintaining this system. Equipment to be acquired through GCF funds that will enable real time water flow monitoring includes: bathometers; radar automatic water level recorders; conventional gauges with semiautomatic transmission via mobile phone; automatic hydro-meteorological stations with rain gauges, for measuring flow rates in surface currents and levels in reservoirs and wells; conventional evaporimeters to balance water reservoirs; water quality probes amongst other. Given the current economic blockage to Cuba, accessing instruments is an immense challenge.

- *Sub activity 1.4.3 Develop hydrological models to support hydrological processes and water management (identification of catchment areas, salt-wedge advancement/receding and saline intrusion) to better assess the impacts of SLR and change on precipitation patterns on coastal conditions.*

This sub-activity will result in the production of hydrological models (real time and prognoses) to support water management and monitor saline intrusion, both during climate extremes (drought, floods) as well as in normal conditions to assess the impacts of SLR and change on precipitation patterns. Superficial and underwater runoff will be modelled to predict the evolution of saline intrusion through time and identify flood risk areas. This information will be provided locally for enhanced planning and decision making (Activities 2.2,2.3).

Investments provided through GoC co-financing provided by the INRH includes the processing of the data provided real time water flow control system (Sub activity 1.4.2) and that will result in the hydrological models. GCF funds will be directed in the training of INRH hydrological specialists in data management and in the enhanced ICT capacity that has proven a barrier for real time monitoring and climate modelling due to current limited information processing capacity for these actions.

Output 2: Increased technical and institutional capacity to climate change adaptation in Coastal Communities, Governments and Economic Sectors

Output 2 is focused on working with coastal communities located along climate vulnerable coastlines, local governments and economic sectors to mainstream EBA actions and information into community-based adaptation measures while working to enhance local and national governance mechanisms within the framework of Tarea Vida.

A key outcome of this output will be sectoral and municipal regulatory frameworks strengthening specifically on EBA mainstreaming and approaches based on results derived (such as ecological flow calculation) from Output 1 and their inclusion into local development, land use planning, disasters risks reduction and CZM plans. Output 2 will allow for the contextualization and the correct packaging of information derived from Output 1 to foster the appropriation of EBAs at the local level, promoting a "bottom-up approach" for EBA initiatives and mainstream it into national planning processes and information systems for on the ground decision making. AMA will oversee the

implementation of this output through its various specialized agencies and local representatives. It will rely on the active involvement and support of municipal government and structures

Activity 2.1. Develop a climate adaptation technical capacity building program for coastal communities and local stakeholders (government & economic sectors) to enable adaptation actions and capacities

This activity will develop and implement a capacity building program to be delivered to targeted coastal communities (24 municipalities) to build understanding of CC impacts and vulnerabilities such as coastal flooding (from extreme weather and SLR) and saline intrusion (from droughts and SLR). The program will increase awareness and knowledge for adaptation actions and skills to strengthen the resilience of key community stakeholders, prioritizing EBA over other management strategies. This will include providing results and techniques derived from the project as seen in Output 1 to ensure their maintenance and replication. It will also allow information from the Knowledge Management Platform (Activity 2.2) to be included and contextualized through a locally relevant learning program.

Design of the training content will allow for the coordination of key actors in municipalities (economic, learning and government sectors) thus integrating valuable technical information (derived through project monitoring and other information systems) from each sector/institution and allowing for active coordination of local priorities for adaptation (water management, physical planning, adapted livelihoods). This will allow the curricula to be relevant to key sectors within each area and to focus on a multidisciplinary and local approach for EBA and adaptation.

Training under this activity will be targeted to 24 municipalities located within 7 provinces in the project's targeted coastlines, these have been selected based on vulnerability assessments to coastal threats from CC and directly in areas where rehabilitation interventions are taking place. Training will be delivered through Capacity Building Centres (CBCs) located in each municipality that will be enhanced as well as through 7 classrooms that will be created in each of the restoration intervention areas. This will allow training programs to be included within existing learning and coordination structures. The training program will be sustained by existing local structures (provinces and municipalities) as they will be integrated them into municipal and provincial daily life.

- *Sub activity 2.1.1 Identification, design and packaging of the training content to be provided to coastal communities and stakeholders to increase coastal adaptation capacity for local adaptation actions including EBA*

Actions include the establishment of institutional agreements by AMA with key institutions such (INRH, MINAG, MINAL, productive centers, and national and international learning centers) for the development of specific training content. Content will be informed by existing scientific information (vulnerability assessments, climate projections) and consultation with communities and relevant local structures. Community consultation will include information derived project development that resulted in stakeholder mapping and in consultations developed during the first years of project implementation with the support of FLACSO-Cuba that will be hired through GoC co-financing.

The content will be transformed and packaged into a training curriculum designed to address key local concerns. Experts from the Municipal University Centers (CUM) and universities will be hired to guide this process in collaboration with specialists from local CEAs and international and national specialists from water resources, physical planning, fishing, agriculture and forestry sectors. This will result in the printing of training materials (through GCF funds) for specific topics (climate change, ecosystem services to manage climate impacts, water resource management, causes of ecosystem degradation, ecological rehabilitation and nature-based solutions). Content creation will be led by AMA and its specialized agencies. GCF funds will finance the production of the training material (publication and printing costs) and the hiring of international experts for content creation and mobility costs.

- *Sub activity 2.1.2 Enhance physical and operational capacity in 24 Capacity Building Centers in targeted coastal municipalities, and establish 7 Annexed classrooms in the intervention areas to provide an adequate space for community and stakeholder capacity building, community monitoring and for the coordination of local adaptation activities*

This activity will enhance infrastructure at the territorial level through existing Capacity Building Centres (CBCs) which already serve an important role as local brokers for environmental knowledge, enhancing their capacity to train on coastal zones adaptation in the 24 targeted municipalities. Investments will be focused on enabling the

existing CBC premises (expanding their physical and material capacity for training) and in developing 7 classrooms that will be established through GoC co-financing (municipal donation of the space) in the seven ecosystem intervention sites identified in Output 1. These classrooms will serve as training spaces in the 7 settlements where ecosystem intervention will occur (Output 1), ensuring that targeted communities appropriate and acquire the technical capacity to maintain the EBA investments (See FS Table 18 for locations).

Premises will be designed to meet the following: increased capacity for training (25 people in CBCs and 15 in annexed classrooms), accessibility of different users, connectivity (audio, data, video, internet) and physical security. GoC funds will be used to enhance physical/infrastructure capacity within these Centres and classrooms (expanding training space) while GCF funds will be used to expand their material capacity (ICT equipment, media tools, office furniture) and to guarantee their adequate operation (internet services). Staff from local governments, through the Council of Municipal Administration, will be responsible for the administration of enhanced CBCs and classrooms, payment of current accounts (energy, water, cleaning, security etc), maintenance and repair to guarantee its operation and sustainability.

- *Sub activity 2.1.3 Implement in 24 targeted municipalities and 7 intervention sites a capacity building program through local structures (CBCs and annexed classed rooms)*

Implementation of the capacity building program in the 24 municipalities and 7 intervention sites will take a two-pronged approach: 1) implement a “trainer of trainer” methodology to allow training curriculum to flow into communities and 2) using the CBCs and annexed classrooms to provide adaptation training with a strong EBA focus to key community stakeholders leveraging their role as knowledge brokers on natural resources and integrated coastal planning at a local level.

Specialists from FLACSO-Cuba and international specialists will be hired to provide training to community leaders focusing on key stakeholders identified through a stakeholder mapping process, transforming them into key community trainers on specific topics such as nature-based solutions. Training of community trainers will be done through workshops organized at a territorial and national level. Through community trainers the project aims to reach 60% of the population within the targeted municipalities. GCF will finance the logistic costs of the trainings and workshops (mobility and transport at a territorial level) as well as international experts. GoC co-financing will be used for the hiring of national experts (FLACSO-Cuba) and national trainers that will be hired to provide training workshops.

Enhanced CBCs will provide training directly to community actors and will support inter-sector climate change adaptation in coastal activities leveraging their role as knowledge brokers transforming them into crucial actors at a territorial level to coordinate Tarea Vida. CBCs (Sub activity 2.1.2) will be operated by two specialists (environmental and information technology specialist) to be selected by the provincial delegations of the CITMA. Classrooms in interventions sites will be operated by 1 specialist to be hired. CITMA will be responsible for their salaries throughout the project and after its conclusion. The specialists hired in operating CBCs and classrooms will program community training and awareness (based on identified local needs) by enlisting community trainers on set topics to provide capacity building locally under the designed curricula (Sub activity 2.1.1).

Activity 2.2. Integrate project (technical and community based) derived information, information from early warning systems and national datasets into a Knowledge Management Platform, to provide climate information products to monitor, evaluate and inform coastal communities on local (community and ecosystem) capacity to manage climate change impacts.

This activity will collect information derived from the local ecosystems rehabilitation actions and hydrological dynamics restoration (Output 1) to integrate it into national databases through a Knowledge Management Platform, which in turn will feed the development of national and information products, including: i) A Protocol for Coastal Resilience Assessment (PERC) ii) enhancing successful existing early warning systems (disasters and emergency attention, EWS for drought in agriculture, forest fires, health, etc.); and, iii) coastal vulnerability and resilience assessments for coastal adaptation that will integrate information on ecosystem monitoring (Output 1) with indicators derived from community monitoring of local conditions. This work will be led by AMA through ICIMAR and will work locally with CBCs and local governments through interterritorial networks.

Community derived information will enable a two-way information flow, flowing not only down from national governments to settlements but also up from settlements to national government. This will allow for the development of useful climate information products that are built upon transparent and clearly identified data that will serve as important instruments to measure community capacity for resilience. It will also allow information to adapt to local conditions and serve as an early warning for coastal capacity to adaptation responding to the various hazards particular to coastal communities (coastal flooding, saline intrusion, extreme weather).

Through environmental monitoring the project will provide contextual information to enhance EWS on climate impact through an assessment of coastal resilience to enhance disaster risk knowledge by incorporating ecosystem capacity to manage climate threats and better assess vulnerability. This information will be consolidated through the project's knowledge management system that will be accessible to all key decision makers within the EWS SOP chain facilitating information throughout institutions to better monitor the impact of possible hazards and consequences and guide decision making. This will further be enhanced through the delivery of informational products to communities.

- *Sub activity 2.2.1 Integrate project and national databases and monitoring systems into a Knowledge Management Platform for Coastal Adaptation (KMPCA)*

This activity will create a Knowledge Management Platform for Coastal Adaptation to integrate and manage national and local information to contribute to the National Environmental Information System currently being developed. The KMPCA will also integrate community monitoring with environmental conditions monitored via Meteorological Stations by INSMET, Environmental Health Units, Hydraulic Resources, Forestry Companies, Protected Areas and Volunteer Groups. The information collected in, and generated by, the KMPCA will allow governments, sectors and society to monitor the project's objectives and progress over time; as well as to identify priorities and weaknesses that may arise during implementation. More importantly it will provide continuous information on coastal resilience in targeted coastlines.

The KMPCA will be coordinated by AMA through an operative node within ICIMAR that will house and integrate all investigation and projects on coastal adaptation. The node will receive and integrate: i) Indicators of climate change (including the PERC) and ii) Project information (such as interventions evolution & monitoring). Additionally, the KMPCA will support the incorporation of EBA indicators into the National Statistical System (SEN), to be used by the Government and to facilitate its use within all sectors, which in turn, will promote inter-sectoral coordination and the incorporation of EBA measures in sectoral planning instruments. Through the platform the project will address the coordination and information barriers that have not allowed effective communication between local and inter-sector actors as it will allow all stakeholders to speak the same language through an integrated and transparent mechanism.

The inter-territorial networks (at community, municipal, provincial level and national levels) created through the KMPCA will ensure that the information flows back to the territories through monitoring reports and recommendations developed in close cooperation with the territories (popular councils and municipal councils) so that the monitoring results can be integrated into the local planning mechanisms. The exchange of information from the local to the national will favor the continuous flow of information and knowledge generated by the Project leveraging national and locally relevant knowledge management tools and databases to ensure communication and facilitate upscale.

GCF funds will be used for the purchase of information technology equipment including software to facilitate communications between institutions and sectoral databases and national information systems, international expertise and technical support services as detailed in the project's log frame to enable the integration of information systems and databases. The implementation of the system (labor, national programming support and expertise) will be financed by the GoC under dedicated co financing provided by CITMA.

- *Sub activity 2.2.2 Train communities to provide community monitoring of coastal ecosystems and local conditions (indicators for socio economic, environmental, climate health, and drinking water quality) as part of*

a community monitoring system to complement information derived from EBA monitoring systems and better assess coastal vulnerability and resilience.

Actions include investing in training to communities that will form part of a community monitoring system for adaptation to CC. Community monitoring volunteers will be identified through local education centers and schools and relevant associations, prioritizing the participation of women and communities located within the most vulnerable areas. This strategy harnesses AMA and CITMA's experience in the creation of multidisciplinary groups to produce hazards, vulnerability and disaster risk studies and using this capacity to incorporate long term climate projections for targeted areas and layering these with information on local conditions that will be directly affected as a result of climate change (health, drinking water quality, livelihoods, ecosystem capacity).

The implementation of the community monitoring system will complement existing EWS Systems and will serve as a mechanism to increase ownership and empowerment of communities to incorporate adaptation alternatives and solutions to local climate impacts. As the communities take part in environmental monitoring (measuring shoreline receding rates, maximum floods benchmarks, mangroves survival rates, among others) it will help generate an understanding of climate change and related impacts as continuous environmental change to which they can gradually adapt and adjust their own actions based on their risk perception.

The community monitoring system will complement the technical monitoring system of the coastal zone (Output 1) with the involvement of the community in the generation of information and knowledge of local conditions to develop a more complete picture of coastal vulnerabilities and capacity for adaptation. Information from the communities' monitoring system will partly feed the KMPCA (Activity 2.2.1) and will be shared with, CBCs (Activity 2.1.3) who will consolidate this information with community concerns and will advise on the information products to be developed locally.

GCF Funds will be used for community monitoring workshops -to train communities on EBA monitoring- and for the procurement of basic equipment (cameras, recording equipment, etc.) which will remain within the communities under the custody of local CBCs. AMA's ICIMAR will coordinate this activity and ensure its integration with site specific EBA monitoring (FS Table 29). Data from the monitoring will be transformed into locally information products (Activity 2.2.3). Use of information and uptake will be measured throughout the project.

- *Sub-activity 2.2.3 Create user driven climate and environmental information products as tools for EBA implementation, appropriation and maintenance*

Through this activity the project will generate climate and environmental information products as tools for EBA implementation and maintenance. Information will be derived from the environmental monitoring systems put in place through Output 1 and community monitoring (integrated within the KMPSCA) and existing national climate information systems. Information will be packaged within existing information products and new locally relevant climate information products. These include: A Protocol for Coastal Resilience Assessment (PERC), environmental information for coastal adaptation (environmental modules on EBA) and community-based early warnings. GCF funds under this sub activity will be used to cover printing costs and logistic costs of technical meetings.

Information products will be based on local climate and oceanographic data and will be prepared locally, supported by national entities such as INSMET with the aim of improving disaster risk reduction, natural resources management, EWS and thus enhancing adaptation to CC. CEAs will be responsible for improving existing local-scale early warning information products through the inclusion of relevant local information, such as the coastal erosion index, the saline intrusion line, coastal flooding characteristics, the state of the ecosystems, and others. Climate products (bulletins, weather reports, meteorological networks, etc.) will be updated annually based on the results of the monitoring and complemented with the existing monitoring networks, with particular focus on the integration of ecosystems related information and their functionality.

A Protocol for Coastal Resilience Assessment (PERC), following the conceptualization of the recently developed Drought Index, will result from this activity. This protocol will be designed with local stakeholders and will be integrated into the Territorial Statistical Information System (SIET), which in turn will ensure the inclusion of the main vulnerabilities to CC in municipal and national development plans considering the use of SIET for development

planning and metrics. The PERC will take into account 5 principles: vulnerability, sensitivity, adaptability, resistance and transformability. The PERC will be monitored and updated through the KMPCA (Activity 2.2.1) and made available at a territorial level through CITMA provincial delegation. This will allow coastal communities to better identify and assess their resilience to incoming climate impacts.

Activity 2.3. Mainstream EBA approaches into regulatory and planning frameworks at the territorial and national levels for long term sustainability of EBA conditions and investments for coastal protection

Activity 2.3 will provide inputs for generating the legal frameworks and financial mechanisms required for the streamlining of adaptation, and in particular EBA, in coastal zones management. This will be done through various mechanisms for addressing the capacity and information barriers that had made this approach impossible, including creating a network for legal and technical support to municipalities and standardizing technical information for the development of national guidelines. By generating tools and methodologies including that can be easily applied and locally relevant, municipal authorities will be able to incorporate an EBA approaches in their own economic and planning instruments generating a pathway for local governments whose own development is being directly threatened as a result of climate change impacts. More importantly, the legal framework under the project will be essential in the consolidation of an enabling regulatory environment for EBA initiatives, with their respective national legal support hence creating conditions for long terms sustainability of the EBA investments, approach and facilitating its upscale.

- *Sub activity 2.3.1 Create a network of legal advisor to develop a detailed analysis of the regulatory, legal and institutional framework and solutions (costing tools, legislation, regulations) to integrate EBA investments and management in 24 municipal and 7 provincial economic plans through concrete actions and investments.*

Actions include creating and funding the support that will be provided under a network of legal advisors (3 per province) representing economic and planning sectors relevant to coastal management and government levels to provide support at municipal, national and provincial government authorities to integrate EBA approaches into development plans and budget allocation mechanisms for coastal areas. This includes financing directed at the hiring of legal experts that will provide support and developing a legal capacity gap assessment (GoC co-financing), providing them the space (GoC funds) and the equipment required to operate (GCF funds), as well as covering the logistic costs of providing support and training (GCF funds). A key result under this sub activity will be the development of environmental management plans in to include the sustainability of EBA in the 7 project districts and 24 municipalities.

The network of advisors will produce a detailed analysis of the regulatory, legal and institutional framework for integrating EBA as an adaptation and sustainable development strategy, identifying implementation gaps and possible solutions to address these by introducing regulations, legal recommendations, costing tools. These tools and recommendations will be provided as direct support of the legal network to the 24 municipalities involved in the project to contribute in the preparation of regulatory documents. The network of legal advisors will work closely with these municipal governments to frame new regulations and plans for their discussion in popular councils and legislation bodies.

- *Sub activity 2.3.2 Production of technical standards for the inclusion of EBA in national and sectoral regulations.*

Actions will be centered around developing a Cuban Technical Standard (Norm) of "Terms and Definitions for the EBA in Cuba" and "Technical Guidelines for the Establishment of the Ecological Flow". This will be achieved during the first half of the project implementation and will be based on early project results that will be used to inform these standards. Packaging of this information will be funded through this activity with support from the network of legal advisors that will guide input and advice to AMA and CITMA, hence addressing specific information gaps that had been missing for this action in the past (i.e. lack of standardized information such as on calculating ecological flows to ecosystems).

The technical standards and guidelines will constitute a base for EBA approaches integration into municipal and national actions and budgets and will also be key instruments for governments in water management planning. Standards, which are regulatory in nature, will provide the criteria for restoring coastal ecosystem's functionality for

coastal protection and instructions on how to maintain such functionalities and nexus within ecosystems. Information to integrate these standards will be derived from Output 1 activities which will feed the KMPCA and the inputs it provides to national databases. These will provide criteria for restoring ecosystem's functionality and resilience and also instructions on how to maintain such nexus and functionalities including ensuring proper water allocation for ecosystems in water management instruments.

Support will be provided in the form of communication and socialization products such as manuals and guidelines that will be produced for replication and incorporation on the technical standards and ecological flows at various sectors (GCF funds), information processing (GoC cofinancing), and the logistic costs of providing technical support and training such workshops for socialization of the technical standards and incorporation into regulations (GCF funds).

- *Sub activity 2.3.3 Incorporate EBA into municipal territorial and natural resource planning instruments including territorial land use plans and local environmental ordinances for long term sustainability of conditions required for EBA results.*

This activity will incorporate EBA into municipal territorial and natural resource planning instruments, including in local plans for "Tarea Vida", Risk Reduction Management Strategies territorial land use plans (Planes de Ordenamiento Territorial- POT) and local environmental ordinances on resource management (Modelos de Ordenamiento Ambiental- MOA). Through this activity, actions for coastal resilience will be included in land use ordinances to reduce climate vulnerability and look to reduce pressure on ecosystems services of coastal landscapes.

Technical support and advice will be provided to key sectors (water, agriculture, fisheries and environmental) and stakeholders (local governments, productive organizations, local scientific/technical research centers, community leaders, representatives of civil society), to achieve successful inter-sectoral coordination of EBA in their sectoral planning instruments. The project will explore best practices for integrating financial mechanisms and financial planning strategies such forecast based financing. Information products derived from Activity 2.2. will be key instruments for this work as will the statistical data provided through the KMPCA, that will serve to ensure that all sectors understand the impact of their actions in enhancing coastal resilience.

Technical support will be provided in the form of trainings (such as in using cost benefit analysis, CMZ adaptive planning, physical planning in marine zones, use of climate impact modelling, participatory planning mechanisms, ecosystem and economic valuations), that will be provided through workshops and in situ support to municipalities that will require the hiring of national and international experts. GCF funds will be used for the recruitment of international experts to provide training to national and local governments, logistic cost of workshops, transportation costs as well as printing costs related to the production and design of guidelines on EBA methodologies and standards.

Partnerships:

The project has been designed in consultation and involvement of relevant government agencies at the national and local levels, as well as with local economic sectors. The project foresees the interrelation between GCF resources and GoC co financing with GCF providing additional funds to manage lack of access to technical inputs not easily accessible to Cuban institutions as described above. As such, it aims to strengthen national capacity being this project of National Implementation Modality (NIM) with the support of UNDP seeking to empower local actors in implementation. Country ownership is ensured through the leadership role of CITMA's Environmental Agency (AMA) as the project's executing agency.

AMA is the agency in charge promoting government strategies for environmental management through research and the active implementation of strategic projects and in putting into practice environmental policy and providing key recommendations for the legislation on environmental issues. The Agency has access to capacity from its various affiliated institutions and territorial representations that will be engaged by the project such as the Institute of Marine Sciences (ICIMAR) with a key role in monitoring project interventions. At a territorial level, AMA has access to a network of Centres for Environmental Studies at a provincial level as well as to municipal environmental

specialists at a municipal level. AMA through co financing provided by CITMA will invest in the integration of a specific project management team at a national and local level for this project and in the hiring local teams to implement capacity building through the enhanced CBCs as well as in the development of the project's environmental monitoring activities through its various institutions as described above.

MINAG, through the National Forest Development Fund (FONDAEF), will provide 16.2 million in co-financing over an 8-year period to develop the ecosystem restoration works detailed in Activities 1.1 and 1.2. Co-financing for these actions will be provided through FONADEF and will be used for hiring of Forest Enterprises amongst other actions as described above. In kind co finance from the INRH will be provided through the expanded monitoring programme that will be funded by the Institute to incorporate the project's target areas as described in Activity 1.4. Baseline finance for the project includes actions provided by INRH in managing saline intrusion through aquifer recharge as well as actions related to enhancing water flow access to ecosystems and sanitation measures as specified through Activity 1.4.

Project actions and investments have looked to be integrated into the government structures, increasing the participation of local actors throughout planning and implementation activities, creating adaptation initiatives ownership to guarantee their long-term sustainability. The design process recognises that local bodies of People's Power (OLPP) are key for project implementation and their involvement contributes to the ownership of interventions. Building on these foundation as well as in leveraging within national and local frameworks, the project ensures that the investments as well as the results of the interventions are sustained beyond the project's initial investment period. Amongst these includes framing the project in line with the GoC's "Tarea Vida" and with the constitutional reform process that has taken place and elevates the role of municipal governments in development and economic planning.

Institutions at all national, local and community levels will be directly involved in the activities and on planning and providing technical and governance support for the successful implementation of adaptation strategies. National and local institutions will also participate in the monitoring of the project's impacts and in the management and dissemination of information and lessons learned. Of importance is the project's focus on inter-institutional and inter-sector collaboration that is evidenced through the description of project actions and committed co finance. Municipal authorities for example will provide the space required to house the CBC's and the annexed classrooms.

This project is part of a larger national strategy for the implementation of "Tarea Vida" that has promoted and developed actions focused on the protection of soils, water resources, marine-coastal ecosystems and on reducing the vulnerability of its coastal settlements through multiple initiatives. These projects prioritize ecosystem and nature-based solutions in accordance to the GoC's NDCs and will complement each other through lessons learned in the implementation of EBA as a source of coastal defense (current project), livelihood protection, and integrating DRR within a wider adaptation framework thus providing strategic support to the GoC in managing CC principle impacts. Hence the project will include cooperation and coordination with the following ongoing projects:

- FAO/MINAG/GCF: 'Increased climate resilience of rural households and communities through the rehabilitation of production landscapes in selected localities of the Republic of Cuba (IRES)' which has been approved for implementation to address the impact of drought in agricultural production in Las Tunas, Villa Clara and Matanza provinces in line with actions 3 and 4 of "Tarea Vida." The project is focused on agricultural and livelihood production while incorporating ecosystem-based solutions as a source of livelihood protection to increase the climate resilience of agricultural production and ensure food security through improved ecosystem services from landscape management.
- UNDP/AMA/EU: 'Building coastal resilience in Cuba through natural solutions' being implemented in 4 northern central coastal municipalities (Villa Clara, Sancti Spiritus, Ciego de Ávila y Camagüey) focusing on Strategic Actions 1 and 2 of "Tarea Vida" and tasks 1,5,7,9, to provide support to the Risk Management Group. The project works to enhance local Disaster Risk Management Centers in an effort to integrate disaster risk management

and adaptation into the vulnerability assessment and planning tools of these territories and experimenting with limited nature-based solutions for local populations.

Risks: Eleven project Risks have been identified during project design that in turn have incorporated relevant mitigation mechanisms as specified in the project's risk log. Risk factors associated with the project implementation are categorized as technical and operational and credit related. Risks are considered to have a low to moderate impact and mitigation measures have been identified to minimize effects. Please see Risk Log in Annex for full details on risk management.

As per standard UNDP requirements, the Project Manager will monitor risks quarterly and report on the status of risks to the UNDP Country Office. The UNDP Country Office will record progress in the UNDP ATLAS risk log. Risks will be reported as critical when the impact and probability are high (i.e. when impact is rated as 5 and probability is 1,2,3,4, 5 or when impact is rated as 4 and probability is rated at 3 or higher). Management responses prepared by PMU, reviewed, vetted and cleared by UNDP, to critical risks will also be reported in the Annual Project Report (APR).

This project has completed the UNDP social and environmental screening procedure (see SESP attached as Annex). This screening was undertaken to ensure this project complies with UNDP's Social and Environmental Standards. The overall social and environmental risk category for this project is: **Moderate**. AMA will be responsible for the supervision of the ESAR. The UNDP will gain the endorsement of AMA and will ensure the ESAR is adequate and followed. The PMU will ensure timely remediation actions are taken by the contractor, as necessary. The AMA will be responsible for the revision or updates of this document during work. It is the responsibility of the person to whom the document is issued to ensure it is updated. The detailed risk assessment undertaken for the project, a comprehensive Social and Environmental Risk Procedure (SESP) report, as well as the Environmental and Social Assessment Report (ESAR) can be found in as an annex to the project, as well as the project's Risk Log.

Potential environmental risks were identified for coastal ecosystem rehabilitation activities, which could introduce invasive species or cause impacts to critical habitats. The project will rely on a combination of natural regeneration and artificial regeneration (planting) to achieve the recovery of structure, function and ecosystem services. Restoring mangroves and wetlands will involve enrichment planting and the re-introducing of key mangrove species, as well as hydrological management to ensure adequate water availability. These activities may have limited adverse impacts on flora and fauna in the area, locally affecting water turbidity and altering sediment compositions, which may affect sensitive biodiversity and habitats. Likewise, non-native or invasive species (either already existent in the ecosystem) may proliferate and colonize areas more quickly than native species, especially during the initial stages of restoration activities or in frequently disturbed areas. Management measures will be taken, and plans will be developed with protocols and methodologies for each of the sites and the different landscape ecosystem components to ensure that the techniques mitigate any harm to the ecosystem and biodiversity, while monitoring activities will be put in place to follow any potential impacts.

The possibility of minor social impacts may occur during rehabilitation activities restricting the availability, quality of and access to natural resources in the restoration areas. That is, areas targeted for rehabilitation and protection may result in enforcing existing restricted access to extraction of non-timber forest products, animals and wood from mangroves, although it is important to note that this is already legislated, and that the project does not introduce new legislation but supports existing legislation for maintaining the sustainability of the investment. Specifically, management measures will be put in place to ensure that the restoration of ecosystems (in particular mangroves and swamps) is sustainable. Environmental regulations are already in place to protect sensitive environments that will support the effective rehabilitation of mangroves, including laws that prevent deforestation of mangroves in protected areas and other laws that ensure the sustainable use of resources. This risk is mitigated by the fact that Cuban Forest Law however recognizes the right of forest habitants and neighbouring areas to use the forest resources, including among others, the collection of fruits, fodder, and firewood.

To mitigate these risks, current use of coastal ecosystems has been assessed with the needs of local communities, and as required alternatives use options will be identified. This will allow trade-offs and synergies between

sustainable use and coastal protection to be identified so that management measures are taken to protect the most vulnerable areas, in alignment with Cuban environmental laws, while ensuring community benefits and resource access in sustainable use areas. This process will be gender-sensitive

To mitigate environmental risk, hydrological studies will be undertaken at project restoration sites to better identify the potential risk of the introduction of pollutants (including the runoff of harmful pesticides, herbicides, etc.) into ecosystems as a result of the project implementation actions so that these are manageable (i.e. moderate or low in terms of UNDP Social and Environmental Screening Procedure (SESP) rating) through adequate risk mitigation actions implemented by the project. Information derived from the hydrological analysis and relevant action plan will be included in an updated Environmental and Social Assessment Report (“ESAR”) for the project prior to its third disbursement and before the implementation of Sub Activities 1.1.2 and 1.4.1. The Government of Cuba through co financing will develop these studies as part of Sub Activity 1.1.1 and 1.4.2 and 1.4.3.

Stakeholder engagement plan: A wide national and local consultation process was carried out at project design, involving around 500 actors. Institutional actors namely in farming, forestry, food (fisheries), water resource management, urban planning, education, public health, science, technology and conservation management, civil defense, finance and prices, economy and planning, construction, tourism, environmental management, civil society organizations, regulatory and enforcement authorities (Forest Rangers Corps), among others, were consulted at both levels. Government bodies’ officials were consulted at provincial and municipal levels (i.e. the Provincial and Municipal People’s Power Assemblies and Provincial and Municipal Administration Councils). The meetings held in the communities located in project intervention areas were also attended by Presidents of the People’s Councils, who also act as Delegates of the Municipal People’s Power Assemblies.

At the national level, the Economy and Planning, Finance and Banking sectors were also consulted as part of a larger institutional consultation within the framework of Cuba’s Inter-Ministerial Coordination Committee (ICC) of the Green Climate Fund.

The public consultations, occurred in five stages during project formulation, and included comprehensive mapping of stakeholders, sensitization activities and community awareness, development of an organizational and methodological plan for consultation instruments and tools, analysis and processing of consultation results and its integration into project activities and actions. Public consultations through its five stages was aimed to: i) understand and identify their perceptions of climate change and the possible social and environmental risks/impacts on their communities, ii) integrate their views and suggestions on the project activities to the project design; iii) confirm/identify their roles in the implementation of the project, and iv) identify other barriers and opportunities.

These processes were informed by a gender approach, ensuring that gender-sensitive questions and modalities were implemented, allowing the voices and ideas of both women and men to be included. Overall, these activities were successful and had a high level of active participation, attesting to the involvement and interest of stakeholders in the continuation of the Project. The active consultation process was a unique experience for the GoC and included participatory mapping, site visits, formal meetings/focus groups, email communication and a wider national consultation workshop took place to validate the approach and territorial ownership. Additionally, surveys were administered to two communities in a piloting exercise aimed at further developing the survey tool to be used and to obtain preliminary information regarding stakeholder views and interests concerning the Project. A main result of the public consultations was a detailed stakeholder map, in which the decision-making scope and capacities as well as socio-economic aspects of these different groups were analyzed. This map was used to identify key groups with stakes in the project and their relevance to each of the three components of the project to integrate these actors within project actions.

The tools and information derived from the public consultations were used to develop an integrated stakeholder engagement plan for the implementation of the project (Annex I). The stakeholder engagement plan foresees a disclosure plan to communities living near areas of ecosystem rehabilitation as well as those participating in community monitoring programs and capacity building activities. It also foresees continuous consultation processes and events to be delivered during the project’s lifetime. These actions are accompanied by a participation and

engagement program that has been budgeted for within the project's workplan and further detailed within the Stakeholder Engagement Plan for the project. A Grievance Redress Mechanism for the project has also been developed for the project and has been included within the project's ESAR

Gender equality and Women's Empowerment: A gender assessment was carried out in the design of the project, as an entry point for the incorporation of gender responsive actions throughout its design and implementation of the project, and as the basis of the project's Gender Action Plan included in annex. The action plan was designed by taking into account both a comprehensive gender assessment, as well as the results of stakeholder consultations. The stakeholder consultations, which explicitly covered gender issues, inquired of both institutional and community participants what specific problems and difficulties may be faced by women and girls in adapting to climate change in the coastal zone of Cuba.

Cuban society demonstrates exceptional gender equality. UNDP Annual Human Development Report (2015), places Cuba with GII value of 0.304, positioning it as the 62nd in the world ranking. Cuba's GDI value, in the report, was listed as 0.946, placing the country in "Group 3" (out of five groups), which is defined as "countries with medium equality in HDI achievements between women and men". For its part, in 2017 the World Economic Forum's (WEF) Global Gender Gap Index set Cuba's overall score at 0.745, ranking it 25th in the world. Its national statistics indicate no gender differences in educational attainment, 49% of the labor force in the civil sector is female with 48.6% of managers in Cuba being women. Women also account for 53.22% of the seats held in the National Assembly of People's Power (ANPP) and 53.5% of the workforce associated with science, innovation and technology.

Nonetheless, Cuban culture remains broadly patriarchal, with certain manifestations of gender inequality mainly affecting women and girls. Although the Cuban Revolution of 1959 set out to eliminate all forms of discrimination and inequality based on a profound socio-economic and political transformation that created a unique situation of equity among its citizens, the cultural stigmas and stereotypes, placing women in sometimes disadvantaged positions have tended to prevail in popular culture. In addition, statistics have demonstrated that single parent-female headed households are amongst the most socio-economically vulnerable due to low incomes. Consultations within the field demonstrated traditional separation of roles with women general being in charge of household responsibilities.

Furthermore, despite equal representation in most sectors, in the case of agriculture women have a relatively low participation rate. The presence of the traditional social division of labour in the agricultural context means that women are not considered for certain activities, for example such as the management of farms or the operation of agricultural machinery, which has led to less access and representation among these types of more 'technical' opportunities. The 2002 Population and Housing Census recorded that women employed in rural areas accounted for 13.7% of the total number of Cuban women engaged in paid work and 22.8% of the total number of rural women. While the government has looked to implement initiatives to ensure greater representation of women in agriculture, such as the National Gender Strategy for Agriculture approved by the MINAG in 2016, as of 2020 women still account for less than 20% of the workforce within the sector.

In Cuba, both men and women have equal rights in access to resources and agrarian laws declare the equal right to land for both sexes, in practice many more men own land than women, as well as participate in cooperatives and hold managerial positions in cooperatives. This is again due to patriarchal norms and beliefs that recognize and value men's work in agriculture, while undervaluing the role of women. It should be noted that the GoC looking to address these issues has included within its Gender Strategy for Agriculture an action and monitoring plan for the sector to be implemented by business, state, budgetary and cooperative institutions, organizations and entities. A National Program for the Advancement of Women (Presidential Decree 198/2021) was also recently approved, which constitutes an opportunity to address the gender perspective as part of the project's implementation. This Program promotes actions aimed at achieving greater integrity and effectiveness in the prevention and elimination of manifestations of discrimination against women, as well as strengthening the mechanisms and professional capacity of public officials to incorporate gender issues in the preparation of policies, programs and in the provision of services.

In Cuba, more than 7,500 women farmers are involved in forest management, representing between 18-19% of the workers in this field (Territorial Delegation of the Ministry of Agriculture, 2014.) The presence and participation of women in forestry is found in all types of occupations, including many that have traditionally been considered as men's, but the figures for these compared to the men are much lower. They are also represented in all forestry structures at the territorial level, whether in forestry enterprises at the provincial level, in forestry units at the municipal level or in forestry brigades in settlements. However, men are more represented than women, although in recent years Cuba has seen an increase in women in forestry, especially in coordination, leadership, management or leadership positions.

The project developed a survey to better understand women's role in supply chains relevant to the project, including in agriculture, fisheries, use of non-timber forest products and in forestry. Women in the project focus areas stated that they were interested in learning about other types of agricultural activities, and responded favourably to activities including gender training workshops, and those organized to promote women's employment activities. The consultations made it possible to identify the following problems that disproportionately affect women: 1) Problems in water supply and quality due to saline intrusion and equity gaps in access to employment in Júcaro.

The project incorporated various approaches to manage the issues explained above. These included the following:

- Specific strategies to include/address female-headed households;
- Different conservation incentives faced by women;
- A more nuanced and data-based identification of gaps in gender equality through the use of sex-disaggregated data in the monitoring of implementation results, and hold individuals and institutions accountable for results that promote gender equality;
- Ensuring that sensitization and awareness are adjusted to more effectively reflect gender-specific differences that may exist. That is the strategies in the Stakeholder Engagement Plan have been adopted, taking these differences into account;
- Inclusion of an Environmental and Social Safeguards Specialist, with expertise in Gender mainstreaming/provision of advice within the project to implement gender-related activities

The project has included benefits that look to include women's concerns including increased fresh water availability that is being addressed by restoring coastal wetlands water filtering capacity. Moreover, training and capacity-building will further support Cuba in its continued promotion of women's empowerment and economic inclusion, providing both men and women with equal opportunities to benefit from project activities. Targets for the increased participation of women in the forestry sector within the project's Gender Action Plan have been included. Capacity building activities, developed in participation with stakeholders, will help improve understanding and management of climate change risks and ecosystem functionalities and conservation for multiple stakeholders, including local communities and women. Similarly, creating community-based monitoring systems and including women and other key stakeholders in monitoring and planning of climate change impacts and vulnerability, will promote gender-equitable ownership over the process. Please refer to the project's Gender Action Plan for targets and greater detail.

South-South and Triangular Cooperation (SSTrC): Learning opportunities and technology transfer from peer countries will be further explored during project implementation. To present opportunities for replication in other countries, the project will codify good practices and facilitate dissemination through global ongoing South-South and global platforms, such as Africa Solutions Platform, the UN South-South Galaxy knowledge sharing platform and PANORAMA⁸.

In addition, to bring the voice of Cuba to global and regional fora, the project will explore opportunities for meaningful participation in specific events where UNDP could support engagement with the global development discourse on Climate Change Adaptation. The project will furthermore provide opportunities for regional cooperation with countries that are implementing initiatives on *Ecosystem* Based Adaptation and Nature Based

⁸ <https://panorama.solutions/en>

Solutions in geopolitical, social and environmental contexts relevant to the proposed project in *Panamá, Colombia, Spain and Deutschland*.

An important result from the project will be the development of crucial quantitative data supporting the EBA and nature-based flood defences as alternatives for coastal flooding risk reduction, potentially transferring this knowledge to other countries in the Caribbean or with similar ecosystems and supporting the design of more cost-efficient CCA interventions. Thus, making possible the upscale of science-based and evidence-based EBA strategy in Cuba and other countries. Information derived from the project and the monitoring system will include measures to better quantify the coping capacity of an integrated ecosystems landscape such as: i) coral reefs and seagrass recovery time estimation once hydrological rehabilitation in associated ecosystems has taken place; ii) the estimation of mangroves resistance to extreme events, shifting precipitation patterns and their recovery time; iii) the estimation of the morphological effects of the integrated recovered ecosystem to withstand SLR; iv) combined effects for reducing coastal risks of rehabilitating the natural infrastructure and flows and functionalities between ecosystems. This last point will be critical in creating shifting mindset from traditional engineering approaches that have failed to incorporate the role of physical planning in reducing coastal resilience as well as in incorporating nature-based solutions as adaptation alternatives.

The Capacity Building Program and resulting information products will promote good practices derived from the project implementation, and these will be disseminated beyond its intervention radius. In general, the Project will: i) develop tools and technologies based on national and local experiences, with potential to be used in different conditions throughout the country and other tropical coastal zones with similar environmental and geographical settings; ii) Regularly compile data, evaluations, management practices and knowledge, and ensure their wider dissemination; iii) Consolidate results in the form of toolkits and guidelines, designed for different stakeholders and decision-makers; iv) Include the participation of the communities in coastal based adaptation and integral planning and therefore bringing knowledge down-up complementing the up-down knowledge transfer; v) influence land planning regulatory frameworks to be more in tune with natural dynamics and mainstream ecosystem-based territorial planning approaches and vi) promote international data & knowledge exchange generated through the project implementation and monitoring system. The project will provide advice on regulatory topics to municipalities, sectors and national actors to support the inclusion of technical standards for EBA within planning and budgets.

Innovativeness, Sustainability and Potential for Scaling Up:

Innovativeness

The EBA approach favored by the project allows for a cost-effective strategy to coastal adaptation that builds on Cuban's strongholds –sound understanding of its coastal ecosystems' functionalities and services, strong scientific capacities of national institutions, educated communities, and existence of political will. It does this by enhancing national institutions to work in an integrated manner on adaptation, to enhance the protective role of coastal ecosystems, while leveraging in-country research and proven experiences that have yet to be implemented at a large territorial scale. This will be further enhanced by involving local stakeholders as key figures in monitoring and ensuring the permanent and sustainable functionality of adaptation measures.

The project will generate valuable lessons and best practices, which will be systematized and shared with other stakeholders, projects and institutions. The monitoring systems will provide data to better adjust the prognoses of the local CC-effects/coastal drivers and to determine more accurately the effect of EBA in reducing CC vulnerabilities. The monitoring system that will integrate both community monitoring and data analysis, will not only be unique in Cuba but will also be relevant worldwide to quantify both impacts and responses more accurately. The adoption of a legal framework for EBA will favor an evidence-based replication and scaling of the project through removal of barriers that currently limit EBA implementation. Information to develop and integrate EBA regulations will be derived from the KMPCA and its inputs to national databases.

Sustainability

Environmental sustainability is a cornerstone of the project design, with a sound understanding of the main drivers of ecosystems functions' optimization (as natural infrastructure) or degradation and investing on those functions that enhance ecosystem structural capacity and in reducing conditions that impact such service. Of particular importance is the integrated ecosystems functionalities approach, which applied to coastal zones recognizes that natural ecosystems (mangroves, wetlands, seagrass beds and coral reefs) function as an integrated system with vital ecological interdependencies connecting them and are also highly dependent on adequate watershed management. Following the initial investment, coastal ecosystems will have restored their natural ability to cope and respond to natural dynamics, including climate related events.

The reduction of coastal landscape and ecosystem degradation (Sustainable Land Management benefit) and strengthening of green infrastructure will restore natural protection against coastal erosion, salt water intrusion and flooding that have serious impacts on the habitats of both marine and terrestrial fauna and flora, as well as on local livelihoods, threatening the health and well-being of coastal communities. These much-needed rehabilitation activities will help regulate the movement of water, sediments and nutrients in coastal watersheds, to mitigate future flooding and rebalance aquatic process such as water flow, pollutant assimilation and remineralization. Co-benefits derived from this include carbon storage of approximately 94,844 t/year, improved water flows, water and soil quality as well groundwater recharge, all of which are key for both human livelihoods and ecosystems.

Building capacity at community and local government levels to improve an understanding of climate change impacts and solutions, including the integration of ecosystem management in coastal planning and disasters risk reduction, will also generate important and transformative national benefits. Working closely with local communities, as well as public sector and research organizations, it will be ensured that activities are tailored to the local ecosystem climate adaptation and resilience services' rehabilitation needed, while integrating the needs and priorities of stakeholders. Moreover, community awareness and sensitization campaigns that promote environmental and climate change literacy will empower local communities and share ecological knowledge that is key to supporting local, sustainable management of coastal ecosystems. Intersectoral coordination and continuous environmental monitoring will ensure that past environmental pressures to the ecosystem are managed through improved coastal planning and adjusted economic planning instruments thus enhancing long term sustainability.

Institutional sustainability will be ensured by fully involving and strengthening national and local institutions (National, provinces, municipal and community-based) from project design to implementation. As explained, in the stakeholder analysis and implementation arrangements, institutions at all these levels will be directly involved in the activities and on planning and providing technical and governance support for the successful implementation of adaptation strategies. National and local institutions will also participate in the monitoring of the project's impacts and in the management and dissemination of information and lessons learned. Of importance is the project's focus on inter-institutional and inter-sector collaboration. Project design has also leveraged from existing national and local structures to ensure the its long-term sustainability and that of information derived from it. The resulting information will inform the mainstreaming of EBA into the local municipality's development plans and upscaled to national legislation, and advice Tarea de Vida's goals.

Social sustainability will be ensured through the active and direct involvement of the populations affected by, or at risk from the impacts of climate change, in the planning, implementation, management and monitoring of adaptation strategies, as active participants rather than solely as stakeholders. A core of the project is the investment on awareness raising and education among the vulnerable population and the planning and sectorial authorities on the short- and long-term nature and implications of climate change, as well as on the adaptation options available. This will help to ensure continuous support from local communities, buy-in to long term the adaptation measures and to reduce ecosystems degradation (so they can provide the protective service) as well as maximizing design and compliance of planning and governance instruments intended to increase communities and livelihoods resilience to

climate risks. The inter-sector mechanisms in Output 2 will maximize adaptation mainstreaming among planning instruments and sectors' policies.

Co-benefits derived from improving reliability and access to ecosystem goods and services include fisheries restoration, greater availability of non-timber products, increased carbon storage, and sustained agriculture production. Co-benefits for health and well-being include improved air and water quality, increased coastal recreational spaces, restoration of ecological cultural heritage, and higher availability of medicinal products. Capacity building activities, developed in participation with stakeholders, will help improve understanding and management of climate change risks and ecosystem functionalities and conservation for multiple stakeholders, including local communities and women. Sixty six percent of the total project budget has will be dedicated to enhancing local capacities at both a community and institutional level (through existing local institutions). Key co-benefits of these activities are complementing and valuing local ecological knowledge and enhancing management capacities, which will continue to support all participating coastal community members, especially women, adapt to climate change. Similarly, creating community-based monitoring systems and including women and other key stakeholders in monitoring and planning of climate change impacts and vulnerability, will promote gender-equitable ownership over the process and ensure that the voices of women are included.

Financial Sustainability: Following the necessary GCF's initial funding investment, required to rehabilitate the adaptation functions of key ecosystems, build the capacities and create the planning instruments to mainstream ecosystem-based planning to adapt to climate change, the financial sustainability of the ongoing maintenance and management of the adaptation strategies will be ensured through financial and economic instruments managed by the Government, including actions foreseen through the long-term implementation of Tarea Vida and the development of municipal economic planning. Activity 2.3 will work at all levels to ensure that these and future EBA investments are included within local and national budgets and has been included as a project indicator. Operations and maintenance costs will be executed after the expiry of the GCF project have been foreseen by national institutions and are manageable under the GoC fiscal budget.

Lines of actions of this project will generate important economic benefits to both the GoC and communities. Persistent pressures, such as coastal flooding from extreme events, such as storms and hurricanes, SLR, saline intrusion and changes in precipitation patterns can have serious impacts on natural capital, productive activities, infrastructure and transportation services that are necessary to maintain a thriving economy and a safe and healthy population. A CBA analysis developed through the baseline project "Manglar Vivo" calculated net benefits to communities derived from mangrove restoration at USD 107 million. The Government's financial costs associated to emergency attendance and recovery when responding to climate related extreme events will also be reduced, potentially saving USD97-278 million per disaster. The rehabilitated green infrastructure will contribute to reducing costs associated to maintenance and repair of Cuba's hard (grey) infrastructure in and near coastal zones, including gabions, piers, roads and dams. Rehabilitation of coastal ecosystems services will help secure opportunities for sustainable activities such as fishing and tourism, that will benefit the national economy and broader Caribbean region (e.g., offshore fisheries).

Potential for Scaling Up

An important result from the project will be the development of crucial quantitative data supporting the EBA and nature-based flood defences as alternatives for coastal flooding risk reduction, potentially transferring this knowledge to other countries in the Caribbean or with similar ecosystems, and supporting the design of more cost-efficient CCA interventions. Thus, making possible the upscale of science-based and evidence-based EBA strategy in Cuba and other countries.

Information derived from the project and the monitoring system will include measures to better quantify the coping capacity of an integrated ecosystems landscape such as: i) coral reefs and seagrass recovery time estimation once hydrological rehabilitation in associated ecosystems has taken place; ii) the estimation of mangroves resistance to

extreme events, shifting precipitation patterns and their recovery time; iii) the estimation of the morphological effects of the integrated recovered ecosystem to withstand SLR; iv) combined effects for reducing coastal risks of rehabilitating the natural infrastructure and flows and functionalities between ecosystems. This last point will be critical in creating shifting mindset from traditional engineering approaches that have failed to incorporate the role of physical planning in reducing coastal resilience as well as in incorporating nature based solutions as adaptation alternatives.

The Capacity Building Program and resulting information products will promote good practices derived from the project implementation, and these will be disseminated beyond its intervention radius. In general, the Project will:

- i) develop tools and technologies based on national and local experiences, with potential to be used in different conditions throughout the country and other tropical coastal zones with similar environmental and geographical settings;
- ii) Regularly compile data, evaluations, management practices and knowledge, and ensure their wider dissemination;
- iii) Consolidate results in the form of toolkits and guidelines, designed for different stakeholders and decision-makers;
- iv) Include the participation of the communities in coastal based adaptation and integral planning and therefore bringing knowledge down-up complementing the up-down knowledge transfer;
- v) influence land planning regulatory frameworks to be more in tune with natural dynamics and mainstream ecosystem-based territorial planning approaches and
- vi) promote international data & knowledge exchange generated through the project implementation and monitoring system.

The adoption of a legal framework for EBA will favor an evidence-based replication and scaling of the project through removal of barriers that currently limit EBA implementation. Information to develop and integrate EBA regulations will be derived from the KMPCA and its inputs to national database. The project will hence provide advice on regulatory topics to municipalities, sectors and national actors to support the inclusion of technical standards for EBA within planning and budgets.

V. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s): <i>SDG6, SDG 11, SDG 13, SDG 14, SDG 15</i>					
This project will contribute to the following country outcome included in the UNDAF/Country Programme Document: Cooperation Framework Outputs 3.1, 3.2, 3.3; CPD Outputs 3.1, 3.2					
GCF Paradigm shift objectives: Increased climate resilient sustainable development					
	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Assumptions
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	TARGET 15.1. By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, forests, wetlands, mountains and drylands, in line with obligations under international agreements SDG indicator 15.1.1. Forest area as a proportion of total land area (Forests area, Thousands of hectares, Tha)	3242 Tha (Year 2020)	+2.856 Tha of the degraded mangroves in the target coastlines have been rehabilitated +0.772 Tha of degraded swamp forest in the target coastlines have been rehabilitated	+11.427 Tha degraded mangroves rehabilitated +3.088 Tha of degraded swamp forest have been rehabilitated	Extreme hydro-meteorological events do not damage, destroy or delay the EBA measures. Active participation of all relevant stakeholders The report of the project will be the restored forest area. It's not the direct measure of the SDG indicator, but is a measure that respond indirectly to the 15.1 Target
SDG 13 Take urgent action to combat climate change and its impacts	TARGET 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning SDG indicator. 13.3.1 Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment	-	67,626 men and 65,811 women (total 133,437 people with knowledge on EBA solutions to manage local impact of CC	225,421 men and 219,372 women (total 444,793 people with knowledge on EBA solutions to manage local impact of CC	Active participation of stakeholders Being aware translates into action
	TARGET 13.2. Integrate climate change measures into national policies, strategies and planning SDG INDICATOR 13.2.1. Number of countries with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications, as reported to the secretariat of the United Nations Framework Convention on Climate Change	-	4 Proposals for the inclusion of EBA in national and sectoral regulations ⁹ 7 municipalities have mainstreamed EBA into their Development Plans. 7 municipalities have mainstreamed EBA within the Territorial Management Plans reflected within annual workplans.	4 National instruments and sectoral regulations have mainstreamed EBA. 1 st National Technical EBA 24 municipalities have mainstreamed EBA into their Development Plans (including economic and environmental plans).	Social, political and economic circumstances in the target municipalities and provinces do not materially change throughout project implementation. Governments and sectors remain committed to the inclusion of EBA measures in regulatory instruments. Governments and sectors remain committed to the implementation of

⁹ In Cuba all plans mentioned in this box are regulatory binding in nature.

			7 instruments designed and under implementation regulating the elimination of man-made barriers in coastal ecosystems (aiming to restore water flow dynamics and ecosystems functionalities)	24 municipalities have mainstreamed EBA within the Territorial Management Plans reflected within annual workplans. 24 regulatory instruments for elimination of man-made barriers within coastal ecosystems reflected within annual workplans.	regulations for the elimination of anthropic barriers in coastal ecosystems	
SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable	TARGET 11.5. By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations. SDG Indicator. 11.5.2. Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters	-	USD 0, Rehabilitated mangroves will provide no benefits for the first 5 years following rehabilitation, as they will not have sufficient structural stability to offer significant coastal protection. Rehabilitated mangroves will start to offer benefits in Year 7 onwards	Potential reduced accumulated losses of USD 17.8 Million	USD 0, Rehabilitated mangroves will provide no benefits for the first 5 years following rehabilitation, as they will not have sufficient structural stability to offer significant coastal protection. Rehabilitated mangroves will start to offer benefits in Year 7 onwards	
FUND LEVEL IMPACT: Copy from GCF funding proposal (no changes can be made) These are pre-defined and selected from the GCF performance measurement framework, should be limited to one or two only.						
Expected Results	Objective and Outcome Indicators	Means of Verification (MoV)	Baseline	Mid-term Target	End of Project Target	Assumptions
	Number of direct and indirect beneficiaries	Annual technical report of the project/surveys, group techniques and interviews (baseline, mid-term and final), coastal vulnerability assessments Surveys will be produced for the project and will be delivered by an independent institution	<i>Direct</i> ¹⁰ 0 males 0 females 0 total <i>Indirect</i> 0 males 0 females 0 total	Direct 67,626 male 65,811 female 133,437 total Indirect 66,846 male 65,052 female 131,898 total	<i>Direct</i> 225,421 male 219,372 female 444,793 total <i>Indirect</i> 445,640 male 433,681 female 879,321 total	Active participation of all relevant stakeholders Local actors are actively involved and interested in participating in capacity building activities. Environmental and social circumstances in the target sites do not materially change throughout project implementation
	Number of beneficiaries relative to total population		0% of total population	2.7% of total population (direct and indirect)	11.7% of total population (direct and indirect)	
A4.0 Improved resilience of ecosystems and ecosystem services	A4.1 Coverage/scale of ecosystems protected and strengthened in response to climate variability and change	Project reports with assessment, data from monitoring systems (marine, environmental, coastal	3002.5 ha of strengthened mangroves	+2,856 ha of the degraded mangroves in the target coastlines have been rehabilitated (total 5,858.5 ha)	+11,427 ha degraded mangroves rehabilitated (total 14, 429.5 ha) +3,088 ha of degraded swamp forest have been	Extreme hydro-meteorological events do not damage, destroy or delay the EBA measures.

¹⁰ For methodology on calculating direct and indirect beneficiaries please refer to Annex 2 of the GCF Funding Proposal (Feasibility Study) Section 7.2 p163-165

		wetland): annual reports; mid-term and final evaluation Independent monitoring reports by national environmental experts	3415 ha rehabilitated swamp forest 0 swamp grassland Coral reefs & seagrasses 0 ha	+772 ha of degraded swamp forest in the target coastlines have been rehabilitated (total 4,187 ha) +232 ha of degraded swamp grasslands in the target coastlines have been rehabilitated	rehabilitated (total 6,503 ha) 928 ha of degraded swamp grasslands have been rehabilitated. 9,287ha of seagrass and 134 km coral reefs crest improved	Active participation of all relevant stakeholders
A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions	A1.1 Change in expected losses of lives and economic assets (US\$) due to the impact of extreme climate-related disasters	Project reports with the assessment of the impact of extreme climate-related disasters on economic assets (estimated based on data collection, data analyze and prognoses by modelling and statistical analysis). Community incomes independently monitored through official annual reporting at a territorial level (target sites) produced by fishing cooperatives, tourism ministry and agents, and INRH on drinking water quality and access).	4 307 979 \$ USD ¹¹	USD 0, Rehabilitated mangroves will provide no benefits for the first 5 years following rehabilitation, as they will not have sufficient structural stability to offer significant coastal protection. Rehabilitated mangroves will start to offer benefits in Year 7 onwards	Potential reduced accumulated losses of USD 17.8 Million ¹²	Environmental and social circumstances in the target sites do not materially change throughout project implementation. Extreme hydro-meteorological events do not damage, destroy or delay the EBA measures. Active participation of all relevant stakeholders
PROJECT OUTCOMES: Copy from GCF funding proposal (no changes can be made). These are pre-defined outcomes selected from the GCF performance measurement framework and should be limited to one or two only.						
Expected Results	Objective and Outcome Indicators	Means of Verification (MoV)	Baseline	Mid-term Target	End of Project Target	Assumptions
A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	A7.2 Number of males and females reached by [or total geographic coverage of] climate-related early warning systems and other risk reduction measures established/strengthened	Coastal vulnerability assessment to be taken during project's Year 1 and at project's Terminal Evaluation Report Ecosystem health monitoring (CIS)	Estimated 5,000-20,000 people protected from coastal flooding in Artemisa Mayabaque and Playa Cajío as a	Mangroves will provide no benefits for the first 5 years following rehabilitation, as they will not have sufficient structural stability to offer significant coastal protection. Rehabilitated	At least 135,507 ¹⁴ people (66,873 women and 68,234 men) directly benefitted through increased coastal protection services from restored ecosystems as a	Environmental and social circumstances in the target sites do not materially change throughout project implementation. Extreme hydro-meteorological events do not

¹¹ CELAC & Universidad de Cantabria estimate that current mangrove conditions in target areas provide service of USD4.3 million in coastal protection (avoided loss)

¹² For methodology and dedicated funds on measuring impact refer to FP Annex 11 Section "Methodology to determine the protected area against an extreme flood". Funds allocated are those included in processing the results of the environmental monitoring systems to assess ecosystem capacity (Activities 1.1, 1.3, 2.2).

¹⁴ See Section 7.2 on Feasibility Study (Annex 2) for methodologies and calculation of project beneficiaries at an Output Level. Number for indicator are direct beneficiaries of Output 1. Calculations to measure this indicator will include estimated on the distance of sea penetration during coastal flooding that will be compared to historic records to calculate area that is no longer being flooded, in addition the numeric models and mapping (including FS Figures 56-62) will be used to calculate flooding in various scenarios taking into account mangrove and ecosystem health and extreme hydrological events (see footnote 70) and taking into account population of affected settlements, finally through surveys perception of vulnerability of the targeted population to flooding and saline intrusion as EBA actions progress and ecosystem services are rehabilitated.

		Surveys will be produced for the project and will be delivered by an independent institution	result of mangroves in current state ¹³ .	mangroves will start to offer benefits in Year 7 onwards	result of EBA investments in intervention areas	damage, destroy or delay the EBA measures
A5.0 Strengthened institutional and regulatory systems for climate-responsive planning and development	<i>A5.1 Institutional and regulatory systems that improve incentives for climate resilience and their effective implementation</i>	<p>Mid-term report and final evaluation with the numbers of plans (document-based evidence of approved plans) which have included EBA approaches.</p> <p>Legal and regulatory gap assessment (Activity 2.3.1) developed in year 1 and 7 evaluating progress of regulatory framework (technical standards, etc.) as result of project implementation.</p> <p>Certified copies of approved legislation and regulations (technical standards)</p>	0	<p>4 Proposals for the inclusion of EBA in national and sectoral regulations</p> <p>¹⁵ 7 municipalities have mainstreamed EBA into their Development Plans.</p> <p>7 municipalities have mainstreamed EBA within the Territorial Management Plans reflected within annual workplans.</p> <p>7 instruments designed and under implementation regulating the elimination of man-made barriers in coastal ecosystems (aiming to restore water flow dynamics and ecosystems functionalities)</p>	<p>4 National instruments and sectoral regulations have mainstreamed EBA.</p> <p>1st National Technical EBA</p> <p>24 municipalities have mainstreamed EBA into their Development Plans (including economic and environmental plans).</p> <p>24 municipalities have mainstreamed EBA within the Territorial Management Plans reflected within annual workplans.</p> <p>24 regulatory instruments for elimination of man-made barriers within coastal ecosystems reflected within annual workplans.</p>	<p>Social, political and economic circumstances in the target municipalities and provinces do not materially change throughout project implementation.</p> <p>Governments and sectors remain committed to the inclusion of EBA measures in regulatory instruments.</p> <p>Governments and sectors remain committed to the implementation of regulations for the elimination of anthropic barriers in coastal ecosystems</p>
A8.0 Strengthened awareness of climate threats and risk-reduction processes	<i>A8.1 Number of males and females made aware of climate threats and related appropriate responses</i>	<p>Annual reports; mid-term and final evaluation</p> <p>Surveys will be produced for the project and will be delivered by an independent institution</p>	0 men and 0 women	67,626 men and 65,811 women (total 133,437 people with knowledge on EBA solutions to manage local impact of CC)	225,421 men and 219,372 women (total 444,793 people with knowledge on EBA solutions to manage local impact of CC)	<p>Active participation of stakeholders</p> <p>Being aware translates into action</p>
PROJECT RESULTS: Copy from GCF funding proposal (no changes can be made).						
Output 1: Rehabilitated coastal	Number of hectares of rehabilitated coastal wetland in target areas providing protective services to targeted services	Annual environmental monitoring reports; reports from MINAG's Forestry Service	7317.5 ha of mangroves	3,860 ha of degraded coastal wetland has been rehabilitated	15,443 ha of degraded coastal wetland has been rehabilitated and providing protective	The required equipment for rehabilitation is available to use within the time planned. Local actors are actively

¹³ CELAC & Universidad de Cantabria estimate that current mangrove conditions target areas reduce potential flooding benefitting between 5,000-20,000 people in Artemisa Mayabeque and Playa Cajío that would be affected had mangroves not been present

¹⁵ In Cuba all plans mentioned in this box are regulatory binding in nature.

ecosystems for enhanced coping capacity to manage climate impacts	Number of hectares of seagrasses being lost per year ¹⁶ in target areas as a result of the restoration of natural hydraulic processes and coastal wetlands functionalities and connections	Annual environmental monitoring reports by AMA's environmental institutions	9287 ha at a reduction loss of 65ha/year	9,026 ha at a reduction loss of 65ha/year	8,954 ha at a reduction loss of 18 ha/year	involved in the design, implementation, monitoring and correction of coastal rehabilitation activities. Appropriate measures have been implemented so in case of extreme events ecosystem restoration process is efficient. 0.2-0.5% coral and seagrass annual reduction rates are sufficient for these ecosystems to restore their protective service against storms and coastal erosion. Reducing saline intrusion in 16,329 ha (in 8 years) is significant for freshwater availability and agriculture activities, taking into consideration that it will set the infrastructure for the remaining 22 years.
	Number of Km of Reef crest degraded per year in target areas as a result of the restoration of natural hydraulic processes and coastal wetlands functionalities and connections	Annual environmental monitoring reports by AMA's environmental institutions	2,2 km/year Annual rate of loss of reefs and frontal ridges 1.7%	2.2 km/year	0.25 km/year	
	Number of Hectares with salinity >1g/l in the intervention area ¹⁷	Annual reports based on INRH monitoring systems including that being developed for the project	544,300ha with salinity >1g/l	Saline intrusion reduction in 5,443 ha 538,857ha with salinity >1g/l	Saline intrusion Reduction in 16,329 ha 527,971ha with salinity >1g/l	
Output 2: Increased climate change adaptation capacity in vulnerable coastal communities, governments and economic sectors	Number of people with knowledge and skills to adapt to CC, broken down by communities, governments and sectors, taking into account gender and age groups.	Annual technical report of the project. Community consultations based on interviews, focus groups and surveys to assess local capacity ¹⁸ . These will be assessed independently by FLACSO at project base line, mid-term and final year. Community vulnerability assessments	0	133,437 (65,811 women and 67,626 men, 30% of project beneficiaries) with high level of capacity (assessed by FLACSO)	444,793 people (219,372 women and 225,421 men, total project beneficiaries) with high level of capacity (assessed by FLACSO)	The agreements signed between the project team, local and national entities are fulfilled. Local actors are actively involved and interested in participating in capacity building activities. Social, political and economic circumstances in the target municipalities and provinces do not materially change throughout project implementation.
	Number of Climate information products developed responding to local needs linked to monitoring the capacity of ecosystem to provide services	Annual report of the project-level monitoring Community consultations on information relevance	0	At least 2 per municipality rated as relevant by users (at least one of the products will respond women's climate	At least 10 per municipality rated as relevant by users (at least 3 of the products will respond to women's	

¹⁶ Under current conditions coral reefs and sea grasses are degraded at a rate of 0.7 and 1.7% per year respectively because of different drivers (see paragraphs 21-35 pg6). By restoring natural hydraulic processes and coastal wetlands functionalities and connections, the project will reduce such degradation rates, particularly addressing terrestrial sediment sources, and will increase these ecosystems coping capacity and functionalities and provide protective services. Hence this indicator is considered to be a direct result of the wetland conditions and restored functionalities under an integrated coastal approach.

¹⁷ This indicator is included as the approach in Output 1 will result in reducing saline intrusion in coastal communities, identified as a key CC impact to water sources.

¹⁸ Following project's stakeholder engagement plan and consultation methodology

	in managing climate impacts (water quality, protective capacity, community vulnerability, etc.)	perceived by users based on interviews, focus groups and surveys ¹⁹ . These will be assessed independently by FLACSO at project mid-term and final year		information needs per user-based consultation)	climate information needs per user-based consultations)	
	Number of municipalities that have incorporated ecosystem management within their development, territorial, and coastal zone management and disaster risk prevention plans/strategies	Annual technical report of the project. Meeting minutes of the local government Mid-term report and final evaluation with the numbers of plans (document-based evidence of approved plans) Legal and regulatory gap assessment developed evaluating progress of regulatory framework	0	7 municipalities have mainstreamed EBA into their Development Plans (including financing mechanisms) 7 municipalities have mainstreamed EBA within the Territorial Management Plans reflected within annual workplans. 7 regulatory instruments for elimination of man-made barriers within coastal ecosystems reflected within annual workplans	24 municipalities have mainstreamed EBA into their Development Plans (including financing mechanisms) 24 municipalities have mainstreamed EBA within the Territorial Management Plans reflected within annual workplans. 24 regulatory instruments for elimination of man-made barriers within coastal ecosystems reflected within annual workplans.	
DO NOT INCLUDE ACTIVITIES OR INPUTS IN THIS PROJECT RESULTS FRAMEWORK						

¹⁹ Following project's stakeholder engagement plan and consultation methodology

VI. MONITORING AND EVALUATION (M&E) PLAN

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex details the roles, responsibilities, frequency of monitoring project results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP](#) and [UNDP Evaluation Policy](#). The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional M&E requirements will be undertaken in accordance with the [GCF initial approach to monitoring and evaluation policy and other relevant GCF policies](#). The costed M&E plan included below, and the Monitoring plan in Annex, will guide the GCF-specific M&E activities to be undertaken by this project.

In addition to these mandatory UNDP and GCF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

GCF monitoring and reporting requirements:

Inception Workshop and Report: A project inception workshop will be held after the Funded Activity Agreement becomes effective, with the aim to:

- a. Familiarize key stakeholders with the detailed project strategy and discuss any changes that may have taken place in the overall context since the project idea was initially conceptualized that may influence its strategy and implementation.
- b. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.
- c. Review the results framework and monitoring plan.
- d. Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GCF National Designated Authority and other stakeholders in project-level M&E.
- e. Update and review responsibilities for monitoring project strategies, including the risk log; SESP report, Social and Environmental Management Framework and other safeguard requirements; project grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.
- f. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.
- g. Plan and schedule Project Board meetings and finalize the first-year annual work plan.
- h. Formally launch the Project.

The inception report is to be submitted to GCF within six months of project start (i.e. Funded Activity Agreement effectiveness)²⁰. The inception report will be cleared by the UNDP Country Office and the NCE-VF Regional Technical Adviser and approved by the Project Board.

²⁰ See Schedule 4 of the Funded Activity Agreement

GCF Annual Performance Report (APR) (due 1 March each year of project implementation): The annual GCF APR covering the reporting period January to December will be completed for each year of project implementation. The APR will include reporting of: environmental and social risks and related management plans, gender, co-financing and financial commitments, GCF 'conditions precedent' outlined in the FAA, amongst other issues. The APR submitted to the GCF shall be shared with the Project Board.

The Project Manager, the UNDP Country Office, and the NCE-VF Regional Technical Advisor will provide objective input to the annual project report covering the calendar year for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance so that progress can be included in the report.

The Annual Project Report submitted to the GCF will also be shared with the Project Board. The UNDP Country Office will coordinate the input of other stakeholders to the report as appropriate. The quality rating of the previous year's report will be used to inform the preparation of the subsequent report.

The last APR (i.e. Project Completion Report) will be due for submission within 3 months after the project completion date.²¹

Knowledge management: The project team will ensure extraction and dissemination of lessons learned and good practices to enable adaptive management and upscaling or replication at local and global scales. Results will be disseminated to targeted audiences through relevant information sharing fora and networks. The project will contribute to scientific, policy-based and/or any other networks as appropriate (e.g. by providing content, and/or enabling participation of stakeholders/beneficiaries)

Independent Interim Evaluation Report (IER): An interim independent evaluation report will be completed within three months after Year 4 from Effective Date (12 December 2025).

The terms of reference, the review process and the final IER report will follow the standard templates and guidance prepared by the UNDP IEO for GCF-financed projects available on the [UNDP Evaluation Resource Center \(ERC\)](#).

The evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired by UNDP evaluation specialists to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the consultants should not be in a position where there may be the possibility of future contracts regarding the project being reviewed.

The GCF NDA and other stakeholders will be involved and consulted during the evaluation process. Additional quality assurance support is available from the NCE-VF Directorate.

The final interim evaluation report will be available in English and will be cleared by the UNDP Country Office and the NCE-VF Regional Technical Adviser and approved by the Project Board.

The final IER report and IER TOR will be publicly available in English and will be posted on the UNDP ERC by December 2025. A management response to IER recommendations will be posted in the ERC within six weeks of the IER report's completion.

Terminal Evaluation (TE): An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GCF-financed projects available on the [UNDP Evaluation Resource Center](#).

²¹ See Schedule 4 of the Funded Activity Agreement

The evaluation will be ‘independent, impartial and rigorous’. The consultants that will be hired by UNDP evaluation specialists to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the consultants should not be in a position where there may be the possibility of future contracts regarding the project being evaluated.

The GCF NDA and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the NCE-VF Directorate.

A final independent evaluation report will be completed three months after the submission of the Project Completion Report (12 March 2030).

The final evaluation report will be cleared by the UNDP Country Office and the NCE-VF Regional Technical Adviser and will be approved by the Project Board.

The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC by (March 2030). A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report’s completion.

Final Report: The project’s final APR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

Agreement on intellectual property rights and use of logo on the project’s deliverables and disclosure of information: To accord proper acknowledgement to the GCF for providing grant funding, the GCF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware, and in line with the [GCF Branding Guidelines](#) and [UNDP’s branding guidelines](#). Any citation on publications regarding projects funded by the GCF will also accord proper acknowledgement to the GCF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy²² and the GCF Disclosure Policy²³. See also [GCF Branding Guidelines](#).

Carbon offsets or units: As outlined in the AMA agreement between UNDP and the GCF, to the extent permitted by applicable laws and regulations, the Implementing Partner will ensure that any greenhouse gas emission reductions (e.g. in emissions by sources or an enhancement of removal by sinks) achieved by this project shall not be converted into any offset credits or units generated thereby, or if so converted, will be retired without allowing any other emissions of greenhouse gases to be offset.

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ²⁴ (US\$)	Time frame
Inception Workshop	Implementing Partner National Project Director (NPD)/ Operational Coordinator (OC)/Technical Coordinator (TC)	\$13,500	November 22-26, 2021

²³ See https://www.greenclimate.fund/documents/20182/184476/GCF_B.12_24_-_Comprehensive_Information_Disclosure_Policy_of_the_Fund.pdf/f551e954-baa9-4e0d-bec7-352194b49bcb

²⁴ Excluding project team staff time and UNDP staff time and travel expenses.

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget ²⁴ (US\$)	Time frame
Inception Report and baseline assessments	NPD/OC/TC	None	<i>December 31, 2021</i>
Risk management (including Atlas Risk logs)	NPD / OC/TC Country Office	None (incorporated within the regular activities/salaries budgeted for the PMU, see terms of reference)	On-going
Monitoring of indicators in project results framework <i>(including hiring of external experts, project surveys, data analysis etc.)</i>	NPD /OC / TC	\$17,856	Annually
GCF Annual Project Report	RTA UNDP Country Office ²⁵ NPD /OC/ TC	\$7,464	Annually as per FAA
Audit of Implementing Partner as per UNDP audit policies	UNDP Country Office	\$56,000	As per UNDP Audit policies
Lessons learned, case studies, and knowledge generation	National Project Director/ TCs/Knowledge Management Specialist	\$466,900	On-going
Monitoring of <i>safeguards management frameworks</i>	Project Safeguards Officer and TCs through project monitoring systems (water quality, bio indicators, participatory surveys)	\$610,000 <i>(includes co financing funds for environmental monitoring)</i>	On-going
Monitoring of gender action plan	NPD/Project Gender Officer	\$131,584	On-going
Monitoring of stakeholder engagement plan	National Project Director/ Project Safeguards and Gender Officers/OC/TC	\$171,584	On-going
Addressing environmental and social grievances	National Project Director UNDP Country Office BPPS as needed	\$50,000	<i>Costs associated with missions, workshops, BPPS expertise etc. can be charged to the project budget.</i>
Project Board meetings	Project Board UNDP Country Office PMU	\$10,500 (\$1,500 per 7 years)	At minimum annually
Supervision missions	PMU and UNDP Country Office	\$54,720	Four per year
Oversight missions	RTA NCE-VF Unit	None ²⁶	Troubleshooting as needed
GCF learning missions/site visits	UNDP Country Office and National Project	None	To be determined.

²⁵ Or equivalent for regional or global project

²⁶ The costs of UNDP Country Office and NCE-VF Unit's participation and time are charged to the GCF Agency Fee.

GCF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget²⁴ (US\$)	Time frame
	Director and NCE-VF Unit		
Interim independent evaluation (add additional lines if more than one interim evaluation is required)	Independent evaluators	\$30,000	Q4 2025
Oversight of MTR process and MTR management response	UNDP Country Office and BPPS/GEF	None	
Final independent evaluation	Independent evaluators	\$30,000	Q1 2030
Translation of evaluation reports into English	UNDP Country Office	\$3,000 (co financing funds)	As required. GCF will only accept reports in English.
Oversight of TE process and TE management response	UNDP	None	
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		1,653,108.00	

VII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

The project will be implemented following UNDP's national implementation modality (NIM) - according to the SBAA, the Country Program Document (CPD) 2020-2024 and as per policies and procedures outlined in the UNDP (POPP) (see: <https://poppp.undp.org/SitePages/POPPSubject.aspx?SBJID=245&Menu=BusinessUnit>).

Roles and responsibilities of the project's governance mechanism:

Implementing Partner: The Implementing Partner for this project is **the Environmental Agency (AMA) ascribed to the Ministry of Science, Technology and Environment (CITMA) of Cuba.**

The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

The Implementing Partner is responsible for executing this project. Specific tasks include:

- Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
- Risk management as outlined in this Project Document;
- Procurement of goods and services, including human resources;
- Financial management, including overseeing financial expenditures against project budgets;
- Approving and signing the multiyear workplan;
- Approving and signing the combined delivery report at the end of the year; and,
- Signing the financial report or the funding authorization and certificate of expenditures.

Responsible Parties: No Responsible Parties for the project have been identified other than the AMA in the use of donor funds. Nonetheless, AMA will establish inter-institutional agreements with MINAG, INRH and local governments for the delivery of project activities to be financed through the national co-financing as specified in the Project Activities.

Project stakeholders and target groups: Project stakeholders will be formally represented in decision-making and project planning structures through the project organization structure (Figure 4) and various organizations. Stakeholders representations at the provincial and the municipal level will be engaged in decision making and planning through the Provincial and Municipal Coordination (Figure 4), comprised of provincial and municipal representatives from CITMA, MINAG and INRH at each provincial/municipal level. Also, Local Governments in representation of the communities will be part of the National Project Steering Committee (NPSC) (Figure 4) and will be directly engaged in decision making, planning and contributing with their experience and lessons learned. At the national level, key stakeholders like ICIMAR, INSMET, IES, IPF, among others, will be represented in decision making and planning by their respective ministry representatives who will be actively engage in the NPSC.

The project also foresees the creation of the Inter-Territorial Network (see, Activity 2.2 and FP section B3) created through the KMPCA, that will ensure community engagement and involvement within the project's decision making process. The interterritorial network will ensure the information flows to the territories through monitoring reports and recommendations developed in close cooperation with the territories stakeholders (popular councils and municipal councils) so that the monitoring results can be integrated into the local planning mechanisms and considered by the NPSC to planning and decision making.

UNDP: UNDP is accountable to the GCF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GCF project cycle management services comprising project approval and start-up,

project supervision and oversight, and project completion and evaluation. UNDP is responsible for the Project Assurance role of the Project Board/Steering Committee.

Project organisation structure:

The Project organisation structure is summarized in the figure below:

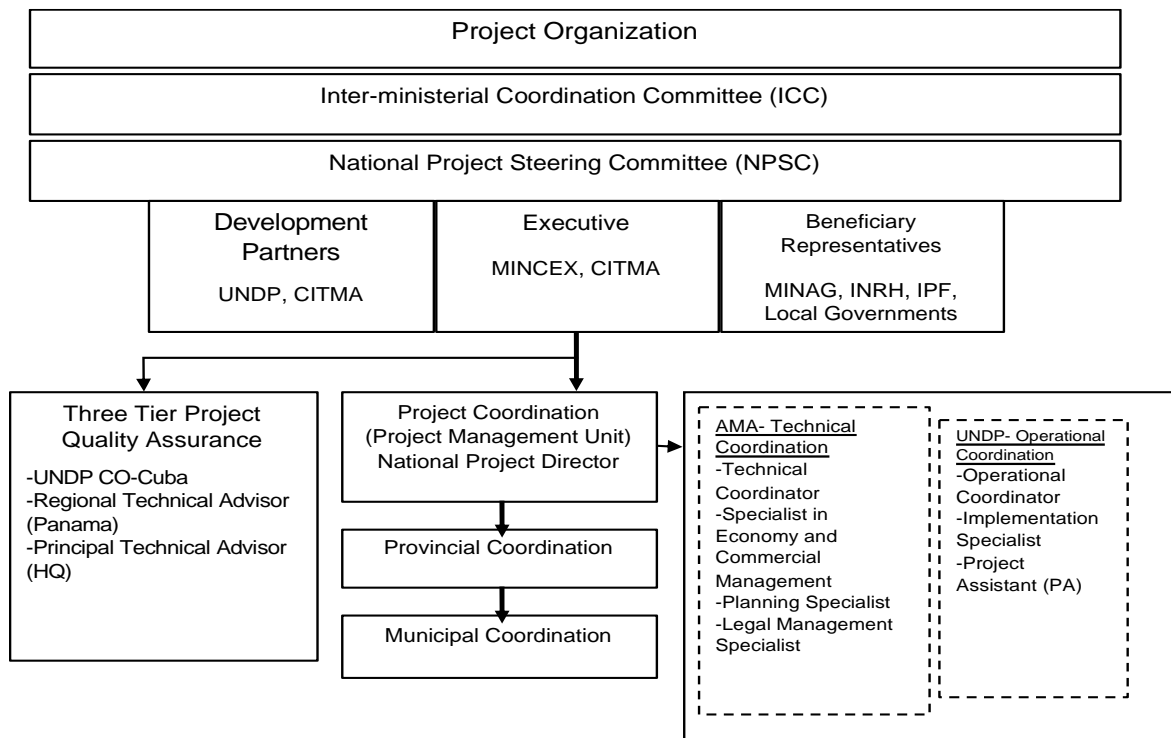


Figure 3 – Project Organization Structure

National Project Steering Committee (NPSC): The NPSC (also called Project Board) is responsible for taking corrective action as needed to ensure the project achieves the desired results. In order to ensure UNDP’s ultimate accountability, NPSC decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.

In case consensus cannot be reached within the NPSC, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

Specific responsibilities of the NPSC include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
- Agree on project manager’s tolerances as required, within the parameters set by UNDP, through Nature, Climate and Energy – Vertical Funds (NCE-VF), and provide direction and advice for exceptional situations when the project manager’s tolerances are exceeded;
- Advise on major and minor amendments to the project within the parameters set by UNDP, through NCE-VF;
- Ensure coordination between various donor and government-funded projects and programmes;

- Ensure coordination with various government agencies and their participation in project activities;
- Track and monitor co-financing for this project;
- Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- Appraise the annual project implementation report, including the quality assessment rating report;
- Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
- Review combined delivery reports prior to certification by the implementing partner;
- Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Address project-level grievances;
- Approve the project Inception, Interim Evaluation and Terminal Evaluation reports and corresponding management responses;
- Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

The composition of the NPSC will include the following roles:

- a. **Project Executive:** Is an individual who represents ownership of the project and chairs the NPSC. The Executive is normally the national counterpart for nationally implemented projects. The role of Project Executive will be held by a representative the Ministry of Foreign Trade and Investment (MINCEX) and of CITMA.
- b. **Beneficiary Representative(s):** Individuals or groups representing the interests of those who will ultimately benefit from the project. Their primary function within the NPSC is to ensure the realization of project results from the perspective of project beneficiaries. Often civil society representative(s) can fulfil this role. The Beneficiary representative will be representatives from the following institutions: MINAG, INRH, IIPF, and local governments at the provincial level of Pinar del Río, Artemisa, Mayabeque, Ciego de Ávila, Camagüey, Las Tunas and Granma.
- c. **Development Partner(s):** Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project (and can include UNDP in a NIM project). The Development Partner(s) will be represented by representatives from UNDP and CITMA.
- d. **Project Assurance:** UNDP performs the quality assurance role and supports the NPSC and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The NPSC cannot delegate any of its quality assurance responsibilities to the Project Manager. UNDP provides a three – tier oversight services involving the UNDP Country Offices and UNDP at regional and headquarters levels. Project assurance is totally independent of the Project Management function.

Project extensions: The UNDP NCE-VF Executive Coordinator must approve all project extension requests. Note that all extensions incur costs and the GCF project budget cannot be increased. A single extension may be granted on an exceptional basis and only if the following conditions are met: one extension only for a project for a maximum of six months; the project management costs during the extension period must remain within the originally approved amount, and any increase in PMC costs will be covered by non-GEF resources; the UNDP Country Office oversight costs during the extension period must be covered by non-GCF resources.

VIII. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is **USD 44,299,229**. This is financed through a GCF grant of USD 23,927,294, and USD 20,371,935 in other (parallel) co-financing. UNDP is responsible for the oversight of the GCF resources, and the cash co-financing transferred to UNDP bank account only.

Co-finance monitoring: The actual realization (materialization) of project co-financing will be monitored annually and will be reported to the GCF through annual progress reports. Signed letters from co-financiers will be requested to confirm the amounts that have materialized for the respective year.

Co-financing will be used for the following project activities/outputs:

Co-financing source	Co-financing type/financial instrument	Co-financing amount (USD)	Planned Co-financing Activities/Outputs	Risks	Risk Mitigation Measures
Ministry of Agriculture (MINAG)	Grant	16,242,487	MINAG, through the National Forest Development Fund (FONDAEF), will provide 16.2 million in co-financing over an 8-year period. Co-financing provided through FONADEF will include among others the hiring of Forest Enterprises to develop restoration actions within coastal wetlands.	Cuba has approved a recent economic reorganization ordinance that includes an adjusted international exchange rate to be made effective on January 2021, hence potential affecting the capacity to report on co financing values.	Project budget and budget notes include details on co financing actions that will be delivered per co financing source at an output level, as indicated in co-financing letters that make a direct reference to the project's Funding Proposal. Co-financing will be reported by UNDP and ascertained per internal Standards of Operation and in alignment with FAA obligations through verified means in the form of co-financing letters indicating the co-financing source, amount mobilized per output as well as in actions per project budget. A commitment has been provided by the GoC through its NDA on the delivery of project actions per Funding Proposal thus indicating that while the calculated value may be adjusted per new exchange rates, project delivery per co financing outcomes will not be affected. UNDP through its reporting process will report on any changes or failure to materialize co financing in accordance to FAA rules.
Ministry of Science, Technology and Environment (CITMA)	Grant	2,696,377	Co finance provided Finance by CITMA includes dedicated staff assigned specifically to the project and its management, managing of the CBCs and annexed classrooms (salaries), as well as in monitoring through its various ascribed institutions.		
National Institute of Hydraulic Resources (INRH)	In kind	1,435,071	In kind co finance from the INRH will be provided through the expanded monitoring programme that will be funded by the Institute to incorporate the project's target areas (see Activity 1.3 section B2)		

GCF Disbursement schedule: GCF grant funds will be disbursed according to the GCF disbursement schedule. The Country Office will submit an annual work plan to the NCE-VF Unit and comply with the GCF milestones in order for the next tranche of project funds to be released. All efforts must be made to achieve 80% delivery annually to accomplish the expected outputs/activities on a timely manner, within the planned duration to avoid extension of the project.

A.	Total (1a+1b)	Disbursement Schedule 1a	Disbursement Schedule 1b
Disbursements	GCF Proceeds (USD) *	GCF Proceeds (USD)**	Contingencies
Disbursement 1	2,165,947	2,115,102	50,845
Disbursement 2	11,167,808	11,092,080	75,728
Disbursement 3	3,256,121	3,180,198	75,923
Disbursement 4	1,668,246	1,541,885	126,361
Disbursement 5	1,844,607	1,794,548	50,060
Disbursement 6	1,805,317	1,728,245	77,072
Disbursement 7	1,003,689	940,227	63,463
Disbursement 8	1,015,559	903,162	112,397
Total	23,927,294	23,295,445	631,849

(*) amounts include contingencies.

(**) the amounts do not include contingencies

Direct Project Services as requested by Government: services provided to government directly under NIM. The UNDP Country Office will also deliver a pre-determined set of project-specific execution services at the request of the Government. To ensure the strict independence required by the GCF and in accordance with the UNDP Internal Control Framework, these execution services should be delivered independent from the GCF-specific oversight and quality assurance services (i.e. not done by same person to avoid conflict of interest). These execution services will be charged to the project budget in accordance with the [UNDP's Harmonized Conceptual Funding Framework and Cost Recovery Methodology and Partner Capacity Assessment Tool \(PCAT\)](#). Completing the partner capacity assessment tool and the HACT capacity assessment is required early during the project preparation stage. The partner capacity assessment tool considers project management capacities and the HACT assessment helps to identify capacity gaps in the partner's financial management system and practices, and to determine ways and means of addressing them. The assessment also informs decisions on the use of national implementation and the role of UNDP in providing support services at the request of the Implementing Partner. If the Implementing Partner requests UNDP support services (both Technical and Administrative Support Services) these costs need to be transparently and correctly budgeted in the TBWP and approved by GCF.

The government has requested UNDP to undertake the following services: *Identification and/or recruitment of project and programme personnel as well as technical expertise; Identification and facilitation of training and meeting/workshop activities; Procurement of goods and services; Financial transactions; Any other type of activities/services as per prevailing UNDP Universal/Local Price List and Pro-forma costs.* The Implementing Partner and GCF National Designated Authority have requested UNDP to provide support services in the amount of **USD\$ 164,000 (total amount listed in the LoA included in Annex L)** for the full duration of the project. The **request letter** (signed by the GCF National Designated Authority and the IP) and the [signed letter of agreement](#) between UNDP and the Implementing Partner detailing these support services are included in Annex. To ensure the strict independence required by the GCF and in accordance with the UNDP Internal Control Framework, these execution services should be delivered independent from the GCF-specific oversight and quality assurance services (i.e. not done by same person to avoid conflict of interest).

Budget Revision and Tolerance: Any reallocation of the GCF grant among the outputs that result in a variation of more than 5% of the GCF agreed budget for that output must be approved by the GCF in advance.

Any increase in the amount allocated to project management costs must be communicated by the Accredited Entity to the Fund and approved in writing by the Fund in advance.

Any budget reallocation involving a major change in the project's scope, structure, design, or objectives or any other change that substantially alters the purpose or benefit of the project requires the GCF's prior written consent.

As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board (within the GCF requirements noted above). Should such deviation occur, the Project Manager and UNDP Country office will seek the approval of the NCE-VF Unit.

Any over expenditure incurred beyond the available GCF grant amount will be absorbed by non-GCF resources (e.g., UNDP TRAC or cash co-financing).

Audit: The project will be audited as per UNDP Financial Regulations and Rules and applicable audit policies. Audit cycle and process must be discussed during the Inception workshop. If the Implementing Partner is an UN Agency, the project will be audited according to that Agencies applicable audit policies.

Project completion: Project completion will be conducted as per UNDP requirements outlined in the UNDP POPP. Please note that extensions of the timeline for project closure will require consultations with the GCF and possible further action, as per the instruction of the GCF. Please see [GCF policy on cancellation and restructuring](#). The only costs a project may incur following the final project review are those included in the project completion budget.

Operational closure: The project will be operationally closed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting, including the project completion budget. **Operational closure must happen with 3 months of posting the TE report to the UNDP ERC.** The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

Transfer or disposal of assets: In consultation with the NIM Implementing Partner and other parties of the project, UNDP programme manager (UNDP Resident Representative) is responsible for deciding on the transfer or other disposal of assets. Transfer or disposal of assets is recommended to be reviewed and endorsed by the project board following UNDP rules and regulations. Assets may be transferred to the government for project activities managed by a national institution at any time during the life of a project. In all cases of transfer, a transfer document must be prepared and kept on file²⁷. The transfer should be done before Project management Unit (team) complete their assignments.

²⁷ See

https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PPM_Project%20Management_Closing.docx&action=default.

In addition, the following GCF requirements must be followed: As stated in Clause 9.03 of the Funding Activity Agreement included in Annex^[1], the Accredited Entity shall inform the GCF, in the final Annual Progress Report (APR), which steps it intends to take in relation to the durable assets and/or equipment purchased with the GCF Proceeds to implement the Funded Activity.

Financial completion: The project will be financially closed when the following conditions have been met: a) The project is operationally completed or has been cancelled; b) The Implementing Partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

The project is required to be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent balance to the NCE-VF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

Refund to GCF: Should a refund of unspent funds to the GCF be necessary, this will be managed directly by the NCE-VF Directorate in New York. No action is required at CO level on the actual refund from UNDP project to the GCF.

^[1] 23.04 of the AMA states: “ In relation to a Funded Activity that is a grant financed in whole or in part with GCF Proceeds, if any part of such grant is used to purchase any durable assets or equipment used to implement the relevant Funded Activity (such as vehicles or office equipment), upon completion of the Funded Activity or termination of the relevant FAA in accordance with its terms, the Accredited Entity shall take such steps in relation to such assets or equipment which it reasonably deems in the best interest of the continued operation of the Funded Activity taking into consideration the objectives of the Fund and the terms of the applicable SBA.”

IX. TOTAL BUDGET AND WORK PLAN

Atlas Proposal or Award ID:	00095204	Atlas Primary Output Project ID:	00099212
Atlas Proposal or Award Title:	Mi Costa - Coastal Resilience by Ecosystem Based Adaptation		
Atlas Business Unit	CUB10		
Atlas Primary Output Project Title	Mi Costa - Coastal Resilience by Ecosystem Based Adaptation		
UNDP-GEF PIMS No.	5994		
Implementing Partner	Environmental Agency		

Output No.	Activity No.	Activity description	Responsible party	Fund	Donor	Atlas Budget Code	Atlas Budget Account Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Amount Year 6 (USD)	Amount Year 7 (USD)	Amount Year 8 (USD)	Amount TOTAL (USD)	Budget notes		
OUTPUT 1 Rehabilitated coastal ecosystems for enhanced coping capacity to manage climate impacts	1.1	Assess and restore coastal wetland functions in target sites by reestablishing hydrological processes	Environmental Agency / UNDP	66000	12526	71200	International Consultants	-	15,000	-	-	15,000	-	-	-	30,000	A1		
						71300	Local Consultants	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	8,000	A2	
						71400	Contractual Services - Individual	22,728	22,728	22,728	22,728	22,728	22,728	22,728	22,728	22,728	22,728	181,824	A3
						72200	Equipment and Furniture	-	470,000	-	-	-	-	-	-	-	-	470,000	A5
						72800	Information Technology Equipmt	39,000	-	-	-	-	-	-	-	-	-	39,000	A6
						73400	Rental & Maint of Other Equip	-	5,672	16,385	16,385	10,084	7,562	3,781	3,151	63,020	A7		
						1.1 Total								62,728	514,400	40,113	40,113	48,812	31,290
	1.2	Mangrove and swamp forest rehabilitation in target sites through natural and assisted regeneration for enhanced coastal protection	Environmental Agency / UNDP	66000	12526	72200	Equipment and Furniture	431,900	1,378,610	77,000	-	-	-	-	-	-	1,887,510	A9	
						72300	Materials & Goods	42,750	1,560,202	-	-	-	-	-	-	1,602,952	A10		
						72400	Communic & Audio Visual Equip	14,700	28,829	28,829	28,829	28,829	28,829	28,828	28,627	216,300	A11		
						72500	Supplies	5,498	5,498	5,498	5,498	5,498	5,498	5,499	5,493	43,980	A12		
						72800	Information Technology Equipmt	65,700	3,242	3,243	3,243	3,243	3,243	3,244	3,222	88,380	A13		
						73400	Rental & Maint of Other Equip	-	158,475	457,816	457,816	281,733	211,300	105,650	88,040	1,760,830	A14		
						75700	Training, Workshops and Conference	-	12,012	12,012	12,012	12,012	12,012	12,012	11,928	84,000	A16		
						72100a	Contractual Services - Companies / Nat-Serv	-	48,000	48,000	24,000	24,000	12,000	12,000	-	168,000	A17		
	1.2 Total								560,548	3,194,868	632,398	531,398	355,315	272,882	167,233	137,310	5,851,952		
	1.3	Record and asses coastal and marine ecosystems' natural regeneration and their protective functions based on conditions provided as a result of	Environmental Agency / UNDP	66000	12526	72200	Equipment and Furniture	134,875	3,443,960	404,290	4,290	4,290	4,290	4,290	4,260	4,004,545	A18		
						72300	Materials & Goods	-	103,974	255,760	39,604	-	39,604	-	438,942	A19			
						72400	Communic & Audio Visual Equip	6,000	27,456	27,456	27,456	27,456	27,456	27,264	198,000	A20			
						72500	Supplies	7,330	7,330	7,330	7,330	7,330	7,330	7,330	58,640	A21			

Output No.	Activity No.	Activity description	Responsible party	Fund	Donor	Atlas Budget Code	Atlas Budget Account Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Amount Year 6 (USD)	Amount Year 7 (USD)	Amount Year 8 (USD)	Amount TOTAL (USD)	Budget notes	
		restored coastal wetlands				72800	Information Technology Equipmt	170,940	-	-	-	-	-	-	-	170,940	A22	
						73400	Rental & Maint of Other Equip	-	29,041	62,540	62,540	62,540	62,540	62,540	61,936	403,677	A23	
						75700	Training, Workshops and Conference	-	12,012	12,012	12,012	12,012	12,012	12,012	11,928	84,000	A25	
						72100a	Contractual Services - Companies / Nat-Serv	-	-	30,060	30,060	30,060	30,060	30,060	29,700	180,000	A26	
						72100b	Contractual Services - Companies / Int-Serv	-	150,000	-	-	-	-	-	-	150,000	A27	
	1.3 Total							319,145	3,773,773	799,448	183,292	143,688	183,292	143,688	142,418	5,688,744		
	1.4		Enhance water conduction systems along targeted watersheds to restore freshwater drainage in coastal ecosystems and aquifers to reduce and monitor saline intrusion in target sites	Environmental Agency / UNDP	66000	12526	71200	International Consultants	-	-	-	30,000	-	-	-	-	30,000	A28
							72200	Equipment and Furniture	85,250	2,061,210	-	-	-	-	-	-	2,146,460	A29
							72300	Materials & Goods	-	50,932	-	-	-	-	-	-	50,932	A30
							72400	Communic & Audio Visual Equip	-	19,260	-	-	-	-	-	-	19,260	A231
							72500	Supplies	-	6,289	6,289	6,289	6,289	6,289	6,289	6,246	43,980	A32
							72800	Information Technology Equipmt	14,550	540	540	540	540	540	540	540	18,330	A33
							73400	Rental & Maint of Other Equip	-	9,998	9,998	9,998	9,998	9,998	9,998	9,929	69,917	A34
	75700	Training, Workshops and Conference	-	-	-	45,675	-	-	-	-	45,675	A36						
1.4 Total							99,800	2,148,229	16,827	92,502	16,827	16,827	16,715	2,424,554				
GCF Total Output 1							1,042,221	9,631,270	1,488,786	847,305	564,642	504,291	355,257	323,322	14,757,094			
Govt. Co-financing Total Output 1							430,819	4,768,647	4,566,263	3,526,026	1,541,412	1,269,413	998,006	533,767	17,634,353	Cof1		
Grand Total Output 1							1,473,040	14,399,917	6,055,049	4,373,331	2,106,054	1,773,704	1,353,263	857,089	32,391,447			
Output 2 Increased technical and institutional capacity to climate change adaptation in Coastal Communities, Governments and Economic Sectors	2.1	Develop a climate adaptation technical capacity building program for coastal communities and local stakeholders (government & economic sectors) to enable adaptation actions and capacities	Environmental Agency / UNDP	66000	12526	71200	International Consultants	-	-	27,000	-	-	-	-	-	27,000	B1	
						71300	Local Consultants	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	8,000	B2	
						71400	Contractual Services - Individual	13,896	13,896	13,896	13,896	13,896	13,896	13,896	13,896	111,168	B3	
						72200	Equipment and Furniture	313,551	-	-	-	-	-	-	-	313,551	B5	
						72400	Communic & Audio Visual Equip	11,519	11,519	11,519	11,519	11,519	11,519	11,519	11,519	92,152	B6	
						72500	Supplies	-	9,853	9,854	9,853	9,852	9,853	9,853	9,784	68,902	B7	
						72800	Information Technology Equipmt	191,385	2,793	2,793	2,793	2,793	194,178	2,793	2,772	402,300	B8	
						73400	Rental & Maint of Other Equip	-	9,033	9,033	9,033	9,033	9,033	9,033	8,969	63,167	B9	
						74200	Audio Visual & Print Prod Costs	37,550	17,550	61,265	57,550	60,568	17,550	60,567	77,550	390,150	B11	
						75700	Training, Workshops and Conference	56,000	352,600	113,120	99,240	524,405	417,800	79,240	23,520	1,665,925	B13	

Output No.	Activity No.	Activity description	Responsible party	Fund	Donor	Atlas Budget Code	Atlas Budget Account Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Amount Year 6 (USD)	Amount Year 7 (USD)	Amount Year 8 (USD)	Amount TOTAL (USD)	Budget notes		
2.1 Total								624,901	418,244	249,480	204,884	633,066	674,829	187,901	149,010	3,142,315			
2.2	Integrate project (technical and community based) derived information, information from early warning systems and national datasets into a Knowledge Management Platform, to provide climate information products to monitor, evaluate and inform coastal communities on local (community and ecosystem) capacity to manage climate change impacts	Environmental Agency / UNDP	66000	12526	71200	International Consultants	-	12,000	24,000	30,000	-	-	-	-	-	66,000	B14		
					71400	Contractual Services - Individual	8,832	8,832	8,832	8,832	8,832	8,832	8,832	8,832	8,832	8,832	70,656	B15	
					72200	Equipment and Furniture	31,350	48,400	-	-	-	-	-	-	-	-	-	79,750	B17
					72400	Communic & Audio Visual Equip	-	102,267	67,267	67,267	67,267	67,267	67,267	67,267	67,267	66,798	505,400	B18	
					72800	Information Technology Equipmt	22,000	10,000	-	-	-	-	-	-	-	-	32,000	B19	
					74200	Audio Visual & Print Prod Costs	24,500	55,124	-	52,500	2,623	52,500	2,703	52,500	242,450	B20			
					75700	Training, Workshops and Conference	-	229,349	511,026	40,040	140,986	110,040	85,060	39,760	1,156,261	B22			
					72100a	Contractual Services - Companies / Nat-Serv	74,000	74,000	274,000	74,000	74,000	74,000	74,000	74,000	792,000	B23			
					72100b	Contractual Services - Companies / Int-Serv	-	370,637	-	-	-	71,879	-	-	442,516	B24			
2.2 Total								160,682	910,609	885,125	272,639	293,708	384,518	237,862	241,890	3,387,033			
2.3	Mainstream EBA approaches into regulatory and planning frameworks at the territorial and national levels for long term sustainability of EBA conditions and investments for coastal protection	Environmental Agency / UNDP	66000	12526	71200	International Consultants	-	-	12,000	45,000	30,000	-	-	30,000	117,000	B25			
					72800	Information Technology Equipmt	26,950	-	-	-	-	-	-	-	26,950	B26			
					74200	Audio Visual & Print Prod Costs	-	-	40,100	40,100	-	-	40,100	40,100	160,400	B27			
					75700	Training, Workshops and Conference	-	12,850	385,600	12,850	154,025	45,500	-	-	610,825	B29			
2.3 Total								26,950	12,850	437,700	97,950	184,025	45,500	40,100	70,100	915,175			
GCF Total Output 2								812,533	1,341,703	1,572,305	575,473	1,110,799	1,104,847	465,863	461,000	7,444,523			
Govt. Co-financing Total Output 2								169,248	204,261	191,695	198,070	190,704	190,704	187,562	184,421	1,516,665	CoF2		
Grand Total Output 2								981,781	1,545,964	1,764,000	773,543	1,301,503	1,295,551	653,425	645,421	8,961,188			
OUTPUT 3 Project Management	PMU - Technical Coordination	Environmental Agency	66000	12526	71600	Travel	2,880	2,880	2,880	2,880	2,880	2,880	2,880	2,880	2,880	23,040	PM1		
					72200	Equipment and Furniture	143,925	-	-	-	-	-	-	-	-	143,925	PM2		
					72400	Communic & Audio Visual Equip	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	48,000	PM3			
					72500	Supplies	916	916	916	916	916	916	916	918	7,330	PM4			
					72800	Information Technology Equipmt	8,835	360	360	360	360	360	360	360	11,355	PM5			
					73400	Rental & Maint of Other Equip	-	27,600	27,600	27,600	27,600	27,600	27,600	27,406	193,006	PM6			
					75700	Training, Workshops and Conference	13,500	2,703	2,703	2,703	2,703	2,703	2,703	2,684	32,400	PM8			

Output No.	Activity No.	Activity description	Responsible party	Fund	Donor	Atlas Budget Code	Atlas Budget Account Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Amount Year 6 (USD)	Amount Year 7 (USD)	Amount Year 8 (USD)	Amount TOTAL (USD)	Budget notes	
	PMU - Operational Coordination	UNDP				72100a	Contractual Services - Companies / Nat-Serv	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	14,400	PM9	
						74100b	Professional Services - Int	-	8,008	8,008	8,008	8,008	8,008	8,008	8,008	7,952	56,000	PM10
						71400	Contractual Services - Individual	23,880	23,880	23,880	23,880	23,880	23,880	23,880	23,880	23,880	191,040	PM11
						71600	Travel	3,960	3,960	3,960	3,960	3,960	3,960	3,960	3,960	3,960	31,680	PM13
						72200	Equipment and Furniture	4,275	-	-	-	-	-	-	-	-	4,275	PM14
						72400	Communic & Audio Visual Equip	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600	28,800	PM15
						72500	Supplies	2,932	-	-	-	-	-	-	-	-	2,932	PM16
						72800	Information Technology Equipmt	6,445	-	-	-	-	-	-	-	-	6,445	PM17
						73100	Rental & Maintenance-Premises	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	128,000	PM18
						74500	Service to Projects – GOE	20,500	20,500	20,500	20,500	20,500	20,500	20,500	20,500	20,500	164,000	PM19
						72100a	Contractual Services - Companies / Nat-Serv	900	900	900	900	900	900	900	900	900	7,200	PM20
GCF Total - Project Management								260,348	119,107	119,107	119,107	119,107	119,107	119,107	118,840	1,093,828		
Govt. Co-financing Total Project Management								49,856	311,780	295,664	231,198	110,328	94,175	78,060	49,856	1,220,917	CoF3	
Grand Total Project Management								310,204	430,887	414,771	350,305	229,435	213,282	197,167	168,696	2,314,745		
Output 4 Contingencies	Environmental Agency			66000	12526	73400	Rental & Maint of Other Equip	-	9,746	21,566	21,566	14,930	12,277	8,297	7,602	95,984	A8,A15,A24, A35,B10,PM7	
	UNDP					74200	Audio Visual & Print Prod Costs	39,325	54,463	42,837	93,275	23,609	53,275	43,646	93,275	443,705	B12,B21,B28	
						71400	Contractual Services - Individual	11,520	11,520	11,520	11,520	11,520	11,520	11,520	11,520	92,160	A4,B4,B16, PM12	
Grand Total Contingencies-GCF								50,845	75,728	75,923	126,361	50,060	77,072	63,463	112,397	631,849		
GCF Grand Total without Contingencies								2,115,102	11,092,080	3,180,198	1,541,885	1,794,548	1,728,245	940,227	903,162	23,295,445		
Grand Total Contingencies-GCF								50,845	75,728	75,923	126,361	50,060	77,072	63,463	112,397	631,849		
Grand Total - GCF								2,165,947	11,167,808	3,256,121	1,668,246	1,844,607	1,805,317	1,003,689	1,015,559	23,927,294		
Grand Total - Gov. Co-Financing								649,923	5,284,688	5,053,622	3,955,294	1,842,444	1,554,292	1,263,628	768,044	20,371,935		
GRAND TOTAL - Project								2,815,870	16,452,496	8,309,743	5,623,540	3,687,051	3,359,609	2,267,317	1,783,603	44,299,229		

Budget Notes									
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)	
Output 1									
A1	71200	International Consultants	1.1	International consultancy in coastal wetland rehabilitation. (\$800*15 days + DSA + TKT + TE to be paid as a lump sum). Special attention will be provided to ensure the participation of women in management techniques considering their role in forest rehabilitation actions (nursery's and certification process) Year 2 deliverable: National specialists trained in ecosystem rehabilitation and management techniques. Year 5 deliverable: Report on success of the rehabilitation and suggestion for the future.	15,000	2	Persons	30,000	30,000
A2	71300	Local Consultants	1.1	National consultant to provide support to output 1 on methodological issues related to gender and social and environmental safeguards	1,000	8	Years	8,000	8,000
A3	71400	Contractual Services - Individual	1.1	Knowledge management national specialist for the implementation of project activities with 50% for Output1 and 50% for Output2. Total amount of USD 3,312 per year for 8 years. 50% is costed to this output @ USD 138*96 months (8 years). Note: Additional USD 2,496 to the total amount is included in the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) A4	138	96	Months	13,248	181,824
				Environmental and social safeguards national specialist for the implementation of project activities. 50% costed for work on Output1 and 50% for Output2 (Total amount@ USD 3,312 per year for 8 years). 50% is costed to this output @ USD 138* 96 months (8 years). Note: Additional USD 2,496 to the total amount is included in the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) A4	138	96	Months	13,248	
				Gender national specialist for the implementation of project activities with 50% for Output1 and 50% for Output2 (Total amount at USD 3,312 per year for 8 years). 50% costed to this output at USD 138 *96 months (8 years). Note: Additional USD 2,496 to the total amount is included in the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) A4.	138	96	Months	13,248	
				Operational Coordinator for project monitoring and evaluation and support the development of an external communication strategy. Total annual cost of USD 22,320 per year with 40% dedicated to Output 1; 40% to Output 2 and 20% to PMU. 40% is costed to Output 1 at USD744 *96 months (8 years). Note: Additional USD13,824 to the total amount is included in the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) A4	744	96	Months	71,424	
				National Implementation Specialist to provide part time support to Output 1 in development of long term OM strategies for monitoring equipment, including drafting of technical specifications of monitoring equipment to be procured through the project and of maintenance related services and integrating these strategies within annual workplans and OM strategies for the environmental monitoring systems. Total annual cost USD 22,080 for 8 years with 40% dedicated to Output1; 40% to Output2 and 20% to PMU. 40% costed tot Output 1 @ USD 736*96 months (8 years). Note: Additional USD 6,528 to the total amount is included in the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) A4.	736	96	Months	70,656	
A5	72200	Equipment and Furniture	1.1	5 Center mount backhoe loader, 4WD. This specialized equipment will be used for clearing the existing water channels to restore the hydrological flow of the wetlands in the intervention areas. This equipment will be provided to 5 forestry enterprises (Pinar del Rio, Artemisa, Ciego de Avila, Camaguey and Granma).	94,000	5	Items	470,000	
A6	72800	Information Technology Equipmt	1.1	5 Low standard PCs to specialists from the Institute of Ecology and Systematic (IES) in charge of the data processing and analysis, and the generation of informational products from field sampling.	800	5	Items	4,000	39,000

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				2 drones with multispectral camera for spacial monitoring. To be used by (ICIMAR, IES, INSMET, IGT, National Aquarium, Flora and Fauna, CNAP, GEOCUBA, CEAs)	10,000	2	Items	20,000	
				5 High Standard PCs (Intel Core™ i7-8700 (6 Cores/12MB/12T/up to 4.6GHz/65W) to specialists in remote sensors and geographic information systems from the Institute of Tropical Geography, in charge of the data processing and analysis and generation of informational products from digital processing of satellite images and aerial photography of drones.	3,000	5	Items	15,000	
A7	73400	Rental & Maint of Other Equip	1.1	Spare parts and maintenance to support the operation of 5 backhoe loaders in function of the rehabilitation of the coastal wetland. 100,800 km of use estimated per backhoe loader in 7 years. Replacement parts include: tires, injector assembly, fuel and water pump, filters, steering belts, radiator hose, etc. Total of spare parts per backhoe loader (5 backhoe loaders) = USD 12,604. USD 12,604 * 5 backhoe loaders = USD 63,020. Note: Additional USD5 000 to the total amount is included in the contingency budget line to mitigate price escalation for maintenance service costs and reflected in contingency budget line (BN) A8. Maintenance services could be paid in both CUP and USD, depending on the provider selected through national procurement process aligned with UNDP rules and regulations.	12,604	5	Items	63,020	63,020
A9	72200	Equipment and Furniture	1.2	4x4 field vehicles, including maintenance kit for first 100,000km, for the 7 Provincial Delegations of CITMA located within the target areas for community monitoring systems including the mobility of key actors involved in the restoration actions such as: local, municipal and provincial government, environment specialist (Citma specialist), CCC-CA, Annexed Classrooms, CUM (Municipal University Centers), community leaders, CEAs, Forestry, INRH (over 10 institutions within the provinces that participate in the project as key actors).	42,500	7	Items	297,500	1,887,510
				35 Weight scales for the evaluation of forests' dasometry and biomass in the 7 intervention areas (5 weight scales per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	50	35	Items	1,750	
				21 Hypsometers for the evaluation of forests' dasometry and biomass in the 7 intervention areas (3 hypsometers per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	800	21	Items	16,800	
				21 Relascopes for the evaluation of forests' dasometry and biomass in the 7 intervention areas (3 relascopes per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	1,000	21	Items	21,000	
				21 Tree calipers for the evaluation of forests' dasometry and biomass in the 7 intervention areas (3 tree calipers per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	2,000	21	Items	42,000	
				21 GPSs for the evaluation of forests' dasometry and biomass in the 7 intervention areas (3 GPSs per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	200	21	Items	4,200	
				14 water quality multiparameter for the evaluation of forests' dasometry and biomass in the 7 intervention areas (2 water quality multiparameter per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	2,000	14	Items	28,000	
				21 Salinometers for the evaluation of forests' dasometry and biomass in the 7 intervention areas (3 salinometers per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	120	21	Items	2,520	
				14 Portable weather station for the evaluation of forests' dasometry and biomass in the 7 intervention areas (2 portable weather station per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	700	14	Items	9,800	

Budget Notes								
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
			14 AMS Corer + kit for the evaluation of forests' dasometry and biomass in the 7 intervention areas (2 AMS Corer + kit per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	2,000	14	Items	28,000	
			5 Salinometers for monitoring and follow up the changes in the coastal ecosystem after the rehabilitation start. This equipment will be used by specialists from IES.	1,000	5	Items	5,000	
			5 Hygrometers for monitoring and follow up the changes in the ccoastal ecosystem after the rehabilitation start. This equipment will be used by specialists from IES.	4,000	5	Items	20,000	
			2 Photometers for monitoring and follow up the changes in the coastal ecosystem after the rehabilitation start. This equipment will be used by specialists from IES.	5,025	2	Items	10,050	
			10 Soil sample extractors for monitoring and follow up the changes in the coastal ecosystem after the rehabilitation start. This equipment will be used by specialists from IES.	500	10	Items	5,000	
			2 High Temperature Box Type Lab Oven Heating Electrical Muffle Furnaces for monitoring and follow up the changes in the coastal ecosystem after the rehabilitation start. This equipment will be used by specialists from IES.	7,500	2	Items	15,000	
			5 Stereo microscopes Furnaces for monitoring and follow up the changes in the coastal ecosystem after the rehabilitation start. This equipment will be used by specialists from IES.	4,000	5	Items	20,000	
			3 Optic microscopes for monitoring and follow up the changes in the coastal ecosystem after the rehabilitation start. This equipment will be used by specialists from IES.	5,000	3	Items	15,000	
			14 Plastic boats to support the reforestation work and wetlands monitoring, two per intervention area (2 boats* 7 intervention areas). This will be used by forest enterprises	3,000	14	Items	42,000	
			70 Sprinklers forestry rehabilitation in the 7 intervention areas (10 sprinklers per intervention area * 7 areas). This equipment will be used by the forest enterprises.	200	70	Items	14,000	
			14 Water pumps for forestry rehabilitation in the 7 intervention areas (2 water pumps per intervention area * 7 areas). This equipment will be used by the forest enterprises.	1,000	14	Items	14,000	
			7 Portable power plants for forestry rehabilitation in the 7 intervention areas (1 per intervention area * 7 areas). This equipment will be used by the forest enterprises.	1,070	7	Items	7,490	
			7 Tipper carts for tractors for forestry rehabilitation in the 7 intervention areas, considering difficulty in accessing wetland sites including irregular ground and in areas partially covered by water. This equipment will be used by the forest enterprises.	10,000	7	Items	70,000	
			5 Tractors with front blade for land preparation for restoration in deforested zones where ground conditions are not optimal for forestry rehabilitation without inital ground preparation. This equipment will be provided to the 5 forestry enterprises (Pinar del Rio, Artemisa, Ciego de Avila, Camaguey and Granma).	70,000	5	Items	350,000	
			12 Tricycles to ensure the systematic transfer of forestry technicians, foresters and the forest certification authority to fulfill the functions of control of technical projects for rehabilitation, surveillance and protection of rehabilitated forest areas, early warning system against forest fires, quality certification.	5,950	12	Items	71,400	
			5 plastic boats with engine (2 for Forest Guard Corps and 3 for Flora y Fauna), for monitoring and protection of the interventions in the submerged areas of the coastal wetlands. Two target areas (considering the distance between them and the potential for equipment sharing through careful scheduling) will be able to share boats.	7,000	5	Items	35,000	
			210 Bicycles to support the work of the Forest Guard Corps and the forest workers (30 workers per intervention area * 7 areas), to ensure their daily mobility for regular restoration actions in areas of difficult access including the continous collection and planting of propagules and seedlings based on best practice manuals, manual work to restore the hydrological flow and surveillance of the target site work and its general protection.	300	210	Items	63,000	

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				14 portable PHmeters (2.0-16PH) with accessories and calibrating solutions for the evaluation of forests's dasometry and biomass in the 7 intervention areas (2 PHmeters per intervention area * 7 areas). This equipment will be used by the forest brigades of the forest enterprises.	500	14	Items	7,000	
				5 Chainsaws (3.5kW) for pruning and felling. This equipment will be used by specialists from IES.	850	5	Items	4,250	
				140 (3.5kw) Chainsaws for forestry rehabilitation in the 7 intervention areas (20 chainsaws per intervention area * 7 areas). This equipment will be used by the forest enterprises.	850	140	Items	119,000	
				7 Tractors (75HP-90HP) for forestry rehabilitation in the 7 intervention areas, considering difficulty in accessing wetland sites including irregular ground and in areas partially covered by water. This equipment will be used by the forest enterprises.	21,250	7	Items	148,750	
				5 Heavy vehicle, with front winch and back platform to transport heavy equipment and heavy material for forestry rehabilitation activities in the intervention areas. This equipment will be provided to 5 forestry enterprises (Pinar del Rio, Artemisa, Ciego de Avila, Camaguey and Granma).	80,000	5	Items	400,000	
A10	72300	Materials & Goods	1.2	7 Forest nursery and tools (tubes, trays, cover, PVC pipe, hardware for pipe and sprinkler) for forestry works to be developed by forestry cooperatives in the 7 intervention areas including the building of forest nurseries and the monitoring and protection of the interventions in the coastal wetlands.	45,000	7	Items	315,000	1,602,952
				30 worker clothes (Shirt \$32, Trousers \$40, Rubber boots \$30, Boots \$48 = \$150 per worker) * 4 times in project life, for forestry works to be developed by forestry cooperatives in the 7 intervention areas including the building of forest nurseries and the monitoring and protection of the interventions in the coastal wetlands.	18,000	7	Items	126,000	
				30 worker supplies, 2 times in project life (Munsel board, waterproof forest tablets, forest markers, waterproof forest notebooks) - protection media, tools (Wire, Hoes, Measuring tapes, Binoculars, Axes, Machetes, Files, Sledgehammers, Shovels, Pickaxe, Weaver curved hand saw, Lethearman hand clamp 300, Wagon, Pruning shears, etc.), bags. To support forestry works by forestry enterprises in the 7 intervention areas, including the building of forest nurseries and the monitoring and protection of the interventions in the coastal wetlands. Unit cost = \$99,886 * 7 intervention areas.	99,886	7	Items	699,202	
				3 fire protection modules for forestry works to be developed by forestry cooperatives in the 7 intervention areas, including the building of forest nurseries and the monitoring and protection of the interventions in the coastal wetlands	60,000	7	Items	420,000	
				Office furniture to support the reforestation activities and to strengthen the information capacities for onsite planning and management of the 6 forestry enterprises developing restoration actions. it is considered 5 persons per each enterprise (30 persons total). Module for 1 person comprises: Auxiliary chair, Manual projection screen, Acrylic board, Comb binding machine, Paper cutter, Lectern for flipcharts, Auxiliary table for printer, Desk, Metal shelves, 3-drawer file cabinets with locks, High-back executive chair and upholstered arm. Module unit cost = USD 1,425	1,425	30	Persons	42,750	
A11	72400	Communic & Audio Visual Equip	1.2	3 cell phones per each intervention area (7) for forest enterprises developing restoration work to support reforestation works and communication to favor the monitoring and protection of rehabilitated areas.	300	21	Items	6,300	216,300
				2 datashows per each intervention area (7) for forest enterprises developing restoration work to support reforestation works and communication to favor the monitoring and protection of rehabilitated areas.	300	14	Items	4,200	
				Communication services for forest enterprises, developing restoration work to support reforestation works and communication to favor the monitoring and protection of rehabilitated	2,100	96	Months	201,600	

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				areas. It covers 3 persons * 7 intervention areas * 100USD per month Note: Service to be paid in CUP as per exchange rate.					
				2 waterproof cameras per each 7 intervention areas, for forest enterprises developing restoration work to support reforestation works and communication to favor the monitoring and protection of rehabilitated areas.	300	14	Items	4,200	
A12	72500	Supplies	1.2	Office supplies to support the reforestation activities and to strengthen the information capacities on site for the 6 forest enterprises developing restoration works. It covers 5 persons per each forest enterprise. Module for 1 person comprises flip charts, markers, pens, stationary, paper, batteries, files, notebooks, binders. Module unit cost = USD 1,466	1,466	30	Persons	43,980	43,980
A13	72800	Information Technology Equipmt	1.2	7 PCs low performance to strengthen the capacities of information and communication supporting the reforestation works of forest enterprises, the forest guard corps and the state forestry service in the field sampling and monitoring of restoration activities. 7 items * 6 (3 PCs Forest enterprises, 2 PCs Forest Guard Corps, 2PCs State Forestry Service.)	800	42	Items	33,600	88,380
				4 Printers to strengthen the capacities of information and communication supporting the reforestation works, of the forest guard corps and the state forestry service in the field sampling and monitoring of restoration activities* 6. (2 for Forest enterprises, 1 for Forest Guard Corps, 1 for State Forestry Service.)	400	24	Items	9,600	
				24 Hard drives to strengthen the capacities of information and communication supporting the reforestation works, of the forest guard corps and the state forestry service in the field sampling and monitoring of restoration activities. (12 for Forest enterprises, 6 for Forest Guard Corps, 6 for State Forestry Service.)	100	24	Items	2,400	
				60 Pendrives to strengthen the capacities of information and communication supporting the reforestation works, of the forest guard corps and the state forestry service in the field sampling and monitoring of restoration activities. (30 for Forest enterprises, 15 for Forest Guard Corps, 15 for State Forestry Service.)	35	60	Items	2,100	
				36 Tablets to strengthen the communication and information capacities of the forest guard corps and the state forestry service for field sampling and monitoring of restoration activities (12 for Forest Guard Corps, 12 for State Forestry Service, 12 State Forestry Service.)	500	36	Items	18,000	
				504 Toners to strengthen the capacities of information and communication supporting the reforestation works, of the forest guard corps and the state forestry service in the field sampling and monitoring of restoration activities: 504 Tonners (4 printers * 3 toner * 7 years * \$45) per module * 6 modules for Forest enterprises, Forest Guard Corps, State Forestry Service.	45	504	Items	22,680	
A14	73400	Rental & Maint of Other Equip	1.2	Spare parts and maintenance to support the operation of 7 tractors in function of the rehabilitation of the coastal wetland. Usage is estimated at 100,800km per vehicle in 7 years. Costs include: - Annual maintenance: USD 195 per year for 6 years = USD 1,170 - Spare parts including injection kit, electric systems, cable kit, tires, starter (USD 9,880 per tractor). Total per tractor (7): USD 11,050 (USD 1,170 (annual maintenance costs) + USD 9,880 (spare parts). Note: Additional USD7,350 to the total amount is included in the contingency budget to mitigate price escalation in maintenance service cost and relected in budget line (BN) A15. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	11,050	7	Items	77,350	1,760,830
				Fuel to support the operations of the 12 tricycles in function of the rehabilitation, surveillance and protection of rehabilitated forest areas, early warning system against forest fires, quality	552	84	Months	46,368	

Budget Notes								
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
			certification. (12 Tricycles * 35 lt (30 km/day * 20 km/l) average per 12 months). Note: Additional USD 1,344 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lt) and reflected in budget line (BN) A15. This item will be paid in CUP per exchange rate.					
			Fuel to support the operations of the 7 4x4 vehicles in function of the community monitoring systems. (7 Vehicles 4x4 * 250 lt (105 km/day * 24 days * 10 km/l * \$1.01) average per 12 months). Note: Additional USD 4,368 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lt) and reflected in budget line (BN) A15. This item will be paid in CUP per exchange rate.	1,768	84	Months	148,512	
			Spare parts and maintenance to support the operation of 7 4x4 vehicles in function of the community monitoring systems. 210000 km estimated per vehicle in 7 years. At 100,000 km: spare parts include include filters (every 5,000km), oil (every 5,000 km) , wipers, belts, brake pads, distribution kit, tires, batteries (2 changes), 2 maintenance services (every 5,000 km), clutch kit, shock absorbers, fuel pump, radiator, windshield, injection kit, alternator, starter. Total per vehicle: \$18, 410. Note: Additional USD 14,700 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) A15. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	18,410	7	Items	128,870	
			Spare parts and maintenance to support the operation of 5 caterpillar tractors with frontal blade in function of the rehabilitation of the coastal wetland. 100,800 km estimated per vehicle in 7 years. Cost includes: - Annual maintenance: USD 270 per year for 6 years = USD 1,620. (Filters: oil, air, alternator belt and service cost). - Spare parts cost includes electric fan, radiator, starter, steering pump (USD 4,500). Total per tractor (5): USD 6,120 (USD 1,620 (annual maintenance costs) + USD 4,500 (spare parts). Note: Additional USD 5,250 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) A15. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	6,120	5	Items	30,600	
			Spare parts and maintenance to support the operation of 12 tricycles in function of the rehabilitation, surveillance and protection of rehabilitated forest areas, early warning system against forest fires, quality certification. 60,480km of use is estimated per motorcycle during project's initial 7 years. Cost includes: annual maintenance, spare parts including rims and bearings, starter, switches, mirrors, lamps, cable kit, carburetor, break kit and pads, shock absorbers and bars. Total cost per tricycle is USD 4,780. Note: Additional USD 1,200 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) A15. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	4,780	12	Items	57,360	
			Spare parts and maintenance to support the operation of 5 heavy vehicles in function of forestry rehabilitation and the development of logistical activities related to goods acquisition and distribution of material for restoration the intervention areas. (201,600 km estimated per truck in 7 years .Total: USD 16,060 per vehicle). Note: Additional USD 10,250 contingency to the total	16,060	5	Items	80,300	

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				<p>amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) A15. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.</p> <p>Insurance, technical inspections and vehicle register of the 7 4x4 vehicles in function of the community monitoring systems (7 vehicles * \$ 2650 per year)</p> <p>Insurance, technical inspections and vehicle register of 12 tricycles in function of the rehabilitation, surveillance and protection of rehabilitated forest areas, early warning system against forest fires, quality certification (12 tricycles * \$1000 per year)</p> <p>Insurance, technical inspections and vehicle register of 5 heavy vehicles in function of forestry rehabilitation and the development of logistical activities related to goods acquisition and distribution of material for restoration the intervention areas (5 vehicles * \$ 2650 per year)</p> <p>Insurance, technical inspections and vehicle register of agricultural machinery in function of the rehabilitation of the coastal wetland (7 tractors, 5 tractors with frontal blade and 5 backhoes, 17 * \$ 2650 per year)</p> <p>Fuel to support the operations of the 7 tractors in function of the rehabilitation of the coastal wetland. (7 tractors estimated 280 Lt a month). Note: Additional USD 4,956 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lit) and reflected in budget line (BN) A15. This item will be paid in CUP per exchange rate.</p> <p>Fuel to support the operations of the 5 tractors with front blade in function of the rehabilitation of the coastal wetland. (5 tractor with front blade estimated 250lt per month). Note: Additional USD 3,108 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lit) and reflected in budget line (BN) A15. This item will be paid in CUP per exchange rate.</p> <p>Fuel to support the operations of the 5 backhoes in function of the channels clearing for 5 tractors at an estimated 300lts per month. Note: Additional USD 3,780 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lit) and reflected in budget line (BN) A15. This item will be paid in CUP per exchange rate.</p> <p>Fuel to support the operations of the 5 heavy vehicles in function of forestry rehabilitation and the development of logistical activities related to goods acquisition and distribution of material for restoration the intervention areas. (5 Heavy vehicles estimated 400 lt per month). Note: Additional USD 5,040 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lit) and reflected in budget line (BN) A15. This item will be paid in CUP per exchange rate.</p>					
					18,550	7	Years	129,850	
					12,000	7	Years	84,000	
					13,250	7	Years	92,750	
					45,050	7	Years	315,350	
					1,980	84	Months	166,320	
					1,263	84	Months	106,092	
					1,516	84	Months	127,344	
					2,021	84	Months	169,764	
A16	75700	Training, Workshops and Conference	1.2	<p>7 Annual meetings to be attended by 40 people (representatives from MINAG, forest enterprises, Forest State service, forest guards corps, INRH, ICIMAR, AMA) for the technical analysis of the forest rehabilitation activities (40 pax, 3 days, costs include transfer, lodging, meals, venue and supplies).</p> <p>Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.</p>	12,000	7	Workshops	84,000	84,000
A17	72100a	Contractual Services - Companies / Nat-Serv	1.2	<p>Services of storage and transportation of procured equipment for the project (specialized equipment, monitoring equipment, agricultural machinery, office furniture, etc.). Storage is required while the goods are distributed to the beneficiaries (Stretch 1 and 2) as well as to allow the purchasing of these goods early on in the project to mitigate procurement related risks.</p> <p>Storage, Cost per m2: \$10 per month</p>	4,000	24	Months	96,000	168,000

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				Indoor (covered) storage space 400 m2: 2 years (years 2 and 3) = 2 years Note: Service to be paid in CUP as per exchange rate.					
				Services of storage and transportation of procured equipment for the project (specialized equipment, monitoring equipment, agricultural machinery, office furniture, etc.). Storage is required while the goods are distributed to the beneficiaries (Stretch 1 and 2) as well as allow the purchasing of these goods early on in the project to mitigate procurement related risks. Storage, Cost per m2: \$10 per month Indoor (covered) storage space 200 m2: 2 years (years 4 and 5) Note: Service to be paid in CUP as per exchange rate.	2,000	24	Months	48,000	
				Services of storage and transportation of procured equipment for the project (specialized equipment, monitoring equipment, agricultural machinery, office furniture, etc.). Storage is required while the goods are distributed to the beneficiaries (Stretch 1 and 2) as well as to allow the purchasing of these goods early on in the project to mitigate procurement related risks. Storage, Cost per m2: \$10 per month Indoor (covered) storage space 100 m2: 2 years (years 6 and 7) = 2 years * 100m Note: Service to be paid in CUP as per exchange rate.	1,000	24	Months	24,000	
A18	72200	Equipment and Furniture	1.3	Office furniture for 35 specialists in charge of field sampling activities, and to strengthen the information capacities and products of monitoring marine ecosystem in the 7 rehabilitated areas (institutions related with environmental monitoring, ICIMAR, INSMET, 6 Meteorology Provincial Centers, 7 CEAS, CNAP, National Aquarium, etc. (Module for one person: Auxiliary chair, Manual projection screen, Acrylic board, Comb binding machine, Paper cutter, Lectern for flipcharts, Auxiliary table for printer, Desk, Metal shelves, 3-drawer file cabinet with locks, Executive chair with high back and upholstered arm. Module unit cost = \$1425	1,425	35	Persons	49,875	4,004,545
				6 Units of Heavy Duty Vortex Shaker to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)).	1,200	6	Items	7,200	
				6 Units of Unimag ARE X magnetic stirrer to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)).	650	6	Items	3,900	
				2 laser sediment analyzer to support the analyses capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR))	27,500	2	Items	55,000	
				5 weight scales to support the analyses capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (1 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	3,000	5	Items	15,000	
				6 water baths to support the analyses capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	4,000	6	Items	24,000	
				6 thermostatic bath with agitation to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	1,750	6	Items	10,500	

Budget Notes								
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			6 vacuum pumps to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	3,500	6	Items	21,000	
			6 water pumps to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	500	6	Items	3,000	
			6 centrifuges to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	11,200	6	Items	67,200	
			6 colony meters to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	1,250	6	Items	7,500	
			6 dehumidifiers to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	500	6	Items	3,000	
			6 water deionizers to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	3,350	6	Items	20,100	
			6 water distillers to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	15,000	6	Items	90,000	
			5 electrophoresis chambers to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (1 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	700	5	Items	3,500	
			5 filtration equipment to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (1 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	1,500	5	Items	7,500	
			7 refrigeration equipment to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (3 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	10,000	7	Items	70,000	
			5 spectrophotometers to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (1 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	18,000	5	Items	90,000	
			6 High Temperature Box Type Lab Oven Heating Electrical Muffle Furnaces to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the	7,500	6	Items	45,000	

Budget Notes								
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
			effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))					
			6 biological safety cabinets to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	15,000	6	Items	90,000	
			6 GPS to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	200	6	Items	1,200	
			6 incubators to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	8,000	6	Items	48,000	
			6 microscopes to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	5,800	6	Items	34,800	
			10 sieves to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (4 in National reference laboratory (ICIMAR) and 2 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	4,000	10	Items	40,000	
			8 screens and thermometers to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (4 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	500	8	Items	4,000	
			5 laminar flow equipment to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (1 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	5,000	5	Items	25,000	
			1 Continuous segmented flow analyzer for the determination of nutrient pollution (Ammonium, nitrites, phosphates, silicates, nitrates, etc.). Located at National reference laboratory (ICIMAR)	300,000	1	Items	300,000	
			1 Atomic absorption spectrometer for the determination of metal pollution in seawater. Located at National reference laboratory (ICIMAR)	150,000	1	Items	150,000	
			HPLC equipment to determinate organic pollutants derived from the use of fertilizers, organochlorine and phosphatized compounds, detergents and oil by-products. Located at National reference laboratory (ICIMAR)	250,000	1	Items	250,000	
			1 Microbus with laboratory infrastructure to serve as a mobile laboratory for in situ measurements of water quality. Located at National reference laboratory (ICIMAR)	60,000	1	Items	60,000	
			120 batteries for ADCP for data capture to be placed in 16 permanent marine stations and oceanographic surveys for environmental monitoring (1 battery per instrument (16), per 7 years (112) + 8 batteries in case of malfunction.	200	120	Items	24,000	
			4 tripods for ADCP for data capture to be placed in 16 permanent marine stations and oceanographic surveys for environmental monitoring	4,000	4	Items	16,000	

Budget Notes								
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			16 supports for in-line anchoring for CTDs for data capture to be placed in 16 permanent marine stations and oceanographic surveys for environmental monitoring	540	16	Items	8,640	
			1 software for ADPC and Wave stations for data capture to be placed in 16 permanent marine stations and oceanographic surveys for environmental monitoring	2,912	1	Items	2,912	
			4 tripod for wave stations for data capture	6,000	4	Items	24,000	
			30 batteries for wave stations (1 battery per instrument (4), per 7 years = 28 + 2 batteries in case of malfunction).	200	30	Items	6,000	
			Boat to support coastal and marine sampling operations conducted by ICIMAR (18 meters nautical length, power plant, air conditioning, navigation equipment, 150 horsepower engine, technical equipment (echo sounder, current meter, weather station))	400,000	1	Items	400,000	
			2 4x4 field vehicles- including maintenance kit for first 100,000km- for permanent environmental monitoring of coastal and marine ecosystems developed by ICIMAR/AMA and for the transportation dedicated to the assembly and later maintenance of the permanent meteorological stations and tide gauges	42,500	2	Items	85,000	
			5 splits to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (1 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Enviromental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	800	5	Items	4,000	
			16 Acoustic Doppler Current Profiler (ADCP) for data capture to be placed in 16 permanent marine stations and oceanographic surveys for environmental monitoring (7 in stretch 1 and 9 stretch 2). This equipment will be used by ICIMAR and provincial institutions (CEAs Enviromental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	28,000	16	Items	448,000	
			16 Fixed Conductivity, Temperature and Depth (CTD) for data capture to be placed in 16 permanent marine stations and oceanographic surveys for environmental monitoring (batteries are included in the price) (7 in stretch 1 and 9 stretch 2). This equipment will be used by ICIMAR and provincial institutions (CEAs Enviromental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	36,250	16	Items	580,000	
			10 Automatic weather stations for data capture equipment to be used by INSMET and Provincial Meteorological Centers	20,000	10	Items	200,000	
			6 Equipment for ground movement for sea level and terrain movement station. This equipment will be used by ICIMAR and it will tribute to the national tidal network	6,000	6	Items	36,000	
			6 Tide gauge for data capture in 6 terrain movement stations. This equipment will be used by ICIMAR and it will tribute to the national tidal network.	15,000	6	Items	90,000	
			4 Wave station 600 Khz for data capture. This equipment will be used by ICIMAR and provincial institutions (CEAs Enviromental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	26,000	4	Items	104,000	
			2 Catamaran for wave stations. This equipment will be used by ICIMAR and provincial institutions (CEAs Enviromental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	7,000	2	Items	14,000	
			4 Portable weather stations for field sampling for oceanographic surveys. This equipment will be used by ICIMAR and provincial institutions (CEAs Enviromental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	700	4	Items	2,800	
			5 Total stations for oceanographic surveys. This equipment will be used by ICIMAR and provincial institutions (CEAs Enviromental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	20,000	5	Items	100,000	
			3 Fluoroprobes for oceanographic surveys. This equipment will be used by ICIMAR and provincial institutions (CEAs Enviromental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	30,000	3	Items	90,000	

Budget Notes									
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				8 Phmeters for oceanographic surveys. This equipment will be used by ICIMAR and provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	700	8	Items	5,600	
				4 Hand probes for depth for oceanographic surveys. This equipment will be used by ICIMAR and provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	3,000	4	Items	12,000	
				7 multi-parameter probes for oceanographic surveys. This equipment will be used by ICIMAR and provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	9,000	7	Items	63,000	
				6 Secchi Disc (1 per province) for oceanographic surveys. This equipment will be used by ICIMAR and provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	53	6	Items	318	
				1 Eco sounder for oceanographic surveys. This equipment will be used by ICIMAR and provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	30,000	1	Items	30,000	
				8 Portable CTD for oceanographic surveys. This equipment will be used by ICIMAR and provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	1,000	8	Items	8,000	
				6 autoclaves (30L-100L) for microbiology laboratories to sample and measure sea water Quality. Autoclaves will allow for sterilization of large volumes of laboratory materials essential at the time of sample processing so as not to lose the quality of the samples to be analyzed to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma))	8,000	6	Items	48,000	
				6 kits of membrane filters/strainers to support the analysis capacities for measure the quality of seawater in target sites and marine ecosystems to check the effectiveness of the interventions (2 in National reference laboratory (ICIMAR) and 1 in each provincial institutions (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)	1,000	6	Items	6,000	
A19	72300	Materials & Goods	1.3	Supplies for seawater quality laboratories. National reference laboratory (ICIMAR) and provincial instituciones (CEAs Environmental Studies Centers (ECOVIDA, CIEC, CIMAC, Universidad de Granma)). Reagents for seawater analysis (Marine Agar (heterotrophic bacteria count), 14 * \$85.27 Bacteriological Agar A, 20 * \$49.87 Agar CASO peptone agar soybean meal casein-peptone 14 * \$97.50 Nutrient Agar, 20 * \$35.36 Standard nutritive agar, 20 * \$18.75 SS Agar (Modified), 10 * \$69.97 Three Sugar and Iron Agar, 10 * \$31.44 Tryptona Soy Agar, 20 * \$31.04 Granulated, purified and inhibitor-free agar-agar, 20 * \$47.50 Copenhagen Water Subnormal Water Ampule, 10 * \$106.25 Acetone, 14 * \$38.76 Perchloric Acid 60% p.a, 8 * \$86.80 Smoking hydrochloric acid 37% smoking p.a., 14 * \$38.30 Ascorbic Acid (C6H8O6), 14 * \$82.10 Acetic acid (glacial) 100% Suprapur, 14 * \$113.36	120,012	1	Items	120,012	438,942

Budget Notes								
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			Gibberellic acid for synthesis, 7 * \$23.30 Meta-phosphoric acid in pieces, 8 * \$76.00 Ultrapure nitric acid 60%, 8 * \$97.63 Sulfanilic acid p.a. ACS, 8 * \$93.48 Sulfuric acid 95-97 % p.a, 14 * \$55.12 Thioglycolic acid p.a., 8 * \$388.86 Peptone water (buffered), 10 * \$86.84 Ammonium peroxodisulfate pure, 8 * \$26.62 Buffers pH 4, 8 * \$27.50 Buffers pH 7, 8 * \$27.50 Azide-glucose broth for microbiology, 14 * \$96.72 Heart Broth, 8 * \$63.19 Lactose broth for microbiology, 8 * \$92.04 Lactose Broth, 8 * \$30.46 Nutrient Broth, 8 * \$28.85 Brilliant green broth-bile-lactose for microbiology, 14 * \$131.25 Calcium carbonate, 8 * \$190.30 Magnesium Chloride Hexahydrate, 8 * \$42.50 Ammonium Chloride, 8 * \$39.00 Primulin fluorescent dye, 14 * \$78.18 Iron Chloride III , 8 * \$61.60 Tetrahydrate Manganese Chloride (MnCl2. 4H2O), 8 * \$124.67 Manganese Sulfate Tetrahydrate (MnSO4. 4H2O) p.a., 8 * \$14.75 Potassium Chloride, 8 * \$39.62 CromoCen CC, 8 * \$108.24 CromoCen ECCS, 8 * \$174.53 CromoCen ENT, 8 * \$233.48 N dichloride, N-dimethyl p-phenylenediamine, 8 * \$223.27 α-Naphthyl-ethylenediamine dihydrochloride for analysis, 8 * \$135.75 DiPotasio anhydrous hydrogen phosphate p.a., 8 * \$57.20 Meat Extract, 14 * \$37.87 Yeast Extract, 14 * \$33.55 Malt extract for microbiology, 14 * \$101.09 Ethanol 96%, 125 * \$32.50 Nucleopore membrane filters 0.22 µm pore diameter, 7 * \$127.00 Phenol (crystals), 8 * \$46.69 Formaldehyde in neutralized solution 37%, 125 * \$25.62 Glutaraldehyde, 8 * \$44.61 GF AAS Multielements Pattern XVIII, 8 * \$185.00 Glycerin 85% p.a., 7 * \$15.00 Glucose, 7 * \$68.43 Potassium hydroxide, 8 * \$ 46.60 Hypochlorite (commercial) 15%, 8 * \$ 15.12 Sodium hydroxide ,, 8 * \$ 38.80 Metallic iodine, 8 * \$ 307.14 ICP multi-element standard solution V, 8 * \$ 490.00 ICP multi-element standard V solution for wavelength calibration, 8 * \$ 735.07					

Budget Notes								
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
			ICP multi-element standard solution X for surface water analysis, 8 * \$ 163.70 ICP standard multi-element solution for surface water analysis Certipur, 8 * \$ 127.50 ICP multi-element standard solution XXI for MS, 8 * \$ 277.50 ICP multi-element standard solution XXIV, 8 * \$ 192.50 ICP multi-element standard solution XXIV 700 ES tuning solution, 8 * \$ 191.36 Meris iodide Pure, Fine Cryst., 8 * \$ 55.00 Potassium iodide, 8 * \$ 318.20 Lugol acid, 14 * \$ 47.71 API medium (sultatorreductive bacteria), 10 * \$ 94.28 TCBS Agar Medium (for Vibrios counting), 10 * \$ 99.39 Magnesium chloride anhydrous for synthesis, 10 * \$ 21.11 Manganese (II) chloride tetrahydrate p.a., 10 * \$ 26.83 Medium T.C.B.S., 10 * \$ 37.72 Thioglycolate Medium, 10 * \$ 36.02 Mercury (II) chloride puris., Crist. fine, 10 * \$ 86.32 Methanol, 24 * \$ 9.38 Sodium Molybdate, 7 * \$ 166.25 1-Naphthylamine for synthesis, 10 * \$ 50.50 N- (1-Naphthyl) ethylenediamine dihydrochloride p.a, 14 * \$ 52.00 n-Hexane 85%, 7 * \$ 61.36 Peptone, 14 * \$ 44.75 Potassium dihydrogen phosphate p.a., 8 * \$ 50.23 Potassium hydroxide in lentils p.a., 10 * \$ 23.92 Potassium Nitrate Suprapur, 10 * \$ 297.50 Bromocresol indicator purple, 10 * \$ 111.70 Paraformaldehyde, 10 * \$ 51.74 Potassium Permanganate 0.1N, 14 * \$ 53.01 Ammonium Peroxydisulfate ((NH4) 2S2O3) Puris., 7 * \$ 54.61 Potassium peroxydisulfate, 8 * \$ 78.86 Nessler reagent to determine potassium Tetraiododonecuriate (II) Nitrogen, 14 * \$ 13.63 Nessler reagent solution A to determine potassium Tetraiododcurcuride (II) nitrogen, 10 * \$ 124.80 Sodium Sulfite, 7 * \$ 52.25 PH electrode maintenance solution, 14 * \$ 86.80 Sodium hydroxide in lentils, p.a. (max. 0.02% K), 7 * \$ 37.23 Sodium sulphite anhydrous p.a., 7 * \$ 29.85 Sodium iodide p.a., 14 * \$ 52.52 Buffer solutions traceable to SRM of NIST and PTB, 10 X pH 4, 01 (phthalate), 10 X pH 10.00 (phosphate), pH 4.01 / pH 7.0 / pH 10.00 at (25 ° C) , 10 * \$ 117.50 Sulfanilamide p.a. in plastic bottle, 10 * \$ 97.45 Sodium Sulfite p.a., 14 * \$ 19.38 Sodium Trictrate, 7 * \$ 46.67 Laboratory glassware 5 labs * 4000 Toluene, 8 * \$ 22.67 Tryptone, 8 * \$ 32.28 Bromocresol Green Indicator, 14 * \$ 100.88 Sodium iodide, 7 * \$ 103.88).					

Budget Notes									
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)	
			Tools and supplies for the assembly and maintenance of the 16 permanent marine stations, 4 wave stations, 10 weather stations and 6 sea level and terrain movement stations. It includes plastic tablets 100 * \$20, silicone grease 20 * \$4, O-rings 200 * \$2, socket wrenches 2 * \$300, Tin welding equipment 4 * \$130, Vise 2 * \$100, Thimble for rope 1000 * \$1.75, Cutting discs 20 * \$5, Welding tin 12 * \$35, Power extension cord 250 mts 2 * \$200, Shackle type D 1000 * 19.75, hydrodyn 3 * \$1000, drill bit sets 4 * \$50, Drills 2 * \$200, Rechargeable portable lamp 4 * \$100, Fretsaw frame 3 * \$100, sampling clothes 100 * \$150, portable icebox 30 * \$150, mesh bags 100 * \$20, nylon bags 500 * \$10, buoys and beacons 20 * \$100, plastic cable ties 200 * \$5, Rope 1200mts * \$1.5, Toolbox 2 * \$50, measuring tape 25 * \$50	63,170	1	Items	63,170		
			4 air compressors (diving) for coastal and marine samplings activities to be accomplished by ICIMAR, Acuario Nacional, CNAP, Flora y Fauna and provincial CEAs (at least 30% of divers will be women)	40,000	4	Items	160,000		
			68 diving bottles (diving) for coastal and marine samplings activities to be accomplished by ICIMAR, Acuario Nacional, CNAP, Flora y Fauna and provincial CEAs (at least 30% of divers will be women)	250	68	Items	17,000		
			20 lights (diving) for coastal and marine samplings activities to be accomplished by ICIMAR, Acuario Nacional, CNAP, Flora y Fauna and provincial CEAs (at least 30% of divers will be women)	300	20	Items	6,000		
			34 sets of diving equipment (suits, masks, fins, boots, vests, travel bags, diving computers and diving regulator) for coastal and marine samplings activities to be accomplished by ICIMAR, Acuario Nacional, CNAP, Flora y Fauna and provincial CEAs (at least 30% of divers will be women)	2,140	34	Items	72,760		
A20	72400	Communic & Audio Visual Equip	1.3	Communication services for 20 persons involved in the marine monitoring: (services: 20 persons * 100USD * 12months). Note: Service to be paid in CUP as per exchange rate.	2,000	96	Months	192,000	198,000
				Communication equipment for 20 persons involved in the marine monitoring: (20 cellphones: 2 ICIMAR, 1 Acuario Nacional, 1 CNAP, 1 Flora y Fauna, 4 Provincial CEAs, 2 INSMET and 6 Provincial Meteorological Centers	300	20	Items	6,000	
A21	72500	Supplies	1.3	Office supplies (stationary, flip charts, printing paper, etc.) for 40 marine specialists who will form part of the on-site monitoring team (from various institutions related with environmental monitoring including ICIMAR, INSMET, 6 Meteorology Provincial Centers, 7 CEAS- 1 per province-, CNAP, National Aquarium, 7 Centros Meteorológicos provinciales, GEOCUBA) during the project's 8 years to perform field sampling work and process information on marine ecosystem monitoring activities in the rehabilitated areas	1,466	40	Persons	58,640	58,640
A22	72800	Information Technology Equipmt	1.3	45 Low Performance PCs for the data processing and analysis and generation of informational products from field sampling throughout various institutions involved in processing information for the project. Equipment will be used by National Aquarium, Flora and Fauna , CNAP, GEOCUBA, 7 CEAs, 7 provincial meteorological centers	800	45	Items	36,000	170,940
				28 printers for the data processing and analysis and generation of informational products. Equipment will be used by ICIMAR, IES, INSMET, IGT, National Aquarium, Flora and Fauna , CNAP, GEOCUBA, CEAs	400	28	Items	11,200	
				672 toners (3 per 28 printer per 8 year) for the data processing and analysis and generation of informational products. To be used by ICIMAR, IES, INSMET, IGT, National Aquarium, Flora and Fauna , CNAP, GEOCUBA, CEAs	45	672	Items	30,240	
				50 hard drives for the data processing and analysis and generation of informational products. To be used by ICIMAR, IES, INSMET, IGT, National Aquarium, Flora and Fauna , CNAP, GEOCUBA, CEAs	100	50	Items	5,000	

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				100 pen drives for data processing and analysis and generation of informational products from field sampling throughout various institutions involved in processing information for the project. To be used by ICIMAR, IES, INSMET, IGT, National Aquarium, Flora and Fauna , CNAP, GEOCUBA, CEAs	35	100	Items	3,500	
				20 tablets for data processing and analysis and generation of informational products. To be used by ICIMAR, IES, INSMET, IGT, National Aquarium, Flora and Fauna , CNAP, GEOCUBA, CEAs	500	20	Items	10,000	
				20 data shows for the data processing and analysis and generation of informational products. To be used by ICIMAR, IES, INSMET, IGT, National Aquarium, Flora and Fauna , CNAP, GEOCUBA, CEAs	300	20	Items	6,000	
				20 High Performances PCs (Intel Core™ i7-8700 (6 Cores/12MB/12T/up to 4.6GHz/65W))) for numerical modelling, scientific calculations, data analysis, digital image processing, etc. to allow data processing and analysis and generation of informational products from field sampling throughout various institutions involved in processing information for the project. Equipment will be used by (ICIMAR, INSMET)	3,000	20	Items	60,000	
				3 professional camcorders for recording changes in marine ecosystems and generation of informational products (2 in ICIMAR, 1 in IES)	3,000	3	Items	9,000	
A23	73400	Rental & Maint of Other Equip	1.3	Spare parts and maintenance service to support the operations of 2 4x4 vehicles in function of permanent environmental monitoring of coastal and marine ecosystems developed by ICIMAR/AMA and for the transportation dedicated to the assembly and later maintenance of the permanent meteorological stations and tide gauges. 277,200 km estimated per vehicle in 7 years. After 100,000 km parts include replacement filters (air, oil, water), tires, wipers, straps, distribution kits, batteries, maintenance services every 5,000km, clutch kit, shock absorbers, fuel pumps, radiator, injection kit, alternator, starter. Total cost per vehicle (2) USD 23, 395. Note: Additional USD 5,500 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) A24. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	23,395	2	Items	46,790	403,677
				Spare parts and maintenance to support the operations of 1 boat in function of coastal and marine sampling operations conducted by ICIMAR. Estimated as 10 000 per year * 6 years this include (filters (air, oil, water), batteries, maintenance services, fuel pumps, painting, auxiliary pumps, stranding, plastic works. et.)	10,000	6	Years	60,000	
				Spare parts and tires to support the operations of the mobile laboratory in function of monitoring the impacts of interventions on water quality and marine ecosystems. Usage estimated at 243,600km estimated per vehicle in 7 years, including filters, oil, wipers, brake pads, belts, distribution kits, tires, batteries, maintenance service every 5,000 km, clutch kit, shock absorbers, fuel pump, radiator, injection kit, alternator, starter. Total per vehicle: \$20, 005. Note: Additional USD2,450 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) A24. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	20,005	1	Items	20,005	
				Insurance, technical inspections and register of 1 boat in function of monitoring the impacts of interventions on water quality and marine ecosystems (1 boat * USD 4,500 per year). Note: Service to be paid in CUP as per exchange rate.	4,500	7	Years	31,500	
				Insurance, technical inspections and vehicle register of mobile laboratory to support the operations of means of transportation in function of monitoring the impacts of interventions on	2,650	7	Years	18,550	

Budget Notes									
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)	
			water quality and marine ecosystems (1 vehicle * USD 2,650 per year). Note: Service to be paid in CUP as per exchange rate.						
			Insurance, technical inspections and vehicle register of 2 4x4 field vehicles in function of permanent environmental monitoring of coastal and marine ecosystems developed by ICIMAR/AMA and for the transportation dedicated to the assembly and later maintenance of the permanent meteorological stations and tide gauges (2 4x4 field vehicles * USD 2,650 per year) Note: Service to be paid in CUP as per exchange rate.	5,300	7	Years	37,100		
			Fuel for 1 boat in function of monitoring the impacts of interventions on water quality and marine ecosystems (180lt average per day * 100 days per year). Note: Additional USD 3,240 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lt) and reflected in budget line (BN) A24. This item will be paid in CUP per exchange rate.	18,182	6	Years	109,092		
			Fuel for 1 mobile laboratory in function of monitoring the impacts of interventions on water quality and marine ecosystems (290 Lt average per month). Note: Additional USD 672 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lt) and reflected in budget line (BN) A24. This item will be paid in CUP per exchange rate.	293	84	Months	24,612		
			Fuel for 2 4x4 field vehicles in function of permanent environmental monitoring of coastal and marine ecosystems developed by ICIMAR/AMA and for the transportation dedicated to the assembly and later maintenance of the permanent meteorological stations and tide gauges (2 4x4 field vehicles * 330lt average per month). Note: Additional USD 1,680 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lt) and reflected in budget line (BN) A24. This item will be paid in CUP per exchange rate.	667	84	Months	56,028		
A25	75700	Training, Workshops and Conference	1.3	7 annual 3-day workshops for 40 people (at least 30% will be women) with institutions involved in environmental monitoring (ICIMAR, IES, INSMET, 7 CEAS, Flora y Fauna, CNAP, etc.) to discuss the annual results of the monitoring and to verify the state of ecosystems, (costs include transfer, lodging, meals, venue, supplies for 3 days) Note: Services could be paid in both CUP or USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	12,000	7	Workshops	84,000	84,000
A26	72100a	Contractual Services - Companies / Nat-Serv	1.3	Logistical services (meals) to support marine expeditions for marine monitoring. (\$30 (\$5 breakfast, \$10 lunch, \$10 dinner, \$5 snacks) * 10 pax * 100 days at sea* 6 years) Note: Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	30,000	6	Years	180,000	180,000
A27	72100b	Contractual Services - Companies / Int-Serv	1.3	International contract for technology transfer training related to the operation and management of permanent marine data station and hydrological monitoring equipment.	150,000	1	Studies	150,000	150,000
A28	71200	International Consultants	1.4	International consultancy in modelling hydrological processes and water management to improve the assessment of the impacts of SLR and CC. Rate per day \$800 x 15 days + DSA 8 days + TKT + TE, to be paid as a lump sum Delivery: Trained Cuban specialists (at least 50% will be women).	15,000	2	Persons	30,000	30,000
A29	72200	Equipment and Furniture	1.4	Office furniture (desks, chairs, file cabinets) to support 30 INRH specialists to be located at a national and provincial level that will be in charge of processing water monitoring systems and develop the informational products derived from field sampling of water quality and availability	1,425	30	Persons	42,750	2,146,460

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				50 Radar speed sensors for the permanent hydrological stations to sample the quality and availability of terrestrial waters and its contribution of ecological flow. To be used by 7 provincial delegations of INRH.	7,500	50	Items	375,000	
				150 Automatic pluviometric stations for the permanent hydrological stations to sample the quality and availability of terrestrial waters and its contribution of ecological flow. To be used by 7 provincial delegations of INRH.	6,500	150	Items	975,000	
				50 Ultrasonic level sensors the permanent hydrological stations to sample the quality and availability of terrestrial waters and its contribution of ecological flow. To be used by the 7 provincial delegations of INRH.	4,100	50	Items	205,000	
				1 Z-boat Ecosounder for the permanent hydrological stations to sample the quality and availability of terrestrial waters and its contribution of ecological flow. To be used by the 7 provincial delegations of INRH.	50,000	1	Items	50,000	
				71 evaporimetric stations for the permanent hydrological stations to sample the quality and availability of terrestrial waters and its contribution of ecological flow. To be used by the 7 provincial delegations of INRH.	3,260	71	Items	231,460	
				30 Water Quality Sensor for the permanent hydrological stations to sample the quality and availability of terrestrial waters and its contribution of ecological flow. To be used by the 7 provincial delegations of INRH.	2,400	30	Items	72,000	
				15 level meters (0 - 50m) for the permanent hydrological stations to sample the quality and availability of terrestrial waters and its contribution of ecological flow. To be used by the 7 provincial delegations of INRH.	2,300	15	Items	34,500	
				15 Fathometers for the permanent hydrological stations to sample the quality and availability of terrestrial waters and its contribution of ecological flow. To be used by the 7 provincial delegations of INRH.	1,550	15	Items	23,250	
				100 hydrostatic pressure level sensors for the permanent hydrological stations to sample the quality and availability of terrestrial waters and its contribution of ecological flow. To be used by the 7 provincial delegations of INRH.	950	100	Items	95,000	
				4x4 field vehicle (including maintenance kit for 100,000km) for the assembly and maintenance of hydrological stations, the systematic monitoring of the quality and availability of superficial and underground terrestrial waters and to develop aquifer recharge actions. This vehicle will be provided to the National Institute of Hydraulic Resources and will result in continuous monitoring of the 40 hydrographic basins in seven provinces along the southern coastline.	42,500	1	Items	42,500	
A30	72300	Materials & Goods	1.4	Tools and supplies for assembly and operations of stations for field samplings of water quality and availability. Includes angle grinders, cube and drill bit sets, chisels, plastic cable ties, drills, fall arrest harness, power generator, usb-rs converters, tool box and cables .	50,932	1	Items	50,932	50,932
A31	72400	Communic & Audio Visual Equip	1.4	7 Modem gsm/gprs to support the activities and data transfer during the sampling of water quality	380	7	Items	2,660	19,260
				150 cell phones for data transmission in automatic stations to support the activities and data transfer during the field sampling of water quality and availability	100	150	Items	15,000	
				2 trunkin radio with antenna to support the activities and data transfer during the sampling of water quality and availability	800	2	Items	1,600	
A32	72500	Supplies	1.4	Office supplies (paper, stationery, flip charts) for 30 people throughout the project's 8 years to support the information capacities for the generation of informational products from field sampling of water quality and availability by INRH and its provincial levels institutions (USD 1,466 *30)	1,466	30	Persons	43,980	43,980

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
A33	72800	Information Technology Equipmt	1.4	15 PC low standard to support the data processing and analysis, as well as, the generation of informational products from field sampling of water quality and availability carried out by INRH	800	15	Items	12,000	18,330
				4 printers to support the data processing and analysis, as well as, the generation of informational products from field sampling of water quality and availability carried out by INRH	400	4	Items	1,600	
				84 toners to support the data processing and analysis, as well as, the generation of informational products from field sampling of water quality and availability carried out by INRH (4 printers * 3 tonner per year * 7 year)	45	84	Items	3,780	
				10 pendrives to support the data processing and analysis, as well as, the generation of informational products from field sampling of water quality and availability carried out by INRH	35	10	Items	350	
				2 cameras to support the data processing and analysis, as well as, the generation of informational products from field sampling of water quality and availability carried out by INRH	300	2	Items	600	
A34	73400	Rental & Maint of Other Equip	1.4	Spare parts and maintenance to support the operations of means of transport in function of the monitoring of the impacts of hydrological restoration on the quality and availability of terrestrial waters. 277,200km estimated usage per vehicle in 7 years. Parts and services include replacement filters, oil, wipers, belts, brake pads, distribution kit, tires (every 60,000km), batteries, clutch kit, shock absorbers, fuel pump, radiator, windshield, injection kit, alternator, and starter. Total per vehicle: USD 23,395. Note: Additional USD 2,750 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) A35. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	23,395	1	Items	23,395	69,917
				Insurance, technical inspections and vehicle register to support the operations of the 4x4 field vehicle in function of the monitoring of the impacts of hydrological restoration on terrestrial waters. (USD 2,650 per year) Note: Service to be paid in CUP as per exchange rate.	2,650	7	Years	18,550	
				Fuel for 1 4x4 field vehicle for the INRH for the continuous monitoring of the quality and availability of terrestrial waters along intervention areas as well as ensure the proper functioning of equipment and develop the interventions for the aquifer recharge (330 lt per month). Note: Additional USD 840 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lt) and reflected in budget line (BN) A35. This item will be paid in CUP per exchange rate.	333	84	Months	27,972	
A36	75700	Training, Workshops and Conference	1.4	5 day workshop for 30 peoples for training on modelling hydrological processes and water management, to better assess the impacts of SLR and CC. 1 per province (at least 50% will be women) . Costs include transfer, lodging, meals, venue, supplies (USD 15,225) Note: Services could be paid in both CUP or USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	15,225	3	Workshops	45,675	45,675
CoF1			1.1	Under Activity 1.1 - CITMA co-finance in the form of Staff costs for IES, IGT and GeoCuba in validating local conditions in intervention sites and verify ecosystem coping capacities to CC impacts through in situ and spatial temporal analyses in order to update technical rehabilitation projects. Development of forest profiles. Work will be continuous throughout the project 8 years.	122,727			17,634,353	17,634,353
			1.1	Under Activity 1.1 - MINAG co-finance for hiring 6 Forest Enterprises to: Validate local conditions in intervention sites and verify ecosystem coping capacities to CC impacts through in situ and spatial temporal analyses in order to update technical rehabilitation projects; Clear existing channels and ditches (9,832.77m2); Management of alien species (7,001.39 m2); Purchase of forest insurance for mangrove plantings	5,715,805				

Budget Notes								
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
		1.2	Under Activity 1.2 - Cost of hiring y forest enterprises for : Hiring of 6 forest enterprises for restoration actions in swamp and wetlands including: Land preparation in places where sowing will take place (10,000m2) Collection and processing of propagules and/or seeds (2,304 ha) Sowing (9,540 ha) Management of assisted natural regeneration (5,903 ha) Seeding failures repositions (3,345 ha) Maintenance (15,443ha) Planting cuttings of Red Mangrove (4,323ha) Plantation niches (3,485 ha) Nursery sites (7) Construction and/or maintenance of fire breaks (400km)	9,626,777				
		1.3	Staff costs to support activity 1.3: Implementation and processing of information from marine (oceanography and meteorology), water and wetland monitoring, installation of monitoring equipment including 36 stations, hiring of experts (INSMET) required to ensure the correct placement and installation of equipment, experts to provide training to local provinces on water monitoring; Management actions to control and regulate the protection of marine ecosystems.	992,973				
		1.4	Under activity 1.4 - Development of infrastructure repairs to water conduction systems (cost of planning and implementation) related to aquifer recharge and water flow repair. Hiring of engineers to provide maintenance and calibrate purchased equipment. Development of hydrological studies by national experts (INRH); Implementation of hydrological models to evaluate and forecast climate change impacts over terrestrial waters	1,176,071				
Total Output 1 - GCF + COF							32,391,447	32,391,447
Output 2								
B1	71200	International Consultants	2.1	International consultancy in social and environmental safeguard and gender. (800*15 days + DSA + TKT + TE, to be paid as a lump sum)	15,000	1	Persons	15,000
				International consultant to provide training on coastal marine zone planning (at least 50% of trainees will be women) Rate per day \$800 x 10 days + DSA days + TKT + TE, to be paid as a lump sum	12,000	1	Persons	12,000
B2	71300	Local Consultants	2.1	National consultant to provide support to output 2 on methodological issues related to gender and social and environmental safeguards	1,000	8	Years	8,000
B3	71400	Contractual Services - Individual	2.1	Knowledge management national specialist for the implementation of project activities with 50% for Output1 and 50% for Output2. Total amount of USD 3,312 per year for 8 years. 50% is costed to this output at USD 138* 96 months (8 years). Note: Additional USD 2,592 to the total amount is included the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) B4	138	96	Months	13,248
				Environmental and social safeguards national specialist for the implementation of project activities with 50% for Output1 and 50% for Output2. Total amount of USD 3,312 per year for 8 years. 50% is costed to this output at USD 138* 96 months (8 years). Note: Additional USD 2,592 to the total amount is included the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) B4	138	96	Months	13,248
				Operational Coordinator for project monitoring and evaluation and support in developing an external communication strategy. Total annual cost of USD 22,320 during 8 years with 40% dedicated to Output 1; 40% to Output 2 and 20% to PMU. 40% costed to this output at USD 744*96 months (8years) Note: Additional	744	96	Months	71,424

Budget Notes									
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)	
			<p>USD 13,824 to the total amount is included the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) B4</p> <p>National Specialist in Gender to provide part time support to Output 2, total amount of USD 3,312 per year for 8 years. 50% is costed to this output at USD 138*96 months (8 years). Note: Additional USD 2,592 to the total amount is included the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) B4</p>						
				138	96	Months	13,248		
B5	72200	Equipment and Furniture	2.1	<p>Furniture and office equipment to enable the 24 Capacity building centers and the 7 annexed classrooms. Cost of module for the enhancement of CBCs and annexed class rooms per facility (31) at USD 7,501 includes chairs, projection screens, stationary and office equipment, tables, lecterns, desks, office equipment, TV set.</p> <p>Equipment in support of the training processes and knowledge management for 16 trainers including acrylic boards, lecterns for holding flip charts, office equipment, etc. = \$1,670.25 * 16 persons.</p> <p>Microbus High Standard (including maintenance kit for 100,000km) to support the Mobility of personnel from the local and/or national for workshops, meetings and application of training evaluation methodologies in the communities.</p> <p>This vehicle will be used by the Ministry of CITMA to guarantee the coordination within the government actors and government sectors to support the insertion of the EBA measures in the planning at local and national levels and support the implementation of National State Plan "Task Life". It will be used to move along each of the provinces travelling 100kms on daily basis, it should be noted the government does not have this vehicle, so it is necessary to acquire it.</p> <p>31 Bicycles to support the mobility of the people who are in charge of the 24 capacity building centers and 7 community level classrooms (31 total of which 50% will be women) to provide coordination support and capacity building along various sectors.</p>	7,501	31	Items	232,531	313,551
				1,670	16	Persons	26,720		
				45,000	1	Items	45,000		
				300	31	Items	9,300		
B6	72400	Communic & Audio Visual Equip	2.1	<p>Communication services to support the Capacity Building Centers and the community level classrooms (Internet access at an annual cost of USD 11,519 *8 years).</p> <p>Note: Service to be paid in CUP as per exchange rate.</p>	11,519	8	Years	92,152	92,152
B7	72500	Supplies	2.1	<p>Office supplies (stationary, printing paper, binders, etc.) to support the information capacities, as well as, training capacities of 24 Capacity Building Centers and 7 Community Level Classrooms. 31 spaces with 47 persons (total) during the project's 8 years (USD 1,466 *47)</p>	1,466	47	Persons	68,902	68,902
B8	72800	Information Technology Equipmt	2.1	<p>172 PCs to support training activities at the 24 Capacity Building Centers and 7 annexed classrooms (6 per each of the 24 CBCs + 4 per each of the 7 annexed classrooms). Equipment renewal is being included in year 6, because this equipment will be under high work efforts</p> <p>31 printers to support training activities at the 24 Capacity Building Centers and 7 annexed classrooms. Equipment renewal is being included in year 6, because these equipment will be under high work efforts</p> <p>434 toners to support training activities at the 24 Capacity Building Centers and 7 annexed classrooms (31 printers * 2 toner * 7 year)</p> <p>62 pendrives to support training activities at the 24 Capacity Building Centers and 7 annexed classrooms (2 per each of the 24 centers and 7 classrooms)</p> <p>31 network switches to support training activities at the 24 Capacity Building Centers and 7 annexed classrooms. Equipment renewal is being included in year 6, because the equipment will be under high work efforts</p> <p>31 network servers to support training activities at the 24 Capacity Building Centers and 7 annexed classrooms. Equipment renewal is being included in year 6, because the equipment will be under high work efforts</p>	800	344	Items	275,200	402,300
				400	62	Items	24,800		
				45	434	Items	19,530		
				35	62	Items	2,170		
				100	62	Items	6,200		
				1,200	62	Items	74,400		

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
B9	73400	Rental & Maint of Other Equip	2.1	Spare parts and tires to support the operations of microbus in function of the training and formation programs of communities, governments and sectors in the Capacity Building Centers. Usage estimated at 243,600km estimated per vehicle (1) in 7 years. Including filters, oil, wipers, brake pads, belts, distribution kits, tires, batteries, maintenance service every 5,000 km, clutch kit, shock absorbers, fuel pump, radiator, injection kit, alternator and starter. USD 20,005. Note: Additional USD 2,450 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) B10. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	20,005	1	Items	20,005	63,167
				Insurance, technical inspections and vehicle register of microbus in function of the training and formation programs of communities, governments and sectors in the Capacity Building Centers. USD 2650 per year. Note: Service to be paid in CUP as per exchange rate.	2,650	7	Items	18,550	
				Fuel to the microbus in function of the training and formation programs of communities, governments and sectors in the Capacity Building Centers 290 Lt average per month. Note: Additional USD 756 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lit) and reflected in budget line (BN) B10. This item will be paid in CUP per exchange rate.	293	84	Items	24,612	
B11	74200	Audio Visual & Print Prod Costs	2.1	Training materials (for capacity building centers and annexed classrooms, in addition to schools and universities in intervention areas) generated from early warning information and training topics for EBA: a. Climate Change in Cuba (causes and impacts). b. Ecosystem services of mangrove forests, seagrass beds, coral reefs. c. Efficient water resource management. d. Effects of human impacts on ecosystems (pollution, felling of mangrove trees). e. Comprehensive ecological rehabilitation and restoration. Total cost per year valued at USD 17,550 includes cost of printing 4,350 sets of information per year (costs of printing at USD 4 per set. Total USD 17,400) plus cost of design valued at USD 150. Information will be printed during all of project years (8). Unit price per year = (4,350*\$4)+\$150 = \$17,550 for 8 years. Note: Additional USD 69,600 to the total amount is included in the contingency budget to mitigate price escalation in printing and production costs and reflected in budget line (BN) B12. Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	17,550	8	Years	140,400	390,150
				Material to support awareness raising activities and ensuring local ownership of the project through printed material that will be provided to all actors involved in capacity building and dissemination activities. This will be provided to local, provincial and national level and includes: Diaries (to record activities), pens, folders (to include project information and results), table and wall calendars, notebooks, posters (to be placed in key events, areas) and bags personalized with project information. Cost of production of material sets (3,500 to be produced per two year) is 20,000 including printing and design costs.	20,000	5	Years	100,000	
				Design and printing of 462 maps to georeference the progress in goals from project interventions (wetland reforestation, marine ecosystems conservation state, saline intrusion, erosion processes, drought, surface and underground water quality, sea level variability for 21 national institutions, 7 provinces, 7 municipalities and 24 Capacity-Building Centers, 7 annexed classrooms). Unit price: \$50 per map produced (USD 50 * 462 maps) + \$150 (cost of design per year). Annual	23,250	3	Years	69,750	

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				<p>costs Maps will be produced in years: 3,5 &7 Unit price per year = (462*\$50)+\$150 = \$23,250 for 3 years. Note: Additional USD 41,580 to the total amount is included in the contingency budget to mitigate price escalation in printing and production costs and reflected in budget line (BN) B12. Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.</p>					
				<p>Design and printing of Social and Environmental and Gender Methodologies, including stakeholder engagement and beneficiaries' calculation, to ensure compliance of social and environmental standard during the project implementation, directed to actors and sectors at municipal, provincial and national levels. Annual costs at USD 40,000 and include cost of printing 4,000 sets of information per year at unit price of USD 10 per set plus cost of design of information (total USD 40,000). Information sets will be produced in years: 4 and 8. Unit price per year = \$40,000. Note: Additional USD 40,000 to the total amount is included in the contingency budget to mitigate price escalation in printing and production costs and reflected in budget line (BN) B12. Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.</p>	40,000	2	Years	80,000	
B13	75700	Training, Workshops and Conference	2.1	<p>24 3-day workshops (1 for each of the 24 municipalities) for the analysis and discussion of training tools and methodologies. Workshop is considered for 40 people including provincial University Professors, provincial CITMA authority, project team, local government representatives (municipal and provincial), CCA specialists from CITMA, INRH, MINAGRI, FLACSO, community and local sector leaders. Costs includes transportation, meals, lodging, venue and workshop supplies (USD 12,000 per workshop *24). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.</p>	12,000	24	Workshops	288,000	1,665,925
				<p>2 3-day Workshop for 80 people the implementation of the training program in Capacity Building Centers and annexed classrooms,. The workshop will consolidate project stakeholders at a local level with the project team. Workshop cost (USD 27,600 *2) includes transfer, lodging, meals, venue and supplies. Note: Services to be paid in both CUP or USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.</p>	27,600	2	Workshops	55,200	
				<p>2 5- day "Training for trainers" national workshops for 80 people for training development in CBCs and will be delivered to provincial University Professors, provincial CITMA authority, project team, local government representatives (municipal and provincial), CCA specialists from CITMA, INRH, MINAGRI, FLACSO, community and local sector leaders. Costs includes transportation, meals, lodging, venue and workshop supplies (USD 37,000 per workshop* 2), Note: Services to be paid in both CUP or USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.</p>	37,000	2	Workshops	74,000	
				<p>14 4-day workshops (2 per province) to establish a network of activists at a provincial to support actions to reduce negative impacts on coastal ecosystems (focus on marine) the workshop will include specialists from MPAs and CEAs, sector and community leaders, representatives from fishing and nautical companies (estimated 50 people per workshop). Each workshop cost includes transportation, meals, venue, lodging and workshop material (USD 20,225*14) Note: Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.</p>	20,225	14	Workshops	283,150	

Budget Notes								
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
			Community activities to encourage consumption of marine IAS (lion fish) (60 pax, 1day). Will have a total of 14 events (2 per province). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	10,000	14	Workshops	140,000	
			3 7-day training workshops and practical activities for the design and installation of artificial structures to enhance the protective capacity of coral reef. An estimated 30 people at a local level (municipal and provincial leaders, CCA and coastal specialists from CITMA, community leaders in intervention areas, CEA, marine protected areas representatives, nautical enterprises) (30 pax, 7 days, transfer, lodging, meals, venue, supplies). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	28,000	3	Workshops	84,000	
			8 7-day Workshops for 45 people for creation and training of brigades for primary coral restoration (45 pax, 3 days, transfer, lodging, meals, venue, supplies). One workshop per province and one at national level. Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	30,000	8	Workshops	240,000	
			35 Community activities for information and community outreach (5 per province). These will take the form of science and environmental fairs many will be developed in schools in the form of knowledge exchanges, volunteer events, photo exhibitions, etc to allow for community appropriation of the ecosystem measures being invested in their communities. These events will involve the full community allow communities to become aware of actions and the results of the project, these being appropriate measures of KM management in Cuba rural areas. Note: Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	4,000	35	Workshops	140,000	
			7 3-day workshops (1 opening, 3- 8 of project implementation, and 1 closing) for the design, validation and discussion tools and methodologies on gender, social and environmental safeguards. Workshop is considered for 40 people including provincial University Professors, provincial CITMA authority, project team, local government representatives (municipal and provincial), CCA specialists from CITMA, INRH, MINAGRI, FLACSO, community and local sector leaders. Costs includes transportation, meals, lodging, venue and workshop supplies (USD 12,000 per workshop) Note: Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	12,000	7	Workshops	84,000	
			9 3-day workshops for 35 people to be delivered to promote project awareness in CCA actions (1 opening, 1 per province- total 7 provinces-, and 1closing). Awareness-raising and training with local community actors (women, man, girls and boys) will include experiences on environmentally sustainable production practices that reduce or avoid anthropogenic pressure on ecosystems. This will be develop taking into account including gender equity. (Example: honey harvesting, control of invasive alien species). (USD 10,000 per 9 workshops) costs include transfer meals, lodging, venue and supplies. Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	10,000	9	Workshops	90,000	
			7 3-day workshop per province (Inception) to confirm the stakeholder engagement and its role to the project implementation, the information flow to monitoring implementation, the activities to develop during first year of implementation and the conformation of technical team of works, such as ecosystem monitoring, gender, social and environmental safeguard, etc. Costs include	8,000	7	Workshops	56,000	

Budget Notes									
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)	
			transfer, lodging, meals, venue, supplies (USD 8,000*7), 20 persons Note: Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.						
			5 days workshop of training on social and environmental safeguard and gender and how it relates to coastal ecosystems and coastal resilience. Workshop is considered for 40 people including stakeholder leading the social and environmental and gender activities in the project implementation, and its monitoring at local and national level. Costs includes transportation, meals, lodging, venue and supplies. Note: Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	25,000	1	Workshops	25,000		
			7 (1 per province) 1-day trainings and awareness raising for on the damage caused by fishing and nautical activities in the degradation of the protection services of marine ecosystems to coastal threats from CC. Trainings will be targeted to fishing sector representatives and community leaders of which 50% will be women. (USD 15,225 Costs per training *7trainings) Note: Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	15,225	7	Workshops	106,575		
B14	71200	International Consultants	2.2	International consultant to deliver a 10 day training of trainers workshop ((USD 800 daily rate*10)+ (DSA for 8 days)+ Air TKT (to be paid as a lump sum)	12,000	1	Persons	12,000	66,000
			International consultant to deliver 2 workshops on coastal resilience index (USD800 x 10 days) + DSA 8 days + ticket cost, to be paid as a lump sum	12,000	2	Persons	24,000		
			International consultant to provide training on cost benefit evaluation analysis of adaptation measures. Rate per day \$800 x 15 days + DSA 8 days + Transportation, to be paid as a lump sum. Delivery: Trained cuban specialists on CBA methodology.	15,000	2	Persons	30,000		
B15	71400	Contractual Services - Individual	2.2	National Implementation Specialist to provide part time support to Output 2 in development of long term OM strategies for KM platform equipment, including drafting of technical specifications of ICT equipment to be acquired through the project and of maintenance related services and integrating these within annual workplans and OM strategies for the community monitoring systems. Total annual cost of USD 22,080 for 8 years with 40% dedicated to Output1; 40% to Output2 and 20% to PMU. 40% costed to this output @ USD736*96 months (8 years). Note: Additional USD 6,528 to the total amount is included in the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) B16.	736	96	Months	70,656	70,656
B17	72200	Equipment and Furniture	2.2	Bicycles to support the activities of community monitoring groups (10 per 7 sites)	300	70	Items	21,000	79,750
			Furniture and office equipment (chairs, tables, desk, file cabinets, etc.) for 22 people in IPF, CITMA, ONEI, FLACSO and 7 municipal Governments, working to maintain the knowledge management platform and products that will be articulated with other information nodes located in key Project institutions at the national and local level .Module for one person costs USD 1,425 * 22 persons	1,425	22	Persons	31,350		
			20 seawater refractometers for community monitoring by 20 persons working in the 7 coastal settlements	50	20	Items	1,000		
			20 freshwater refractometers for community monitoring by 20 persons working in the 7 coastal settlements	50	20	Items	1,000		
			20 level rulers for community monitoring for 20 persons per direct intervention sites (7) that will form part of the community monitoring system	10	20	Items	200		
			20 rechargeable lamps for community monitoring for 20 persons per direct intervention sites (7) that will form part of the community monitoring system	60	20	Items	1,200		

Budget Notes									
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)	
			20 rain gauge for community monitoring for 20 persons per direct intervention sites (7) that will form part of the community monitoring system:	1,000	20	Items	20,000		
			20 snorkeling equipment for community monitoring for 20 persons per direct intervention sites (7) that will form part of the community monitoring system:	200	20	Items	4,000		
B18	72400	Communic & Audio Visual Equip	2.2	Communication equipment for persons involved in the community monitoring system, in near real time using the information management platform. (20 persons * 7 sites * cellphone * 250 USD)	250	140	Items	35,000	505,400
			2.2	Communication services for the persons involved in the community monitoring system, in near real time using the information management platform. (20 persons * 40 USD * 12 month * 7 sites) Note: Service to be paid in CUP as per exchange rate.	67,200	7	Years	470,400	
B19	72800	Information Technology Equipmt	2.2	22 Low performance PCs to be used by 22 persons in IPF, CITMA, ONEI, FLACSO and 7 local Governments, working to maintain the knowledge management platform and products that will be articulated with other information nodes located in key Project institutions at the national and local level.	800	22	Items	17,600	32,000
			2.2	11 printers to be used by IPF, CITMA, ONEI, FLACSO and 7 local Governments, working to maintain the knowledge management platform and products that will be articulated with other information nodes located in key Project institutions at the national and local level.	400	11	Items	4,400	
			2.2	20 tablets for community monitoring for 20 persons per direct intervention sites (7) that will form part of the community monitoring system	500	20	Items	10,000	
B20	74200	Audio Visual & Print Prod Costs	2.2	On-site filming and production of documentary of coastal ecosystem recovery and rehabilitation work for replication in other areas of the country. Filming for the documentary will take place during years 1,2,4,6 y 8. Cost include on-site filming for 5 years, story, production and editing. (USD 20,500 * 5 years). Note: Additional USD 128,125 to the total amount is included in the contingency budget to mitigate price escalation in audiovisual production costs and reflected in budget line (BN) B21. Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	20,500	5	Years	102,500	242,450
			2.2	Design and printing of manuals on community monitoring, for leaders and staff responsible for community monitoring 625 sets of manuals will be produced per year during years 2, 5 and 7. Annual cost include costs of printing 625 sets of manuals at USD 4 per set (total USD 2,500) plus USD 150 cost of design. Annual cost of manual production is total USD 2,650 (USD 2,500 costs of printing manuals + USD 150 cost of design) for 3 years. Note: Additional USD 3,600 to the total amount is included in the contingency budget to mitigate price escalation in printing and production costs and reflected in budget line (BN) B21. Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	2,650	3	Years	7,950	
			2.2	Production of audiovisual materials for national television to raise public awareness about the importance of EBA as a paradigm of conservation, sustainable use and Climate Change adaptation in coastal and marine areas, and about the actions of the community system and project results. Total costs = USD 20,000. 2 audiovisuals will be produced per year (each at USD 2,000) during years 1, 2, 4, 6 & 8 (5 years). Unit price per year = 2*\$2,000 = \$4,000. Note: Additional USD 25,000 to the total amount is included in the contingency budget to mitigate price escalation in audiovisual production costs and reflected in budget line (BN) B21. Services could be paid in both CUP and USD, depending on	4,000	5	Years	20,000	

Budget Notes									
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)	
			the provider selected through a national procurement process aligned with UNDP rules and regulations.						
			Design and printing of best practices guidelines for communities on EBA, rational water use, livelihood and lifestyle diversification methods, sustainable use and enjoyment of ecosystems. Total cost per year valued at USD 28,000 includes cost of printing 6,975 sets of information per year (cost of printing at USD 4 per set total cost USD 27,900) plus cost of design (USD 100). Information sets will be produced in years 2, 4, 6 and 8. Unit price per year = (6975*\$4)+\$100 = \$28,000 for 4 years. Note: Additional USD 55,800 to the total amount is included in the contingency budget to mitigate price escalation in printing and production costs and reflected in budget line (BN) B21. Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	28,000	4	Years	112,000		
B22	75700	Training, Workshops and Conference	2.2	7 4-day Local workshops for the selection of climate change coastal adaptation indicators for an estimated 40 people participating. Costs include transfer, lodging, meals, venue, supplies (USD20,000*7). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	20,000	7	Workshops	140,000	1,156,261
			3 5-day workshops of 40 people to discuss and validate the Protocol for Coastal Resilience. Costs include transfer, lodging, meals, venue, supplies (USD 25,182*3). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	25,182	3	Workshops	75,546		
			2 3-day workshops for information collecting, compilation and systematization of existing early warning information and systems. Seventy (70) participants are estimated per workshop and will include technical specialists from IGT, IES, ANIC, INSMET, CEA, CITMA, community leaders, local government representatives. Costs include transfers, lodging, meals, venue, supplies (USD 19,620 *2). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	19,620	2	Workshops	39,240		
			21 (3 per province) 3-day Workshop for information for 20 people diagnosis and identification of technological solutions for communication of all institutions and areas (provincial and municipal) that will be linked to the KPMCA to integrate, receive, process and produce information. Costs include transfer, lodging, meals, venue, supplies (USD 8,000*21). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	8,000	21	Workshops	168,000		
			14 3-day workshops (2 per province) on protocols and data collecting standards. Workshops for 20 people, costs include transfers, lodging, meals, venue, supplies (USD 10,000 *14). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	10,000	14	Workshops	140,000		
			31 (1 per municipality and 1 per province) 3 -day trainings for 25 people on the implementation of the KPMCA platform and its implementation: structure, organization, SOPs, tools, and technologies generation and use of products, etc. Costs include transfer, lodging, meals, venue, supplies Note: Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	7,000	31	Workshops	217,000		
			2 3-day workshops to be held at a national level for the validation of the adaptation indicators developed through the project. Each workshop will have an estimated 70 people and costs include lodging, meals, venue, supplies (USD 25,400 per workshop *2).	25,400	2	Workshops	50,800		

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.					
				3 5-day workshopss for 50 people for the analysis, discussion and design of the the EBA information tools for the communities, technicians and decision-makers. Workshops for 50 people costs include transfer, meals, lodging, venue, supplies (USD 15,225 *3). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	15,225	3	Workshops	45,675	
				Annual 3-day workshops (total 7) for 100 people to share the results of the community monitoring network and best practices with project stakeholders (including local and national technical representatives from ministries and local government) and community monitors. Costs include transfers, lodging, meals, venue and supplies (USD 40,000). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	40,000	7	Workshops	280,000	
B23	72100a	Contractual Services - Companies / Nat-Serv	2.2	Connectivity services and server support (internet (international (16Mbps), national (4Mbps)) (\$ 39 000 Annual) + data storage (\$ 20 000 Annual) + website hosting (\$ 15000Annual)) provided by national company (ETECSA) at an annual cost of USD 74,000 *8 years Note: Service to be paid in CUP as per exchange rate.	74,000	8	Years	592,000	792,000
				Implementation of the communication solution personalized to each location to connect to the knowledge management platform. This contract is to identify and implement how the platform nodes that are located at the national, provincial, municipal and local levels will be connected. This is necessary because not all nodes are going to have an internet connection, so it is not possible to connect them through internet; therefore it is necessary to identify and implement the infrastructure that will connect them to the platform. The break down is an approximate value, considering the amount of levels to connect. National, 7 provinces, 24 municipalities, 7 locations with an approximate cost of \$ 4300 per levels. Note: Service to be paid in CUP as per exchange rate	200,000	1	Studies	200,000	
B24	72100b	Contractual Services - Companies / Int-Serv	2.2	Acquisition of software to manage the repository for the knowledge management platform	25,000	1	Items	25,000	442,516
				Acquisition of administration software for the platform intranet	50,000	1	Items	50,000	
				Acquisition of software for spatial data management	80,000	1	Items	80,000	
				Design, acquisition and start-up of the development node for the creation of the products and applications of the knowledge management platform. Equipment to be included as part of this service: High Power Computing and storage for the developing node of the knowledge management platform, and power plant)(Data center (200 Tb) + Cluster (50 nodes with 10 processor (Intel Core i9-9900K) each, with 128 GB memory per processor) with high speed network, management tool and compiler tool; Power supply generator; Cooling system; Scale up/system update after year 6 (300 Tb, 25 nodes), 7 Small provincial stations (20 Tb, 5 nodes) with backups each. Contract includes 10% import rate of equipment = (total USD 61,150) and cost infrastructure design and implementation of USD 14,866. Total = USD 287,516 (USD 211,500 cost of equipment+ USD 61,150 import rate + 14,866 cost of infrastructure design and implementation)	287,516	1	Studies	287,516	
B25	71200	International Consultants	2.3	International consultancy to provide training on economic valuation of ecosystems. Rate per day \$800 x 15 days + DSA 8 days + TKT + TE, to be paid as a lump sum Delivery: Trained Cuban specialists.	15,000	1	Persons	15,000	117,000

Budget Notes									
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)	
			International consultancy in Natural Solutions to Climate Change. .Rate per day \$800 x 15 days + DSA 8 days + TKT + TE, to be paid as a lump sum Delivery: Trained Cuban specialists.	15,000	1	Persons	15,000		
			International consultancy in resilient solution to coastal community and insertion of EBA measures in national and local policies Rate per day \$800 x 15 days + DSA 8 days + TKT + TE, to be paid as a lump sum Delivery: Trained Cuban specialists	15,000	1	Persons	15,000		
			Cost for external Mid-term Review and Terminal evaluation - 2 international consultancies hired for conducting the evaluations	15,000	4	Persons	60,000		
			International consultancy to provide training on assessment of the impact of extreme climate related disasters on economic assets including the use of forecast based financing as a planning tool. Rate per day \$800 x 10 days + DSA 8 days + TKT + TE, to be paid as a lump sum Delivery: Trained Cuban specialists.	12,000	1	Persons	12,000		
B26	72800	Information Technology Equipmt	2.3	21 Pcs to support the actions of the network of legal advisers that will be created to provide support to each province (7) for the inclusion of EBA in the methodology of environmental management and its incorporation in territorial planning plans, as well as, municipal development strategies (3 legal advisors * 7 provinces)	800	21	Items	16,800	26,950
				7 printers to support the actions of the network of legal advisers that will be created to provide support to each province (7) for the inclusion of EBA in the methodology of environmental management and its incorporation in territorial planning plans, as well as, municipal development strategies (1 printer * 7 provinces)	400	7	Items	2,800	
				147 toners to support the actions of the network of legal advisers that will be created to provide support to each province (7) for the inclusion of EBA in the methodology of environmental management and its incorporation in territorial planning plans, as well as, municipal development strategies (7 printers *3 toners per year * 7years)	45	147	Items	6,615	
				21 pen drives to support the actions of the network of legal advisers that will be created to provide support to each province (7) for the inclusion of EBA in the methodology of environmental management and its incorporation in territorial planning plans, as well as, municipal development strategies (3 pen drives * 7 provinces)	35	21	Items	735	
B27	74200	Audio Visual & Print Prod Costs	2.3	Design and printing of EBA Methodologies and Standards to determine ecological flow, directed to actors and sectors at municipal, provincial and national levels. Annual costs at USD 40,100 and include cost of printing 4,000 sets of information per year at unit price of USD 10 per set (total USD 40,000) plus cost of design of information (USD 100). Information sets will be produced in years: 3, 4, 7 & 8. Unit price per year= (4,000*\$10)+\$100 = \$40,100 for 4 years. Note: Additional USD 80,000 to the total amount is included in the contingency budget to mitigate price escalation in printing and production costs and reflected in budget line (BN) B28. Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	40,100	4	Years	160,400	160,400
B29	75700	Training, Workshops and Conference	2.3	7 3-day training workshops (1 per province) on methodology for the calculation of ecological fresh water flow. Workshop will be for 50 people including AMA, project team, local government representatives, CITMA local representatives, legal advisors, community leaders, INRH, MINAGRI, IPF, INSMET, ICIMAR. Costs include transfer, lodging, meals, venue, supplies (USD 15,225*7 workshops) Note: Services could be paid in both CUP or USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	15,225	7	Workshops	106,575	610,825

Budget Notes								
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
			3 3-day workshops for the validation and adjustment of the methodology of the ecological fresh water flow calculation for an estimated 50 people participating (CIMTA, local government representatives, AMA, ICIMAR, MINAGRI, IPF, sector leaders). Costs include transfer, lodging, meals, venue, supplies (USD 15,225*3). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	15,225	3	Workshops	45,675	
			7 (1 per province) 3-day workshop for an estimated 40 people on the implementation of municipal networks. Costs include transfer, lodging, meals, venue, supplies (USD12,800*7). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	12,800	7	Workshops	89,600	
			2 3-day workshops on physical planning in coastal marine areas for approximately 30 people including representatives from AMA, local government, adaptation specialists from CITMA, ICIMAR, MES AMA, legal advisors, MINAGRI, INRH, IPF, IES, INSMET .Costs include transfer, lodging, meals, venue, supplies (USD10,000 per workshop *2) Note: Services could be paid in both CUP or USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	10,000	2	Workshops	20,000	
			7 5-days workshop for 30 peoples for training on assessment of the impact of extreme climate related disasters on economic assets, including gender, and cost benefit analysis using the knowledge management platform. 1 per province. Costs include transfer, lodging, meals, venue, supplies (USD 15,225*7) Note: Services could be paid in both CUP or USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	15,225	7	Workshops	106,575	
			4 3-day workshops (one per year during the projects first half) to be held to discuss and identify existing legislative gaps within the existing legal and regulatory framework for EBA management. An estimated 40 pax per workshop will attend, costs include transfer, lodging, meals, venue, supplies (USD 12,850 *4) Note: Services could be paid in both CUP or USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	12,850	4	Workshops	51,400	
			7 3-day workshop for the approval of management plans with a regulatory character to eradicate anthropogenic barriers in intervention sites (30 pax, 3 days, transfer, meals, lodging, venue, supplies) Note: Services to be paid in both CUP or USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	10,000	7	Workshops	70,000	
			17 meetings for the approval of regulatory management plans in 17 municipalities (after the project's 4th year). Meetings will be attended by local government representatives, adaptation specialists from CITMA, INRGH, MINAGRI, AMA, ICIMAR, sector and community leaders. (USD 3,000 per meeting *17). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	3,000	17	Workshops	51,000	
			7 3-days workshops to training key actors in the intervention areas in resilient solution to coastal communities. 2 workshops per intervention area. Costs include transfer, lodging, meals, venue, supplies (USD 10,000*7). 30 pax Note: Services could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	10,000	7	Workshops	70,000	
Cof2		2.1	Under Activity 2.1 CITMA co-finance for Staff costs to: Develop surveys and questionnaires on capacity building related to the project; Hiring of	916,644			1,516,665	1,516,665

Budget Notes								
BN	Atlas Budget Account Description	Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
			Personnel to run the enhanced CBCs and annexed classrooms; National experts and research institutions to develop and package training material across various areas and sectors; Experts hired to provide training to community monitors, Fixed costs related to running CBCs and annexed classrooms (energy, water, cleaning and maintenance).					
		2.2	Under Activity 2.2 CITMA co-finance for Staffing costs related to: Install and implement the KPMCA; Processing monitoring information derived from KPMCA and transform them into information climate and EBA products; Create protocols related to information flow; Develop indicators for PERC and information products and process information for their development	317,300				
		2.3	Under Activity 2.3 CITMA co-finance for Staff cost to: Production of technical standards for the introduction of the EBA in national and sectorial regulations. Technical guidelines to include ABE in planning Methodological standards for the determination of the ecological flow. Hiring and salary costs of legal experts to provide capacity building to target municipalities and develop a regulatory gap assessment and its update in year 7 Staffing costs related to overseeing work with regulatory institutions.	113,321				
			Under Activity 2.3 MINAG co-finance for Staff cost to: Production of technical standards for the introduction of the EBA in national and sectorial regulations. Technical guidelines to include ABE in planning Methodological standards for the determination of the ecological flow.	92,400				
			Under Activity 2.3 INRH co-finance for Staff cost to: Production of technical standards for the introduction of the EBA in national and sectorial regulations. Technical guidelines to include ABE in planning Methodological standards for the determination of the ecological flow.	77,000				
Total Output 2 - GCF + COF							8,961,188	8,961,188
Project Management								
PM1	71600	Travel	PM Tech. Coord. National travels of PM team for project monitoring to target areas and provinces. 3 pax x 3 nights x \$80 average DSA = \$720 * 4 travels per years * 8 years	720	32	Trips	23,040	23,040
PM2	72200	Equipment and Furniture	PM Tech. Coord. 2 Microbuses High Standard- including maintenance kit for first 100,000km- (1 per targeted coastal stretch targeted within the project) for the monthly oversight and implementation support of activities and action at the national, provincial and local levels. Travel of stretch 1 requires 1,396 km of travel (at least 17 days of travel considering local road conditions and visit to all intervention areas, CBCs, provinces and municipalities). Stretch 2 requires travel of 2,469 km (21 working days considering local road conditions and visit to all intervention areas, CBCs, provinces and municipalities). Therefore, it is not possible to carry out all the monitoring of the project with a single vehicle. The rest of the days, this vehicle will be used to support working meetings from all representatives of national entities such as Agroforestry Group, Hydraulic Resources, CITMA, Forest Guard Corps, IES, InsMet, ICIMAR, ONEI, IPF, Flora and Fauna among others that will be working jointly for the development of this project.	45,000	2	Items	90,000	143,925
			1 4x4 Field vehicle (including maintenance kit for first 100,000km) for the PM to ensure the monitoring, supervision and control of planned activities at the national, provincial and local levels.	42,500	1	Items	42,500	

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				Office equipment and furniture (desks, chairs, tables, file cabinets) to support the technical coordination in PM (USD 1,425 per office module per person * 5 people)	1,425	5	Persons	7,125	
				2 all-terrain motorcycles (125 cc 12.5 hp) for the monitoring, supervision and control of planned activities at the national, provincial and local levels.to ensure the monitoring, supervision and control of planned activities at the national, provincial and local levels.	2,150	2	Items	4,300	
PM3	72400	Communic & Audio Visual Equip	PM Tech. Coord.	Communication services to support the technical coordination in PM. It covers 5 persons of the national team * 100USD monthly. Note: Service to be paid in CUP as per exchange rate.	6,000	8	Years	48,000	48,000
PM4	72500	Supplies	PM Tech. Coord.	Office supplies (stationary, flipcharts, paper, binders, etc.) to support the operational coordination in PMU (USD 1,466 per person* 5 persons)	1,466	5	Persons	7,330	7,330
PM5	72800	Information Technology Equipmt	PM Tech. Coord.	5 PCs to support the technical coordination in PM	800	5	Items	4,000	11,355
				2 printers to support the technical coordination in PM	400	2	Items	800	
				64 toners to support the technical coordination in PM (2 printers * 4 tonner/year * 8 years)	45	64	Items	2,880	
				5 hard drives to support the technical coordination in PM	200	5	Items	1,000	
				5 pen drives to support the technical coordination in PM	35	5	Items	175	
				5 tablets to support the technical coordination in PM	500	5	Items	2,500	
PM6	73400	Rental & Maint of Other Equip	PM Tech. Coord.	Spare parts and tires to support the operations of the 4x4 vehicle in function of the Project implementation and monitoring. Includes cost of filters, oil, wipers, brake pads, belts, distribution kits, tires, batteries, clutch kit, shock absorbers, fuel pump, injection kit, alternator and starter. Total per vehicle: \$15,000. Note: Additional USD 2,100 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) PM7. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	15,000	1	Items	15,000	193,006
				Spare parts and tires to support the operations of the 2 minibuses in function of the Project implementation and monitoring. 243,600km estimated use per vehicle in 7 years. Costs include filters, oil, wipers, brake pads, distribution kit, batteries, clutch kit, shock absorbers, fuel pumps, radiator, injection kit, alternator, starter. Total per vehicle \$15,000. Note: Additional USD 4,900 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) PM7. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	15,000	2	Items	30,000	
				Spare parts and tires to support the operations of the 2 motorcycles in function of the Project implementation and monitoring. Costs include annual maintenance, spare parts including rims and bearings, starter, switches, mirrors, lamps, cable kit, carburetor, break kit and pads, shock absorbers and bars. Total per motorcycle is USD 4,780. Note: Additional USD 200 contingency to the total amount is included in the contingency budget to mitigate price escalation in maintenance service costs and reflected in budget line (BN) PM7. Maintenance service costs could be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	4,780	2	Items	9,560	
				Insurance, technical inspections and vehicle register to support the operations of the 4x4 vehicle in function of the Project implementation and monitoring (\$2650 per year). Note: Service to be paid in CUP as per exchange rate.	2,650	7	Years	18,550	
				Insurance, technical inspections and vehicle register to support the operations of motorcycles in function of the Project implementation and monitoring (2 motorcycles *\$1000 per year). Note: Service to be paid in CUP as per exchange rate.	2,000	7	Years	14,000	

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				Insurance, technical inspections and vehicle register to support the operations of the minibuses in function of the Project implementation and monitoring (2 minibuses * \$2650 per year). Note: Service to be paid in CUP as per exchange rate.	5,300	7	Years	37,100	
				Fuel to support the operations of the minibuses in function of the Project implementation and monitoring during 7 years (2 minibus * 200 Lt average per month * 12 months). Note: Additional USD 924 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lit) and reflected in budget line (BN) PM7. This item will be paid in CUP per exchange rate.	364	84	Months	30,576	
				Fuel to support the operations of the 4x4 vehicle in function of the Project implementation and monitoring during 7 years (200lt average per month* 12 months). Note: Additional USD 924 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lit) and reflected in budget line (BN) PM7. This item will be paid in CUP per exchange rate.	364	84	Months	30,576	
				Fuel to support the operations of the motorcycles in function of the Project implementation and monitoring during 7 years (2 motorcycles * 35lt average per month * 12months). Note: Additional USD 252 to the total amount is included in the contingency budget to mitigate price escalation in fuel costs (from original USD 1.01/lit) and reflected in budget line (BN) PM7. This item will be paid in CUP per exchange rate.	91	84	Months	7,644	
PM8	75700	Training, Workshops and Conference	PM Tech. Coord.	Inception workshop (2 days, transfer, lodging, meals, venue, supplies). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	13,500	1	Workshops	13,500	32,400
				7 2-day annual meetings for 15 people for general project management coordination and alignment includes participation of project board, key institutional stakeholders and full project team. Costs include transfer, lodging, meals, venue, supplies (USD2,700). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	2,700	7	Workshops	18,900	
PM9	72100a	Contractual Services - Companies / Nat-Serv	PM Tech. Coord.	Logistical support to meetings of technical coordination in PM (3 meetings * month * 10 persons * \$5)	1,800	8	Years	14,400	14,400
PM10	74100b	Professional Services - Int	PM Tech. Coord.	Annual Financial and Management Audit	8,000	7	Years	56,000	56,000
PM11	71400	Contractual Services - Individual	PM Oper. Coord.	Local Assistant in Finance (\$1,250 per month). Note: Additional USD 26,016 to the total amount is included in the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) PM12.	1,250	96	Months	120,000	191,040
				Operational Coordinator to provide 20% support in PM to integrate information into project monitoring reports and support in developing an external communication strategy. Total amount USD 22,320 per year with 20% dedicated to PMU, 40% support to Output 1 and 40% support to Output 2. 20% included in PMU at USD 372*96 months (8 years). Note: Additional USD 7,008 to the total amount is included in the contingency budget line to mitigate price escalation and reflected in the contingency budget line (BN) PM12.	372	96	Months	35,712	
				National Implementation Specialist to provide part time support to PM in supervise compliance of the procurement plan. Total annual cost USD 22,080 per year with 20% dedicated to PMU, 40% support to Output 1 and 40% support to Output 2. 20% charged to PMU @ USD368* 96 months (8 years) Note: Additional USD 3,168 to the total amount is included in the contingency	368	96	Months	35,328	

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
				budget line to mitigate price escalation and reflected in the contingency budget line (BN) PM12.					
PM13	71600	Travel	PM Oper. Coord.	National travels for PMU for project monitoring to target areas and provinces. 3 pax x 3 nights x \$110 average DSA = \$990 * 4 travels per 8 years	990	32	Trips	31,680	31,680
PM14	72200	Equipment and Furniture	PM Oper. Coord.	Office equipment and furniture (desks, chairs, tables, file cabinets) to support the operational coordination in PMU (USD 1,425 per office module per person * 3 people)	1,425	3	Persons	4,275	4,275
PM15	72400	Communic & Audio Visual Equip	PM Oper. Coord.	Communication services to support the Project implementation and monitoring. It covers 3 persons of the UNDP team * 100USD monthly.	3,600	8	Years	28,800	28,800
PM16	72500	Supplies	PM Oper. Coord.	Office supplies (stationary, flipcharts, paper, binders, etc.) to support the operational coordination in PMU (USD 1,466 per person* 2 persons)	1,466	2	Persons	2,932	2,932
PM17	72800	Information Technology Equipmt	PM Oper. Coord.	3 PCs to support the operational coordination in PM	800	3	Items	2,400	6,445
				1 printer to support the operational coordination in PM	400	1	Items	400	
				32 toners to support the operational coordination in PM (1 printer * 4 tonner/year * 8 years)	45	32	Items	1,440	
				3 hard drives to support the operational coordination in PM	200	3	Items	600	
				3 pen drives to support the operational coordination in PM	35	3	Items	105	
				500	3	Items	1,500		
PM18	73100	Rental & Maintenance-Premises	PM Oper. Coord.	Office Costs for Project Management Support Office at UNDP Cuba premises (3 pax for an annual cost of USD 16,000 for 8 years). Security services, rent, electricity, water, gas, post mail, telephone.	16,000	8	Years	128,000	128,000
PM19	74500	Service to Projects – GOE	PM Oper. Coord.	Services for Project implementation provided by UNDP (included in draft LOA): Financial services: \$98,895; HR services: \$22,673; Procurement of goods and services: \$32,356; Admin: \$10,076. The support services covers an 8 year period	164,000	1	Items	164,000	164,000
PM20	72100a	Contractual Services - Companies / Nat-Serv	PM Oper. Coord.	Logistical support to meetings of operational coordination in PM (3 meetings * month * 5 persons * \$5). Note: Services to be paid in both CUP and USD, depending on the provider selected through a national procurement process aligned with UNDP rules and regulations.	900	8	Years	7,200	7,200
CoF3			PM Tech. Coord.	CITMA co-finance for PMU Staff (National Director, Technical Coordination Team), Office space and fixed costs for office space	231,412			1,220,917	1,220,917
				MINAG co-finance for project management for Coordination and monitoring of project activities through local (municipal and provincial) and national representation to the project and to coordinate and integrate actions on the ground	807,505				
				INRH co-finance for project management coordination and monitoring of project activities through local (municipal and provincial) and national representation to the project and to coordinate and integrate actions on the ground	182,000				
Total Project Management - GCF + COF								2,314,745	2,314,745
Contingencies									
A4	71400	Contractual Services Individual	1.1	USD 27,840 in contingency funds as described in Budget Note (BN) A3 to account for price escalation in salaries due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	3,480	8	Years	27,840	27,840
A8	73400	Rental & Maint of Other Equip	1.1	USD 1,000 in contingency funds as described in Budget Note (BN) A7 to account for price escalation in maintenance services due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	1,000	5	Items	5,000	5,000
A15	73400	Rental & Maint of Other Equip	1.2	USD 61,346 in contingency funds as described in BN A14 to account for price escalation in fuel and maintenance services due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	61,346	1	Items	61,346	61,346

Budget Notes									
BN	Atlas Budget Account Description		Project activity	Description of cost items	Unit cost (USD)	Qty	Unit	Amount (USD)	Total BN (USD)
A24	73400	Rental & Maint of Other Equip	1.3	USD 13,542 in contingency funds as described in BN A23 to account for price escalation in fuel and maintenance services due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	13,542	1	Items	13,542	13,542
A35	73400	Rental & Maint of Other Equip	1.4	USD 3,590 in contingency funds as described in BN A34 to account for price escalation in fuel and maintenance services due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	3,590	1	Items	3,590	3,590
B4	71400	Contractual Services – Individual	2.1	USD 21,600 in contingency funds as described in BN B3 to account for price escalation in salaries due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	2,700	8	Years	21,600	21,600
B10	73400	Rental & Maint of Other Equip	2.1	USD 3,206 in contingency funds as described in BN B9 to account for price escalation in fuel and maintenance services due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	3,206	1	Items	3,206	3,206
B12	74200	Audio Visual & Print Prod Costs	2.1	USD 151,180 in contingency funds as described in BN B11 to account for price escalation in printing and production costs due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	151,180	1	items	151,180	151,180
B16	71400	Contractual Services - Individual	2.2	USD 6,528 n contingency funds as described in BN B16 to account for price escalation in salaries due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	816	8	Years	6,528	6,528
B21	74200	Audio Visual & Print Prod Costs	2.2	USD 212,525 in contingency funds as described in BN B20 to account for price escalation in printing and audiovisual production costs due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	212,525	1	Items	212,525	212,525
B28	74200	Audio Visual & Print Prod Costs	2.3	USD 80,00 in contingency funds as described in BN B27 to account for price in printing and production costs due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	20,000	4	Years	80,000	80,000
PM7	73400	Rental & Maint of Other Equip	PM Tech. Coord.	USD 9,300 in contingency funds as described in BN PM6 to account for price escalation in fuel and maintenance services due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	9,300	1	Items	9,300	9,300
PM12	71400	Contractual Services - Individual	PM Oper. Coord.	USD 36,192 in contingency funds as described in BN PM11 to account for price escalation in salaries due to price fluctuation and adjustments derived from the 2021 Monetary Reorganization Ordinance	4,524	8	Years	36,192	36,192
Total Contingencies – GCF									631,849
Grand Total - GCF + CoF									44,299,229

X. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Cuba and UNDP, signed on May 17, 1975. All references in the SBAA to “Executing Agency” shall be deemed to refer to “Implementing Partner.”

This project will be implemented by the AMA (“Implementing Partner”) in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

XI. RISK MANAGEMENT

Option a. Implementing Partner is a Government Entity (NIM)

1. Consistent with the Article III of the SBAA *[or the Supplemental Provisions to the Project Document]*, the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP’s property in the Implementing Partner’s custody, rests with the Implementing Partner. To this end, the Implementing Partner shall:
 - a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
 - b) assume all risks and liabilities related to the Implementing Partner’s security, and the full implementation of the security plan.
2. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the Implementing Partner’s obligations under this Project Document.

The Implementing Partner agrees to undertake all reasonable efforts to ensure that no UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml.

3. The Implementing Partner acknowledges and agrees that UNDP will not tolerate sexual harassment and sexual exploitation and abuse of anyone by the Implementing Partner, and each of its responsible parties, their respective sub-recipients and other entities involved in Project implementation, either as contractors or subcontractors and their personnel, and any individuals performing services for them under the Project Document.

(a) In the implementation of the activities under this Project Document, the Implementing Partner, and each of its sub-parties referred to above, shall comply with the standards of conduct set forth in the Secretary

General's Bulletin ST/SGB/2003/13 of 9 October 2003, concerning "Special measures for protection from sexual exploitation and sexual abuse" ("SEA").

(b) Moreover, and without limitation to the application of other regulations, rules, policies and procedures bearing upon the performance of the activities under this Project Document, in the implementation of activities, the Implementing Partner, and each of its sub-parties referred to above, shall not engage in any form of sexual harassment ("SH"). SH is defined as any unwelcome conduct of a sexual nature that might reasonably be expected or be perceived to cause offense or humiliation, when such conduct interferes with work, is made a condition of employment or creates an intimidating, hostile or offensive work environment.

4. In the performance of the activities under this Project Document, the Implementing Partner shall (with respect to its own activities) and shall require from its sub-parties referred to in paragraph 4 (with respect to their activities) that they, have minimum standards and procedures in place, or a plan to develop and/or improve such standards and procedures in order to be able to take effective preventive and investigative action. These should include: policies on sexual harassment and sexual exploitation and abuse; policies on whistleblowing/protection against retaliation; and complaints, disciplinary and investigative mechanisms. In line with this, the Implementing Partner will and will require that such sub-parties will take all appropriate measures to:
 - i. Prevent its employees, agents or any other persons engaged to perform any services under this Project Document, from engaging in SH or SEA;
 - ii. Offer employees and associated personnel training on prevention and response to SH and SEA, where the Implementing Partner and its sub-parties referred to in paragraph 4 have not put in place its own training regarding the prevention of SH and SEA, the Implementing Partner and its sub-parties may use the training material available at UNDP;
 - iii. Report and monitor allegations of SH and SEA of which the Implementing Partner and its sub-parties referred to in paragraph 4 have been informed or have otherwise become aware, and status thereof;
 - iv. Refer victims/survivors of SH and SEA to safe and confidential victim assistance; and
 - v. Promptly and confidentially record and investigate any allegations credible enough to warrant an investigation of SH or SEA. The Implementing Partner shall advise UNDP of any such allegations received and investigations being conducted by itself or any of its sub-parties referred to in paragraph 4 with respect to their activities under the Project Document, and shall keep UNDP informed during the investigation by it or any of such sub-parties, to the extent that such notification (i) does not jeopardize the conduct of the investigation, including but not limited to the safety or security of persons, and/or (ii) is not in contravention of any laws applicable to it. Following the investigation, the Implementing Partner shall advise UNDP of any actions taken by it or any of the other entities further to the investigation.

The Implementing Partner shall establish that it has complied with the foregoing, to the satisfaction of UNDP, when requested by UNDP or any party acting on its behalf to provide such confirmation. Failure of the Implementing Partner, and each of its sub-parties referred to in paragraph 4, to comply of the foregoing, as determined by UNDP, shall be considered grounds for suspension or termination of the Project.

5. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (<http://www.undp.org/ses>) and related Accountability Mechanism (<http://www.undp.org/secu-srm>).

6. The Implementing Partner shall: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.
7. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.
8. The Implementing Partner will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, responsible parties, subcontractors and sub-recipients in implementing the project or using UNDP funds. The Implementing Partner will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.
9. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to the Implementing Partner: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. The Implementing Partner agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.
10. In the event that an investigation is required, UNDP has the obligation to conduct investigations relating to any aspect of UNDP projects and programmes in accordance with UNDP's regulations, rules, policies and procedures. The Implementing Partner shall provide its full cooperation, including making available personnel, relevant documentation, and granting access to the Implementing Partner's (and its consultants', responsible parties', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with the Implementing Partner to find a solution.
11. The signatories to this Project Document will promptly inform one another in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

Where the Implementing Partner becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, the Implementing Partner will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). The Implementing Partner shall provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

13. UNDP shall be entitled to a refund from the Implementing Partner of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document. Such amount may be deducted by UNDP from any payment due to the Implementing Partner under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail the Implementing Partner's obligations under this Project Document.

Where such funds have not been refunded to UNDP, the Implementing Partner agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to the Implementing Partner for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

Note: The term “Project Document” as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

14. Each contract issued by the Implementing Partner in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from the Implementing Partner shall cooperate with any and all investigations and post-payment audits.
15. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.
16. The Implementing Partner shall ensure that all of its obligations set forth under this section entitled “Risk Management” are passed on to each responsible party, subcontractor and sub-recipient and that all the clauses under this section entitled “Risk Management Standard Clauses” are included, *mutatis mutandis*, in all sub-contracts or sub-agreements entered into further to this Project Document.

XII. MANDATORY ANNEXES

The following Annexes must be included within this Project Document and not as separate documents.

- Annex A: GCF Funding Activity Agreement and Notice of Effectiveness
- Annex B: GCF Board-approved Funding Proposal
- Annex C: Letters of co-financing (commitment letters from the project design stage)
- Annex D: Timetable of project implementation
- Annex E: Procurement plan
- Annex F: Terms of References for Project Board and Project Team
- Annex G: UNDP Social and Environmental and Safeguards screening procedure (SESP) and Environmental and Social Management Plan or Framework (ESMP or ESMF), as relevant
- Annex H: Stakeholder Engagement Plan
- Annex I: Gender Analysis and Action Plan
- Annex J: UNDP Risk Log
- Annex K: Letter of Agreement with the government in case UNDP Support Service Costs are applied
- Annex L: HACT micro assessment and Partner Capacity Assessment
- Annex M: UNDP Project Quality Assurance Report (to be completed in UNDP online corporate planning system, does not need to be attached as separate document)
- Annex N: Monitoring and evaluation plans

Annex A: GCF Funding Activity Agreement and Notice of Effectiveness

Annex B: GCF Board-approved Funding Proposal

Annex C: Letters of co-financing



First Deputy Minister

Havana, January 19, 2021
"Year 63 of the Revolution".

RS: 038/21

ENDORSEMENT

Commitment of co-financing, support and maintenance, once concluded the international project "**Coastal Resilience to Climate Change in Cuba through Ecosystem based Adaptation – MI COSTA**"

The **Ministry of Science, Technology and Environment (CITMA)** hereby expresses its commitment to provide a co-financing of **64,665,048.00 Cuban pesos (CUP)**, for actions detailed in the project proposal, for its eight years of duration. The amount expressed in CUP is equivalent to \$ 2,694,377.00 US dollars per current exchange rate¹. The corresponding amounts will be approved in the annual economic plans, as part of **CITMA** inherent duties.

This co-financing will be provided by **CITMA**, to support activities related to monitoring of interventions in the coastal wetland and its impact on marine ecosystems, training, and management of knowledge and products based on climate information.

CITMA shall also provide the necessary financing to guarantee the continuity of the results obtained during the project implementation phase, which includes the maintenance of training and expenses related to this activity for a 22-year period upon project completion, for an amount of **195,918,720.00 CUP**, as detailed in the Annex on Operation and Maintenance. The amount expressed in CUP is equivalent to \$ 8,163,280.00 US dollars as per current exchange rate¹.

Kind regards,

José Fidel Santana Núñez



¹ Jan 19, 2021 exchange rate of 24CUP = 1 USD



REPÚBLICA DE CUBA
MINISTERIO DE LA AGRICULTURA
Dirección Forestal, Flora y Fauna Silvestres

Ordinario
Ejemplar No. __

Havana, January 19, 2021
"Year 63 of the Revolution"

ENDORSEMENT

Commitment of co-financing, support and maintenance, once concluded the international project "**Coastal Resilience to Climate Change in Cuba through Ecosystem based Adaptation – MI COSTA**"

The **Ministry of Agriculture (MINAG)** hereby expresses its commitment to provide a co-financing of **389,819,688.00 Cuban pesos (CUP)** for actions as detailed in the project proposal, for its eight years of duration. The amount expressed in CUP is equivalent to \$ 16,242,487.00 US dollars per current exchange rate². The corresponding amounts will be approved in the annual economic plans, as part of **MINAG** inherent duties.

This co-financing will be provided by the **National Forest Development Fund (FONADEF)** to support activities related to coastal forest reforestation and reconstruction, as well as management of forest natural regeneration supporting project actions.

MINAG shall also provide the necessary financing to maintain the infrastructures related to coastal wetland restoration, and the equipment and facilities related to this activity, for a 22-year period upon project completion, for an amount of **149,981,088 .00 CUP** as detailed in the Operation and Maintenance Annex. The amount expressed in CUP is equivalent to \$ 6,249,212.00 US dollars as per current exchange rate².

Kind regards,

Oscar Labrador Llanes
Director.



R.s:9/2021

Ejecutor: Dirección Forestal, Flora y Fauna Silvestres

² Jan 19, 2021 exchange rate of 24CUP = 1 USD



Havana, January 19, 2021
"Year 63 of the Revolution"

ENDORSEMENT

Commitment of co-financing, support and maintenance, once concluded the international project ***"Coastal Resilience to Climate Change in Cuba through Ecosystem based Adaptation – MI COSTA"***

The ***National Institute of Water Resources (INRH)*** hereby expresses it has agreed to take part in the International project ***"Coastal Resilience to Climate Change in Cuba through Ecosystem Based Adaptation – MI COSTA"*** and undertake actions within its area of competence.

To honor its commitment to participate, the ***INRH*** shall contribute **34,441,704.00 Cuban pesos (CUP)**, as co-financing for the eight years of project duration, as detailed in the project proposal, in order to support monitoring actions of water quality and availability, the environmental flow, the use of terrestrial waters and actions to reduce pollution in the coastal zone, pursuant to activities and actions planned by the project. The amount expressed in CUP is equivalent to 1,435,071.00 US dollars per present exchange rate¹. The relevant amounts shall be approved in the annual economic plans, as part of ***INRH*** inherent duties.

The ***INRH*** shall also ensure monitoring actions of project results for a 22-year period upon project completion, as well as the maintenance of the investments, for an amount of **40,099,224.00 CUP**, as detailed in the Annex on Operation and Maintenance. The amount expressed in CUP is equivalent to 1,670,801.00 US dollars per present exchange rate¹

Kind regards,


Bladimir Matos Moya
Vicepresidente Primero, INRH



¹ Jan 19, 2021 exchange rate of 24CUP = 1 USD

Annex D: Timetable of project implementation

Annex D: Timetable of project implementation

Output/Activity	1		2				3				4				5				6				7				8				9			
	2022		2023				2024				2025				2026				2027				2028				2029		2030					
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1				
OUTPUT 1. Rehabilitated ecosystems to enhance coastal resilience to climate change																																		
Activity 1.1. Assess and restore coastal wetland functions by reestablishing hydrological processes	x	ToR for the monitoring equipment	x	Acquisition of monitoring equipment completed	x	Baseline assessment of coastal wetland conditions completed	x	Updated forest profile and landscape map with indicators on	x	x	x	600 ha of coastal wetland channels and ditches cleared	x	x	x	Mid term impact report of restoration process delivered	x	x	x	x	x	x	x	x	x	1500ha of coastal wetland channels and ditches cleared	x	x	Impact report of restoration	x	x	15,443 ha of degraded coastal wetland has been rehabilitated	x	x
Activity 1.2. Mangrove and swamp forest rehabilitation through natural and assisted regeneration for enhanced coastal protection	x	ToR for the restoration equipment to be acquired completed	x	Hiring of 6 forest cooperatives	Acquisition of restoration equipment completed	x	x	x	set up of 6 forest nurseries completed	x	x	x	At least 3,860 ha of degraded coastal wetland has been rehabilitated	x	x	x	x	x	x	x	x	x	x	x	9,266 ha of coastal wetlands rehabilitated	x	x	x	x	x	x	x	x	

Activity 1.3. Record and assess coastal and marine ecosystems' natural regeneration and protective functions based on conditions provided through restored coastal wetlands	x	ToR for the monitoring equipment to be acquired completed	x	Acquisition of monitoring equipment completed	x	System to develop hydrological modeling developed	x	Equipment for monitoring stations acquired	x	Water monitoring stations installed	x	Reports based on INRH monitoring systems including that being developed for the project.	x	1st marine expedition for collection of samples and monitoring of marine ecosystems	x	Results from hydrological modelling delivered (initial prognoses)	x	Reports based on INRH monitoring systems including that being developed for the project. Saline intrusion reduction in 5,443 ha	x	Annual report on water quality and marine ecosystem monitoring delivered	x	Annual loss frontal ridges and reefs remain, relative to the baseline	x	Reports based on INRH monitoring systems including that being developed for the project	x	Ecological flow amounts calculated in target sites (based on modelling)	x	Reports based on INRH monitoring systems including that being developed for the project	x	Reports based on INRH monitoring systems including that being developed for the project	x	Annual loss frontal ridges and reefs is reduced by at least 0.2-0.5%	Annual reduction rate of 0.2% seagrass
Activity 1.4. Enhance water conduction systems along targeted watersheds to restore freshwater drainage in coastal ecosystems and aquifers to reduce and monitor saline intrusion in target sites			ICT equipment to process data from monitoring station and develop hydrological models acquired	ToR for the monitoring equipment completed	System to develop hydrological modeling developed	Equipment for monitoring stations acquired	x	Water monitoring stations installed	Reports based on INRH monitoring systems including that being developed for the project.	x	x	Results from hydrological modelling delivered (initial prognoses)	Reports based on INRH monitoring systems including that being developed for the project. Saline intrusion reduction in 5,443 ha	x	x	x	Reports based on INRH monitoring systems including that being developed for the project	Ecological flow amounts calculated in target sites (based on modelling)	x	x	Reports based on INRH monitoring systems including that being developed for the project	x	x	x	Reports based on INRH monitoring systems including that being developed for the project	x	x	x	Reports based on INRH monitoring systems including that being developed for the project	x	Reduction of the average area affected by saline intrusion by at least 3%		

OUTPUT 2. Increased capacity for adaptation to CC in Coastal Communities, Governments and Economic Sectors

Activity 2.1. Develop a climate adaptation technical capacity building program for coastal communities and local stakeholders (government & economic sectors) to enable adaptation actions and capacities	
	x
	x
Process for stakeholder mapping in target communities initiated	
Awareness workshop in 24 municipalities completed. Report on beneficiary selection completed.	
Baseline validation report on CC, EBA capacities	
Institutional agreements for training content completed and community trainers identified	
	x
7 CBCs and 7 Annexed classrooms with enhanced capacity	
Training content packaged into curriculum	
First training of community trainers delivered	
14 CBCs with enhanced capacity	
Community training to 24 municipalities completed based on packaged curriculum.	
	x
	x
Annual technical report on increase knowledge related to adaptation to CC, EBA and local climate vulnerabilities within socioeconomic and environmental framework (communities, governments and sectors)	
24 CBCs with enhanced capacity	
Community training completed to 24 municipalities based on packaged curriculum	
	x
Annual technical report on increase knowledge related to adaptation to CC, EBA and local climate vulnerabilities within socioeconomic and environmental framework (communities, governments and sectors)	
	x
Community training completed to 24 municipalities based on packaged curriculum	
	x
Annual technical report on increase knowledge related to adaptation to CC, EBA and local climate vulnerabilities within socioeconomic and environmental framework (communities, governments and sectors)	
	x
Community training completed to 24 municipalities based on packaged curriculum	
	x
Annual technical report on increase knowledge related to adaptation to CC, EBA and local climate vulnerabilities within socioeconomic and environmental framework (communities, governments and sectors)	
	x
	x
	x
Final Technical report on increase knowledge related to adaptation to CC, EBA and local climate vulnerabilities within socioeconomic and environmental framework (communities, governments and sectors)	

Activity 2.2. Integrate project (technical and community based) derived information, information from early warning systems and national datasets into a Knowledge Management Platform, to provide climate information products to monitor, evaluate and inform coastal communities on local (community and ecosystem) capacity to manage climate change impacts	x
	x
ICT equipment for KMPCA acquired	
Consultancy for identification of communication network to allow communication from municipalities and data centers for RPMCA hired	
	x
ICIMAR KMPCA node is designed (centralized information center)	
	x
PERC variables and data sources identified for integration	
Community monitoring network is established	
First training of community monitors	
	x
Interterritorial (24 municipalities) and national (existing databases) network operating (communication solutions) to integrate KPMCA	
	x
	x
At least 2 Climate Products that respond to local needs to CC adaptation including PERC per municipality: 133,437 people (30% of direct beneficiaries) of which 49.32% are female with knowledge on EBA solutions to manage local impact of CC	
	x
	x
	x
Total of 4 Climate Information products are developed	
	x
	x
	x
Total of 6 Climate information products are developed	
	x
	x
	x
At least 8 Climate Products that respond to local needs to CC adaptation including PERC per municipality: 444,793 people (100% of direct beneficiaries) of which 49.32% are female with knowledge on EBA solutions to manage local impact of CC	
	x
	x
	x
At least 10 Climate Products that respond to local needs to CC adaptation including PERC per municipality: 444,793 people (100% of direct beneficiaries) of which 49.32% are female with knowledge on EBA solutions to manage local impact of CC	
	x

Annex E: Procurement plan

Estimated contracts for Goods and Works

The following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the first 12 months.

General Description	Estimated Number of Contracts	Est. Total Value of Contracts (USD)	Procurement Method	Pre-qualification of Bidders (y/n)	Start of procurement process	Type of Competition
<p>1. 11 4x4 Field vehicle (including maintenance kit for 100,000km)</p> <ul style="list-style-type: none"> - 7 4x4 field vehicles, including maintenance kit for 100,000km, (USD 50,000 *7= USD350,000) for the 7 Provincial Delegations of CITMA located within the target areas for community monitoring systems including mobilizing key actors involved in the restoration actions such as: local, municipal and provincial government, environment specialist (Citma specialist), CCC-CA, Annexed Classrooms, CUM (Municipal University Centers), community leaders, CEAs, Forestry, INRH (over 10 institutions within the provinces that participate in the project as key actors). - 1 4x4 field vehicle (including maintenance kit for 100,000km) for the assembly and maintenance of hydrological stations, the systematic monitoring of the quality and availability of superficial and underground terrestrial waters and to develop aquifer recharge actions. This vehicle will be provided to the National Institute of Hydraulic Resources and will result in continuous monitoring of the 40 hydrographic basins in seven provinces along the southern coastline. - 2 4x4 field vehicles- including maintenance kit for 100,000km- for permanent environmental monitoring of coastal and marine ecosystems developed by ICIMAR/AMA and for the transportation dedicated to the assembly and later maintenance of the permanent meteorological stations and tide gauges (USD 50,000*2= USD100,000). - 1 4x4 Field vehicle (including maintenance kit for 100,000km) for the PMU to ensure the monitoring, supervision and control of planned activities at the national, provincial and local levels. Vehicle to guarantee the administrative tasks of the management unit. <p>3 Microbus High Standard (including maintenance kit for 100,000km)</p> <ul style="list-style-type: none"> - 1 Microbus High Standard (including maintenance kit for 100,000km) to support the Mobility of personnel from the local and/or national for workshops, meetings and application of training evaluation methodologies in the communities. <ul style="list-style-type: none"> - 2 Microbuses High Standard- including maintenance kit for 100,000km- (1 per targeted coastal stretch targeted within the project) for the monthly oversight and implementation support of activities and action at the national, provincial and local levels. 	1	602,500	ITB/LTA	No	Q2/2021	Open International / Limited International
<p>2. Motorcycles/Tricycles:</p> <ul style="list-style-type: none"> - 2 Motorcycles to ensure the monitoring, supervision and control of planned activities at the national, provincial and local levels. - 12 Tricycles to ensure the systematic transfer of forestry technicians, foresters and the forest certification authority to fulfill the functions of control of technical projects for rehabilitation, surveillance and protection of rehabilitated forest areas, early warning system against forest fires, quality certification. 	1	75,700	RFQ	No	Q2/2021	Limited international or national
<p>3. 241 Bicycles:</p> <ul style="list-style-type: none"> - 31 Bicycles to support the mobility of the people who are in charge of the 24 capacity building centers and 7 community level classrooms (31 total) to provide coordination support and capacity building along various sectors. - 210 Bicycles to support the work of the Forest Guard Corps and the forest workers (30 forest workers per site -7 sites) to ensure their daily mobility for regular restoration actions in areas of difficult access including the continuous collection and planting of propagules and seedlings based on 	1	72,300	RFQ	No	Q2/2021	Limited international or national

General Description	Estimated Number of Contracts	Est. Total Value of Contracts (USD)	Procurement Method	Pre-qualification of Bidders (y/n)	Start of procurement process	Type of Competition
best practice manuals, manual work to restore the hydrological flow and surveillance of the target site work and its general protection.						
<p>1. Furniture and office equipment</p> <ul style="list-style-type: none"> - Furniture and office equipment (chairs, tables, desk, file cabinets, etc.) for 22 people in (IPF, CITMA, ONEI, FLACSO and 7 local Governments) working to maintain the knowledge management platform and products that will be articulated with other information nodes located in key Project institutions at the national and local level. - Furniture and office equipment to enable the 24 Capacity building centers and the 7 annexed classrooms. Cost of module for the enhancement of CBCs and annexed class rooms per facility (31) at USD 7,501 includes chairs, projection screens, stationary and office equipment, tables, lecterns, desks, office equipment, TV set. <p>Office equipment and furniture (desks, chairs, tables, file cabinets) (USD 1,425 per office module per person) to support:</p> <ul style="list-style-type: none"> - 3 persons in the operational coordination in PMU - 5 persons in the technical coordination in PMU - 30 INRH specialists to be located at a national and provincial level that will be in charge of processing water monitoring systems and develop the informational products derived from field sampling of water quality and availability. - 35 specialists in charge of field sampling activities, and to strengthen the information capacities and products of monitoring marine ecosystem in the 7 rehabilitated areas (institutions related with environmental monitoring, ICIMAR, INSMET, 6 Meteorology Provincial Centers, 7 CEAS, CNAP, National Aquarium - 30 specialists in charge of the reforestation activities and to strengthen the information capacities of the forestry enterprises (6 forestry enterprises will develop restoration actions) for onsite planning and management considering. 5 persons per each enterprise - Equipment in support of the training processes and knowledge management for 16 trainers including acrylic boards, lecterns for holding flip charts, office equipment, etc. = \$1,670.25 * 16 persons. 	1	437,376	ITB/LTA	No	Q2/2021	Open International / Limited International
<p>5. Audiovisual and communication equipment:</p> <ul style="list-style-type: none"> - For forest enterprises developing restoration work to support reforestation works and communication to favor the monitoring and protection of rehabilitated areas. 1 module per intervention area that includes: 2 cameras * 7 intervention areas. 2 data shows * 7 intervention areas. 3 cell phones * 7 intervention areas. 	1	20,700	RFQ	No	Q2/2021	Limited international or national
<p>6. Office supplies (stationary, flip charts, printing paper, etc., USD 1,466 per person:</p> <ul style="list-style-type: none"> - 40 marine specialists who will form part of the on-site monitoring team (from various institutions related with environmental monitoring including ICIMAR, INSMET, 6 Meteorology Provincial Centers, 7 CEAS- 1 per province- CNAP, National Aquarium, 7 Centros Meteorológicos provinciales, GEOCUBA) during the project's 8 years to perform field sampling work and process information on marine ecosystem monitoring activities in the rehabilitated areas - 3 persons in the operational coordination in PMU - 5 persons in the technical coordination in PMU - 30 persons in charge of the reforestation activities and to strengthen the information capacities on site for the 6 forest cooperatives developing restoration works. 5 persons per each enterprise. 	1	16,676	RFQ	No	Q2/2021	Limited international or national
<p>7. Information Technology Equipment</p> <ul style="list-style-type: none"> - ICT equipment and supplies for 7 years to support the actions of the network of legal advisers that will be created through the project to provide support to each province for the inclusion of EBA in the methodology of 	1	545,805	ITB	No	Q2/2021	Open international

General Description	Estimated Number of Contracts	Est. Total Value of Contracts (USD)	Procurement Method	Pre-qualification of Bidders (y/n)	Start of procurement process	Type of Competition
<p>environmental management and its incorporation in territorial planning plans as well as municipal development strategies: 21 PCs (3 legal advisors * 7 provinces * USD800)" ICT equipment and supplies for 7 years to support the actions of the network of legal advisers 147 toners (7 printers *3 toners per year * 7years * USD 45). 21 pen drives (3 legal advisors * 7 provinces * USD 35), 7 printers (1printer*7 provinces*USD400).</p> <ul style="list-style-type: none"> - ICT equipment and supplies for the data processing and analysis and generation of informational products from field sampling throughout various institutions involved in processing information for the project. Equipment will be provided to (ICIMAR, IES, INSMET, IGT, National Aquarium, Flora and Fauna, CNAP, GEOCUBA, CEAs) in charge of this work and includes: 100 pen drives, 20 High Performances PCS (For numerical modelling, scientific calculations, data analysis, digital image processing, etc.), 40 Low Performance PCs, 20 tablets, 2 drones with multispectral camera for special monitoring, 20 data shows, 28 printers (USD 400 each), 3 professional cameras, 50 hard drives, 672 toners (3 per 28 printer per 8 year * 45USD). - ICT equipment and supplies of information technologies to support the data processing and analysis, as well as, the generation of informational products from field sampling of water quality and availability carried out by INRH: 10 pen drives, 2 cameras, 15 PC low standard, 4 printers (USD 400 each). - ICT equipment and supplies to strengthen the capacities of information and communication supporting the reforestation works, of forest enterprises, the forest guard corps and the state forestry service in the field sampling and monitoring of restoration activities: 7 PCs low performance per module * 6 modules (3Pcs Forest enterprises, 2 PCs ,Forest Guard Corps, S2 Pcstate Forestry Service.), 10 pen drives per module * 6 modules, 6 tablets * per module * 6 modules, 4 hard drives per module * 6, 4 printers (USD 400 each), (2Pcs Forest enterprises, 1 PCs ,Forest Guard Corps, 1 Pcstate Forestry Service.). - ICT equipment and supplies to support for 22 persons in (IPF, CITMA, ONEI, FLACSO and 7 local Governments) working to maintain the knowledge management platform and products that will be articulated with other information nodes located in key Project institutions at the national and local level: 22 Low performance PCs *800, 11 printers * 400. - ICT equipment and supplies to support the operational coordination in PMU: 3 printer (\$400), 8 PCs (8 * \$800), 8 hard drives (8 * \$200), 8 pen drives (8 * \$35), 8 tablets (8* \$900), 32 toners (1 printer * 4 tonner/year * 8 year * \$45), - 40 toners (2 printers * 4 tonner/year * 8 year * \$45). - ICT equipment and supplies to support training activities at the Capacity Building Centers (24) and annexed classrooms (7): 31 printers (USD 400 each), 172 PCs (6 per each of the 24 CBCs + 4 per each of the 7 annexed classrooms) * USD 800), 31 network servers (31 * \$1200), 62 pen drives (2 per each of the 24 centers and 7 classrooms). 						

General Description	Estimated Number of Contracts	Est. Total Value of Contracts (USD)	Procurement Method	Pre-qualification of Bidders (y/n)	Start of procurement process	Type of Competition
8. **Material to support awareness raising activities and ensuring local ownership of the project through printed material that will be provided to all actors involved in capacity building and dissemination activities. This will be provided to local, provincial and national level and includes: Diaries (to record activities), pens, folders (to include project information and results), table and wall calendars, notebooks, posters (to be placed in key events, areas) and bags personalized with project information. Cost of production of material sets (3,500 to be produced per two year) is 20,000 including printing and design costs. *	1	20,000	**	No	Q1/2021	**
Total		1,791,057				

*** These services are planned to be procured by the national counterparts as per Cuban national rules and regulations.*

Estimated Contracts for Services

i) Estimated Consulting Services Contracts

The following table lists consulting services contracts for which procurement activity is either ongoing or expected to commence within the first 12 months.

General Description	Estimated Number of Contracts	Est. Total value of Contracts (USD)	Procurement Method	Start of procurement process	Type of Competition
9. Communication services to support project activities and technical coordination in PMU	1	17,519	**	Q1/2021	**
10. Communication services to support the logistical coordination in PMU	1	3,600	**	Q1/2021	**
11. **Training materials (for capacity building centers and annexed classrooms, in addition to schools and universities in intervention areas) generated from early warning information and training topics for EBA	1	26,250	**	Q3/2021	**
12. **On-site filming and production of documentary of coastal ecosystem recovery and rehabilitation work for replication in other areas of the country.	1	46,125	**	Q3/2021	**
13. **Production of audiovisual materials for national television to raise public awareness about the importance of EBA as a paradigm of conservation, sustainable use and Climate Change adaptation in coastal and marine areas, and about the actions of the community system and project results.	1	9,000	**	Q1/2021	**
14. **Inception workshop (1 national and 7 provincials) and technical support to meetings of technical coordination in PMU	1	69,500	**	Q1/2021	**

General Description	Estimated Number of Contracts	Est. Total value of Contracts (USD)	Procurement Method	Start of procurement process	Type of Competition
15. **Connectivity services and server support (internet + data storage + website hosting)	1	74,000	**	Q1/2021	**
16. Logistical support to meetings of operational coordination in PMU	1	2,700	Micro-Purchasing	Q1/2021	Limited international or national
17. National travels for technical coordination in PMU for project monitoring to target areas and provinces.	1	6,840	Micro purchasing	Q1/2021	Limited international or national
Total		225,534			

* Long term Agreements (LTAs) are employed as framework agreement set-up for the for procurement repetitive items to reduce procurement costs. Such procurements within the context of this project include i) Event Management services for conducting of regular workshops and meetings; ii) Catering services to be arranged during events/meetings; iii) Rental services for vehicles and boats used for repetitive travel to project sites for implementation/monitoring purposes; iv) Travel services to facilitate travel and logistics arrangements for Project staff, consultants and/or government officials; and v) Supply of stationary materials and office equipment. Multiple vendors will be contracted through LTA's set-up with a ceiling for procurement threshold amounts permissible under each contract to reduce the total cumulative value of contracts per vendor.

** Initially, these services are planned to be procured by the national counterparts as per Cuban national rules and regulations.

ii) Estimated Individual Consultant Contracts

The following table lists Individual Consultant services contracts for which procurement activity is either ongoing or expected to commence within the first 12 months.

General Description	Estimated Number of Contracts	Est. Total value of Contracts (USD)	Procurement Method	Start of procurement process	Type of Competition
18. **National consultant to provide support to output 1 on methodological issues related to gender and social and environmental safeguards.	1	2,000	**	Q1/2021	**
Total		2,000			

** Initially, these services are planned to be procured by the national counterparts as per Cuban national rules and regulations.

Estimated HR Contracts

The following table lists HR contracts for which procurement activity is either ongoing or expected to commence within the first 12 months.

General Description	Estimated Number of Contracts	Est. Total Value of Contracts (USD)	Recruitment Method	Advertisement Date (quarter/year)	Type of Competition
19. Knowledge management national specialist for the implementation of project activities with 50% for Output 1 and 50% for Output 2. Total amount of USD 3,312 per year for 8 years. Monthly cost: USD 138.	1	3,948	HR Recruitment	Q1/2021	Advertisement /Desk Review
20. Environmental and social safeguards national specialist with 50% for Output 1 and 50% for Output 2. Total amount of USD 3,312 per year for 8 years. Monthly cost: USD 138.	1	3,948	HR Recruitment	Q1/2021	Advertisement /Desk Review

General Description	Estimated Number of Contracts	Est. Total Value of Contracts (USD)	Recruitment Method	Advertisement Date (quarter/year)	Type of Competition
21. Gender specialist with 50% for Output 1 and 50% for Output 2. Total amount of USD 3,312 per year for 8 years. Monthly cost: USD 138.	1	3,948	HR Recruitment	Q1/2021	Advertisement /Desk Review
22. Operational Coordinator for project monitoring and evaluation and support in developing an external communication strategy. Total annual cost of USD 22,320 per year with 40% dedicated to Output 1; 40% to Output 2 and 20% to PMU.	1	26,652	HR Recruitment	Q1/2021	Advertisement /Desk Review
23. National Implementation Specialist for development of long term OM strategies for monitoring equipment, including drafting of technical specifications of monitoring equipment to be acquired through the project and of maintenance related services as well as integrating these strategies within annual workplans and OM strategies for the environmental monitoring systems. Total annual cost of USD 22,080 per year with 40% dedicated to Output 1; 40% to Output 2 and 20% to PMU.	1	24,108	HR Recruitment	Q1/2021	Advertisement /Desk Review
24. Local Assistant in Finance (\$1,250 per month)	1	18,252	HR Recruitment	Q1/2021	
Total		80,856			

Annex F: Terms of References for Project Board and Project Team

Terms of Reference of Technical Services to be provided by UNDP:

- *These staff costs cannot include any oversight functions as this would duplicate GCF implementation functions paid by the GCF Fee.*
- *All technical services must be specified and known and cannot refer to anticipated or expected technical support services.*
- *The qualifications necessary to undertake these technical services must be included in the TOR.*
- *The NCE-VF RTA and the PTA must approve the technical services included in the TOR (and the qualifications). The RTA and the PTA have the full authority to edit, revise, and/or refuse the technical services if they are contrary to GCF policy.*

Terms of Reference for Key Project Staff

National Project Director

Background

The National Project Director (NPD) will be appointed by the project implementing partner. The NPD will be responsible for the overall management of the Project, including the mobilisation of all project inputs, supervision over project staff, consultants and sub-contractors.

Duties and Responsibilities

- In accordance with the Project Document and in close coordination with project stakeholders and Project Management Unit, approve Annual Work Plans, ensuring that activities suggested are in line with the overall direction set by the Project Document and lead to the timely achievements of project targets and results.
- Oversee and coordinate the design of project budget and detailed implementation, procurement, human resources, communication and risk management plans for the Project.
- Implement project governance arrangements. Ensure organization of Project Board meetings and ensure timely preparation of agenda, background materials to agenda items and minutes.
- Manage and monitor project risks. In collaboration with the technical project staff, UNDP and donors identify new risks and update risk frameworks for Project Board consideration and decision on possible actions if required.
- Manage the accurate and timely high-quality results reporting on the progress of the project and achievement of annual targets to the Project Board and GCF.
- Establish adequate monitoring procedures and systems throughout project activities in consultation and collaboration with stakeholders and UNDP. Ensure that adequate systems are in place to gather data and information for project monitoring, and that systematic monitoring of project progress against targets is undertaken. Conduct field visit as may be required, a minimum of 4 visits per year is planned.
- Ensure the implementation of environmental/social due diligence documents for project interventions to ensure that design recommendations are incorporated accordingly. Ensure compliance with environmental grievances mechanism.
- Develop innovative improvements to enhance performance of the project. Identify bottlenecks and develop solutions.

- Coordinate and oversee implementation of project communications activities.
- Establish, maintain and facilitate strategic dialogue with Government officials at central and local levels, in project's area of work.
- Establish synergies with other projects in common areas of work.
- Organize project level coordination meetings.
- Monitor budget implementation and oversee the appropriate use of project funds as well as the consistent application of rules and regulations. Ensure appropriate management of project assets, attendance records, filing system.
- Manage requests for the provision of financial resources by UNDP, through direct payments requests (related to national payments). Oversee effective provision of services to project stakeholders as required.
- Undertake performance evaluation of project management national staff.
- Oversee and participate in evaluations and assessments.
- Implement audit and evaluation recommendations for the project. Provide inputs to management responses.
- Initiate operational closure of the project.
- Provide strategic guidance on knowledge building and management. Oversee that Project systematically builds capacities of stakeholders
- Promote teamwork, information sharing and collaboration within the PMU Technical Unit and between the PMU Technical Unit and the National partners and UNDP.
- Promote skills development of project staff through coaching and mentoring.
- Facilitate the Project's representation and/or participation in international knowledge networks to draw on and share best practice and lessons learned.

Required skills and expertise

- A university degree (MSc or PhD) in a subject related to natural resource management or environmental sciences.
- At least 5 years of demonstrable project/programme management experience.
- At least 5 years of experience working with ministries, national or provincial institutions that are concerned with natural resource and/or environmental management.
- At least 3 years of experience in project monitoring and evaluation

Competencies

- Strong leadership, managerial and coordination skills, with a demonstrated ability to effectively coordinate the implementation of large multi-stakeholder projects, including financial and technical aspects.
- Ability to effectively manage technical and administrative teams, work with a wide range of stakeholders across various sectors and at all levels, to develop durable partnerships with collaborating agencies.
- Ability to administer budgets, train and work effectively with counterpart staff at all levels and with all groups involved in the project.

- Ability to coordinate and supervise multiple Project Implementation Units in their implementation of technical activities in partnership with a variety of subnational stakeholder groups, including community and government.
- Strong drafting, presentation and reporting skills.
- Strong communication skills, especially in timely and accurate responses to emails.
- Strong computer skills, in particular mastery of all applications of the MS Office package and internet search.
- Strong knowledge about the political and socio-economic context related to Cuban coastal ecosystems including marine and terrestrial protected area systems, climate change adaptation and monitoring of ecosystem based services and command of national and subnational regulations for ecosystem and natural resource management.
- Excellent command of English and Spanish

Technical Coordinator (Technical Coordination, AMA)

Duties and Responsibilities

- Provide technical guidance on the implementation of the project interventions, to technical personnel and national institutions participating in the project.
- Ensures that the environmental monitoring of the project follows the objective of increasing resilience to CC in coastal communities.
- Ensures the implementation of the Knowledge Management Platform for Coastal Adaptation to Climate Change, and be responsible for the Climate Information products.
- Provide technical clearance to project Annual Work Plan and Procurement Plan, in accordance with Project Document and leading to the timely achievements of project targets and results.
- Coordinate the implementation of the technical conditions described in the Funded Activity Agreement (FAA) signed between UNDP and the GCF.
- Ensure technical oversight of project Annual Work Plan.
- Propose innovative improvements to enhance technical performance of the project. Identify bottlenecks and propose solutions.
- Identify risks associated with technical issues; foresee new risks and provide support to mitigate them effectively
- Support the coordination of project board meetings
- Liaise closely with relevant national technical institutions and enterprises involved in the Project (MINAG, INRH, FLACSO, IPF, etc.), and ensure their compliance with all relevant requirements and the adherence to Government and UNDP procedures in implementing their work plans
- Establish, maintain and facilitate strategic dialogue with technicians at central and local levels, in project's area of work. Organize and participate in technical working groups created as per project document and annual work plans
- Review M&E system/mechanism, process and procedures of the national institutions and enterprises involved in the project, and forms and formats for project activities under its various components

- Identify information source and be responsible for sourcing technical data and information for specific M&E needs. Ensure that technical outputs are provided according to plans and up to highest technical standards. Review and clear technical outputs for quality
- Organize and conduct technical field visits to project intervention areas and prepare mission reports. Based on performed assessment, recommend solutions for project implementation.
- Provide technical advice, draft papers/briefs/proposals in project's technical focus.
- Identify, coordinate and manage international technical consultancies, in accordance with project document and AWP. Prepare consultants TdR.
- Review the operation and maintenance requirements (technical and financial) and include in the project costs.
- Provide technical review and approval of technical specification of goods and services and relevant tender documents, for both national and international procurement processes. Participate in the technical evaluation of quotations for specific procurement processes, as required.
- Elaborate Technical reports and other Knowledge Management products for the promotion and transfer of the knowledge according with the project document.
- Coordinate with Knowledge Management local consultant to ensure that the Project systematically builds capacities of stakeholders through introduction of innovation and best practices, access to knowledge and expertise and promote their application to project implementation.
- Ensure capturing and disseminations of lessons learnt during project implementation and Project's representation and/or participation in international knowledge networks to draw on and share best practice and lessons learned.

Planning Specialist (Technical Coordination, AMA)

Duties and Responsibilities

- Coordinate and formulate detailed implementation plan of project interventions, in accordance with Annual Work Plan.
- Reconcile the implementation plan with budget and procurement plan.
- Integrate M&E, environmental and social safeguard, gender and knowledge management related activities into the implementation plan.
- Contribute to identify risks associated with project implementation; foresee new risks and provide support to mitigate them effectively.
- Reconcile with national institutions their involvement in the annual project implementation plan.
- Liaise closely with national institutions involved in the Project (MINAG, INRH, FLACSO, IPF, etc.), and ensure their compliance with all relevant activities programmed in the implementation plan.

- Coordinate and organize activities, in accordance with the implementation plan (meetings, workshops, trainings, monitoring visits, etc.).
- Track the activities conducted. Ensure the elaboration and filling up of activities reports.
- Prepare periodical progress reports on the development of the implementation plan.
- Support quality control of M&E outputs (e.g. surveys etc.), including by contributing substantively to the design and field testing of the monitoring methodology, review, supervise design and implementation of the survey, participatory data collection methods and protocols, data verification techniques, and other technical evaluation and analytical tasks conducted
- Provide relevant information to M&E reports.
- Support M&E missions commissioned by GCF and UNDP
- Ensure the operational closure of the project.

Specialist In Economy And Commercial Management (Technical Coordination, AMA)

Duties and Responsibilities

- Elaborate the proposal of project budget related to national activities and acquisitions, in accordance with the Annual Work Plan and the implementation plan.
- Elaborate the proposal of procurement plan (related to national activities and acquisitions), to be integrate into the project procurement plan.
- Liaise and work closely with UNDP Financial Assistant to reconcile budget and expenditures.
- Assist in the elaboration of periodical progress reports on the budget performance and expenditures.
- Assist in the logistical arrangements of activities, in accordance with the implementation plan (meetings, workshops, trainings, monitoring visits, etc.). Assist in the elaboration and filling of activities reports.
- Support the audit and evaluation processes: facilitate submission of financial statements and audit schedules on time and contribute to prepare a consolidated management response on project qualifications
- Prepare all the direct payment requests (related to national payments), in accordance with approved budget, and ensure its timely submission to UNDP. Maintain records of direct payment requests (related to national payments).
- Ensure timely submission of all relevant documents to UNDP when UNDP procurement process is followed.
- Support the elaboration of technical specifications for goods and services. Participate in the evaluation of quotations, as required. Provide feedback on provider's performance evaluation.
- Liaise with national enterprise in charge of import goods and services. Coordinate the required arrangements associated to the national regulations for acquisitions internationally procured.

- Be responsible for the distribution and control of goods and equipment assigned to national and local actors. Maintain records of assets. Conduct field visits to project intervention areas to check assets.
- Support the financial closure of the project.

Legal Management Specialist (Technical Coordination, AMA)

Duties and Responsibilities

- Support to the Operational Coordinator in the monitoring of the compliance with the conditions described in the Funded Activity Agreement (FAA) signed between UNDP and the GCF.
- Closely monitor legal agreements and/or arrangements put in place with MINAG, INRH, and local governments for the implementation of the project.
- Work with local and national governments to integrate the EBA mechanisms into the development plans.
- Participate in the activities programmed by the Network of Legal Advisors.
- Identify risks associated with legal issues; foresee new risks and provide advice to mitigate them effectively.
- Coordinate with Social and Environmental Safeguards local consultant, monitor and update environmental and social safeguards tools, as well as associated management plans.
- Provide legal advice to National Project Director about the redress mechanism of environmental grievances.
- Comply with and monitor compliance with the legal provisions in force including those applicable to the project's management plans.
- Confirm the legitimacy of documents, contracts, claims, complaints, appeals or matters submitted for its consideration, as well as of the irregularities which it detects and which constitute violations of the law.
- Draft legal instruments of any kind or well-founded writings related to the activities carried out by the project.
- Make and update the legal diagnosis of the project and the entities involved and propose measures to resolve the problems identified.
- Contribute to the dissemination of existing legislation.
- Advise and assist in contractual negotiations and in the drawing up of contracts or agreements of any kind relating to the activities carried out by the project.
- Ensure the correct ordering of legal documentation and issue the required certifications.
- Compile and keep up-to-date the legal provisions applicable to the project and its management plan.
- Legalize the signatures of the subjects of the project to be accredited in their relations with other national or international entities.

- Revise draft laws, decrees - laws, decrees, resolutions and other legal provisions submitted for its consideration, within the framework of the project.
- Evaluate the degree of application of the existing legal norms related to the activities carried out within the framework of the project, proposing the corresponding measures for its implementation.
- Respond to the required periodicity, in conjunction with the project administration, the warnings, suggestions and recommendations made in the legal opinions.

Operational Coordinator (Operational Coordination, UNDP)

Duties and Responsibilities

- Provide operational and programmatic advice to National Project Director in planning and developing project activities and in the establishment of annual targets, in line with the overall direction set by the Project Document and lead to the timely achievements of project targets and results. Provide clearance to Annual Work Plans and to project budget.
- Responsible for the monitoring of the compliance with the conditions described in the Funded Activity Agreement (FAA) signed between UNDP and the GCF.
- Ensure the formulation of detailed M&E, communication and risk management plans for the Project complying with UNDP guidelines and regulations.
- Propose innovative improvements to enhance M&E performance of the project. Identify bottlenecks and propose solutions
- Support the organization and participate in project level coordination meetings.
- Support the organization of Project Board meetings and ensure timely preparation of agenda, background materials to agenda items and minutes.
- Ensure the alignment of the project funds per project document and Funding Proposal as well as the consistent application of UNDP rules and regulations.
- With the support of the project's Financial Administrator, monitor budget implementation and accounting to ensure accuracy and reliability of project expenditure.
- Manage requests for the provision of financial resources by UNDP, through direct payments requests. Oversee effective provision of services to project stakeholders as required.
- Supervise and manage the personal related to the Operational Coordination Unit
- Coordinate with the Project's Knowledge Management Specialist to ensure the implementation of project communications activities, in line with UNDP and GCF visibility requirements
- Promote the articulation and synergies with other ABE projects in Cuba and globally.
- Ensure the accurate and timely high-quality results reporting on the progress of the project and achievement of annual targets to the Project Board and GCF. Ensure that GCF and UNDP reports are prepared according to UNDP's SOPs, quality standards and in line with the contractual obligations to GCF.

- Develop/review monitoring reports, analyze them for impact evaluation and to identify the causes of potential bottlenecks in project implementation and make recommendations
- Monitor project risks. In collaboration with the technical project staff and donors identify new risks and update risk frameworks for consideration of the Project Board for consideration and decision on possible actions if required. Update the status of these risks by maintaining the project risks log of the UNDP Platform.
- Track progress made on the Project's Results Framework during project implementation. Update all M&E related information in UNDP's system.
- At the project level, ensure the Implementation of audit recommendations as applicable for the project.
- Develop/review Terms of References (ToRs) for M&E tasks, using a combination of quantitative and qualitative methods
- Oversee and participate in evaluations and assessments. Support M&E missions commissioned by GCF and UNDP
- Ensure the operational and financial closure of the project

Implementation Specialist (Operational Coordination, UNDP)

Duties and Responsibilities

- Formulate detailed procurement plan for the project, integrating both national and international acquisitions.
- Implement the project's procurement plan. Conduct the required actions to ensure an effective monitoring of the plan.
- Prepare/review technical specifications for goods and services to be procured and review tendering documentation.
- Participate in the evaluation of quotations for procurement process.
- Conduct canvassing to provide goods and services to activities
- Work closely with national institutions to identify long term operation and maintenance strategies including long term service agreements available to the project with relevant national and international providers.
- Ensure and coordinate logistics and administrative actions, such as scheduling, travel arrangements, etc., for the PMU staff and visitors related to monitoring visits, trainings and meetings
- Monitoring and track progress made on the procurement plan during project implementation and work with relevant counterparts to ensure operational and maintenance planning of monitoring and knowledge management systems. Prepare periodical progress reports on procurement plan performance.
- Identify risks associated with the implementation of the procurement and operation and maintenance plan (O&M Plan); foresee new risks and provide support to mitigate them effectively.

- Liaise and work closely with Project Coordination Unit and UNDP procurement team to ensure compliance with all relevant requirements and the adherence to UNDP procedures in implementing the procurement plan.
- Work closely with the Specialist in Economic and Commercial Management to ensure the required arrangements associated to the national regulations for acquisitions internationally procured equipment and identify strategies for their maintenance in according to the project's O&M plan.
- Provide feedback on provider's performance evaluation.
- Provide guidance on all procurement matters, progress and constraints with the implementation of the project's procurement and O&M plan. Coordinate and provide training for relevant national stakeholders in procurement issues.

Financial Assistant (Operational Coordination, UNDP)

Duties and Responsibilities

- Prepare annual project budget, in accordance with the Annual Work Plan. Reconcile the procurement plan and the implementation plan into the project budget. Process budget revisions in UNDP's system.
- Ensure sound accounting practices and systems to manage resources available to the project.
- Ensure that procedures are in place to provide accurate, complete and timely financial information for managing and monitoring project activities, in accordance with Project Document budget.
- Liaise and work closely with the Project Specialist in Economy and Commercial Management to reconcile budget performance and expenditures.
- Monitor payment schedules and funds allocation.
- Manage the project budget programmed under Direct Implementation (DIM) activities and lines, in accordance with approved project budget.
- Prepare all DIM payments in accordance with UNDP internal control framework.
- Process all payments in UNDP's system.
- Liaise and work closely with UNDP finance unit to ensure that financial resources are disbursed on time.
- Maintain records expenditures and budget performance. Collaborate in all financial reporting.
- Support the internal and external audit and evaluation processes: facilitate submission of financial statements and audit schedules on time and contribute to prepare a consolidated management response on project qualifications
- Assist in project related activities, including planning for meetings, local and national consultations, relevant field visits and activities, in accordance with the implementation plan.

- Maintain available all the relevant project documents, filing and data repository.
- Assist in the control of assets.
- Provide support to all administrative requirements of the Project's Operational Coordination Unit, located at UNDP premises.
- Review invoices and prepare the corresponding payments for the reimbursement of services provided by UNDP, as per signed LoA.
- Support the project's financial closure.

Annex G: UNDP Social and Environmental and Safeguards screening procedure (SESP) and Environmental and Social Management Plan or Framework (ESMP or ESMF) as relevant

Annex H: Stakeholder Engagement Plan

Guidance to project developer: *The scope and details of the Stakeholder Engagement Plan will vary according to the nature of the project, the number of stakeholders and the potential impact of the project and its risks.*

The Stakeholder Engagement Plan must include the following minimum elements and must be publicly available in a form and language appropriate to the relevant stakeholders and disseminated proactively to them:

- *Public engagement undertaken during project development*
- *The stakeholders, their relevant interests, and why they are included*
- *The steps and actions to achieve meaningful consultation and inclusive participation, including information dissemination*
- *Roles and responsibilities for implementation of the Plan*
- *The timing of the engagement throughout the project cycle*
- *The budget for stakeholder engagement throughout the project cycle and, where applicable, for related capacity-building to support this engagement*
- *Key indicators of stakeholder engagement during project implementation, and steps that will be taken to monitor and report on progress and issues that arise*

I. Introduction

One of the instruments of UNDP's Social and Environmental Screening Procedure (SESP), as well as a key element of Green Climate Fund (GCF) project design is a robust stakeholder consultation process and development of a stakeholder engagement plan. These tools aim to enable the full, effective and inclusive engagement of stakeholders, including national and local government authorities, as well as local communities, throughout the project cycle.

The aim of a robust Stakeholder Consultation and Engagement Plan (SEP) is to give a snapshot of the consultations, which informed the design of the project, as well as describe the mechanisms that will facilitate disclosure and robust communication procedures throughout project implementation. The document includes a plan for iterative consultations and indicates how project locations and activities were decided in a collaborative process with both national and local actors. The consultation process has been relevant to both to the design of the project's physical interventions (ecosystem rehabilitation activities) as well as the project's soft interventions (capacity building, community monitoring, knowledge products, etc.) for which ownership and buy-in of local stakeholders is particularly important.

As part of the project preparation, and according UNDP Social and Environmental Screening Procedure (SESP), an environmental and social risk analysis was undertaken. This risk analysis determined the project has a moderate risk rating, and therefore an Environmental and Social Assessment Report (ESAR) has also been prepared. Consequently, the stakeholder consultation process was also carried out to validate the risks identified in the social and environmental assessment process, as well as to help develop relevant and appropriate mitigation and management plans based on the local context, develop appropriate monitoring arrangements, as well as to design the project's grievance mechanism.

The findings of the below stakeholder consultation and analysis form the basis of the engagement plan, which describes how stakeholder involvement in the project will proceed during implementation. The stakeholder engagement plan also takes into account gender issues, giving consideration to the equitable representation of women and men. In conjunction with the SEP, a Gender Assessment and Action Plan (GAAP) has also been prepared, which describes the gender context of the project and proposes specific mechanisms to ensure women's full and effective participation and consideration of their interests (Annex 8).

The Project Management Unit (PMU) with both the participation of UNDP/CITMA, and particularly the safeguards and gender officer, will guarantee the inclusive participation of the stakeholders involved, with special attention to the participation of women and other groups with unique accessibility needs (elderly, children, disabled).

The broad and inclusive participation strategy described herein covers the entire project cycle and includes: (i) identification of actors; (ii) dissemination of information; (iii) consultation; and (iv) the procedure complaints and grievances.

The scope of a stakeholder engagement strategy depends on the type of project, its interventions and impacts, and whether stakeholders are directly or indirectly involved. The “Coastal Adaptation to Climate Change in Cuba through Ecosystem Based Adaptation – MI COSTA project” is a particularly participatory project, Output 1 focused on interventions at the local level implemented directly by local government actors, as well as with the participation of community members, as well as participatory monitoring of the ecosystems on which project beneficiaries directly depend and finally, Output 2 dedicated to training capacity building, community-driven adaptive actions and better planning frameworks. Accordingly a comprehensive SEP has been prepared including a stakeholder mapping and analysis, as well as a record of consultations and finally the SEP.

II. Objectives and requirements of Stakeholder Engagement

Box 1 below summarizes UNDP requirements for Stakeholder Engagement.

Box 1. Summary of Requirements of Stakeholder Engagement (refer to full text in UNDP SES, Policy Delivery Process, paras. 12-20)

- *Ensure meaningful, effective and informed participation of stakeholders in the formulation and implementation of UNDP Programmes and Projects, providing stakeholders opportunities to express their views at all points in the Project decision-making process on matters that affect them (SES, para. 15; SES, Policy Delivery Process (PDP), paras. 12, 14)*
- *Ensure that stakeholder analysis and engagement are conducted in a gender-responsive, culturally sensitive, non-discriminatory and inclusive manner, identifying potentially affected vulnerable and marginalized groups and providing them opportunities to participate (SES, PDP, 12).*
- *Develop appropriately scaled stakeholder engagement plans. The scale and frequency of engagement will reflect the nature of the activity, magnitude of potential risks and adverse impacts, and concerns raised by affected communities (SES, PDP, paras. 13, 15).*
- *Meaningful, effective and informed consultation processes need to meet specified criteria, including free of intimidation and external manipulation; inclusive; gender and age responsive; culturally appropriate and tailored to language preferences; and based on timely disclosure of accessible information (SES, PDP, para. 14)*
- *Ensure that stakeholders who may be adversely affected by the project can communicate their concerns and grievances (SES, PDP, paras. 17, 18)*
- *For projects that affect rights, lands, territories, resources, and traditional livelihoods of indigenous peoples, ensure free, prior informed consent (FPIC) (SES, PDP, para. 16, SES, Standard 6, para. 9)*
- *Provide ongoing reporting to affected communities and individuals for projects with significant adverse social and environmental impacts (SES, PDP, para. 25)*
- *Undertake measures to ensure effective stakeholder engagement occurs where conditions for inclusive participation are unfavourable (SES, PDP, para. 12)*

To fulfill these requirements, as well as GCFs commitment to robust, stakeholder engagement, this document was prepared. It is organized as follows:

Firstly, a summary of the previous stakeholder consultation activities, which took place to inform project design, is provided in Section 3. A stakeholder analysis is provided in Section 4, with a description of all relevant stakeholders and their roles. Section 5 provides social inclusion considerations and Section 6 the stakeholder engagement plan. Section 7 provides a brief overview of the project grievance redress mechanism (GRM), which can also be found in the ESAR (Annex 6). Finally Section 8 provides supporting documentation for the SEP with reference to UNDP's Social and Environmental Standards and Section 9 supporting documentation for the stakeholder analysis provided in Section 4 by presenting the stakeholder mapping.

III. Previous stakeholder engagement activities

A wide range of stakeholders at the national, provincial and local levels were consulted to develop this proposal, including most pertinently government actors involved in climate change and disaster risk management, and the design of the project was carefully aligned with the Cuba's comprehensive plan to respond to climate change, known as Tarea Vida. Additionally a range of stakeholders was consulted, including locally affected communities, Institutional actors in the environment, planning, health and education sectors (including those in academia), actors from economic and service sectors related to the project such as tourism, fishing, agriculture and forestry, and representatives of community-based organizations and Civil Society Organizations. This information is summarized in Section 10.

These consultations aimed to:

- Understand and identify the perception of climate change among stakeholders, and the role of ecosystem health in climate change resilience
- To integrate stakeholder views and suggestions on the project activities for project design, validate various types of interventions, including the ecosystem based adaptation protocols finally decided upon for the project.
- To identify and assess possible social and environmental risks/impacts on their communities with the implementation of project activities.
- Confirm/identify roles in the implementation of the project
- Identify other barriers and opportunities.

The public consultations occurred in five stages, as described below. Overall, the consultation activities were successful in that there was a high level of active participation and engagement, attesting to the involvement and interest of stakeholders in the implementation of the Project.

The first stage of consultations involved a comprehensive mapping the actors involved in the project, identifying their functions and powers across different axis (Government, Socio-Cultural, Economic, Control and Regulation, Information and Knowledge Management) related to climate change adaptation and related ecosystem services. This exercise provided a global view of the actors for each component of the proposed project, their interrelations, and key functions, as outlined in Section 9.

The second stage focused on community awareness and sensitization activities, to describe the consultation process to participants, including its phases, methodology and targeted audience. This information dissemination phase provided early capacity building to both local government actors and community stakeholders to manage, sustain and replicate the transformative approach proposed by the project.

The third step elaborated an organizational and methodological plan for the consultation instruments as well as the application of these tools. Consultations were conducted using a variety of instruments and modalities, including participatory mapping, site visits, formal meetings/focus groups, email communication and a national consultation workshop which took place in December 2017 in Havana, to validate the approach and secure territorial ownership. Additionally, surveys were administered to two communities to obtain information regarding

stakeholder views and interests concerning the Project. This preliminary information is summarized in Section 10, including the questions used in the survey.

The fourth step included analysis and elaboration of the results, allowing the identification of key stakeholders and community members committed and motivated to participate in the project. The final step focused on integration of the suggestions and results of public consultation into the project design and the risk assessment. The tools and information derived from the five stages of public consultations were used to develop an integrated stakeholder engagement plan for the implementation of the project, as outlined in Section 6.

The following instruments were used throughout the stakeholder consultation process:

- **Observation:** observations related to situations, behaviors and social actions that happen the context of Cuban coastal communities were recorded.
- **Triangulation:** The triangulation of sources, techniques and informants was used to increase validity and reliability.
- **Documentation analysis:** the compilation, selection and analysis of documents as reference sources, were used with an emphasis on those reports and papers produced by Cuban academics and institutions.
- **Interviews:** Conversations between two or more people, with the use of both structured and unstructured questions were used to obtain additional information.
- **Focus Groups:** Several focus groups were held at the community level with moderators from UNDP, the national team from AMA/CITMA as well local government officials acting as moderators to conduct semi-structured discussions and conversations explaining the context of the project, the role of GCF and UNDP as well as to solicit information and feedback.
- **Group workshops:** Were held, with a wide range of actors from the Cuban government and academia, including experienced Cuban practitioners with in-depth project design and implementation experience for cross-institutional learning, education, reflection and debate. These workshops were pivotal in defining the methodology aspects of the project design, in order to have a solid foundation in Cuban experience.

IV. Stakeholder Analysis

In order to implement a project with the full, effective and inclusive participation of stakeholders, it is necessary to define the actors and population groups that have stakes in the project and identify the roles they may assume throughout the project cycle. The process and methods used to carry out this analysis are described in the above section on previous stakeholder engagement activities.

Relevant stakeholder groups

A main result of the public consultations was a detailed stakeholder map, in which the decision-making scope and capacities as well as socio-economic aspects of these different groups were analyzed. This map, found in Section 9, was used to identify key groups with stakes in the project and their relevance to each of the three components of the project.

Based on this Stakeholder Map, the following entities have been identified²⁸ as relevant for the Governance component of the project, that is those dealing with increasing communication and involvement in planning of governance entities, and dealing with climate change adaptation and related ecosystem services²⁹: DMA, AMA, ICIMAR, IPF, ENPFF, CICA, IDICT, CES, CGC, CAP, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, SEF, MMC, and ANAP (see Section 9 for all relevant acronyms). The entity with the highest score on the strategic measure was the Municipal Administrative Councils (CAM for the acronym in Spanish).

As for the operational component of the project, that is Output 1 dealing with ecosystem restoration activities, the following entities were identified as most relevant based on their scores (above 3.0) on the “operational” measure of the Stakeholder Map: AMA, ICIMAR, FLACSO, INSMET, INRH, IPF, ENPFF, CES, CGC, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, CGRR, EEUP, OM, ATECHNICAL COORDINATORF and FCPD.

The Project component dealing with capacity building is one whose implementation requires both strategic and operational competencies. As such, the “general” measure was used (scores above 3.0) to identify the corresponding entities, them being: DMA, AMA, ICIMAR, FLACSO, INSMET, INRH, IPF, ENPFF, IDICT, CES, CGC, CAP, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, ACTAF, and ANAP.

The final outcome of this mapping exercise is summarized in Table 1, which lists key stakeholders. For a list of acronyms used in Table 1, please refer to Section 9, supporting documentation as indicated above.

Table 1. List of institutional stakeholder groups identified during public consultations ordered according to their function and level of action. The project activities that are most relevant to each stakeholder is identified, coded as follows: 1=Ecosystem Restoration; 2= EBA Capacity Building; 3= Climate Change Governance.

Entity	OACE ³⁰	Function	Project Component Relevance
DMA	CITMA	<p>The Environment Directorate of CITMA. The Environment Directorate of CITMA is in charge of drafting and proposing environmental policy and monitoring its compliance.</p> <p>Since the creation of the Organization, this directorate has directed the development of national environmental legislation program and the dissemination of existing regulations.</p> <p>It is currently in charge of the coordination and control of the State Plan for Confronting Climate Change at the national level (Tarea Vida).</p>	1
AMA	CITMA	<p>The Environment Agency coordinates the State Plan for Confronting Climate Change at the sectoral level.</p> <p>It will contribute with knowledge and tools to consolidate the integrative vision of disaster risk reduction and adaptation to climate change.</p>	1, 2

²⁸ Determined based on a map score of 3.1, for the strategic measure.

²⁹ Please see Table 4 below for the full list of acronyms.

³⁰ OACE is the acronym for Organizations and Organisms of the State’s Central Administration

		It will facilitate the coordination of actions with other DSBs, ECAOs and binding national and international projects. As part of its functions, it would also oversee the effective functioning of the Project's National Implementation Office.	
ICIMAR	CITMA	<p>The Institute of Marine Sciences, under the jurisdiction of AMA, has the mission of conducting research aimed at developing the scientific basis for knowledge, management, conservation, sustainable use and rehabilitation of natural resources and processes of the marine and coastal area, as well as the commercialization of oceanographic and biological services and products, and biomedical and industrial applications for the solution of environmental, social and economic problems.</p> <p>The vision, the lines of research and their state and commercial services are firmly aligned with the main interventions proposed in the Project. It will act as the main executing entity and national coordinator of the different proposed components and activities.</p>	1, 2, 3
FLACSO Cuba	MES	The Latin American Faculty of Social Sciences - Cuba Program is an academic unit of the UNESCO network, which is administratively subordinated to the University of Havana to develop research and postgraduate teaching on Cuban society and in particular on its social development.	1, 2
INSMET	CITMA	<p>The Meteorological Institute, subordinate to WADA, has the mission of providing authoritative, reliable and timely meteorological and climatic information on the state and future behavior of the atmosphere.</p> <p>This information is and will continue to be aimed at ensuring the safety of human life and reducing the loss of material goods in the event of natural disasters of meteorological origin, directly contributing to the well-being of the community and to sustainable development.</p>	1
INRH	CM	The Institute of Hydraulic Resources is in charge of controlling the fulfillment, with rigor and efficiency, of the legal and normative instruments in force on the preservation and rational use of water, implementing the practical measures that contribute to this purpose and to the achievement of a clear understanding at the level of the whole society of its value, of its role in the socioeconomic development of the country and of its limited and scarce character in our conditions.	1, 2
IPF	CM	The Institute of Physical Planning, vertically structured in national, provincial and municipal directions, is the national entity subordinated to the Council of Ministers that directs the application of State and Government policy in matters of territorial planning.	1, 2, 3
ENPFF	MINAG	The National Flora and Fauna Protection Agency (Empresa Nacional de Protección de la Flora y la Fauna) has, among others, the function of conserving and managing the natural resources of protected areas and the country's equine genetic fund with a sustainable use strategy, contributing to the environmental development of rural areas.	3

		Currently, it administers around 80 protected areas throughout the country.	
CICA	CITMA	The Environmental Inspection and Control Center, member of ORASEN, has the mission of regulating and controlling in the national territory the fulfillment of the regulations in force in matters of environmental protection. To ensure the compliance of the international commitments contracted by the Cuban State in the matter of the protection of the environment that are assigned to it.	3
CIP	MINAL	The Fisheries Research Center has the mission to investigate, provide scientific-technical services and carry out technological transfers on the management, cultivation and industrial processing of aquatic organisms, which propitiate socioeconomic benefits with sustainable criteria, within a system of self-management and quality. Among its main activities are: evaluation for the management of fishery resources, development and improvement of biotechnologies for the cultivation of marine species, management of the process industry and improvement of its technologies, health management in aquatic organisms, environmental studies, monitoring of the quality of fishery products, training of human resources in fisheries, crops, aquaculture health and industrial processing, development of software and scientific-technological information services.	1, 2
ONIE	MINAL	One of the specific functions of the National State Inspection Office is to grant, renew, modify and cancel licenses for the industrial processing of food and fishing authorizations, establishing the corresponding requirements and mechanisms for their granting and control.	3
IDICT	CITMA	The Institute of Scientific and Technological Information, subordinated to AENTA, is charged with offering products and services of scientific-technological information, professional development and integral consultancies, aimed at satisfying clients' needs and in support of knowledge and innovation management. He is the administrator of the National Library of Science and Technology.	1, 2, 3
CES	MES	The Centers of Higher Education are part of an ample network of regional and provincial universities, as well as Entities of Science and Technological Innovation that are integrated in function of the territorial development through a process conceptualized in the National Program of University Extension. The extensionist process in Cuban higher education has among its purposes, to elevate the cultural development of the university community and the population in general, through socio-cultural work, stimulating permanent education, the diffusion of scientific and technological culture, artistic-literary culture, physical culture and sport, environmental education, political culture, economic culture, and other dimensions of culture.	2
GCC	MININT	The Cuban Ranger Corps is an organ for the preservation of forests and other related natural resources. The only one of its kind in the country, the naval circuit has the mission of protecting the coastline of Artemisa,	3

		Mayabeque, Pinar del Río, Matanzas, which includes the cove of La Broa and all the coastline of the special municipality of Isla de la Juventud.	
ONEI	CM	The main function of the National Statistics and Information Office is to direct, in coordination with other bodies, agencies and entities, the preparation of proposals for national policies, strategies, programmes and plans for the development and integration of the Government's Information System, defining the objectives to be achieved, in the short, medium and long terms, and the attributions and obligations of those involved.	1

Entity	OACE	Function	PROVINCIAL LEVEL
CAP	OLPP	The Provincial Administration Council is the administrative structure of the Provincial Assembly of People's Power in charge of directing the economic entities, production and services of local subordination, with the purpose of satisfying the economic, health and other needs of an assistance, educational, cultural, sports and recreational nature of the collectivity of the territory to which the jurisdiction of each one extends.	
DPCITMA	CITMA	Each Provincial Delegation of CITMA, in its primary function of representing it before territorial authorities, bodies, associations, organizations and institutions of the territory, has the mandate to implement the tasks of the State Plan at the territorial level, as well as to control its execution at the local level.	
CMP	CITMA	Provincial Meteorological Centers are territorial dependencies of INSMET, with decades of experience and data from research, modeling and forecasting in their field of action. They work in computer systems and networks for the compilation, processing and distribution of analytical information for the reduction of risks and the confrontation to Climate Change. Its meteorological stations, located in different municipalities, are in charge of local weather monitoring and forecasting and contribute to the complementation of provincial meteorological information. They can be maintained 24/7 and some can be moved to other areas if necessary and record a wide range of meteorological data in the period programmed for them.	
CIGET	CITMA	The CIGETs are territorial entities of IDICT with the task of offering products and services, in information, industrial property and integral consultancies, all aimed at favouring decision-making, planning and problem solving with emphasis on the prioritized sectors of the province.	
DPPF	CM	The functions of the Provincial Directorates of Physical Planning include directing the application of territorial and urban policies related to the use and destination of land and buildings; the location of investments; the territorial organization of the Human Settlements System; the physical-spatial structure of these and the links with their areas of influence; urban design and landscaping associated with the image of rural and urban areas.	

Entity	OACE	Function	PROVINCIAL LEVEL
CESA	CITMA	The Centers for Environmental Studies and Services are entities of science and technological innovation that develop research and environmental services of territorial impact. They would contribute to the monitoring and evaluation of the environmental impact of investments, as well as to the creation of capacities in EBA at the local level. In addition, they would provide facilities, protocols and personnel for the monitoring of terrestrial and marine waters.	

Entity	OACE	Function	MUNICIPAL LEVEL	Project Component Relevance
CAM	OLPP	<p>The Municipal Administration Council is the administrative section of the Municipal Assembly of People's Power. In other words, it constitutes the substructure for operational decision-making, as well as the execution and control of the municipal plan and budget. They work actively for efficiency in the development of production and service activities and for the satisfaction of the welfare, economic, educational, cultural and social needs of the population, promoting their greater participation and local initiatives for the solution of their problems.</p> <p>For the exercise of their functions, they rely on the People's Councils and on the initiative and broad participation of the population and act in close coordination with the mass and social organizations. The People's Councils are constituted in cities, towns, neighborhoods, villages and rural areas; they are invested with the highest authority to carry out their functions; they represent the demarcated area where they act and at the same time they are representatives of the organs of municipal, provincial and national People's Power.</p> <p>The People's Councils are made up of the delegates elected in the districts, who must choose amongst themselves who presides over them.</p> <p>The CAM will participate in the coordination structure of the Project at the local level. They will provide the building and basic services for the implementation of the Capacity Building Centers. It is the guarantor of the sustainability of the EBA and community driven adaptation strategy.</p>		2, 3
DMPF	CM	The Municipal Directorates of Physical Planning work to integrate the general plans of territorial ordering and urbanism at the municipal level, with the medium and long term projections of the economy and with its investment plan, including the integrated approach of risk reduction and adaptation to climate change. In the last 5 years, as part of their leading role in addressing infringements within their framework of competence, they have developed an intense state inspection program for the identification and elimination of construction works, actions, inputs and wastes that destabilize the coastline and/or impact water quality.		3
SEF	MINAG	The State Forestry Service, with municipal offices, is responsible for assisting the population with the following procedures: Forest Guide		2, 3

Entity	OACE	Function	MUNICIPAL LEVEL	Project Component Relevance
		(GF); Transit Guide (GT); Payment of Forest Tax; Forest Certification (CF) for beneficiaries of FONADEF; Reforestation and Forestry Management Projects.		
DMAG	MINAG	The Municipal Delegations of MINAG have the mission of executing, implementing and controlling state and government policies on agricultural and forestry production; ownership and possession of land and its sustainable use; use, conservation and improvement of soils; plant and animal health; registration and physical and statistical control of livestock heritage; control of forest heritage and wild flora and fauna; mechanization, irrigation and agricultural drainage; animal genetics resources; seeds and phylogenetic resources; as well as promotion and development of the cooperative movement in the agricultural and sugar sector.		2, 3
CGRR	MINFAR (EMNDC)	The municipal Risk Reduction Management Centers, subordinated to the Civil Defense, have the objectives of promoting the exchange of experiences among specialists from different sectors of the territory on disaster reduction; documenting disaster situations; facilitating the preparation of municipal management bodies and the population in general; participating, with the means and equipment available, in the response to disaster situations. In carrying out their functions, they interact with the Provincial PVR Group and the Municipal Defense Council. The municipal CGRRs directly serve the Early Warning Points (EWPs), most of which operate with voluntary observers and some of which have installed mobile weather stations acquired through projects implemented by UNDP. CGRRs would contribute to the integrative vision of disaster risk reduction and climate change adaptation.		
CUM	MES	Municipal University Centers are academic entities that develop undergraduate and postgraduate studies with a strong local character. They would contribute to social aspects and capacity building in ABE/ABC at the local level.		2
ESC	MINED	Schools (ESC) include all primary, secondary and pre-university education, as well as technical and vocational education.		2
OMEI	CM	The Municipal Offices of Statistics and Information are municipal dependencies of the ONEI, responsible at the local level for methodologically directing the management of information relevant to the Government and the application of state policy in the area of statistics; responding, in particular, for the management of information and documents of national interest for the Central Government, including the official statistics of the country; and directing the development, implementation and deployment of computer		1

Entity	OACE	Function	MUNICIPAL LEVEL	Project Component Relevance
		applications of the Government Information System and administering their use in the Government's own data network.		
EEUP	OACE	State Enterprises and Budgeted Units are the group of key partners and/or beneficiaries, through which adaptation measures will be materialized at the local level.		2, 3
OM	Civil Society	<p>The Organizations of Masses are an NGO with a structure of nation - province - municipality - zone (block) - committee (delegation), and have the objective of mobilizing the whole population towards social change, by working directly with people and families in the community.</p> <p>The committees and delegations would participate in the design and execution of the process of consultation and safeguarding of the Project. They also coordinate an important volunteer force for the execution of community tasks of broad social interest. For example, through the Federation of Cuban Women (which brings together more than 90% of national women), the work of 81,000 volunteer social workers and almost 79,000 health brigades is coordinated to support massive vaccination campaigns in the neighborhoods (e.g. prevention against dengue fever, AH1-N1 Influenza or HIV/AIDS).</p>		2, 3
MMC	CULT	The Mass Media have the role, within the framework of the Project, to reflect the reality of the different deliberative councils and to make known the acts of local government in the area of disaster risk reduction and adaptation to climate change. They would play a leading role in the consultation plan and in the social safeguards process. They would be established as a link between local authorities and the community, objectively contributing to the resolution of related problems, forming a space for debate and dissemination of events such as exhibitions, courses and workshops.		2
ACTAF	-	The Cuban Association of Agricultural and Forestry Technicians is an actor with representation at the national, territorial and local levels, with a work structure organized in branches in all provinces. They would provide valuable knowledge on forestry issues, specifically in relation to coastal vegetation.		1, 2, 3
ANAP	-	The National Association of Small Farmers has the mission of organizing and guiding farmers in the execution of the agrarian program, for a better development of the rural economy, of the production and export of food, as well as making them participants in the agrarian social transformation. At present, it brings together more than 3,500 grassroots organizations and more than 200,000 members with a national, provincial and municipal structure.		1, 2, 3

In addition to these institutional actors, communities who are involved in the project’s soft infrastructure interventions, and those living near or on sites targeted for ecosystem rehabilitation were considered the project’s most important stakeholders. These stakeholders are outlined in the Table below, with further detail on their socio-economic baseline situation in the ESAR (Annex 6) and in the Feasibility Study (Annex 2). A sample of these communities were directly consulted during the public consultation processes, integrating the perspective of those most directly impacted by the changing coastal conditions and prioritizing the involvement of local community representation, which is an essential element of Cuba’s institutional frameworks. Specifically, these groups are structured and organized around constituencies and People’s Councils with delegates from the people’s power, presidents of people’s councils and integrated community work groups, with formal and informal leadership. These were essential for supporting the consultation process and the design of the project and management plans in general.

Table 2. Community stakeholders. The project activities that are most relevant to them is identified, coded as follows: 1=Ecosystem Restoration; 2= EBA Capacity Building; 3= Climate Change Governance.

Intervention site	COMMUNITY LEVEL	Project Component Relevance
Coastal Communities in stretch I	<p>La Coloma (municipality of Pinar del Río, province of Pinar del Río): This coastal town has 1929 houses, a total population of 5433 inhabitants;</p> <p>Cajío Beach (Güira de Melena municipality, Artemisa province): This coastal village which has 196 houses, and a total population of 524 inhabitants;</p> <p>Surgidero de Batabanó (Batabanó municipality, Mayabeque province): This coastal town has 1614 houses, a total population of 4697 inhabitants.</p>	1,2,3
Coastal Communities in stretch II	<p>Júcaro (municipality of Venezuela, province of Ciego de Ávila): This coastal village has 566 houses, a total population of 1581 inhabitants;</p> <p>Santa Cruz del Sur (Santa Cruz municipality, Camagüey province): This coastal town has 5731 houses, a total population of 16 569 inhabitants;</p> <p>Manzanillo (Manzanillo municipality, Granma province): This small coastal city has 32 618 houses, a total population of 98 904.</p> <p>Florida (Florida Municipality, Camaguey Province) This coastal town has 26480 HOUSES, a total population of 71854.</p>	1,2,3

V. Social Inclusion Considerations

Gender

The abovementioned public consultation processes and the resultant stakeholder mapping exercise were informed by a gender approach, ensuring that gender-sensitive questions and modalities were implemented, allowing the voices and ideas of both women and men to be included.

Among and within the institutional stakeholder groups identified in the above Table, the representation of women is also high. Moreover, among community stakeholders and as discussed in the GAAP (Annex 8), women have similar access to participatory opportunities as compared to men, given that education-levels and other common socio-economic barriers to women are much lower in Cuba than in other countries.

In Cuba, gender inequality is low relative to other nations in Latin America and the Caribbean. The nation exhibits particularly low indices for the WEF Gender Gap Index with respect to levels of education and political empowerment (See GAAP Annex 8). In terms of decision-making and political participation, the inclusion of women in Cuba has been one of the key goals of the revolutionary government since 1959. In the last six decades, the participation of Cuban women in public and parliamentary life has grown significantly, as is expressed in the current composition of the National Assembly of People's Power (2018) with more than 53% female representation. Moreover, Cuba's employment policy is based on the principles of guaranteed employment, (i.e. full employment for all citizens), as well as the principles of equality and non-discrimination. Also, a National Program for the Advancement of Women (Presidential Decree 198/2021) was recently approved, which constitutes an opportunity to address the gender perspective as part of the project's implementation.

Nonetheless, Cuban society is a broadly patriarchal culture, such that gender inequalities that mainly affect women and girls still manifest in nuanced ways. To ensure that there is full participation during the project cycle, a Gender Assessment and Action Plan has also been elaborated (Annex 8), to ensure that there is equitable and full participation of both men and women in stakeholder consultations and in project implementation.

Indigenous peoples

Cuba is a multiracial society with strong origins in the Iberian Peninsula and the African continent. Cuban ethnography is the result of the mixing between three main groups: European descendants, Indigenous Peoples and African descendants³¹. According to the 2012 Census conducted by the Cuban Statistics and Information Office, 64.1% of the population identified themselves as being of European descent, 26.6% as mixed heritage, and 9.3% of African descent. It is estimated that when Christopher Columbus arrived in 1492, there were 300,000 indigenous people in Cuba, belonging to the Siboney, Guanajatabey and Taino groups. By 1510 the indigenous population had been reduced to about 112,000 people, reducing further to 3 900 in 1555. These indigenous groups are widely thought to have disappeared completely by the end of the eighteenth century³². Although there is some debate around the genetic legacy of IPs in Cuba today, it is clear that the cultural legacy of these peoples continues through culinary traditions, crafts, language and customs, especially among those who live in the mountainous regions of the east of the country. Regardless, in the project's interventions areas there are no officially or self-identified IPs. It should be noted that during the project's consultation process including visitation of project sites and stakeholder analysis did not indicate a presence of indigenous communities.

VI. Stakeholder Engagement Plan

Disclosure of information

Disclosure refers to the provision of timely and accessible information regarding the project and its potential social and environmental impacts to stakeholders. It is necessary to facilitate meaningful, effective and informed participation in project design and implementation. Social and environmental standards contain requirements for the disclosure of social and environmental risk analysis (SESP, Annex 6), management plans, any social and environmental monitoring, as well as social and environmental assessments (e.g., ESAR, GAAP, Annexes 6 and 8

³¹ [«Todo mezclado: el mestizaje cubano»](#). Inter Press Service en Cuba.

³² «Aborígenes de Cuba». EcuRed.

respectively). The drafts versions of these reports were discussed with a wide range of Cuban stakeholders in workshops, bilateral interviews and focus groups. Furthermore, as per UNDP and GCF standards, all environmental and social reports, as well as the GAAP and the full funding proposal will be made publicly available.

The local authorities and institutions as well as communities living in and near areas of ecosystem rehabilitation or those targeted for community monitoring programs, capacity building activities, and decision-making involving coastal adaptation governance, have been informed about the objective and scope of the project, and will continue to be informed and involved in the ongoing activities during implementation. Potential positive and negative impacts of all project interventions have also been discussed with stakeholders as well as the management measures that will be applied to prevent, mitigate or compensate for any adverse impacts, as well as to strengthen the positive impacts and their respective results, from the pre-investment stage. Overall both institutional and community stakeholders have been presented with clear, relevant, timely and culturally appropriate information (in Spanish), including local authorities and institutions, about the purpose, nature and size of the project, the entity responsible for the project, and the activities carried out for both design and execution.

Specifically, the following information will be made available:

- Stakeholder engagement plans and summary reports of stakeholder consultations,
- Social and environmental screening reports with project documentation (30 days prior to approval),
- Environmental and Social Assessment Report (ESAR), including all management plans (30 days prior to finalization),
- Grievance Redress Mechanism and procedure for making a complaint and/or grievance (as part of the ESAR).
- Gender Assessment and Action Plan.
- Full Funding Proposal.

The UNDP and AMA/CITMA and FLASCO will also develop and release updates on the project on a regular basis to provide interested stakeholders with information on project status. Updates may be via a range of media e.g. print, radio, social media or formal reports. A publicized telephone number will be maintained throughout the project to serve as a point of contact for enquiries, concerns, complaints and/or grievances. All enquiries, concerns, complaints and/or grievances will be recorded on a register and the appropriate manager will be informed. All material will be published in Spanish as appropriate. Information should be disseminated throughout the project/programme cycle, as necessary. The content and type of information will depend on the stage of the project, will be provided in the project area and where the Stakeholders are located, will be adapted to the characteristics of the target population so that it is easily understood and Spanish, and if necessary, access will be facilitated.

On-going Consultations

Consultations, as were carried out during project design may continue throughout the project as required depending on changes in context, project design or identified impacts both positive and negative occur. The call for consultation events should be broad in such a way that all interested persons can attend. Any consultation should be based on prior disclosure of relevant and adequate information. The participation of all social actors should be facilitated, with special emphasis on the contribution of women, and should be carried out under the same principles applied to the dissemination of information. The development and conclusions of the consultations should be documented in such a way that all actors have access to the results of the consultations. If the population is very large or diverse, several consultation events should be held in order to facilitate the participation of the Affected Actors. The project will develop a consultation tool to support these process at the communities level.

In Cuba, Public Consultation process takes place at the local level within the framework of the competencies and functions defined in the Regulations of the Municipal Assembly of People's Power and in Law 91 "On People's Councils", dated 13 July 2000.

Inclusive Measures for Women and vulnerable

A Gender Action Plan has been elaborated (Annex 8) to fully integrate both women and men into the project design, providing the framework for a gender-responsive and socially inclusive project. This is based on the constraints and opportunities for women and men that were identified during the gender analysis. Additionally, it was identified during the public consultations that stakeholders with limited mobility such as the elderly, disabled person and small children and considered the most vulnerable to the impacts of climate change in coastal areas. Accordingly training and capacity building on community driven adaptation measures, which accounts for the constraints faced by these groups has been incorporated into project activities. An important strength for working with communities is that Cuban society has a government structure, organized around constituencies and popular councils with delegates from the popular power, presidents of popular councils and integrated community working groups, with formal and informal leadership, that can support the consultation process and the project in general. Likewise, municipal universities and other civil society organizations anchored in communities can be an essential support. Special attention will be paid to making any future consultation, training and capacity building activities accessible to those with access constraints or limited mobility (by adjusting locations, and timing of trainings).

- Educational programs for actors at different levels on the manifestations and impacts of climate change in Cuba and EBA alternatives in vulnerable coastal areas.
- Programs related to forms of solid waste disposal
- Preparation of Good Practice Guides for the management of water resources.
- Creation of audiovisuals related to pollution due to environmental malpractices of coastal communities
- Development of illustrative brochures on marine and coastal ecosystem goods and services, and others

Participation and engagement program

The program of stakeholders participation and engagement is outlined in Table 3

The community consultations (see Section 10) and the information that was gathered during public focus groups and stakeholder assessment/mapping (see Section 9) provided the foundation of the Stakeholder Engagement Plan, which directly informed the project design, particularly the activities associated with Output 2, which are all multi-stakeholder participatory activities. Overall rather than creating a parallel process, stakeholder engagement activities has been streamlined into the project design to create a locally driven project.

In addition to this, the following general guidelines with respect to contents were taken into consideration:

1. Perceptions of stakeholders and different population groups regarding: climate change and its impacts on the community where they live; Knowledge about climate change; How climate change will affect the life and way of life of the population; Impacts and changes in people's daily lives; Traditional and current technological cultural practices that contribute to mitigate the effects of climate change; Water resource management and protection practices; Recycling and Reuse of water; Relationship between climate change and land-use plans and processes.
2. Opinions and suggestions of the local actors and population groups of the project to be implemented: questions, doubts, concerns, and suggestions for a better implementation.
3. Definition of the roles of the different actors and population groups in the Consultation and project implementation process.

Table 3. Participation Plan Summary. For stakeholder group acronyms refer to Section 6 (supporting documentation). Refer to Tables 1 and 2 for descriptions of these actors.

Project Activities	Stakeholders included	Methods	Objective for inclusion	Date of implementation	Timeline	Responsible entity
Output 1: Rehabilitated Ecosystems for Coastal Protection and Resilience to Climate Change						
Activity 1.1. Implementation of rehabilitation actions on coastal wetlands	Coastal communities, AMA, ICIMAR, FLACSO, INSMET, INRH, IPF, ENPFF, CES, CGC, DPCITMA, CMP, CIGET, DPF, CESA, CAM, DMPF, CGRR, EEUP, OM, and ACTAF.	Public meetings, workshops, and/or focus groups with specific groups Interviews with stakeholder representatives and key informants Surveys, polls, and questionnaires	Identify risks; Disclose information; Design project interventions; gender-responsive sensitization campaigns	Project design, project start, consultations continued throughout project cycle.	1 week in each community	ICIMAR/ CITMA and FLASCO
Activity 1.2. Introduction of actions for the conservation and health of marine ecosystems (seagrasses and coral reefs)	Coastal communities, AMA, ICIMAR, FLACSO, CNAP, MINAL, INSMET, INRH, IPF, ENPFF, CES, CGC, DP CITMA, CMP, CIGET, DPF, CESA, CAM, DMPF, CGRR, EEUP, OM, and FCPD.	Public meetings, workshops, and/or focus groups with specific groups Interviews with stakeholder representatives and key informants Surveys, polls, and questionnaires	Identify risks; Disclose information; Design project interventions; gender-responsive sensitization campaigns	Project design, project start, consultations continued throughout project cycle.	1 week in each community	ICIMAR/ CITMA and FLASCO

Activity 1.3. Introduction of management practices to reduce and monitor salt intrusion on aquifers and soils ensuring water quantity and quality to the coastal wetlands	Coastal communities; DMA, AMA, ICIMAR, FLACSO, INSMET, INRH, IPF, ENPFF, IDICT, CES, CGC, CAP, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, ACTAF, and ANAP.	Public meetings, workshops, and/or focus groups with specific groups Interviews with stakeholder representatives and key informants Surveys, polls, and questionnaires	Implement gender-responsive, accessible training, Design and implement gender-responsive monitoring and information products, valuing local ecological knowledge and considering barriers to access across diverse community actors.	Project design, project start, consultations continued throughout project cycle.	1 week in each community, multiple 3-day workshops with institutional actors.	ICIMAR/CITMA/FLACSO
Output 2: Increased capacity for adaptation to Climate Change in coastal communities, sectors and governments						
Activity 2.1. Implementation of a climate adaptation capacity building system for communities and local stakeholders to enable EBA	DMA, AMA, ICIMAR, IPF, ENPFF, CICA, IDICT, CES, CGC, CAP, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, SEF, MMC, and ANAP.	Public meetings, workshops, and/or focus groups with specific groups	build and strengthen the platform among these stakeholders	Project start	Multiple 3-day workshops with institutional actors.	ICIMAR/CITMA
Activity 2.2 Implementation of Knowledge Management Platform and Community Monitoring for Coastal Adaptation to CC	DMA, AMA, ICIMAR, IPF, ENPFF, CICA, IDICT, CES, CGC, CAP, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, SEF, MMC, and ANAP.	Public meetings, workshops, and/or focus groups with specific groups	build and strengthen the platform among these stakeholders	Project start	Multiple 3-day workshops with institutional actors.	ICIMAR/CITMA
Activity 2.3. Introduction of actions to integrate EBA into regulatory and planning frameworks at the territorial and national levels	DMA, AMA, ICIMAR, IPF, ENPFF, CICA, IDICT, CES, CGC, CAP, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, SEF, MMC, and ANAP.	Public meetings, workshops, and/or focus groups with specific groups	Strengthen regulations, plans and policies overseen by these stakeholders	Project start	Multiple 3-day workshops with institutional actors.	ICIMAR/CITMA

Output 2: Increased capacity for adaptation to Climate Change in coastal communities, sectors and governments

<p>Activity 2.1. Implementation of a climate adaptation capacity building system for communities and local stakeholders to enable EBA</p>	<p>DMA, AMA, ICIMAR, IPF, ENPFF, CICA, IDICT, CES, CGC, CAP, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, SEF, MMC, and ANAP.</p>	<p>Public meetings, workshops, and/or focus groups with specific groups</p>	<p>build and strengthen the platform among these stakeholders</p>	<p>Project start</p>	<p>Multiple 3-day workshops with institutional actors.</p>	<p>ICIMAR/ CITMA</p>
<p>Activity 2.2 Implementation of Knowledge Management Platform and Community Monitoring for Coastal Adaptation to CC</p>	<p>DMA, AMA, ICIMAR, IPF, ENPFF, CICA, IDICT, CES, CGC, CAP, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, SEF, MMC, and ANAP.</p>	<p>Public meetings, workshops, and/or focus groups with specific groups</p>	<p>build and strengthen the platform among these stakeholders</p>	<p>Project start</p>	<p>Multiple 3-day workshops with institutional actors.</p>	<p>ICIMAR/ CITMA</p>
<p>Activity 2.3. Introduction of actions to integrate EBA into regulatory and planning frameworks at the territorial and national levels</p>	<p>DMA, AMA, ICIMAR, IPF, ENPFF, CICA, IDICT, CES, CGC, CAP, DPCITMA, CMP, CIGET, DPFF, CESA, CAM, DMPF, SEF, MMC, and ANAP.</p>	<p>Public meetings, workshops, and/or focus groups with specific groups</p>	<p>Strengthen regulations, plans and policies overseen by these stakeholders</p>	<p>Project start</p>	<p>Multiple 3-day workshops with institutional actors.</p>	<p>ICIMAR/ CITMA</p>

VII. Grievance Mechanisms ^[17] _[SESP]

A Grievance Redress Mechanism (GRM) has been designed to be problem-solving mechanism with voluntary good-faith efforts. The Grievance Redress Mechanism at the project level is not a substitute for the legal process. The Grievance Redress Mechanism will as far as practicable, try to resolve complaints and/or grievances on terms that are mutually acceptable to all parties and in a way that is immediately accessible.

A three-tier structure has been developed to address all complaints and/or grievances. The first-tier mechanism involves the receipt of a complaint and/or grievance at the project-level, with the PMU, and in particular the safeguards and gender officer) being responsible for coordinating with the concerned people to redress the grievances. There may be certain problems that are more complex and cannot be solved through project-level mechanism. In the second tier, a Grievance Redress Committee formed at the Provincial level to addresses the complaint and/or grievance will also be available. In addition to the first and second-tier redress mechanisms, complainants have the option to access a third tier, either through existing nationally legislated frameworks or through UNDP's Accountability Mechanism, (Stakeholder Response Mechanism (SRM)) which is investigated by UNDP's independent Social and Environmental Compliance Unit (SECU). All complainants shall be treated respectfully, politely and with sensitivity. Some enquiries, concern, complaints and/or grievances may require an extended period to address. The complainant(s) will be kept informed of progress towards rectifying the concern. All enquiries, concerns, complaints and/or grievances will be investigated, and a response given to the complainant in a timely manner.

All stakeholder engagement activities will provide participants with clear, concise information on: (i) the various national and international grievance mechanisms available to them, as outlined above, and (ii) where and how they can access these mechanisms and resources related to them. All such information will be provided in the most efficient and effective manner possible and will be adapted, as appropriate, to the cultural and socio-economic characteristics of the stakeholders. All stakeholders, including local communities, will be involved in the monitoring of project implementation, potential impacts and management/mitigation measures. Results of stakeholder engagement activities will be reported back to project- affected and broader stakeholder groups through appropriate means, such as newsletters/bulletins, social and environmental assessment reports, monitoring reports, and the mid-term and final evaluations of the project. ^[18] _[SESP] These processes are also fully described in the ESAR (Annex 6).

VIII. Supporting documentation for the Stakeholder engagement plan

General considerations on the correspondence between the UNDP Social and Environmental Standards, and Project interventions:

The assessment and management of environmental and social risks and impacts is a key part of project design and implementation. As a result of the UNDP Social and Environmental Screening Procedure (SESP) and the application of the matrix for the identification of social and environmental risks, environmental and social risks were identified and possible mitigation measures were defined, which were then discussed and validated with stakeholders. The key considerations and comments mentioned by stakeholders in regards to UNDP's social and environmental standards are summarized below, and have been incorporated into project design, as well as the SESP and ESAR. Considerable awareness was raised in the validation process on the "Do No Harm" approach to project design and the national project team confirmed their commitment to strengthen capacities to monitor unforeseen impacts or risks, identify and manage appropriate mitigation measures, as well as strengthen existing national processes, which already act to mitigate environmental and social risk.

Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management: Stakeholders felt that the interventions foreseen in the project have little possibility of negatively impacting biodiversity or ecosystem services. Rather, all stakeholders felt that implementation of ecosystem-based adaptation protocols support the ability of ecosystems to function as natural buffers, reducing exposure to certain hazards such as coastal flooding. They recognized that such interventions also contribute to the integration of conservation needs and development priorities. Stakeholders mentioned several times that stand-alone rehabilitation was not sufficient but those actions for the sustainable management of natural resources (water), conservation (coastal wetlands) and the restoration of other ecosystems components (not only mangroves, but also swamp forests and grasslands) were also essential. National experts mentioned that reforestation/re-vegetation interventions should be developed according to biological diversity conservation criteria, as degraded mangroves favor the proliferation of invasive species. Prohibiting the use of exotic species (and developing monitoring and maintenance protocols to contribute their control and eradication), use of native species that are appropriate to the characteristics of the ecosystem, as well as the use of species diversity, in order to ensure that reforestation is not encouraged in a mono-specific manner that is more vulnerable to pests, were all mentioned as promising mitigation measures. Both national and local government stakeholders noted that any activities to be developed in proximity to protected areas or in their buffer zones would have to observe the regulations defined in the respective management plans, as defined in the national legal framework, and that monitoring processes may have to be strengthened³³ In addition, stakeholders mentioned that the monitoring to be developed in the areas of intervention of the project would allow practitioners and institutional actors obtaining information on the health of the ecosystems and the evolution of the effects of the developed interventions.

Standard 2: Climate Change Adaptation and Mitigation: Stakeholders agreed unanimously that they considered climate change adaptation a key issue both in regards to safety and security and also in regards to Cuba's economic future. Community stakeholders shared myriad experiences of climate change impacts in their coastal communities including rapidly eroding beaches and saline intrusion into aquifers, and increasingly extreme storms which led to injury, mortality and destroyed homes. From a mitigation standpoint, interventions favoring re-vegetation with little potential of producing emissions were supported, and seen to have little risk. In regards to project interventions leading to any possible mal-adaptation, all stakeholders agreed that an ecosystem-based adaptation approach was the most aligned with long-term resilience and the least possibility of environmental risk.

Standard 3: Community, Health Safety and Working Conditions: The interventions planned under the project were deemed to have little adverse effect on the health and safety of communities in the project intervention areas and only a positive impact on the quality of natural resources, such as drinking water, as well as a positive impact on other ecosystem services, such as buffering from storms and waves that could endanger people's health. On the contrary, all stakeholders recognized that ecosystem-based adaptation measures would enhance their resilience to climate change, thereby improving community health and safety. The safeguarding of personnel and assets associated with the implementation of the project will be taken into account as part of the Civil Defense Action Plans³⁴ at the appropriate level (municipal, communities, productive sectors, institutions involved in the project). When pressed about possible public health impacts from mangrove rehabilitation (increased breeding grounds for mosquitoes may lead to more vector-borne diseases) authorities confirmed that there was no malaria and that although there was dengue, all coastal intervention areas already had mangroves and that their rehabilitation would not increase the possibility of contracting dengue. In regards to conditions of work and employment, institutional stakeholders emphasized that the framework of national policies and regulations ensures that for the interventions foreseen in the project, the principles that guarantee fair treatment, non-discrimination and equal

³³ Decree-Law 201 "On the National System of Protected Areas, dated December 23, 1999. Ordinary Official Gazette number 84, dated December 24, 1999. CITMA Resolution 143/2010 "Procedure for the Elaboration and Approval of Management Plans and Special Operational Plans for Protected Areas", dated 3 June 2010. Ordinary Official Gazette number 27, dated July 12, 2010.

³⁴ As defined in Decree-Law 170 "System of Civil Defence Measures", dated 8 May 1997. Ordinary Official Gazette number 16, dated May 19, 1997.

opportunities in the work environment, as well as the requirements of social security³⁵ and safety and health at work, will be observed³⁶. These regulations also define the mechanisms for workers to exercise the right to complain, the working age and working hours. Regardless, since there was some indication during interviews that there are gender biases in the types of employment held by men vs. women tend to do in coastal towns, gender equity indicators have been incorporated in regards to employment in the GAAP (Annex 8). It was also recognized that there is some inherent risk to workers involved in coral reef monitoring due to the requirement for diving. In order to mitigate these risks, all workers will undergo appropriate safety training and all national and ESAR protocols strictly enforced (see ESAR Annex 6).

Standard 4: Cultural Heritage: The interventions planned under the project are not identified as likely to affect the cultural heritage values located in the sections where the project will be developed. Originally a site on the eastern coast of Cuba, in proximity to the Alexander von Humboldt Park was considered, which is an UNESCO World Heritage Site. However, as a result of the feasibility study and an analysis to identify the most immediately vulnerable sites and populations for the project, the site was eventually eliminated for this phase of intervention. Furthermore, the Viñales valley in Pinar del Rio province is also a UNESCO World heritage site, but the Project interventions will not touch on the valley, as monitoring of aquifers will strengthen the approach to safeguarding the unique karstic geology of the area. Considering that the interventions foreseen in the project will favor the resilience of ecosystems to the effects of climate change, stakeholders felt the project will contribute to the protection of the tangible values of cultural heritage. Furthermore, the project does not envisage the commercial use of tangible and intangible cultural heritage and as part of the project activities. Rather, Output 2, particularly activity (2.2), will actively value cultural heritage (both tangible and intangible) as part of the work with local communities, including self-management processes and the involvement of community members in the identification and implementation of actions based on their own practices and traditional knowledge, which increase their resilience to climate change.

Standard 5: Displacement and Resettlement: The interventions envisaged in the project do not contemplate or imply the need to change the ownership and tenure of land or movable property, nor any kind of economic or physical displacement. An on-going government program to move people from coastal areas as a security measure was discussed with stakeholders, as people have been moving back to areas of extreme vulnerability, where they are no longer supposed to settle according to a strategic plan implemented by the Civil Defense directorate. As this is part of a national strategic plan, and integrated annually into local planning directives, there is no possibility that the project interventions will encourage resettlement in these areas, however identifying these dynamics was useful to recognize that despite immediate danger to livelihoods, safety and security, most coastal community inhabitants display a drive to live in extremely vulnerable areas, due to their attachment to land and traditional practices such as fishing. This underlines the need to raise awareness of changing environmental conditions and adaptation needs at the community level. Furthermore the dynamics around the use of wood from mangroves was discussed, as this practice would undermine the sustainability of the mangrove rehabilitation intervention. It was confirmed that this practice has dramatically declined in recent years due to the availability of other energy sources; regardless activities to monitor the mangrove as well as raise awareness on the importance of mangrove integrity for resilience have also been incorporated into the project. Finally the possibility of social risk due to restricted access to the mangrove was also discussed with stakeholders. National stakeholders noted that the use of mangrove wood for personal use is already controlled and regulated. The cost of resettlements for environmental causes is totally assumed by the Government.

Standard 6: Indigenous Peoples: Cuban society does not identify the existence of Indigenous Peoples, nor are there known cases of a significant group of self-identified IPs. Within the project intervention areas were no officially or self-identified IPs.

³⁵ Law 116 "Labour Code" dated 20 December 2013. Decree 326 "Regulations of the Labour Code", dated June 12, 2014. Extraordinary Official Gazette number 29 dated June 17, 2014.

³⁶ Law 105 "On Social Security", dated 27 December 2008. Extraordinary Official Gazette number 4, dated January 22, 2009.

Standard 7: Pollution Prevention and Resource Efficiency: Both national and community stakeholder emphasized that waste management in coastal areas is a key issue, both to ensure the health of coastal ecosystems and to maintain the quality of agricultural land, the health of the wetland and coral reef ecosystems, and to ensure the availability of potable water. The project interventions planned have very little possibility of generating any additional waste or sources of pollution. There are no plans to develop interventions involving the handling of chemicals, hazardous waste or pesticides. On the contrary, project activities emphasize the sustainable use of natural resources, such as water, while promoting good water management practices. The only source of pollution identified during implementation was from the local and temporally limited release of suspended sediment, in restoration of hydrological flows to mangroves. This, and the possibility of accidental fuel spills from boats when carrying out coral reef monitoring have been accounted for in the ESMF. Originally an activity related to the recharge of aquifers was proposed, however the potential environmental or social risk of contamination, in the absence of extremely robust waste management eliminated this option. Regardless, the importance of careful monitoring of groundwater sources was repeatedly emphasized as a tool for water management with the rapid salinization of aquifers occurring in coastal areas, and has accordingly be incorporated in the project activities. In addition, the development of planned reforestation/re-vegetation activities contributes to the absorption of CO₂, favoring the mitigation of climate change. The project also explicitly works in areas where the impact of pollution and waste have had a particularly adverse impact on the integrity of ecosystems, with waste management a target of restoring hydrological flows to coastal wetlands and mangroves (through co-financing).

IX. Supporting information and results of the stakeholder mapping exercise

Table 4. List of acronyms of Entities, Organizations and Organisms of the Central Administration of the State (OACE), used in the document.

ACRONYM	ENTITIES, ORGANIZATIONS AND OACE
ACTAF	Cuban Association of Agricultural and Forestry Technicians
AENTA	Agency for Nuclear Energy and Advanced Technologies
AMA	Environment Agency
ANAP	National Association of Small Farmers
CAM	Municipal Administration Council
CAP	Provincial Administration Council
CES	Center for Higher Education
CESA	Centre for Environmental Studies and Services
CGRR	Risk Reduction Management Centers
CICA	Environmental Inspection and Control Center
CIGET	Information and Technology Management Centers

ACRONYM	ENTITIES, ORGANIZATIONS AND OACE
CIP	Fisheries Research Center
CITMA	Ministry of Science, Technology and Environment
CM	Council of Ministers
CMP	Provincial Meteorological Center
CULT	Ministry of Culture
CUM	Municipal University Centre
DC	Civil Defense
DMA	Environment Directorate
DMAG	MINAG Municipal Delegation
DMPF	Municipal Directorate of Physical Planning
DP-CITMA	Provincial Delegation of CITMA
DPPF	Provincial Delegation for Physical Planning
DP-OACE	Provincial Delegations of other OACE
EEUP	State Enterprises and Budgeted Units
EMNDC	National Civil Defense Staff
ENPFF	National Company for the Protection of Flora and Fauna
FLACSO	Latin American Faculty of Social Sciences
FCPD	Cuban Sport Fishing Federation
ICIMAR	Institute of Marine Sciences
ICRT	Cuban Institute of Radio and Television
IDICT	Institute of Scientific and Technological Information
INRH	National Institute of Hydraulic Resources
INSMET	Institute of Meteorology
IPF	Institute of Physical Planning
MES	Ministry of Higher Education

ACRONYM	ENTITIES, ORGANIZATIONS AND OACE
MEP	Ministry of Planning and Economy
MINAG	Ministry of Agriculture
MINAL	Ministry of Food Industry
MINED	Ministry of Education
MINFAR	Ministry of the Armed Forces
MININT	Ministry of the Interior
MMC	Mass Media
OACE	Organizations and Organisms of the Central Administration of the State
OLPP	Local Organs of People's Power
OM	Mass Organizations
OMEI	Municipal Statistics and Information Office
ONEI	National Statistics and Information Office
ONIE	National Office of State Inspection
SEF	State Forestry Service

Government:

ANPP, CAP, CAM, CP, DC, Interministerial Coordination Committee

Economic:

INRH, MINAG, MINAL, MICONs, Communal

Information and knowledge management:

Formal education (MINED, MES)

Non-formal education

CITMA (AMA, CEA, CCC-GCA, communities levels classrooms, CNAP, CEDEL)

Scientific and technical associations (ACTAF, UNAIC, others)

Media

Local development projects and international cooperation

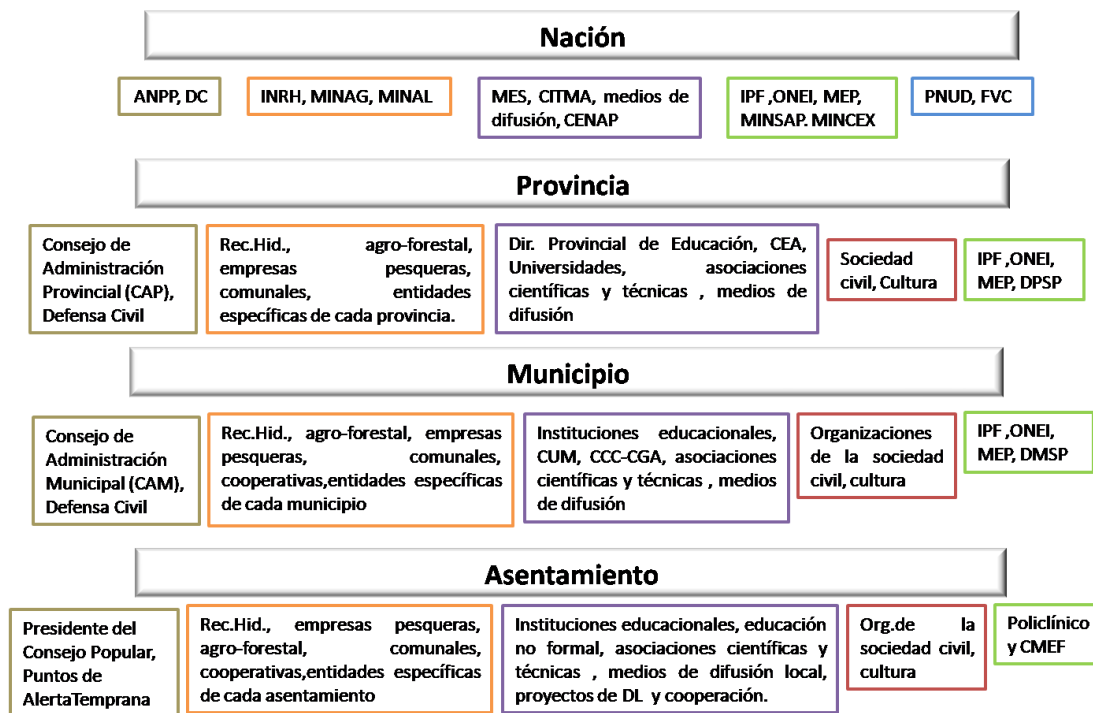
Control and regulation:

CITMA (DMA, ORASEN, Territorial Delegation)

IPF (Municipal, Provincial and National)
 ONEI (Municipal, Provincial and National)
 MEP (Municipal, Provincial and National)
 MINCEX (Provincial and National)
 MININT (forest ranger and border ranger)
 MINSAP (Provincial and Municipal Direction, Polyclinic and Doctor's Office and Family Nurse)

Socio-cultural:

Civil society organizations (FMC, ANAP and others)
 Culture (House of culture, projects, art instructors, social workers)



- Gobierno
- Socio-cultural
- Económica
- Control y regulación
- Gestión de la Información y el conocimiento
- Actores internacionales

X. **Summary of Public Consultations conducted by FLACSO in Santa Cruz del Sur (Camagüey province) and La Coloma (Pinar del Río province).**

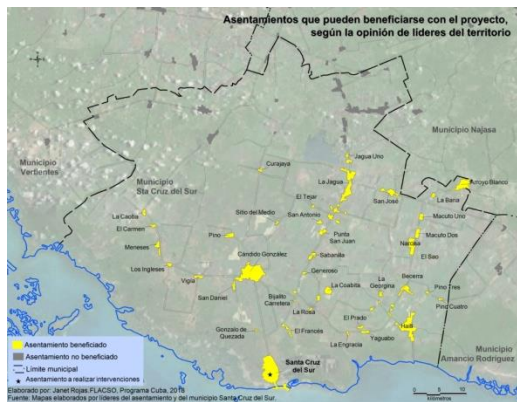
Santa Cruz del Sur Consultations (Camagüey province)

More than half of stakeholders did not perceive or identify differences between men and women in relation to the effects and problems generated by Climate Change.

All respondents agreed that people with unfavorable living conditions are the most vulnerable to climate change, with children, the elderly and people with disabilities being identified as the groups most at risk.

The forms of media considered most useful to people in the community to deepen their knowledge of adaptation to Climate Change were: radio, neighborhood debates and television.

The products that are considered most feasible and appropriate to be made at the community and local level are audiovisuals, educational software, thematic maps, interactive websites, multimedia products, specialized conferences, and circles of interest, among others.



Through Participatory Mapping, most of the leaders agree that the settlements closest to the coast or close to the Santa Cruz del Sur settlement will also benefit from the project's activities; especially the other two urban towns in the municipality, Cándido González and Haiti (less than 15 km from the intervention site) The main environmental problems identified by the local leaders were: deforestation, sea level rise, coastal degradation and saline intrusion.

La Coloma Consultations (Pinar del Río)

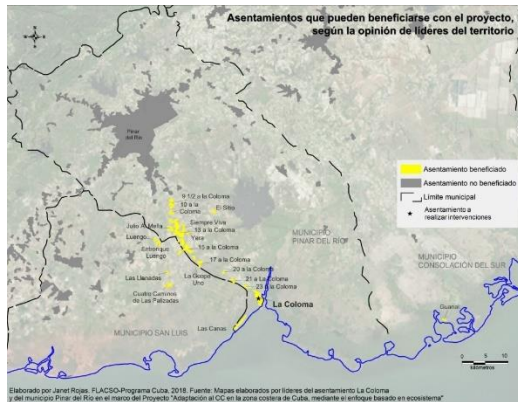
In relation to the question that consisted of whether Climate Change affected men and women equally, no perception of differences was evident, neither on the part of the women nor of the men interviewed.

The interviewees identified children as the group most vulnerable to the effects of climate change.

The information products that they considered most useful for people in the community to deepen their knowledge for adaptation to Climate Change were: community festivals, debates and educational talks, presentation and exchange of bibliographies, Internet, audiovisual materials, application of expertise.

The institutions and formal and informal leaders most frequently mentioned were: Education, Public Health, Culture, Mass Organizations, Fishing Company of La Coloma, Self Employed individuals, and social workers.

Based on Participatory Mapping, stakeholders agree that along with the La Coloma settlement, the following would also benefit from the project's actions: all rural villages and hamlets located north of the settlement until reaching the town of Nueve y Medio a la Coloma (along the road that connects La Coloma with the city of Pinar del Río) as well as the Las Canas hamlet located on the coast, southwest of La Coloma.



The main environmental problems identified by stakeholders are flooding by sea penetration and deforestation.

Consultation Plan Tool Piloting

The FLACSO-Cuba team applied this interview to identify the perceptions, opinions and suggestions of stakeholders and the different population groups in their community regarding climate change and its impacts in the area where they live. This is part of the project "Adaptation to Climate Change in Cuba's Coastal Zone with an Ecosystem-Based Approach", which will be presented to the Green Climate Fund.

If any question does not apply to you, please leave it unanswered and proceed to the next question.

Thank you for your cooperation.

Name:

Institution or organization you represent:

Position:

Interview questions:

1. Do you know what Climate Change (CC) is and what its main effects are in Cuba?
2. What natural, physical, economic and social characteristics identify this community?
3. What are the main changes in climate that affect you?
4. How might these changes affect the life and development of the municipality? (Impacts)
5. Why do these climate changes affect you? (Vulnerability)
6. Do you think Climate Change affects men and women equally? Why?
7. Which individuals and/or groups are most vulnerable to the effects of the CC? Why?
8. You believe that people living closer to the sea are more vulnerable to the effects of CC? Comment briefly.

9. Have actions been taken in your territory to diminish the effects of CC? Which ones? Have you participated in them? How?
10. Do you know of traditional practices in your locality that contribute to diminishing the effects of CC? Which ones?
11. What information products do you consider most useful for people to deepen their knowledge for adaptation to Climate Change in this community?
12. What importance do you attach to the implementation of the project: "Adaptation to Climate Change in Cuba's Coastal Zone with an Ecosystem-Based Approach" in your territory?
13. What suggestions would you make for its development to be successful?
14. Assess the risks that may arise from the implementation of the project.
15. Would you like to participate? How?
16. If people felt negatively affected by some of the project's actions. Where could they go? Do you know of any mechanism?
17. How did you feel in this interview? What question would you like to change or adjust in order to get the information

Annex I: Gender Analysis and Action Plan

Annex J: UNDP Risk Log

#	Description	Date Identified	Risk Category	Impact & Probability	C	Risk Owner	Status
1	Limited engagement of local actors in the implementation of the project activities which leads to a lack of appropriation of the adaptation initiatives affecting their sustainability in the long term	Abril 2021	Organizational	<p>The limited engagement of local actors in the implementation could lead to a failure of the project, because local actors are fundamentals to carry out the rehabilitation activities at site level, and they play an important role trying to capture the interest and engagement of the entire community and disseminating the information generated by the project.,</p> <p>P =1 I = 3</p>	<p>The project has been designed in very close collaboration with national and local actors to address their vulnerability and needs, as well as in alignment with an existing comprehensive national strategy for Climate Change Adaptation, which has strong stakeholder support of both government officials and communities. A comprehensive Stakeholder Engagement Plan (SEP) has been developed along with consultations that are included in Annex XIII. Consultations have been included in the proposal phase to disseminate information about the project activities in the targeted communities that will also support building capacity on adaptation and the benefits of EBA, safeguards and climate change in general. The Stakeholder Engagement Plan, and consultations carried out during the preparation of this proposal included culturally appropriate methodologies tailored to the actors where consultations programs were implemented. Best practices for community engagement from baseline projects are incorporated. Output 2 of this project will also mitigate this risk as it looks to engage communities in a manner that is relevant existing institutions and mechanisms such as Capacity Building Centres and Multidisciplinary groups also favors engagement. Furthermore, the local actors will have a representative who will be member of the Project Steering Committee (see also C.7) what will increase their influence on the project and their engagement. In this way, the local actors will follow the project and be able to influence the results of the project towards a product of high value to the communities. The engagement will also be part of the evaluation of the project. Actions will be taken if deemed necessary. The probability of occurring the risk with these measures is low.</p>	AMA/CITMA	Not Started
2	Extreme weather events could affect the restoration activities during the first half of project implementation.	Abril 2021	Environmental	<p>The outputs of the project, particularly output 1, might be affected by extreme weather events which could cause damages, loss or delays during the implementation. It is considered that even if extreme weather-related events occur during the 2nd half of the project the actions</p>	<p>Restoration interventions will be implemented based on site-specific protocols derived from evidence-based practices deployed during previous projects (in particular from “Manglar Vivo”). These protocols, that are currently on editorial revision and will be publicly available in 2020^{37, 38}, consider local environmental conditions – including frequency, severity and type of climate-induced hazards – and explicitly identify lowest risk options for implementation. Local knowledge on the impacts of historical climate-induced events will be used to detailed better the types of interventions at the local level.</p>	AMA MINAG	Not Started

³⁷ Manglar Vivo (2020). Protocolo de restauración de ecosistema de manglar

³⁸ Manglar Vivo (2020). Plegables de ecotecnologías para la restauración ecológica

#	Description	Date Identified	Risk Category	Impact & Probability	C	Risk Owner	Status
				<p>taken during the former 4 years will have increased ecosystems resistance to these events. This impact however is largely dependent on the magnitude, intensity and frequency of extreme events, and given the uncertainty posed by climate change, the team has precautionary considered a risk with medium probability</p> <p>P = 3 I = 3</p>	<p>Extreme events during the implementation phase, particularly in the former years when trees cannot yet withstand extreme conditions, could delay restoration processes. Restoration methods that consider small plants vulnerability to certain extreme weather events will be applied, these include: i) short wood or other soft materials fences to protect the ecosystems (reduce/eliminate the impact); ii) planting from nursery (when mangrove trees have a certain height) and thus reducing as well the window of exposure to extreme events; iii) combination of above measures. The project activities also include evaluating survival rates and growth of ecosystem rehabilitation through a comprehensive monitoring program, which includes magnitude, frequency and intensity of extreme conditions (wave height, wind speed, water flow, etc) to feedback on the required structure of ecosystems. Once functionalities have been restored, these protocols and others created during the project will be used for rehabilitating the ecosystems if/when impacted by an extreme event. The resulting landscape and EBA approach is intended to protect the coast from category 3-4 storms with a probability of occurrence of less than 100 years (which is the one applied to 'hard constructions' such as longitudinal dikes), however climate change related and unknown uncertainties could increase or decrease this probability. If these conditions are exceeded, EBA measures might be partially damaged. In the case of an extreme event during project implementation and project lifespan, insurance policies and reconstruction plans are applicable in Cuba and will be invested in. This mitigation measure to ensure for funds for ecosystems reconstruction, is expected to adjust the risk level to "Low impact".</p>		
3	Reduced effectiveness because activities are not undertaken to tackle the causes driving ecosystem degradation.	Abril 2021	Operational	<p>If the causes driving ecosystem degradation are not manage could cause in missadaptation, damages, loss or delays during the implementation. The success of the rehabilitation action depeneds on the mitigation of degradation causes.</p> <p>P = 2 I = 3</p>	<p>The project will develop actions to restore ecosystem functions focusing on their coastal protective role, while the GoC will use national funds and initiatives to address the causes of degradation by: implementing measures to tackle the cause of system degradation and restoring coastal ecosystem; Strengthening the Environmental Regulatory System (Feasibility Study), including elaborating and implementing regulations specific to each territory; Supporting the capacity building at the national and local levels. The GoC considers this project as part of its integral national project with investments to reduce pressure on ecosystems which is already being carried out and budgeted for. Furthermore, output 2 addressing training of local</p>	AMA	Not Started

#	Description	Date Identified	Risk Category	Impact & Probability	C	Risk Owner	Status
					communities will minimize the risk. The above measures minimize the probability of the risk.		
4	Rehabilitation of ecosystems may introduce non-native organisms/invasive species.	Abril 2021	Environmental	<p>The project will rely on a combination of natural regeneration and artificial regeneration (planting) to achieve the recovery of structure, function and EBA services. These activities will involve enrichment planting and reintroducing local species. Invasive species (either planted or already existent in the ecosystem) may proliferate and colonize areas more quickly than native species, especially during the initial stages of rehabilitation activities or in frequently disturbed areas.</p> <p>P =2 I = 2</p>	Natural regeneration will be the preferred option wherever possible. When enrichment planting and vegetation restoration is carried, only native species that are adapted to the hydrological and soil conditions of these systems will be used. Species will also be selected in accordance with their ability to successfully thrive in degraded conditions (with the exception of invasive species), resist the forces of extreme climate related events, and restore connections and functionalities between ecosystems. These could include pioneering species, flood resistant species, and/or species with deep root networks to restore soils, all of which occurring naturally in similar environments in Cuba. The monitoring program will be complemented by management plans to monitor and control invasive species, such as <i>Casuarina equisetifolia</i> , <i>Dichrostachys cinerea</i> and <i>Leucaena leucocephala</i> . The selected control mechanisms (primarily manual) will be designed to mitigate adverse effects on the ecosystem or human health. Pesticide use will be prohibited, in order to protect sensitive environments and human settlements from any possible exposure. For manual or mechanical control, measures will be taken to avoid damage to sites that are critical for the thriving of native biodiversity (e.g., breeding sites, nesting sites, etc.). Sub-activity 1.1.5 and experience from previous project, the project ensures to create the adequate protocols and actions to reduce further the probability and its impact	AMA MINAG	Not Started
5	Project activities, including restoring hydrological flows to mangroves and coastal wetlands may cause adverse impacts to already degraded natural habitats.	Abril 2021	Operational	Risks related to sediment movement, water contamination and equipment and personnel movement during rehabilitation activities (associated with replanting, natural regeneration management activities, and the restoration of drainage channels) are minimum. The rehabilitation of ecosystems' functionalities will require dredging existing canals and removing existing hard infrastructure to restore natural	Protocols and management measures will be put in place to ensure that all activities mitigate any possible harm to ecosystems (and sensitive receptors). This will include guidelines for the use of machines to transport materials and remove any grey infrastructure as per the ESAR, including adherence to the "Regulation of Environmental Impact Assessment" (Resolution 120/2009). Emergency procedures for dealing with possible spills or accidents that could impact soils, waters, and native species will be included. Additionally, management plans for all revegetation activities will be developed, (included limited use of fertilizers, and prohibition on the use of pesticides) as will procedures for managing the impact of replanting activities on natural habitats. The methodologies and measures will be tailored to each ecosystem component and for each	AMA MINAG INRH	Not Started

#	Description	Date Identified	Risk Category	Impact & Probability	C	Risk Owner	Status
				<p>hydrology (i.e. freshwater flows to these areas) and natural sediment movement dynamics. This may generate waste and speed localized erosion but only in the short-term and the adequate protocols will be in place to ensure there is no damaging sediments reach seagrasses or coral reefs.</p> <p>P = 2 I = 2</p>	<p>of the intervention sites. Consideration will be given to the topographic, hydrogeological, climate and oceanographic conditions for each site, as well as existing infrastructure (state of degradation, types of materials), so as to avoid contamination and disturbance that could harm sensitive aquatic biota. This will be carried out with the participation of relevant state actors (e.g., Forestry Agency) and/or with projects and organizations already working with these issues (e.g. Sabana Camagüey Project). Any, construction and clearing activities will avoid environmentally sensitive areas and will proceed as per the ESAR, to manage impacts on flora and fauna.</p>		
6	<p>Project activities, including mangrove and wetland rehabilitation, infrastructure removal activities, as well as coral reefs and seagrasses monitoring may have an adverse effect on community or worker's health and safety.</p>	Abril 2021	Operational	<p>Working in mangroves and swamps implies increased exposure to vector borne diseases prevalent in Cuba. Finally, monitoring of coral reefs and sea grasses involves diving, which is an inherently risky activity.</p> <p>P = 2 I = 3</p>	<p>Protocols and management measures will be emplaced to ensure workers safety and mitigate damages and disruptions due to noise, vibration and air quality impacts associated with infrastructure removal (both green and grey). These will include safety equipment and guidelines for the use of machines and transportation that ensure worker and community safety. Emergency procedures for dealing with possible spills or accidents will be emplaced. In instances where fertilizers are used, the methodologies will include proper equipment, management and limited application. Health and safety training instructions will be given to all employees of the project (including subcontractors) and will include avoidance measures for vector borne disease exposure such as protective appropriate clothing. Likewise, only certified divers with ample expertise in this activity will monitor coral reefs and seagrasses.</p>	AMA MINAG	Not Started
7	<p>Increase on prices and limited access to international markets, due to the US Embargo restrictions and to potential price increases related to the economic ordinance approved in January 1, 2021 with direct impact in</p>	Abril 2021	Financial	<p>The impact of the US Embargo and Ordinance task could cause overpricing in the good and works that is necessary to acquire to achieved the programmed results. This could lead to a decrease of the purchasing power of the planned budget, and reduce the impact of the results.</p> <p>P = 4 I = 3</p>	<p>A procurement plan will be developed in the short and medium term with the support of UNDP to mitigate financial risks, considering UNDP's vast experience in the negotiation of contracts (fixed pricing, block purchasing, diversified vendors, etc.). UNDP will facilitate access to LTAs and procurement advisory from the Global and Regional Support Units to minimize as far as possible the impact of costs in the project budget and resources. Considering the impacts from the embargo on financial transactions, the payment to the international suppliers may be done in a currency other than USD. The costs of financial transactions (including the transportation of goods and equipment) may be subject to the fluctuation of exchange rates. To minimize the impact of the fluctuation of exchange rates, UNDP will</p>	AMA/UNDP	Not Started

#	Description	Date Identified	Risk Category	Impact & Probability	C	Risk Owner	Status
	implementation costs, diminishing the financial capacity of the project to undertake the planned activities.				support with access to LTAs which are already negotiated contracts with favorable conditions and will support the project with the procurement plan. Further UNDP's accounting system allows for the monitoring and financial management of expenditures across multiple currencies. In the system, expenditures are converted to the rate of USD using the UN Official Rate of Exchange of the accounting date of transaction. The project has adjusted its budget in consultation with national authorities and developed an initial analysis to identify and incorporate within its budget estimated prices increases as they relate to national purchases. The probability and impact of the risk are reduced to low.		
8	The pool of potential contractors is a risk for this project. Due to the international political situation of Cuba, providers/vendors of the measurement instruments might be reduced leading to higher costs	Abril 2021	Financial	The US embargo provokes a decrease in the potential pool of international services providers that can work with Cuba, this is a problem during procurement process because could lead to procurement process with higher prices than the market and not always is possible to find the best technical/price offer. P =2 I = 3	The project will has access to UNDP Long Term Agreements (LTAs) a description of these can be found in: https://popp.undp.org/SitePages/POPPSubject.aspx?SBJID=238&Menu=BusinessUnit . Work during project design has been made with the regional procurement support unit to identify a pool of potential vendors and contractors, in the case of equipment and material needs. A procurement plan has been developed with timelines. National expertise is high and can be relied for implementation of activities in output 1. In the case of international expertise required for support in output 2, the project will leverage access to use established international cooperation channels. UNDP will also provide support to this end.	AMA UNDP	Not Started
9	The ecosystem and their functionalities rehabilitation are not quick enough for ecosystems to keep pace with sea level rise as a consequence of climate change	Abril 2021	Environmental	The recovery of the coastal wetlands ecosystem services, mainly the protection against extreme weather events, may not develop at the expected pace, so the expected impact of protection on coastal communities may be extended over time. This can materialize in the increase in damages and losses as a result of the impact of extreme weather events in the communities.	Elimination of degradation drivers and infrastructure that could increase ecosystem's coastal squeeze and their capability to keep pace with a rising sea will be assured with activities in output 1. The monitoring system will allow for maneuvering and prioritizing activities in the medium term. Their sustainability will be ensured with activities in output 2, awareness creation and mainstreaming the role of ecosystems in planning instruments. Best practices as detailed in Table 4 of the FS have been considered within restoration actions to ensure the resiliency of the ecosystems.	AMA	Not Started

#	Description	Date Identified	Risk Category	Impact & Probability	C	Risk Owner	Status
				P =1 I = 2			
10	The effects caused by COVID 19 and the measures implemented at the national level, to confront the virus and protect the population may imply delays in the execution of the project.	Abril 2021	Social	Epidemiological hygienic measures, social isolation, and quarantine measures to control and prevent the spread of COVID 19 can provoke delays in the implementation of the project activities and a change in priorities of project stakeholders P =2 I =3	Since March 2020, Cuba has applied epidemiological hygienic measures in order to control and prevent the spread of COVID 19. Considering that this scenario can extend over time, mitigation measures have been incorporated, which are reflected in the adjustments made to the budget. Among the measures are: Avoid unnecessary staff gatherings. For this, the number of face-to-face activities in years 1 and 2 (workshops, technical meetings, etc.) have been reduced; Also, the number of tours and visits to the project areas have been adjusted to the necessary minimum. <ul style="list-style-type: none"> • Enhance the remote work modality to guarantee the execution of the project in social isolation conditions. In this sense, it is planned to guarantee the connectivity and ICT access to key personnel at all levels. • Permanent monitoring of the behavior of this epidemiological situation and of the measures implemented in the country will be conducted, to apply the necessary adaptive management measures. 	AMA UNDP	Not Started
11	Cuba has approved a recent economic reorganization ordinance that includes an adjusted international exchange rate to be made effective on January 2021, hence potential affecting the capacity to report on co financing values.	December 2020	Financial Operational	Due to the impact of the Ordinance Task and the fluctuations on the exchange rates could be differences when reporting the co-financing. P =3 I = 2	Co-financing values have been adjusted to consider the impact of the ordinance in the value of co-financing actions and have been converted to USD using January 2021 exchange rate values. Project budget and budget notes include details on co financing actions that will be delivered per co financing source at an output level, as indicated in co-financing letters that make a direct reference to the project's Funding Proposal. Co-financing will be reported by UNDP and ascertained per internal Standards of Operation and in alignment with FAA obligations through verified means in the form of co-financing letters indicating the co-financing source, amount mobilized per output as well as in actions per project budget. A commitment has been provided by the GoC through its NDA on the delivery of project actions per Funding Proposal thus indicating that while the calculated value may be adjusted per new exchange rates, project delivery per co financing outcomes will not be affected. UNDP through its reporting process will report on any changes or failure to materialize co financing in accordance to FAA rules.	AMA UNDP	Not Started

**Annex K: Letter of Agreement with the government
in case UNDP Support Service Costs are applied**

Dear First Vice Minister,

AGREEMENT BETWEEN UNDP AND THE GOVERNMENT OF CUBA FOR THE PROVISION OF SUPPORT SERVICES

1. Reference is made to consultations between officials of the Ministry of Science, Technology and the Environment (hereinafter referred to as "the Government") and officials of UNDP with respect to the provision of support services by the UNDP country office for nationally managed programmes and projects. UNDP and the Government hereby agree that the UNDP country office may provide such support services at the request of the Implementing partner - in the relevant project document, as described below.
2. The UNDP country office may provide support services for assistance with reporting requirements and direct payment. In providing such support services, the UNDP country office shall support the strengthening of the capacity of the implementing partner to enable it to carry out such activities directly. The costs incurred by the UNDP country office in providing such support services shall be recovered from the administrative budget of the office.
3. The UNDP country office may provide, at the request of the designated institution, the following support services for the activities of the project:
 - a. Identification and/or recruitment of project and programme personnel as well as technical expertise;
 - b. Identification and facilitation of training and meeting/workshop activities;
 - c. Procurement of goods and services;
 - d. Financial transactions
 - e. Any other type of activities/services as per prevailing UNDP Universal/Local Price List and Pro-forma costs.
4. The procurement of goods and services and the recruitment of project and programme personnel by the UNDP country office shall be in accordance with the UNDP regulations, rules, policies and procedures. Support services described in paragraph 3 above shall be detailed in an annex to the project document, in the form provided in the attachment hereto. If the requirements for support services by the country office change during the life of the project, the annex to the project document is revised with the mutual agreement of the UNDP resident representative and the Implementing partner.
5. The relevant provisions of the Standard Basic Assistance Agreement (SBAA) signed on 17 May, 1975 between the United Nations Development Programme and the Government of Cuba, including the provisions on liability and privileges and immunities, shall apply to the provision of such support services. The Government shall retain overall responsibility for the nationally managed project through the Implementing partner. The responsibility of the UNDP country office for the provision of the support services described herein shall be limited to the provision of such support services detailed in the annex to the project document.
6. Any claim or dispute arising under or in connection with the provision of support services by the UNDP country office in accordance with this letter shall be handled pursuant to the relevant provisions of the SBAA.
7. The manner and method of cost-recovery by the UNDP country office in providing the support services described in paragraph 3 shall be specified in the annex of the project document and shall refer to the prevailing UNDP Universal/Local Price List and pro-forma costs.

8. The UNDP country office shall submit progress reports on the support services provided and shall report on the costs reimbursed in providing such services, as may be required.
9. Any modification of the present arrangements shall be effected by mutual written agreement of the parties hereto.
10. If you are in agreement with the provisions set forth above, please sign and return to this office three signed copies of this letter. Upon your signature, this letter shall constitute an agreement between the Government and UNDP on the terms and conditions for the provision of support services by the UNDP country office for nationally managed programmes and projects.

Yours sincerely,



Maribel Gutiérrez
UNDP Resident Representative
UNDP Cuba

Date: *Nov. 30, 2020.*



José Fidel Santana
First Viceminister
Ministry of Science, Technology and the
Environment

Date:

Attachment

DESCRIPTION OF UNDP COUNTRY OFFICE SUPPORT SERVICES

1. Reference is made to consultations between the Ministry of Science, Technology and the Environment the institution designated by the Government of Cuba and officials of UNDP with respect to the provision of support services by the UNDP country office for the nationally managed project Coastal Resilience to Climate Change in Cuba through Ecosystem Based Adaptation – “MI COSTA”

2. In accordance with the provisions of the letter of agreement signed and the project document referred above, the UNDP country office shall provide support services for the Project as described below.

3. Support services to be provided:

Support services	Schedule for the provision of support services	Cost to UNDP of providing such support services (where appropriate)	Amount and method of reimbursement of UNDP (where appropriate)
Estimated Direct Project Costs based on UNDP Cuba Local Price List as of 19 march 2018 and Universal Price List as of 1 September, 2019			
Services related to Procurement of consultants, goods and services, and travel arrangements (including but not limited to): i) Development of scope of work and review of terms of reference; advertisement; preliminary review; evaluation; vendor management; contracting; commitment of funds; disposal of equipment; and contract closing for - Low-value actions (<\$100,000); and - Intermediate and High value actions (>\$100,000) ii) Travel arrangement; authorization; requisition; service provider management; reconciliation; reporting; and processing refund of entitlements	Ongoing throughout project implementation when applicable	\$41,343	UNDP will charge direct project costs directly to the project budget.
Services related to Finance (including but not limited to): Transaction processing (voucher creation, approval, payments processing); vendor management and reconciliation, as needed (<i>monthly and periodical actions</i>)		\$98,895	
Services related to Staff and Personnel management (including but not limited to): o Staff selection and recruitment process: advertising, shortlisting and interviewing (<i>one-time action</i>) o Staff benefits administration and management (<i>one-time + monthly recurring action</i>) o Staff payroll; vendor management, banking reconciliation and reporting (<i>monthly and periodic actions</i>).		\$22,673	

Service related to ICT and communication (including but not limited to):		\$1,089		
o Provision of email accounts, productivity software (e.g., MS Office license) to project personnel; help desk support in multiple locations; disaster recovery; data backup; provision of audio/video conferencing software.				
Total DPC over 8 years		\$164,000		
Average DPC over 8 years:		US\$20,500/year		
DPC Schedule/year				
Year 1	Year 2	Year 3	Year 4	
20,500	20,500	20,500	20,500	
Year 5	Year 6	Year 7	Year 8	
20,500	20,500	20,500	20,500	

Annex L: HACT micro assessment and Partner Capacity Assessment

Annex M: UNDP Project Quality Assurance Report

(to be completed in UNDP online corporate planning system, does not need to be attached as separate document)

Annex N: Monitoring and evaluation plans

Please fill in this Monitoring Plan and attach here also the M&E Plan from the project design stage (i.e. one submitted to the GCF prior to approval by its Board.) These plans will guide monitoring and evaluation at the project level for the duration of project implementation.

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/Collection Methods ³⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid Term	Final						
Project objective from the results framework Strengthen coastal resilience to climate change along 1,300 km of Southern Coastline by reducing the main vulnerability drivers of ecosystems and 24 coastal communities to coastal flooding and saline intrusion from sea level rise and increased storms.	Indicator 1 Number of direct and indirect beneficiaries	Direct 67,626 male 65,811 female 133,437 total	<i>Direct</i> 225,421 male 219,372 female 444,793 total	<i>The indicator measures the number of people who will received benefits from the project in two global dimensions First, benefit from the rehabilitation activities and protection services form mangrove forests and the second from the designed capacity building program, as explained in the feasibility study⁴⁰.</i>	<i>The source of the baseline data was the National Office of Information and Statistics. Annual technical report of the project / surveys, group techniques and interviews (baseline, mid-term and final), coastal vulnerability assessments Surveys will be produced for the project and will be delivered by an independent institution (FLACSO)</i>	Annual Mid-term Final Reported in DO tab of the GCF APR	AMA, FLACSO	<i>Annual technical report of the project / surveys, group techniques and interviews (baseline, mid-term and final), coastal vulnerability assessments Surveys will be produced for the project and will be delivered by an independent institution</i>	<i>Active participation of all relevant stakeholders Local actors are actively involved and interested in participating in capacity building activities Environmental and social circumstances in the target sites do not materially change throughout project implementation</i>
	Indicator 2 Number of beneficiaries relative to total population	Indirect 66,846 male 65,052 female 131,898 total	<i>Indirect</i> 445,640 male 433,681 female 879,321 total						
	Indicator 3 Coverage/scale of ecosystems protected and	+2,856 ha of the degraded mangroves in the target coastlines have been	+11,427 ha degraded mangroves rehabilitated (total 14, 429.5 ha)						

³⁹ Data collection methods should outline specific tools used to collect data and additional information as necessary to support monitoring. The PIR cannot be used as a source of verification.

⁴⁰ See Section 7.2 on Feasibility Study (Annex 2 of Funding Proposal) for methodologies and calculation of project beneficiaries at an Output Level. Number for indicator are direct beneficiaries of Output 1. Calculations to measure this indicator will include estimated on the distance of sea penetration during coastal flooding that will be compared to historic records to calculate area that is no longer being flooded, in addition the numeric models and mapping (including FS Figures 56-62) will be used to calculate flooding in various scenarios taking into account mangrove and ecosystem health and extreme hydrological events (see footnote 70) and taking into account population of affected settlements, finally through surveys perception of vulnerability of the targeted population to flooding and saline intrusion as EBA actions progress and ecosystem services are rehabilitated.

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/Collection Methods ³⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid Term	Final						
	strengthened in response to climate variability and change	rehabilitated (total 5,858.5 ha) +772 ha of degraded swamp forest in the target coastlines have been rehabilitated (total 4,187 ha) +232 ha of degraded swamp grasslands in the target coastlines have been rehabilitated	+3,088 ha of degraded swamp forest have been rehabilitated (total 6,503 ha) 928 ha of degraded swamp grasslands have been rehabilitated 9,287ha of seagrass and 134 km coral reefs crest improved	with the forest enterprises after analyzing the health of the coastal wetland, its distribution and the potential to directly protect the communities from climate related threats. This analysis was performed for each site separately.	environmental, coastal wetland): annual reports; mid-term and final evaluation Independent monitoring reports by national environmental experts (forestry and environmental inventories) Independent certification by the State Forestry Service	the GCF APR		coastal wetland): annual reports; mid-term and final evaluation Independent monitoring reports by national environmental experts	Active participation of all relevant stakeholders
	Indicator 4 Change in expected losses of lives and economic assets (US\$) due to the impact of extreme climate-related disasters	USD 0, Rehabilitated mangroves will provide no benefits for the first 5 years following rehabilitation, as they will not have sufficient structural stability to offer significant coastal protection. Rehabilitated mangroves will start to offer benefits in Year 7 onwards	Potential reduced accumulated losses of USD 17.8 Million	Estimate the probable reduction in expected losses of lives and economic assets due to the impact of extreme climate related disasters after the implementation of rehabilitation actions.	Project reports (mid-term and final evaluation) with the assessment of the impact of extreme climate-related disasters on economic assets (estimated based on data collection, data analyze and prognoses by modelling and statistical analysis) Sources to measure community income will be based on official annual reports at a territorial level (target sites) produced by fishing cooperatives,	Mid-term Final Reported in DO tab of the GCF APR	AMA	Project reports with the assessment of the impact of extreme climate-related disasters on economic assets (estimated based on data collection, data analyze and prognoses by modelling and statistical analysis). Community incomes independently monitored through official annual reporting at a territorial level (target sites) produced by fishing cooperatives, tourism ministry and agents, and INRH on	Environmental and social circumstances in the target sites do not materially change throughout project implementation Extreme hydro-meteorological events do not damage, destroy or delay the EBA measures Active participation of all relevant stakeholders

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/Collection Methods ³⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid Term	Final						
					tourism ministry and agents, and INRH on drinking water quality and access).			drinking water quality and access).	
	Indicator 5 Number of males and females reached by [or total geographic coverage of] climate-related early warning systems and other risk reduction measures established/s trengthened	Mangroves will provide no benefits for the first 5 years following rehabilitation, as they will not have sufficient structural stability to offer significant coastal protection. Rehabilitated mangroves will start to offer benefits in Year 7 onwards	At least 135,5041 people (66,873 women and 68,234 men) directly benefitted through increased coastal protection services from restored ecosystems as a result of EBA investments in intervention areas	The indicator estimate the number of persons directly benefited by the protective services provided by the mangrove ecosystems because of the rehabilitation actions. Rehabilitated mangroves will start to offer benefits in Year 7 onwards	Annual technical report of the project / surveys, group techniques and interviews (baseline, mid-term and final), coastal vulnerability assessments Surveys will be produced for the project and will be delivered by an independent institution (FLACSO)	Annual Mid-term Final Reported in DO tab of the GCF APR	AMA, FLACSO	Coastal vulnerability assessment to be taken during project's Year 1 and at project's Terminal Evaluation Report Ecosystem health monitoring (CIS) Surveys will be produced for the project and will be delivered by an independent institution	Environmental and social circumstances in the target sites do not materially change throughout project implementation Extreme hydro-meteorological events do not damage, destroy or delay the EBA measures
	Indicator 6 Institutional and regulatory systems that improve incentives for	4 Proposals for the inclusion of EBA in national and sectoral regulations	4 National instruments and sectoral regulations have mainstreamed EBA	Proposals to mainstreams EBA into Municipal development plans, Territorial Management Plans, and other regulatory instruments to ensure	Mid-term report and final evaluation with the numbers of plans (document based evidence of approved plans)	Mid-term and Final Reported in DO tab of	AMA AMA	Mid-term report and final evaluation with the numbers of plans (document-based evidence of approved plans) which have	Social, political and economic circumstances in the target municipalities and provinces do not materially change throughout project implementation

⁴¹ See Section 7.2 on Feasibility Study (Annex 2) for methodologies and calculation of project beneficiaries at an Output Level. Number for indicator are direct beneficiaries of Output 1. Calculations to measure this indicator will include estimated on the distance of sea penetration during coastal flooding that will be compared to historic records to calculate area that is no longer being flooded, in addition the numeric models and mapping (including FS Figures 56-62) will be used to calculate flooding in various scenarios taking into account mangrove and ecosystem health and extreme hydrological events (see footnote 70) and taking into account population of affected settlements, finally through surveys perception of vulnerability of the targeted population to flooding and saline intrusion as EBA actions progress and ecosystem services are rehabilitated.

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/Collection Methods ³⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid Term	Final						
	climate resilience and their effective implementation	<p>7⁴² municipalities have mainstreamed EBA into their Development Plans</p> <p>7 municipalities have mainstreamed EBA within the Territorial Management Plans reflected within annual workplans</p> <p>7 instruments designed and under implementation regulating the elimination of man-made barriers in coastal ecosystems (aiming to restore water flow dynamics and ecosystems functionalities)</p>	<p>1st National Technical EBA</p> <p>24 municipalities have mainstreamed EBA into their Development Plans (including economic and environmental plans)</p> <p>24 municipalities have mainstreamed EBA within the Territorial Management Plans reflected within annual workplans</p> <p>24 regulatory instruments for elimination of man-made barriers within coastal ecosystems reflected within annual workplans</p>	<p>the sustainability of the project actions.</p>	<p>which have included EBA approaches</p> <p>Legal and regulatory gap assessment (Activity 2.3.1) developed in year 1 and 7 evaluating progress of regulatory framework (technical standards, etc.) as result of project implementation.</p> <p>Certified copies of approved legislation and regulations (technical standards)</p>	<p>the GCF APR</p>		<p>included EBA approaches</p> <p>Legal and regulatory gap assessment (Activity 2.3.1) developed in year 1 and 7 evaluating progress of regulatory framework (technical standards, etc.) as result of project implementation.</p> <p>Certified copies of approved legislation and regulations (technical standards)</p>	<p>Governments and sectors remain committed to the inclusion of EBA measures in regulatory instruments</p> <p>Governments and sectors remain committed to the implementation of regulations for the elimination of anthropic barriers in coastal ecosystems</p>
	Indicator 7 Number of males and females made aware of climate threats and related	<p>67,626 men and 65,811 women (total 133,437)</p>	<p>225,421 men and 219,372 women (total 444,793)</p>	<p>Number of people desegregated by gender with knowledge on EBA solutions to manage local impact of CC</p>	<p>Annual reports; mid-term and final evaluation</p>	<p>Annual Mid-term Final Reported in DO tab of the GCF APR</p>	<p>AMA, FLACSO</p>	<p>Annual reports; mid-term and final evaluation</p> <p>Surveys will be produced for the project and will be delivered by an</p>	<p>Active participation of stakeholders</p> <p>Being aware translates into action</p>

⁴² In Cuba all plans mentioned in this box are regulatory binding in nature.

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/Collection Methods ³⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid Term	Final						
	<i>appropriate responses</i>							<i>independent institution</i>	
Project Outcome 1 Rehabilitated coastal ecosystems for enhanced coping capacity to manage climate impacts	Indicator 8 Number of hectares of rehabilitated coastal wetland in target areas providing protective services to targeted services	3,860 ha of degraded coastal wetland has been rehabilitated	15,443 ha of degraded coastal wetland has been rehabilitated and providing protective services to targeted coastlines	Number of ha of mangrove forests, swamp forests and swamp grassland rehabilitated by the forest enterprises. Targets were estimated taking in to account forest enterprises experience and capacity to implement rehabilitation actions.	Field observation visits; Annual reports from environmental monitoring, aerial imagery; Forest enterprises reports; State Forestry Service certifications; mid-term and final evaluation.	Annual Mid-term Final Reported in DO tab of the GCF APR	AMA, MINAG	Annual environmental monitoring reports; reports from MINAG's Forest Enterprises and/or State Forestry Service	The required equipment for rehabilitation is available to use within the time planned Local actors are actively involved in the design, implementation, monitoring and correction of coastal rehabilitation activities
	Indicator 9 Number of hectares of seagrasses being lost per year in target areas as a result of the restoration of natural hydraulic processes and coastal wetlands functionalities and connections	9,026 ha at a reduction loss of 65ha/year	8,954 ha at a reduction loss of 18 ha/year	The indicator will assess the reduction in the rate of loss of seagrasses. Targets were estimated with national specialist.	Field observation visits; Annual reports with the results of the environmental monitoring; mid-term and final evaluation (monitoring system developed through the project)	Annual Mid-term Final Reported in DO tab of the GCF APR	AMA	Annual environmental monitoring reports by AMA's environmental institutions	Appropriate measures have been implemented so in case of extreme events ecosystem restoration process is efficient 0.2-0.5% coral and seagrass annual reduction rates are sufficient for these ecosystems to restore their protective service against storms and coastal erosion Reducing saline intrusion in 16,329 ha (in 8 years) is significant for freshwater availability and agriculture activities, taking into consideration that it will set the infrastructure for the remaining 22 years
	Indicator 10 Number of Km of Reef crest degraded per year in target areas as a result of the restoration of	2.2 km/year	0.25 km/year	The indicator will assess the reduction in the rate of degradation of coral reefs. Targets were estimated with national specialist	Field observation visits; Annual reports with the results of the environmental monitoring; mid-term and final evaluation (monitoring system	Annual Mid-term Final Reported in DO tab of the GCF APR	AMA	Annual environmental monitoring reports by AMA's environmental institutions	

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/Collection Methods ³⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid Term	Final						
	<i>natural hydraulic processes and coastal wetlands functionalities and connections</i>				<i>developed through the project)</i>				
	Indicator 11 Number of Hectares with salinity >1g/l in the intervention area	<i>Saline intrusion reduction in 5,443 ha</i> <i>538,857ha with salinity >1g/l</i>	<i>Saline intrusion Reduction in 16,329 ha</i> <i>527,971ha with salinity >1g/l</i>	<i>The indicator will evaluate the retreat of the saline wedge in underground aquifers and will be expressed in the number of hectares that recedes.</i>	<i>Field observation visits; Annual reports with the results of freshwater quality and availability monitoring; mid-term and final evaluation (monitoring system developed through the project)</i>	<i>Annual</i> <i>Mid-term</i> <i>Final</i> <i>Reported in DO tab of the GCF APR</i>	<i>AMA, INRH</i>	<i>Annual reports based on INRH monitoring systems including that being developed for the project</i>	
Project Outcome 2 Increased climate change adaptation capacity in vulnerable coastal communities, governments and economic sectors	<i>Indicator 12</i> <i>Number of people with knowledge and skills to adapt to CC, broken down by communities, governments and sectors, considering gender and age groups.</i>	<i>133,437 (65,811 women and 67,626 men, 30% of project beneficiaries) with high level of capacity (assessed by FLACSO)</i>	<i>444,793 people (219,372 women and 225,421 men, total project beneficiaries) with high level of capacity (assessed by FLACSO)</i>	<i>The indicator will assess the appropriation of knowledge and skills by the communities, governments and sectors</i>	<i>Annual technical report of the project.</i> <i>Community consultations based on interviews, focus groups and surveys to assess local capacity.</i> <i>These will be assessed independently by FLACSO at project base line, mid-term and final year.</i>	<i>Annual</i> <i>Mid-term</i> <i>Final</i> <i>Reported in DO tab of the GCF APR</i>	<i>AMA, FLACSO</i>	<i>Annual technical report of the project.</i> <i>Community consultations based on interviews, focus groups and surveys to assess local capacity⁴³.</i> <i>These will be assessed independently by FLACSO at project base line, mid-term and final year.</i> <i>Community vulnerability assessments</i>	<i>The agreements signed between the project team, local and national entities are fulfilled</i> <i>Local actors are actively involved and interested in participating in capacity building activities</i> <i>Social, political and economic circumstances in the target municipalities and provinces do not</i>

⁴³ Following project's stakeholder engagement plan and consultation methodology

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/Collection Methods ³⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid Term	Final						
					Community vulnerability assessments				materially change throughout project implementation
	Indicator 13 Number of Climate information products developed responding to local needs linked to monitoring the capacity of ecosystem to provide services in managing climate impacts (water quality, protective capacity, community vulnerability, etc.)	At least 2 per municipality rated as relevant by users (at least one of the products will respond women's climate information needs per user based consultation)	At least 10 per municipality rated as relevant by users (at least 3 of the products will respond to women's climate information needs per user based consultations)	The indicator will account the number of climate products updated and created during project implementation, as part of, the Knowledge Management Platform	Annual report of the project-level monitoring	Annual Mid-term Final Reported in DO tab of the GCF APR	AMA	Annual report of the project-level monitoring Community consultations on information relevance perceived by users based on interviews, focus groups and surveys ⁴⁴ . These will be assessed independently by FLACSO at project mid-term and final year	
	Indicator 14 Number of municipalities that have incorporated ecosystem management within their development, territorial, and coastal zone management	7 municipalities have mainstreamed EBA into their Development Plans (including financing mechanisms) 7 municipalities have mainstreamed	24 municipalities have mainstreamed EBA into their Development Plans (including financing mechanisms) 24 municipalities	The indicator will account the number of municipalities that have incorporated EBA in one or various planning and management instruments.	Annual technical report of the project. Meeting minutes of the local government Annual technical report of the project.	Annual Mid-term Final Reported in DO tab of the GCF APR	AMA	Annual technical report of the project. Meeting minutes of the local government Mid-term report and final evaluation with the numbers of plans (document based evidence of approved plans)	

⁴⁴ Following project's stakeholder engagement plan and consultation methodology

Monitoring	Indicators	Targets		Description of indicators and targets	Data source/Collection Methods ³⁹	Frequency	Responsible for data collection	Means of verification	Risks/Assumptions
		Mid Term	Final						
	<i>and disaster risk prevention plans/strategies</i>	<i>EBA within the Territorial Management Plans reflected within annual workplans</i> <i>7 regulatory instruments for elimination of man-made barriers within coastal ecosystems reflected within annual workplans</i>	<i>have mainstreamed EBA within the Territorial Management Plans reflected within annual workplans</i> <i>24 regulatory instruments for elimination of man-made barriers within coastal ecosystems reflected within annual workplans</i>		<i>Meeting minutes of the local government</i> <i>Mid-term report and final evaluation with the numbers of plans (document based evidence of approved plans)</i> <i>Legal and regulatory gap assessment developed in year 1 and 7 evaluating progress of regulatory framework as result of project implementation</i>			<i>Legal and regulatory gap assessment developed evaluating progress of regulatory framework</i>	

M&E Plan from the project design stage

Data/Source	Collection Tool	Frequency	Indicator	Indicative Budget
Annual technical report of the project / surveys, group techniques and interviews (baseline, mid-term and final), coastal vulnerability assessments Surveys will be produced for the project and will be delivered by an independent institution (FLACSO)	Survey/questionnaire Focus groups Key informant interviews	Annual, Midterm, Final	Project beneficiaries	\$501,275.00
At Fund-level impact				
Project reports(mid-term and final evaluation) with the assessment of the impact of extreme climate-related disasters on economic assets (estimated based on data collection, data analyze and prognoses by modelling and statistical analysis) Sources to measure community income will be based on official annual reports at a territorial level (target sites) produced by fishing cooperatives, tourism ministry and agents, and INRH on drinking water quality and access).	<i>Government data/records</i>	<i>Annual Mid-term Final</i>	A1.1 Change in expected losses of lives and economic assets (US\$) due to the impact of extreme climate-related disasters	GCF Financing: \$130,095.25 Additional baseline national funding (GoC) will be dedicated to monitoring. Funds are additional to the project budget as information will rely on reports produced annually by existing national experts and ministries.
Project reports with assessment, data from monitoring systems including GIS (marine, environmental, coastal wetland): annual reports; mid-term and final evaluation Independent monitoring reports by national environmental experts (forestry and environmental inventories)	<i>Government data/records</i>	<i>Annual Mid-term Final</i>	A4.1 Coverage/scale of ecosystems protected and strengthened in response to climate variability and change (Enhance capacity to respond to CC-threats: coastal	GCF Financing: \$10,996,235.00 Additional baseline national funding (GoC) will be dedicated to monitoring through outside reports as information will rely on reports produced annually by existing national experts and

			erosion, flooding and salt intrusion)	ministries at a territorial level.
At Fund-level outcomes				
<p>Mid-term report and final evaluation with the numbers of plans (document based evidence of approved plans) which have included EBA approaches</p> <p>Legal and regulatory gap assessment (Activity 2.3.1) developed in year 1 and 7 evaluating progress of regulatory framework (technical standards, etc.) as result of project implementation.</p> <p>Certified copies of approved legislation and regulations (technical standards)</p>	<i>Document review</i>	<i>Mid-term and Final</i>	A5.1 Institutional and regulatory systems that improve incentives for climate resilience and their effective implementation	GCF Financing: 1 \$274,410.83 Additional baseline national funding dedicated to monitoring outside of project budget as it relies on existing national experts.
Annual reports; mid-term and final evaluation	<i>Survey/questionnaire</i>	<i>Annual Mid-term Final</i>	A8.1 Percent of target population aware of the potential impacts of climate change and range of possible responses (disaggregated by gender)	GCF Financing: \$258,235.00 Additional baseline national funding dedicated to monitoring outside of project budget as it relies on existing national experts.
Project/programme performance indicators				
Output 1				
Annual reports; mid-term and final evaluation. CIS images	<i>Field observation visits</i>	<i>Annual Mid-term Final</i>	1.2 Number of hectares of rehabilitated coastal wetland in target areas	GCF Financing: \$798,676.26 Additional baseline national funding dedicated to monitoring outside of project budget as it relies on existing national experts.

Annual reports; mid-term and final evaluation (monitoring system developed through the project)	<i>Field observation visits</i>	<i>Annual Mid-term Final</i>	1.3 Number of hectares of seagrasses being lost per year in target areas	GCF Financing: \$1,405,626.26 Additional baseline national funding dedicated to monitoring outside of project budget as it relies on existing national experts.
Annual reports; mid-term and final evaluation (monitoring system developed through the project)	<i>Field observation visits</i>	<i>Annual Mid-term Final</i>	1.3 Number of Km of Reef crest degraded per year in target areas	GCF Financing: \$1,405,626.26 Additional baseline national funding dedicated to monitoring outside of project budget as it relies on existing national experts.
Annual reports; mid-term and final evaluation (monitoring system developed through the project)	<i>GIS data</i>	<i>Annual Mid-term Final</i>	1.4 Number of Hectares with salinity >1g/l in the intervention area	GCF Financing: \$9,020,033.60 Additional baseline national funding dedicated to monitoring outside of project budget as it relies on existing national experts.
Output 2				
Annual report of the project-level monitoring	<i>Document review</i>	<i>Annual Mid-term Final</i>	Number of Climate Products responding to local created	GCF Financing: \$844,313.10 Additional baseline national funding dedicated to monitoring outside of project budget as it relies on existing national experts.
Annual technical report of the project.	<i>Focus groups</i>	<i>Annual Mid-term Final</i>	Number of people with knowledge and skills to adapt to	GCF Financing: \$243,166.43

<p>Community consultations based on interviews, focus groups and surveys to assess local capacity⁴⁵. These will be assessed independently by FLACSO at project base line, mid-term and final year.</p> <p>Community vulnerability assessments</p>			<p>CC, broken down by communities, governments and sectors, taking into account gender and age groups.</p>	<p>Additional baseline national funding dedicated to monitoring outside of project budget as it relies on existing national experts.</p>
<p>Annual technical report of the project.</p> <p>Meeting minutes of the local government</p> <p>Annual technical report of the project.</p> <p>Meeting minutes of the local government</p> <p>Mid-term report and final evaluation with the numbers of plans (document based evidence of approved plans)</p> <p>Legal and regulatory gap assessment developed in year 1 and 7 evaluating progress of regulatory framework as result of project implementation.</p>	<p><i>Document review</i></p>	<p><i>Annual</i> <i>Mid-term</i> <i>Final</i></p>	<p>Number of municipalities that have incorporated EBA, costal zona management and disaster risk prevention during the planning process</p>	<p>GCF Financing: \$133,701.43</p> <p>Additional baseline national funding dedicated to monitoring outside of project budget as it relies on existing national experts.</p>

⁴⁵ Following project's stakeholder engagement plan and consultation methodology

Gender Action Plan Monitoring and Budget

Objectives	Gender-specific Actions	Indicators	Base Line	Targets	Responsible Institutions	Budget
Output 1: Rehabilitated Ecosystems for Coastal Protection and Resilience to CC						
<p>Activity 1.1 Assess and restore coastal wetland functions by re-establishing hydrological processes</p> <p>Activity 1.2 Mangrove and swamp forest rehabilitation through natural and assisted regeneration for enhanced coastal protection</p>	<p>1.1 Robust participation of women in monitoring of coastal wetlands</p> <p>1.2 Robust participation of women in employment created by the implementation of EBA adaptation protocols</p>	<p>Percent of women with employment in mangrove, swamp forest and swamp grassland interventions</p>	0	: 30%	FLACSO-Cuba	<p>USD198,400</p> <p>Additional baseline national funding will be dedicated to monitoring as it will rely on existing national experts and regular reporting.</p>
<p>Activity 1.3 Record and assess coastal and marine ecosystems natural regeneration and protective functions based on conditions provided through restored coastal wetlands</p> <p>Activity 1.4 Enhance water conduction systems along targeted watersheds to restore freshwater drainage in coastal ecosystems and aquifers to reduce and monitor saline intrusion in target sites</p>	<p>1.3 Robust participation of women in monitoring of marine ecosystems</p> <p>1.4 Gender equitable training delivered to target community members on EBA protocols and monitoring</p>	<p>Percent of women involved in monitoring of marine ecosystems, coastal wetlands and monitoring of wells</p>	0	50%	FLACSO-Cuba	
Output 2: Increased capacity for adaptation to Climate Change in Coastal Communities, Governments and Sectors						
<p>Activity 2.1 Develop a climate adaptation technical capacity building program for coastal communities and local stakeholders (government & economic sectors) to enable adaptation actions and capacities</p>	<p>2.1.1 Gender equal participation of women in the design of EBA content and in training delivery</p>	<p>Percent of women participating in design of training content</p>	0	50%	FLACSO-Cuba	<p>USD 198,400</p> <p>Additional baseline national funding dedicated to monitoring outside of project budget</p>
	<p>2.1.2. Gender equal participation in the EBA training delivered through the Capacity Building and Knowledge Management for</p>	<p>Percent of women participating in training delivery</p>	0	50%	FLACSO-Cuba	
		<p>Percent of women trained in EBA approaches to coastal adaptation</p>	0	50%	FLACSO-Cuba	

Objectives	Gender-specific Actions	Indicators	Base Line	Targets	Responsible Institutions	Budget
	2.1.3 Awareness raising and training of local government officials on responding to issues of intersectional vulnerability (of women, female-headed households, the elderly, children and disabled persons)	Training package developed that addresses issues of intersectional vulnerability (of women, female-headed households, the elderly, children and disabled persons)	0	1	FLACSO-Cuba	as it relies on existing national experts.
		Percent of local government officials involved in project implementation trained	0	75%	FLACSO-Cuba	
Activity 2.2 Integrate project (technical and community based) derived information, information from early warning systems and national datasets into a Knowledge Management Platform, to provide climate information products to monitor, evaluate and inform coastal communities on local (community and ecosystem) capacity to manage climate change impacts	Activity 2.2.1 Gender-equitable involvement of women in the implementation of community monitoring systems.	Number of women involved implementation of community monitoring systems.	0	50%	FLACSO-Cuba	
Activity 2.3 Mainstream EBA approaches into regulatory and planning frameworks at the territorial and national levels for long term sustainability of EBA conditions and investments for coastal protection	Activity 2.3.1 Gender equitable participation in the preparation of proposals for the inclusion of EBA in regulations and Land Management Plans	Number of women in the preparation of proposals related to EBA in in regulations and Land Management Plans	0	50%	FLACSO-Cuba	

